

**How  
the Medical University of Vienna  
dealt with important results from  
mobile communication radiation  
research**

Part I & II

*Franz Adlkofer and Karl Richter*

## **PART I - Medical University of Vienna**

## Summary

Mid-2007 Prof. Alexander Lerchl, biologist at the private Jacobs University in Bremen and member of the German Commission on Radiological Protection (SSK) of the Federal Office for Radiation Protection (BFS), informs the rector of the Medical University of Vienna (MUV), Prof. Wolfgang Schütz, about a serious suspicion: the findings of research carried out at the Division of Occupational Medicine of his university and published in *Mutation Research* in 2005 (Diem et al.) are most likely fraudulent. Shortly thereafter, he makes the same accusation against another study from the same laboratory, which was published in the *International Archives of Occupational and Environmental Health* (IAOEH) at the beginning of 2008 (Schwarz et al.). In spring 2008, the rector mandates the newly appointed Council for Scientific Ethics of MUV, which consists of three persons he trusts, to clarify the expressed suspicion. Without thoroughly examining the allegations, this Council confirms the accusation of data fabrication already after its first meeting on May 16, 2008. As a result, the rector demands of the authors to immediately retract their publications from *Mutation Research* and the *International Archives*. He also demands of the editors - just like Prof. Lerchl did before - to remove the publications from their scientific journals because of a suspected serious scientific fraud. A first press release by the rector and a first report in the German newsmagazine *Der Spiegel* written by the journalist Manfred Dworschak immediately broadcast the allegedly confirmed fraud scandal to the whole world.

However, a few days after the meeting of the Council for Scientific Ethics it is accidentally revealed that the rector-appointed Council chair has been a lawyer employed by the Austrian mobile phone industry. Because of suspicion of partiality, Prof. Hugo Rüdiger, the former director of the Clinical Division of Occupational Medicine and corresponding author of both publications, requests the immediate removal of this Council chair who, according to the Council's statutes, should never have been appointed to this position. He also withdraws the signatures he gave to letters presented to him and addressed to the editors of the two journals, in which he had declared his willingness to retract the publications. The team member accused of data fabrication follows his example. Thus, they both join the decision of the two co-authors Prof. Franz Adlkofer (Munich) and Prof. Niels Kuster (Zurich) who are independent of the MUV rector and who strictly refused from very beginning to withdraw the publications as requested by Prof. Schütz and Prof. Lerchl. Due to the pressure created by the events, the rector sees himself finally forced to replace the industry employee suspected of partiality with a new chair. The successor is a former lawyer in public administration who indeed is independent. In the meetings on June 19, July 24, September 25, and November 13, 2008, under his chair the Council for Scientific Ethics comes to the conclusion that the suspicion of fraud cannot be proven.

In the minutes of the meeting of the Council for Scientific Ethics from July 24, this exoneration of the accused team member is explicitly documented and thoroughly substantiated. A subsequent suggestion by Prof. Adlkofer to clarify the only remaining contradiction in the minutes, that is, the date from which the team member could possibly have known the code required for cracking the blinding of the samples, is ignored by the rector. However, while the news about fraud had been made public as loud as possible, the rebuttal is now kept secret. The minutes are declared classified material by the rector, and even Prof. Adlkofer and Prof. Rüdiger can only have a look on site and under supervision. Prof. Lerchl, though, receives the minutes from an allegedly anonymous source. As if the exonerating statements in the minutes were non-existent, the rector renews his former accusations of fraud in a second press release. And Prof. Lerchl continues his campaign with even greater zeal. His defamatory allegations show more and more a clear tendency to destroy together with the data also the scientific and personal reputation of Prof. Rüdiger and Prof. Adlkofer, the senior authors of the two publications.

A *Spiegel* article - again written by Manfred Dworschak and clearly inspired by Prof. Lerchl - only subjects the researchers from Vienna to more ridicule and mockery. It also clearly shows the dissatisfaction with the exonerating findings by the Council for Scientific Ethics of MUV. Therefore, it does not spare general criticism of the state of affairs at MUV and implies, at least indirectly, that the rector used even dirty tricks. Under these circumstances and perhaps to justify his handling rector Schütz goes before the press a third time. Under the ambitious title *Science and Truth*, he repeats all his accusations of fraud. He also gives himself and his university great credit for how he took exemplary action against fabricated data - of course in the interest of science and truth.

The public only hears that the Council for Scientific Ethics could not find any evidence for the claim of fraud in its final report published in April 2009. It attracts our attention that obviously in the interest of the MUV rector a dubious attempt is made to explain why such accusations could have been made in the first place. With its criticism of the scientific studies, the Council for Scientific Ethics clearly moves beyond its authority towards ridiculousness. Reason for this odd description is that the two Council members, who were not replaced unlike the first chair, were not neutral in their disposition toward the rector and in their dealings with this case. For the campaign organizers, Prof. Lerchl and Prof. Schütz, the official rebuttal and dismissal of their accusations of fraud has not caused them to rethink their actions. Even the validation of the Vienna findings from at least six international research teams since mid-2009 till up to now, which show that there is no more doubt about the genotoxic effect of mobile phone radiation, could not change their position.

Obviously not satisfied with the results of the investigation by the Council for Scientific Ethics finally another

body, the newly established Austrian Agency for Research Integrity (OeAWI), was commissioned to make a final judgment concerning the accusations of fraud. While Prof. Schütz and Prof. Lerchl expected to see the accusations confirmed, the authors of the publications were quite confident that the acquittal by the Council for Scientific Ethics would be followed by an acquittal by the OeAWI. And exactly the latter is also the outcome of the final report published at the end of 2010. Thus it is clear that Prof. Lerchl and Prof. Schütz are slanderers who did not miss a single opportunity over the past three years to destroy the scientific reputation of Prof. Rüdiger's team and to wrongfully violate the personal integrity of its members. In order to at least soften its disastrous judgment in the interest of both slanderers and the institutions they stand for - the Medical University of Vienna and the German Commission on Radiological Protection of the Federal Office for Radiation Protection - this Commission, just like the Council for Scientific Ethics, goes beyond its assignment and authority by harshly, but unjustifiably, criticizing the quality of the publications. That the criticism in parts nearly parallels the wording of the mobile phone industry must have escaped its notice. Therefore, our doubts on the independence also of this Commission are quite justified.

From the outset, the authors of this documentation have put their confidence in their long-standing observation of developments in the history of science which teach: what science has recognized once and validated several times can neither be retracted nor destroyed in the long run — even if powerful lobbying groups in society do not like it so.

---

**Authors' remark:** *In the following report sentences in italics with quotation marks are either quoting documents available in English. Sentences in italics without quotation marks are precise translations from documents available only in German. Translations have been done to the best of our knowledge.*

---

## Introduction

The story told here has its origin in the Clinical Division of Occupational Medicine at the Medical University of Vienna (MUV), where Prof. Hugo W. Rüdiger had been director until October 2007. Within the framework of the Europe-wide REFLEX study, Prof. Rüdiger had observed that ELF as well as RF electromagnetic fields have the potential to be genotoxic. In a follow-up study, his team had shown that this genotoxic potential depends for a large part on the modulation of the carrier frequency. Thus, UMTS radiation (3<sup>rd</sup> generation of mobile phone technology) was found to be about 10 times more effective in producing DNA strand breaks in isolated human cells compared to GSM radiation (2<sup>nd</sup> generation). It is well known and well documented that publications with such findings are met with great scepticism and unease by the mobile phone industry and their scientific supporters. In our case the disapproval might have been particularly strong because the obtained findings contradict the results of the German Mobile Telecommunication Research Programme (DMF). Our plan to make them the basis for a new research proposal to be submitted to the EU, that would investigate radiation effects in live humans instead of test tubes, might have indeed provoked resistance.

Prof. Alexander Lerchl from the private Jacobs University Bremen, known for his contacts to the mobile phone industry, was obviously deeply concerned because of this development. Since years adviser and since 2009 even head of the Committee for Non-ionizing Radiation of the German Commission on Radiological Protection (SSK) responsible for the protection of public health, he came to a drastic and dramatic prognosis: if the Vienna research results should turn out to be true, this would be the beginning of the end of mobile communication technologies. Therefore, Prof. Lerchl decided to act. But rather than reviewing the findings and, in case of confirmation, responding with precaution he decided to take action against the publications and the authors. Suspected statistical abnormalities in the description of the findings were to give reason for a suspicion of fraud, and a corresponding campaign was to quickly publicize the hypothesis of fraud. With Prof. Wolfgang Schütz, the rector of the Medical University of Vienna (MUV), Prof. Lerchl did find the most serious support. The MUV rector was to assume the task to prove that fraud had taken place, and after their suspicion had been confirmed, obviously both together wanted to demand the retraction of the publications.

These are the two main figures of the campaign against the research findings from the Division of Occupational Medicine at MUV. The handling by Prof. Lerchl will be covered in a further documentation in which we will show that it was not only his aim to actually destroy the data, but

to also pursue the moral execution of the alleged fraudsters and their helpers. The following documentation takes a close look on the role Prof. Schütz, rector of the MUV, plays. Both professors, of course, emphasize again and again that their actions only intend to help establish truth in science.

## **1. Studies on genotoxic effects of mobile phone radiation from the laboratory of the Clinical Division of Occupational Medicine are suspected of being fraudulent**

Mid-2007 Prof. Wolfgang Schütz, rector of MUV, received a letter in which the allegation of data fabrication in a scientific publication from the Clinical Division of Occupational Medicine of MUV was raised. Author was Prof. Alexander Lerchl from the private Jacobs University Bremen. The allegation referred to *"Non-thermal DNA breakage by mobile phone radiation (1800 MHz) in human fibroblasts and transformed DF5H-R17 rat granulosa cells in vitro"* by E. Diem, C. Schwarz, F. Adlkofer, O. Jahn, and H.W. Rüdiger in the science journal *Mutation Research*<sup>1</sup>. The findings described in this publication had been obtained as part of the REFLEX study<sup>i</sup> between 2000 and 2004. They document that mobile phone radiation below the currently valid exposure limits has the potential to damage genes in isolated human cells.

The noticeable aggressive description of the case and the well-known close ties to industry of its writer had the effect that Prof. Lerchl's letter to MUV was initially regarded as hardly credible. However, this changed after the retirement of the senior author, Prof. Hugo W. Rüdiger in October 2007. The following spring, the rector of MUV quite unexpectedly mandated his Council for Scientific Ethics to seek clarification of the case. As a first step, the Council requested - based on Prof. Lerchl's criticism - an expert opinion from a statistician of MUV. His statement takes the view that it might possibly be data fraud, but despite some deviations from the norm one cannot necessarily conclude from the statistical analysis that it is data fraud.

In the interim, Prof. Lerchl had also informed the editors of *Mutation Research* about his suspicion of fraud and at the same time requested a retraction of the publication concerned. However, he declined the editors' offer to explain his position in a letter to the editor, because for some unexplained reason he obviously wished to remain anonymous. The editors, too, had the results of the criticized study checked by statisticians. Since the findings corresponded with those in Vienna, they thought that a drastic step like the retraction of a publication because of suspicion would not be justified, and no further steps were taken.

As matters stand, the rector of MUV received a surprising message at the end of April 2008 that further fuelled the fraud suspicion. Prof. Christian Wolf, former Deputy Director and now Acting Director of the Clinical Division of Occupational Medicine, informed the rector that a technical assistant in his laboratory had submitted data without having carried out the required testing. The accused technical assistant - for the past ten years with the Division of Occupational Medicine and considered highly qualified - had indeed not checked the testing results of her colleague as instructed by the new head of the lab but had submitted instead a "pro forma listing", as she liked to refer to it. When asked for an explanation, she immediately confessed the misconduct but for a while did not share the motivation for her actions. Later it became known that she did not want to harm her colleague whose testing results she considered to be erroneous, because a decision about her employment contract was pending. In an e-mail dated September 3, 2008, she explains her behaviour: *"The only serious mistake I can accuse myself of is: I should have informed Alex [head of the lab] about this situation right from the beginning in April and I should not have tried to give Petra [colleague] a chance to explain herself."*

Instead of carrying out the task as requested by the head of the lab, who had been her colleague for many years, the technical assistant secretly tried to find out whether it was really that easy to crack the code used for the blinding of the exposure chambers as had been suggested by her colleague. This colleague had observed in December 2007 that a technician maintaining the

---

<sup>i</sup> REFLEX - Risk evaluation of potential environmental hazards from low energy electromagnetic field exposure using sensitive in vitro methods (QLK4-CT-1999-01574). Supported within the 5<sup>th</sup> Framework Research Programme of EU

equipment could easily read from the display which of the two chambers had been actively exposed. With her discovery the technical assistant intended to surprise the head of the lab, who depended on her for all research activities. Due to their easy familiarity with each other, she was convinced that afterwards she could rely on his understanding of her behaviour. Never could she have imagined that a trap had been set up for her with far-reaching consequences. And, indeed, the head of the lab behaved totally different than she had expected. Immediately after discovering the fake series of numbers, he - without consulting her - informed the acting director of the Division of Occupational Medicine, Prof. Wolf, about the incident. On the very same day, Prof. Wolf went to see the rector in order to inform him that a scientific misconduct had been detected at his division.

The technical assistant immediately confessed her misconduct but, right from the beginning, also emphasized that this had been a single event. It had nothing to do with previous projects she has been involved in; all data so far collected with her help has been done according to the rules. In opposition to the rector's claims, she explicitly states once more in her e-mail from September 3, 2008: "*Before the Council I also did not confess to any data fabrication regarding the published studies - I admitted the incident from April - and even then I pointed out that I wanted to know whether it would actually be possible to 'crack' the chamber as I had heard about at the beginning of April!*"

That the technical assistant terminated her position with MUV at this time is, by the way, not to be confused with an admission of guilt. The immediate reason for this decision was that she had not been granted a vacation she had requested for family reasons. Apart from that, it was not especially difficult for her to take her leave from the university because the work atmosphere at the laboratory had started to deteriorate since Prof. Rüdiger's retirement.

## **2. A Council for Scientific Ethics is misused to destroy scientific data**

Without any investigation, the Council for Scientific Ethics confirmed the suspected fraud it had been called to investigate. Already at its first meeting on May 16, 2008, the Council concludes that therefore the two publications the technical assistant had contributed to and was listed co-author must be retracted. This hasty decision was not only made without validating the data and without hearing Prof. Rüdiger, the former director of the Division of Occupational Medicine. Despite her firm protestation to the contrary, it is also assumed that *all* data provided by the technical assistant over the years were not based on measurements but had been fabricated. After all, the blinding code for the exposure chambers had supposedly been known to her at least since 2005. No one believed her explanation that she did not need to know the code because certain cellular changes after exposure could be seen so clearly under the microscope that one could tell the difference between exposed or unexposed samples almost at first glance.

Strangely enough, the Council for Scientific Ethics limits its recommendation to retract publications to the two papers that deal with mobile phone radiation: the above-mentioned paper in *Mutation Research* from 2005 and another one from 2008 with the title "*Radiofrequency electromagnetic fields (UMTS 1950 MHz) induce genotoxic effects in vitro in human fibroblasts, but not in lymphocytes*" authored by C. Schwarz, E. Kratochvil, A. Pilger, N. Kuster, F. Adlkofer and H.W. Rüdiger published in the *International Archives of Occupational and Environmental Health*<sup>2</sup>. The remaining six publications, which also show evidence for genotoxic effects through ELF electromagnetic fields, were not of interest to the Council for Scientific Ethics and drop into oblivion for the time being. This is only one of the several pieces of evidence that reveals that the present case is not primarily about scientific but rather economic interests. The intention to eliminate a serious obstacle for the mobile communication industry is clearly shown.

### **MUV's rector demands the retraction of two publications**

Based on the decision of the Council for Scientific Ethics the rector demands of Prof. Rüdiger to sign two "Letters of Retraction" for the studies about genotoxic effects of GSM radiation (*Mutation Research* 2005) and UMTS radiation (*International Archives of Occupational and Environmental Health* 2008). Prof. Rüdiger's objection that there could be no doubt about the accuracy of the published data, which had been confirmed by independent teams, is disregarded by the rector.

Further, he ignores that the accusation of not adhering to the blinding protocol - based on the investigation of the Council for Scientific Ethics - does not at all apply to the publication of 2005, because years ago the responding data were obtained at the Free University of Berlin and not at MUV. He explains his decision with the vote of an independent commission to which Prof. Rüdiger has to submit even if he is convinced of the soundness of his data. Reluctantly, Prof. Rüdiger yields to the enormous pressure and signs the two letters prepared by the rector to the editors of both international journals.

#### ***Prof. Wolf obtains the technical assistant's consent for the retraction of two publications***

Prof. Wolf takes the two letters to persuade the technical assistant to also sign. On May 22, 2008, in a conversation outside of the university he presents to her Prof. Rüdiger's declarations of consent. He makes it clear to her that the retraction of the studies is inevitable, because it is already her ability to recognize exposure by just looking at the samples that suggest the possibility of systematic assessment errors. The technical assistant though not aware of any such errors, but intimidated enough and knowing that her former director signed already, signs too.

The other co-authors of the two publications, Prof. Franz Adlkofer and Prof. Niels Kuster - who do not belong to MUV and who cannot be put under a similar pressure - refused to give their consent to the retraction as they could see no reason to do so, based on the information they had. Without any consideration of this fact, the rector of MUV in a first step informs the editors of both scientific journals that the two publications are most likely based on a major scientific misconduct and that they have to be retracted.

#### ***The chair of the Council for Scientific Ethics turns out to be an employee of the mobile phone industry***

Two days after the rector's request to retract the publications, a surprising news item surfaced: the chair of the rector-appointed, three-member Council for Scientific Ethics is a lawyer who works for a company of the mobile phone industry. As the previously assumed independence of the Council cannot be reconciled, Prof. Rüdiger and the technical assistant immediately withdraw their signatures from the "Letters of Retraction". Prof. Rüdiger requests of the rector that the Council reassemble under a neutral chair and allow him to make his case. Moreover, he asks that the lab data also be reviewed as this had not been done so far. After all that it should have been obvious that the rector accepts Prof. Rüdiger's suggestion to replace, due to partiality, the chair of the Council for Scientific Ethics and entrusts the Council under a new chair with the further investigation of the accusations. For the time being, the rector does not respond to this suggestion. It is not until the events allow no further refusal that he concedes to arrange at least for a new chair of the Council.

The rector is entitled to appoint the three-member Council for Scientific Ethics according to certain rules. As each appointment is kept secret, he could have indeed assumed that nobody would learn that an employee of the mobile phone industry had been appointed chair. It was only by chance that this information was revealed. This unbelievable event does indeed further support the suspicion that in our case we do not deal with scientific but with economic issues. Obviously, the attack on the results from the Division of Occupational Medicine had been planned well in advance and its implementation was under way with a series of actions. Before becoming active, a new Council for Scientific Ethics had to be appointed which was only possible in the beginning of 2008. With the chair held by a lawyer employed by industry the requirements were met to elegantly eliminate the unwelcome research results with the greatest possibility of success. What somewhere else would have hardly been possible, at MUV<sup>3,26</sup> the circumstances certainly do not speak against such an assumption, and the subsequent course of events confirms it from always new angles.

### **3. MUV's rector informs the public about fraud at his university**

Yet, in this situation the rector follows a logic that can only be explained with conceitedness and a lack of insight. He trusts in the findings of the Council for Scientific Ethics. Its doubtful findings that seem to have been presented to him only orally - there are supposed to be no minutes of the Council's meeting - are sufficient for him to inform the public about the accusation of fraud.

On May 23, 2008, a press release<sup>4</sup> is published in which the public is informed about the rector's serious suspicion that the work on genotoxic effects of mobile phone radiation by the former Clinical Division of Occupational Medicine has been fabricated. The rector responded rapidly and decisively to the serious suspicious factors, he called on the authors of his university to retract their publications, and he informed the editors of the scientific journals, in which the publications had been published, *"that the aforementioned publications are based with very high probability on serious scientific misconduct."*

He argues that the statistics of the data of both publications were contested by other research groups in *Letters to the Editor* and that an internal investigation at his university which he prompted also supports the suspicion that the data have not been measured experimentally but fabricated. The suspicion is corroborated substantially by the fact that it was possible to convict a team member involved in both publications of fraud, *"... this author had based her entire working procedure on producing preconceived results."* The team member had immediately confessed to her behaviour and soon thereafter terminated her employment with MUV. The Clinical Division of Occupational Medicine, which had been under the leadership of Prof. Rüdiger until October 2007, would now undergo *"radical reorganisation, with the aim, among others, to ensure that scientific and ethical criteria are complied with in the long term"*.

The concluding statement of the press release states:

*"Rector Wolfgang Schütz emphasises that 'regrettably malversation occurs time and again in research practice'. Therefore, he adds, it is necessary to act quickly and with determination. 'This is what the MUV owes to the university's reputation, researchers and lecturers, students and not least the public'. Rector Schütz is confident that 'the authors will ultimately show understanding, the more so because also their scientific reputation is at stake'."*

### ***The affected authors object to the rector's press release***

The authors Prof. Adlkofer and Prof. Rüdiger declare in their counter statement<sup>5</sup> that they are not willing to retract the listed studies just because of the MUV rector's order as they are still convinced of the soundness of the described data in these publications. The technical assistant's "data fabrication" did not take place during the work of the criticized studies, but much later and long after Prof. Rüdiger's retirement. It is true that the statistics of the studies have been contested, but this is explained by the fact that the critics are not familiar with the testing procedures. The knowledge about the genotoxic effects of mobile phone fields is without doubt very important for the risk assessment of the technology. To retract the publications without a valid reason therefore does not fit with the authors' view of scientific responsibility to the public.

### ***The German newsmagazine Spiegel spreads the word about the alleged scandal***

*Spiegel* staff writer Manfred Dworschak, who has already repeatedly attracted attention with sensational articles that mock critics of mobile communication technologies to the great delight of the involved industry, now picks up the story from Vienna. In an article with the title *Beim Tricksen ertappt* [Caught at foul play] in *Spiegel* 22/08<sup>6</sup>, he reports that two sensational studies about the risks of mobile phone radiation are obviously the work of a fraudster and after her confession are basically worthless. With a suggestive undertone Dworschak asks his readers: "Was wussten die leitenden Professoren?" [What did the supervising professors know?]

What is remarkable about this article is the disclosure that the technical assistant uncovered as a fraudster supposedly has been suspected of data fabrication for quite some time. Obviously, a victim had to be found with whom the fraud could be proven, and choosing the socially weakest member of the scientific team, a technical assistant, seemed to be the most convenient way.

Nothing is more effective to quickly dispense with scientific data than to claim they are fabricated. And in this case, nothing else would be more suitable to earn the gratefulness of the mobile phone industry. That Dworschak, in this process, adopted the claims of the rector from MUV and Prof. Lerchl unchecked does not seem to have bothered the editors of a newsmagazine, which otherwise prides itself with being independent and critical. The news about the alleged fraud was picked up by the major daily newspapers in Germany and far beyond. It was reported in the German medical journal *Deutsches Ärzteblatt*<sup>7</sup> and the word spread internationally through such major scientific journals as *Science*<sup>8</sup> and the *British Medical Journal*<sup>9</sup>.

### **Prof. Adlkofer responds to the Spiegel article with a letter to the editor**

"The technical assistant Elisabeth K., who supposedly has been caught at foul play, declared in front of witnesses on May 29, 2008 that all experiments she has conducted and evaluated as part of the mobile phone research at the Medical University of Vienna have, without exception, been done under double-blind conditions at all times. In fact, the investigation into the events of Vienna in whose context she has been accused of scientific misconduct has so far not furnished any evidence. The basis for this accusation, after all, only consists of pure suspicions and deliberate misinformation whose causers can currently only be guessed at. It seems to be their ultimate goal to dispose of the research results from the two discredited publications. They will have to come up with something different now because, as things stand at the moment, the authors who are not associated with the Medical University of Vienna do not even think of following the rector's request to retract their publications from the respective scientific journals."

Yet the *Spiegel* does seem to find it neither necessary nor opportune to print this letter to the editor.

## **4. The replacement of the chair of the Council for Scientific Ethics changes the initial situation**

Against the MUV rector's will Prof. Rüdiger is finally successful in having the Council for Scientific Ethics reconvene under a new and neutral chair. In two hearings, on June 19 and July 24, 2008, the Council deals once again with the accusation of data fraud in the publications on genotoxic effects of mobile phone radiation.

### **A 'talk between colleagues' is believed to help settle things amicably**

Ten days prior to the meeting scheduled by the Council for Scientific Ethics for July 24, 2008, Prof. Rüdiger receives an unexpected e-mail from a member of the Council, inviting him to have a talk between colleagues with no minutes being taken so that some problems may already be solved beforehand. This talk was set to take place right before the scheduled meeting in the presence of another Council member. In view of the scantiness of the evidence, which by now must have been obvious, it looked as if a solution was sought to bring this issue to an end without the rector losing his face.

During the talk, it is proposed that Prof. Rüdiger should distance himself from the publication in the *International Archives of Occupational and Environmental Health* from 2008 based on formal reason - because of shortcomings in the blinding procedure that cannot be completely ruled out. In return, the accusation of fraud for *both* publications would officially be dropped and the publication in *Mutation Research* from 2005 would stand. This proposal for compromise is explained with the argument that otherwise the rector would have to maintain his accusations of fraud in another press release even if data fraud could not be definitively proven. This would undoubtedly badly damage the reputation of the authors of the publications and that of MUV as well. Only after a great deal of persuasion, Prof Rüdiger agrees to the proposed compromise. The Council members were able to convince him that if he refused, he could not shoulder the responsibility for either of the possible outcomes: the unhampered continuation of the campaign would damage the reputation of the involved scientists; giving in by the rector - which could hardly be expected - would affect his personal reputation and that of MUV. Thus, Prof. Rüdiger agrees to the compromise with the explicit condition that the accusation of fraud would from now on not be mentioned for *any* of the publications and that the request for retraction of the publication in *Mutation Research* 2005 would never be made again.

### **The proposal for an "amicable agreement" is accepted**

In the minutes of the meeting of the Council for Scientific Ethics from July 24, 2008, the summarizing conclusion states that the claim of fraud can no longer be maintained because there is no evidence for it.<sup>10</sup> The professors Adlkofer and Rüdiger are permitted to read the minutes in the rector's office of MUV, but they are denied a copy as the rector had declared them a classified document. Therefore, it is all the more disconcerting that Prof. Lerchl obtains a copy of the minutes and seems to have even been allowed to use it freely. After all, thanks to this fact the document is now in our hands - through various avenues and certainly not intended by Prof. Lerchl.

The minutes reveal that the so-called "causa Rüdiger" definitely received a different assessment under the new chair of the Council for Scientific Ethics compared to his predecessor. The change of assessment shows especially in the following points:

- It is thought-provoking that the technical assistant is shown in a completely different light. A member of the former Council for Scientific Ethics had assured Prof. Rüdiger and Prof. Adlkofer that during the hearing the assistant accused of data fabrication had acted as a hard-boiled and tough fraudster, capable of doing anything and absolutely untrustworthy. Under the new Council chair, Prof. Rüdiger is now informed that the technical assistant appears to be a highly intelligent and eloquent young woman who knows how to argue with credibility and who made an excellent impression during the three-hour hearing. She clarified that double blinding was provided, that she has always worked under double-blind conditions, and that the speculations of her knowing the code for the exposure chamber since 2005 are not true. The analysis of the samples had always been performed without knowledge of the code.
- Prof. Michael Kundi (MUV), who had been consulted as an expert on statistical analysis, also found the low variance of the results striking but explained why this does not automatically equal fraud as claimed by Prof. Lerchl. When using a computer-aided analysis for the comet assay, the variance coefficient is up to 10 to 15%, after analyzing a minimum of 50 cells. In contrast, the results of the technical assistant who used visual analysis methods showed only a variance of 1 to 2% per 500 cells. It has been known empirically that results based on visual analysis methods usually show a much lower variance. Based on this knowledge, Prof. Kundi does not consider the results provided by the technical assistant as impossible even though such a low variance comes close to the threshold of the observable.
- The technical assistant also helps clarify the statistical abnormalities that came under attack. As already stated at the hearing before the former Council for Scientific Ethics on May 16, 2008, she reports that for many years she has been able to recognize changes in cells under the microscope which infers their exposure status. Such characteristics as increased occurrence of "comet tails", more irregular cell growth, and difficulty in lifting cells from the petri dish, would assign the sample to the exposed group. No doubt, knowing as to whether a sample has been exposed or not reduces the significance of the coding, which is designed to ensure blinding conditions during the evaluation process. The qualitative differences recognizable under the microscope already at first sight are simply quantified during the subsequent counting of cells, or put it another way: the subjective factor of knowing prematurely as to whether a sample is exposed or not influences the statistical analysis only in such a way that the scattering range and the coefficient of variation decrease. This expertise based on years of experience and exceptional powers of observation should not be held against the technical assistant. That differences can be recognized already at first sight under the microscope should rather be considered a sign of the extent to which mobile phone radiation causes cell damage. If those changes were not there in the first place, they could not be detected.
- The question remains controversial as to when the technical assistant had been able to crack the coding. She herself says that she has known about it since April 2008. Her co-worker, who obtained this knowledge around the end of 2007 during the maintenance of the exposure set-up informed her about it, and she had seen it confirmed in her investigations. Contrary to these statements, the members of the Council for Scientific Ethics are convinced that she has known the coding of the exposure chambers at least since August/September 2005. They had to be, because this assumption played a key role in the search for a compromise intended to save the rector from admitting an irresponsible information policy and to make it possible for Prof. Rüdiger to retract one of the two publications. The assumed date seemed convenient to help bring this issue to a conclusion with an "amicable agreement" as this prospect had already been announced at the beginning of the meeting according to the minutes, and we translate:

*Based on the available files, it appears to be not at all that unrealistic that Prof. Rüdiger would agree to an announcement of retracting the publication from 2008. [...] The wording of such an amicable agreement under discussion would, on the one hand, sufficiently accommodate the interest of the Medical University as a research facility, without, on the other hand, permanently - considering that based on the currently available findings of the hearing it cannot be assume that he had known anything about the decoding of the blinding - and inappropriately damaging Prof. Rüdiger's scientific reputation.*

Without an agreement on when the technical assistant had known the coding, the Council for Scientific Ethics now made its *own* assumption about the date to base its proposed compromise

on. The minutes of the preliminary discussion conclude with the statement that the rector of the university agreed and that an "amicable agreement" of this nature should be sought, and we translate:

*The Council for Scientific Ethics assumes that the statements derived from the investigation findings below, so to speak, form the (tacit) legal basis for the amicable agreement with Prof. Rüdiger. On the supposition that Prof. Rüdiger will meet his agreed-upon obligation of retracting the study from 2008, the case is considered closed and then the listed considerations are no longer regarded as important. [...] The question of scientific misconduct is resolved through the amicable agreement with Prof. Rüdiger. The issues of appropriate methods and consistent research results should, from now on, be purely a matter of scientific discourse.*

But the minutes also reveal the restrictions Prof. Rüdiger explicitly made as a condition of giving his agreement to the compromise. He would only agree to the retraction of the study from 2008 because he could not completely rule out problems with the blinding procedure. Also, he would knowingly take this step for himself and does not speak for any of the other authors of the study and would rather expect their opposition.

## **5. After July 24, 2008, further fraud claims are false statements**

The most important result in the minutes of the meeting of the Council for Scientific Ethics from July 24, 2008, however, is that the fraud claims could not be substantiated, and we translate:

*The results of the investigation did not provide any evidence that knowing the codes had been used deliberately to manipulate the results of the project or had otherwise been relevant to the research results. Especially in light of Prof. Kundi's re-evaluation, no conclusion can be drawn as to whether the samples used at that time were suitable or not. It could not be shown that the unusually low variance of the results of the evaluations [...] would be completely impossible and a clear sign of data manipulation (statement of Prof. Kundi).*

Obviously, the Council only stuck to its claim that the technical assistant had known the codes for much longer than admitted so as to reach a compromise between the rector and Prof. Rüdiger. The reason why the Council did not take any further action to the disadvantage of the technical assistant can obviously be explained by this fact.

The minutes of the meeting are also very important regarding a turning point: anyone who knew about the results of the investigation and deliberately continued to talk about fraud in public after July 24, 2008 would be guilty of making a false statement. Therefore, under normal circumstances it would have been quite clear that after the investigation the findings had to be presented to the public instead of keeping them secret and, thus, promoting further fraud accusations.

### **Prof. Rüdiger retracts the publication from the International Archives of Occupational and Environmental Health of 2008**

As stipulated in the "amicable agreement", Prof. Rüdiger explains in a subsequent letter to the editors of the *International Archives of Occupational and Environmental Health* his consent to retract the publication from 2008 because of the fact that he cannot completely rule out problems with the blinding procedure:

*"As the corresponding author I herewith withdraw the publication "Radiofrequency electromagnetic fields (UMTS, 1950 MHz) induce genotoxic effects in vitro in human fibroblasts but not in lymphocytes" by Claudia Schwarz, Elisabeth Kratochvil, Alexander Pilger, Niels Kuster, Franz Adlkofer, Hugo W. Rüdiger. Int Arch Occup Environ Health (2008) 81:755-767. I came to the decision because I cannot guarantee anymore that the blinding of the experiments, which I have considered as a particular strength of this work, was ensured with absolute certainty. This makes it difficult for me, if not impossible, to successfully defend the published data against the criticism that came up after their publication. Nevertheless, I myself am convinced that our results are correct and that they will be confirmed in the near future. All authors of the article have been informed about this decision. I apologize to the readers of IAOEH and to the scientific community for inconveniences."*

## **6. MUV's rector disregards the findings of his Council for Scientific Ethics**

### **The second press release of MUV is a document of a breach of promise**

As soon as Prof. Rüdiger agreed to the dubious compromise, the rector ignored the "amicable agreement" as well as the statement of the Council for Scientific Ethics that accusations of fraud

could not be proven. On July 29, 2008, another press release of the MUV announces already in the heading that Prof. Rüdiger has retracted his obviously incorrect mobile phone study. Afterwards all previous accusations of fraud made by the rector are fully renewed<sup>11</sup>:

*"Following a hearing before the Council for Scientific Ethics (a body set up at the Medical University of Vienna [MUV] four years ago to assess cases of scientific misconduct), Dr. Hugo Rüdiger, the former Head of the Division of Occupational Medicine and retired as Emeritus Professor in 2007, has withdrawn at least one of two disputed publications, viz. the one that came out in March this year, regarding the alleged DNA damaging effect of mobile phone radiation. First related reports appeared in a MUV release on the 23rd of May this year.*

*The suspicion expressed at that time was that the data published in the study were manipulated, which could be corroborated additionally now that it was proven definitely that the employee who conducted the experiments had known the blinding code since August 2005. As the changes induced by radiation on the cell nucleus are identified under the microscope, blinding is essential to ensure that none of the investigators knows beforehand which cells have been exposed to radiation and which have not. As a consequence, Prof. Hugo Rüdiger in his capacity as the Head of the team conducting the study and corresponding author of the publication withdrew it at his own initiative.*

*As has been reported previously, said employee was commissioned to conduct test trials within the framework of an in-house quality control in April this year that were also used for the two publications and then supplied data without having made any related microscopic studies and evaluations beforehand. Following her conviction, she immediately confessed to her behaviour and terminated her employment relationship with the MUVI with immediate effect. Already before that, a statistical expertise commissioned by the Council for Scientific Ethics had expressed doubts regarding the correct collection of data published in the two works.*

*[...]*

*Regarding the criticism voiced at several instances with regard to the composition of the Council for Scientific Ethics it must be mentioned that the lawyer who acts as a Council member (a civil servant, but employed with a mobile phone company meanwhile hived off from federal sovereignty) aimed to avoid the impression of partiality and was therefore substituted, especially for this case, by a former member of the Administrative Court."*

Thus, the rector sees the "causa Rüdiger" as terminated and adds:

*"We have undoubtedly responded quickly and unambiguously, which is what we owe to our university's reputation, to researchers and lecturers, as well as students. Methods not complying with scientific objectives and the ethos of correct scientific practice cannot be tolerated. I'm very calm now that Mr Prof. Rüdiger in the end realised what had to be done."*

With his press release from July 29, 2008, the rector not only ignored the compromise that had been negotiated by the Council for Scientific Ethics with Prof. Rüdiger in the rector's own interest, but he reinforced the accusation of data fabrication. With his malicious statement that, in the end, Prof. Rüdiger had shown understanding, he implies that with the retraction of his study he indirectly admitted the misconduct. That the compromise actually was a blackmail to keep the rector from losing his face is not mentioned at all. It is implied that the criticism of the composition of the first Council for Scientific Ethics was unjustified, the replacement of the chair as unnecessary and a concession to Prof. Rüdiger's sensitivities rather than a necessary consequence of a proven partiality. This sheds a strange light on the rector's sense of justice, given that his attitude is not in line with the usual European legal standards.

The rector's press release appears to be platitudes in an attempt to save his reputation. The factual deviations of the press release from the statements in the minutes of the council's meeting are so significant that they virtually force the latter's nondisclosure. Prof. Adlkofer and Prof. Rüdiger, who as affected persons were at least allowed to read it under supervision, had to confirm in writing beforehand that they will never make use of its contents. Surprisingly, Prof. Lerchl is one of the few confidants who have access to the minutes. If there were another piece of evidence required to prove the alliance between Prof. Lerchl and Rector Schütz, here it is. In order to reinforce his words, the rector has even been willing to accept financial losses to the detriment of his university.

The rector obviously returned over 100,000.00 Euro that Prof. Rüdiger had received for his studies from the Austrian Workers' Compensation Board (AUVA). This gesture was doubtlessly meant to demonstrate that when MUV assumes fraud it can do very well without funds used to fabricate data. A similar attempt to deceive was made apparently in regard of the REFLEX project which was funded by the EU Commission within the 5th Framework Programme. Unexpectedly and four years after the conclusion of the REFLEX project, the EU Commission requested the return of 8,300 Euro from MUV, part of a 187,000 Euro payment for research. Prof. Adlkofer, the coordinator of the REFLEX project, was informed by the EU that the reason for this rather unusual proceeding, which Prof. Lerchl, of course, immediately tried to interpret according to his own agenda, is not associated with a fraud charge.

### **Prof. Rüdiger and Prof. Adlkofer comment on the rector's breach of promise**

How far the press release contradicts the findings of the rector-appointed Council for Scientific Ethics mandated to investigate the facts of the case can be seen from the statement by Prof. Rüdiger from August 2, 2008:

*"That the rector ignores the compromise he himself had endorsed in the first place and then confirms with his second press release from July 29, 2008 the validity of his first one from May 23, 2008 speaks for itself. Especially the following points need clarification:*

- 1. The mobile phone study is not retracted by me because it is evidently incorrect, but solely for formal reasons.*
- 2. The retraction is the result of an internal agreement (compromise), which had been agreed by the rector and to which he now does not adhere.*
- 3. The ongoing investigation over the past months did not lead to findings that prove the fake of published data. To a written inquiry by the chief editors of the International Archive of Occupational and Environmental Health from June 3, 2008, the rector has not yet replied.*
- 4. It has not been proven that the employee conducting the experiments has known the blinding code of the exposure chamber since August 2005.*
- 5. Because of his reference to suspected data manipulation he had announced on May 23, 2008 (but which since then has not been validated by the Council for Scientific Ethics), the rector keeps the suspicion of fraud at least indirectly alive — which is not justifiable.*
- 6. His mentioning of the publication E Diem, C Schwarz, F Adlkofer, O Jahn, HW Rüdiger (2005) Non-thermal DNA breakage by mobile-phone radiation (1800 MHz) in human fibroblasts and in GFSH R17 rat granulosa cells in vitro. Mutation Research 583, 178-183 is misleading because this paper has not been retracted."*

The following exchange illustrates how little the rector of MUV has actually been interested in any clarification of the facts. On August 27, 2008, in a letter to the rector, Prof. Adlkofer points out a contradiction that had struck him in the minutes. He informs the rector that he could agree to the retraction of the publication only if this contradiction is clarified. Moreover, he demands that the minutes be published:

*"Dear Professor Schütz,*

*Following your invitation, I looked at the minutes of the Council for Scientific Ethics from July 24, 2008 in the presence of Prof. Lechner and a staff member of the rector's office on August 26, 2008. Except for one sentence, which requires further clarification, the circumstances are described as I know them. In my opinion, it is a shame that you do not intend to make this document available to the public because it would be suitable to clear up misunderstandings and to put an end to allegations made against individual people.*

*The sentence in question reads as follows: Ms. K. is surprised by her notes (from 2005), which she seems to be unable to remember, and explains that they obviously are about successful experiments to understand the code. According to the colleague Mr. Lechner, this sentence is regarded as evidence that Ms. K has known the code since 2005 and that, therefore, an improper influence over the data evaluation cannot be ruled out with certainty. Since nowhere else in the text this assumption seems to be validated, but is firmly objected in several other places, I am of the opinion that it might be possible that Ms. K. has been quoted in an abbreviated or even wrong manner.*

*I, therefore, ask you to arrange that Ms. K is also given the opportunity to take a look at the minutes. In case she agrees with the interpretation of Mr. Lechner regarding this sentence in the minutes, namely that she knew the code since 2005, this confession would be sufficient for me to also agree to retracting the publication from the IAOEH. However, if she can disprove this interpretation of the sentence with plausible arguments, I cannot see any reason for retracting the publication in question.*

*Once again, many thanks for being so cooperative and my sincere regards"*

But Prof. Adlkofer's letter remains unanswered. Obviously, too much clarification in the "causa Rüdiger" is not desired.

The second press release of MUV is proof of the fact that the rector does not agree with the result of the hearing as conducted by the appointed Council for Scientific Ethics, and especially does he not agree with the minutes, which have been recorded under the supervision of the neutral chair. According to his office, he has the right in such a situation to disregard the minutes and make decisions according to his own discretion - of which he made extensive use in the "causa Rüdiger".

### **7. A third press release by the rector exposes the Council for Scientific Ethics once and for all**

After the meeting of the Council for Scientific Ethics on July 24, 2008, the campaign against the research findings from MUV seemed to finally face failure. Since this had to be prevented at all costs, the journalist Manfred Dworschak takes again action as the rescuing angel. In a *Spiegel*

article, whose origin is clearly owed to a connection with Prof. Lerchl, the "true" reasons are revealed how such a fraud scandal could have happened at MUV.

### **Der Spiegel ridicules Prof. Rüdiger and all those who doubt the safety of mobile phone radiation**

Under the headline *Die Favoritin des Professors* [The professor's favourite]<sup>12</sup>, Dworschak begins his article with an announcement printed in bold reading like this: *Vienna researchers believe to have shown that mobile phone radiation damages DNA - with apparently fabricated studies. The case is an example of how to handle tough fraudsters: who should uncover fraud cases when science itself is overwhelmed?* The article goes on to tell in broad strokes what Prof. Lerchl will later present to the public in his book about the *Fälscher im Labor und ihre Helfer* [Fraudsters in the lab and their helpers]. The previous allegations are more or less presented as facts. A new element is added: ridicule the enemy and make the campaign initiators heroes. Illustrated with corresponding images, the "old" Prof. Rüdiger is portrayed as some kind of "Professor Unrat" [a book by Heinrich Mann] who is infatuated by a young and beautiful woman, without realizing how she is fooling him. He is juxtaposed with the "proper" Prof. Lerchl who has bravely taken up the fight against the infamous fraudsters in science and succeeded against all opposition. It is noted with displeasure that the investigation of the case at MUV proceeds only very slowly and that the findings of the clear-up are still highly insufficient despite of the undisputed fraud. Therefore, also the responsible ones at MUV, the Council on Ethics in Science and the rector, are not excluded from discriminating allegations.

### **To obtain again Prof. Lerchl's approval the rector responds to the defamation in Der Spiegel with a third press release, in which he repeats all his claims of fraud**

Instead of clarifying the question whether the technical assistant indeed knew the blinding code since 2005 or not, so that he could have reconsidered and, if necessary, corrected his attitude in the case, the rector distributes on September 1, 2008, a third press release - a week after the *Spiegel* article came out - in which he brings his suspicions once more before the public. Probably, he wants to appease Prof. Lerchl who seems to be just as disappointed and annoyed about the outcome of the investigation in Vienna.

The latest press release<sup>13</sup> with the headline "Science and Truth" starts out as follows:

*"MUV is one of the first universities in Austria to establish a Council of Ethics in Science and guidelines for correct conduct of studies and their publication. Thus, it is able to pursue optimal crisis management in accordance with its own criteria when faced with difficult and challenging situations."*

Thereafter, the "causa Rüdiger" is discussed:

*"In the last few weeks, partly misleading and highly contradictory reports appeared on two studies performed in part at the Medical University of Vienna, published and conducted on the responsibility of the University Professor emeritus Dr. Hugo Rüdiger, previously head of the Clinical Division of Occupational Medicine, on the subject of 'DNA-damaging effects of mobile phone radiation'.*

*On this issue the Medical University of Vienna takes a basic stand on scientific misconduct and documents the procedure which - based on a justified suspicion concerning clarification of the case and after a final hearing before the Council of Ethics in Science - led to Dr. Hugo Rüdiger withdrawing his study."*

After a detailed description of the rules that must be adhered to in the search for truth in science, comments on the studies about mobile phone radiation are made. It is shown in an exemplary way that the investigation adhered to the currently valid rules:

*"1.) The Council of Scientific Ethics was entrusted with the task of investigating the charge.*

*It had several indications of data fabrication - i.e. grave misconduct.*

*\* In two published "Letters to the Editor", grave doubts were expressed about the statistics reported in both publications (in particular, an implausibly low biological dispersion of data)*

*\* The same conclusion was drawn by a professor of medical statistics commissioned by the Council of Scientific Ethics to write an expert report.*

*\* The author of the studies who performed the scientific experiments had entirely fabricated the data at experiments performed in the course of quality management in April this year; these experiments were identical to those mentioned in the two publications.*

*\* This author who is a medical-technical analyst and no scientist admitted this fabrication of data during quality management and resigned her job at MUV immediately afterwards.*

*\* Based on a laboratory log book written by hand, it was found that the author had been aware of the blinding code of the experiments since August 2005. She also did not refute this fact - as it was in her own handwriting.*

*2.) MUV immediately published all of this evidence in two APA reports.*

*MUV informed the publishers of both journals in which the work had appeared about all evidence referring to the fabrication of data and recommended retraction of both publications.*

3.) MUV asked all authors – particularly the corresponding author – to withdraw the publications on their own. The latter did withdraw one of the publications (however, the reason he cited was that he could not guarantee the blinding).

In the meantime the publisher of the said journal has informed the Rector – in a letter dated 13th August – that he is withdrawing the publication because of the absence of blinding, and that he thanked MUV for contributing to clarification of the matter.

The next task of the Council of Scientific Ethics is to determine all further publications in which this author was involved while using the same experimental design and then advise the publishers in charge to retract these publications as well. This approach of MUV was proof of its rapid, consistent and effective action, which was also appreciated in international circles of experts."

This account which shows the rector's breach of promise but, at the same time, also disguises it, impressively illustrates what this man understands by truth and ethics in science. That none of the arguments the rector refers to in his account can stand up to closer scrutiny has already been revealed in the previous chapters. That his arguments are born out of his imagination in an effort to protect his interests is evident. In view of the "deal" as the "amicable agreement" between Prof. Rüdiger and the rector from July 24, 2008 is referred to in the *Spiegel* article<sup>12</sup>, even Prof. Lerchl - whose imagination is certainly on par with the rector's - appears to be baffled. In one of his numerous articles in the internet forum of the IZgMF<sup>ii</sup>, he makes the following statement about this event exactly two years later, on July 24, 2010<sup>14</sup>, and we translate:

*The second question as to why the rector would still refer to fraud, data fabrication, etc. in three press releases is more difficult to answer. I must admit that I cannot understand at all the contradiction between these explicit press releases and the 'deal'.*

#### **Prof. Rüdiger and Prof. Adlkofer also comment on this press release of the rector**

Prof. Rüdiger, who at first was left speechless about this line of arguments by his rector, shares his comments a few days after this showdown:

*"In other words this is what the rector would like: After fraud could not be substantiated for the two publications, such evidence is now to be abandoned altogether and the publications are to be retracted without any investigation. Let me state very clearly:*

- 1. The general withdrawal of scientific publications without any evidence of inaccuracies in these studies is unprecedented internationally.*
- 2. To destroy - for no reason - scientific findings that have been produced with great effort by many, mostly young team members over many years is irresponsible because it challenges the personal integrity and professional future of those affected.*
- 3. It is also irresponsible toward government agencies and others, which have provided substantial funding for these studies for years.*
- 4. It is irresponsible toward society because the submitted findings, which now have been discredited, are of great importance to the health of many people (Report to the chair of the Austrian Society for Occupational Medicine from September 25, 2008)."*

On September 8, 2008, Prof. Adlkofer publishes a press release with the headline *Science and Truth in Mobile Phone Research: Current Developments and Background of a Controversy*<sup>15</sup>:

*"[...] After having uncovered this scandal, another meeting of the Council was scheduled, this time under a neutral chair. The meeting's minutes that for incomprehensible reasons are regarded as a classified document and are not published - which we as co-authors, however, were allowed to look at - clearly show that the allegations directed toward the affected team do most likely not apply. Remaining uncertainties could easily be clarified if there were a will to do so. But what does the rector do? With no regard for the contents of the minutes, he repeats his allegations in additional public releases. They are even picked up by such an important journal as Science, and the German newsmagazine Der Spiegel publicizes it through a sensational article.*

*At the homepage of the Medical University of Vienna, the rector of MUV speaks about science and truth in general and about mobile phone research in particular. The way he seems to take it led in our specific case not only to an unjustified destruction of research results from many years of work, but beyond that into the defamation of the participating researchers. A staging like this - even though not new in mobile phone research - is contrary to everything expected from scientific and journalistic integrity. And the disposing of well-documented possible risks humans are threatened by is also contrary to the mandate of a medical university!*

*At the moment, one can only speculate upon the backgrounds of these activities designed to destroy scientific data and, subsequently, to also manipulate public opinion. Of course, one can also try to draw obvious conclusions from the evidence at hand. Clearing the Vienna research findings out of the way would have the benefit of removing at least one important reason that belies the statements of the German Mobile Telecommunication Research Programme and challenges the absolute authority of the currently valid exposure limits. And if, in addition, it would be possible to prevent the Vienna team from continuing its planned research activities within an international framework for the foreseeable future, the telecommunications industry would have hardly any reason to complain."*

---

<sup>ii</sup> IZgMF - Informationszentrum gegen Mobilfunk [Information Centre against Mobile Telecommunication]

## **8. Also in the *Endbericht* [final report] of the Council for Scientific Ethics the team is exonerated from the accusation of data fraud**

In April 2009, the Council for Scientific Ethics publishes its final report [only available in German] in which the results gained through all its meetings on June 19, July 24, September 25, and November 13, 2008, are summarized<sup>16</sup>. With a delay of over three quarters of a year, the report now also concludes for the public that the asserted allegations could not be proven.

### ***Released from fraud allegation***

Translated, the critical paragraph in the final report reads like this:

*However, the Council for Scientific Ethics could not produce proof that the discovered knowledge of the concerned laboratory employee on how to break the blinding of the exposure device helped to deliberately falsify or fabricate data. A falsification or fabrication of data was denied several times by the concerned employee, and in this connection she was exonerated by another informant – among others with a remark regarding the proper coding of the slides and, thus, a second blinding.*

This statement by the Council for Scientific Ethics finally clears the team from the suspicion of data fraud. This means that allegations by the rector of MUV and by Prof. Lerchl were made wrongfully.

This inevitably raises the question as to whether the rector of MUV is guilty of abusing his position by deliberately ignoring the state of affairs, which has remained unchanged since the meeting of his Council on July 24, 2008. In order to spare the rector and of course also MUV a personal problem in the present situation, the Council quite obviously searches for arguments and wording in its final report that take back the allegation of fraud, but do not remove all doubts regarding the publications of the team. This turns the acquittal based on proven innocence into one based on lack of evidence and thus second-rate. As has already been explained in Prof. Adlkofer's and Prof. Rüdiger's statement, several notes of the Council require clarification because they are quite obviously based on deliberate deception, half-truth, or even falsehood<sup>17</sup>.

### ***Technical assistant fabricated data in April 2008***

We translate from the final report:

*In addition, it was disclosed that a key employee in the laboratory of the former Clinical Division of Occupational Health at the Medical University of Vienna being a first author, respectively a co-author of the two mentioned papers (the latter published in February 2008) had fabricated data when a quality check in the laboratory took place in April 2008. This fact remains undisputed.*

**Clarification:** As has been explained earlier, the technical assistant indeed submitted data in April 2008 for which there were no experiments to back them up, but this happened over a year after the last mobile phone study finished and half a year after Prof. Rüdiger had retired. Thus, the accusation of scientific misconduct is certainly justified, but it has nothing to do with the criticized studies.

Another question begs to be asked then: how could something like this happen with a team member who has been above any doubt for over ten years? From the beginning there was suspicion that a trap had deliberately been set up for the technical assistant disguised as part of a so-called "quality control", designed and prepared by subjects with a joint interest in discrediting inconvenient scientific findings. For the planned action against the scientific findings of Prof. Rüdiger's team, quite obviously a plausible explanation was to be created. The allegation of data fraud seemed to be the most effective tool. At the right time but against the valid rules, the rector appoints a lawyer, employed by a mobile phone company, to be chair of the Council for Scientific Ethics. Obviously, the Council was supposed to be supplied with convincing evidence for the successful and quick closing of the "causa Rüdiger", whose pursuit Prof. Lerchl had demanded already nine months ago and since then again and again.

A first clue to a well-planned course of action is provided with a note in the *Spiegel*<sup>6</sup> that says that Elisabeth K. had already come under suspicion for quite some time - even a current study she had been involved in attracted attention for some strange data. The rector Schütz, therefore, had the employee covertly monitored for two weeks in April. An e-mail note from the technical assistant to Prof. Adlkofer and Prof. Rüdiger on September 3, 2008, reinforced the suspicion: "*Even so: the rector as well as Prof. Wolf say that these experiments were meant to check on me*". The ultimate certainty that the technical assistant had, indeed, been set up is furnished by Prof. Lerchl in one of his *Laborjournal* editorials no earlier than 2010. In this text, in which he also documents his close cooperation with the masterminds at MUV<sup>18</sup>, it reads like this: *What had happened? According to a person involved, the suspected lab technician, Elisabeth Kratochvil, had been set up. She was*

supposed to once again assess slides, which she did and she submitted her findings. The hour meter of the microscope's UV lamp, however, showed no move, and, therefore, the assessment had not taken place (to recognize comets stained with ethidium bromide UV is necessary).

To put their plan into action, the newly appointed head of the laboratory was chosen, as he had worked with the technical assistant for many years and was convinced of her skills just as much as his former superior Prof. Rüdiger. The fraud he then uncovered can certainly not be excused, no matter how understandable this incident in regard of the pursued intention may be from a human perspective. From our perspective, however, the much greater blame is to be placed on those who were determined to sacrifice the team member for their own interests - based on the motto that supposedly only applies to the technical assistant, not to themselves: those who defraud once have always defrauded.

### **A representative of the mobile phone industry is appointed chair of the Council for Scientific Ethics**

We translate from the final report:

*Results from the meeting on 16-05-2008 that was chaired by the permanent Chairman of the Council, Dr. iur. Farmer, are not considered in the further proceeding as the retired University Professor Dr. Hugo Rüdiger publicly claimed a conflict of interest in the person of Dr. Farmer.*

**Clarification:** The first chair of the Council for Scientific Ethics was certainly not incidentally an employee of exactly that industry, which had the greatest interest in destroying the data under discussion. That there were obvious reasons for the conflict of interest, which required the removal of the chair, is, however, obscured in the above statement. Also the fact that simply the appointment of a new chair made it possible to reach a totally different level of information is not mentioned at all. The wording rather tries to give the impression that efforts were made to accommodate Prof. Rüdiger's - in this case superfluous - sensibilities.

In view of such euphemistic tendencies, it is no surprise that no one thought of having to remove the entire three-member Council for Scientific Ethics due to a conflict of interest when the first chair was withdrawn. The two other members also had already stated with great clarity that they had no doubts about the fraudulent intentions of the technical assistant. Even though we are pleased to acknowledge the efforts of the new chair to remain neutral, it must be said that the second Council as a whole lacked the personal prerequisite for establishing the truth in an unbiased and neutral manner. If the other two council members had been replaced too, the rector's plan would already have been thwarted before it ever had had a chance to take off.

### **The date of when the blinding code was known is determined by the Council for Scientific Ethics**

We translate from the final report:

*The Council did find undisputable proof that in the period the investigations for the publication Schwarz et al. (IAOEH, 2008) were carried out, an employee, who evaluated the samples for this publications all alone, was in the position to make out whether a sample was exposed or sham-exposed by the setting (according to manual) of the display of the coding machine. This fact (knowledge of the blinding code of the exposure device since September 2005) was admitted by the employee in the meeting on 24-07-2008 and the statement was confirmed in writing. [...] Applying its rules on the preliminary judgment of the matter according to the "Guidelines for good scientific practice at the Medical University of Vienna" the Council came to the conclusion that breaking the code by a laboratory employee and co-author (without informing her superior) must be seen as an act of scientific misconduct. It is a serious break of careful duty that this employee, without taking care of appropriate changes in the organizational procedures, did not refrain from collaboration and authorship. Too, it is a serious misconduct of the co-author as especially for the discussed experiments the double blinding with the help of the exposure device developed in Zurich was emphasized as a specific quality feature. With this, the Council states that the data cannot be called scientific sound anymore. This was admitted by the authors (Schwarz, Diem, Pilger, Rüdiger). That is why the publication in IAOEH was withdrawn by the corresponding author. [...] The chief editors of the journal did not publish the withdrawal of the paper but a Letter of Concern. [...] The investigations of the Council did not come up with a proof that the senior author or other co-authors were informed on the break of the codes.*

**Clarification:** As evidence for its allegation that the blinding codes have been known for years the Council for Scientific Ethics considers the fact that the technical assistant wrote down numbers for some experiments in her handwritten lab book from which the code could have been deduced by a knowledgeable person. The statement that she also confessed to knowing the blinding code at the meeting of the Council for Scientific Ethics on July 24, 2008 and confirmed this in writing is not true. She only admitted and confirmed in writing that the entry in the lab book was her

handwriting, however, not knowing how and when the entry was done. She vehemently opposed the Council's conclusion that she would have been able to crack the blinding code since August 2005. Furthermore, the Council forgets to mention that, in addition to the blinding by the equipment, a second blinding in the laboratory was also always carried out. Thus, the claim that the data generated by the team member can no longer be regarded as scientifically reliable is unfounded. It is irrelevant that she should have informed her superior about her knowledge of the blinding code because at the time of the experiments she had not known the code. Consequently, the accusation of an alleged scientific misconduct regarding the authorship and the highlight of a double blinding as a special quality characteristic is also irrelevant.

Here the statements of the Council for Scientific Ethics reveal in particular efforts to exonerate the rector by accusing the technical assistant any way imaginable - regardless of truth, probability, and humanity. In addition to the above observations, this base kind of dealing with the truth and with members of MUV by the Council can be further reinforced by the following facts:

- As has already been described, a plausible explanation was needed for the "amicable agreement" with Prof. Rüdiger that was meant to ensure the retraction of the publication from 2008 and, thus, to declare the rector - at least to some extent - the winner. This explanation was created by an untruthful claim of the Council, namely the technical assistant had already known the blinding code since September 2005 which she allegedly admitted.
- After the meeting of the Council on July 24, 2008, Prof. Adlkofer offered his willingness to the rector to immediately withdraw his opposition to the retraction of the above-mentioned publication if it could actually be proven that the technical assistant had known the blinding code since 2005. He could not agree to the mere claim of such date and he made suggestions on how to bring clarification. Prof. Adlkofer never received a reply to his letter.
- On September 3, 2008, the technical assistant gave her own view of the accusation in an e-mail to Prof. Adlkofer and Prof. Rüdiger:

*"[...] I think, the situation is hopeless insofar - there are notes in my handwriting - whichever way they came into being - maybe I am not legally sane anymore because I cannot remember at all having made these notes ... the notes are dated (I hope I remember correctly) 5.12 without a year - which seems quite practical because then one can insert any year [...] At the Council hearing, I said YES that this is my handwriting - but I do not know how these notes came into being - I also see them for the FIRST time - after the hearing A. P. also said to me: one could actually see that you were unable to remember these notes. [...] Prof. Wolf discovered these notes after I had notified him in writing about the error in his report ... voilà, and his report all of a sudden adds up - in time for the hearing. [...] I also did not confess to any data fabrication regarding the published studies — I admitted the incident from April - and even then I pointed out that I wanted to know whether it would actually be possible to 'crack' the chamber as I had heard about at the beginning of April!"*

### **The first author of the publication in IAOEH lacks the credentials for this position in the listed authors**

We translate from the final report:

*Too, the Council came to the conclusion that the employee mentioned as first author of the publication in IAOEH 2008 did not fulfil the prerequisites of point 1.7.3.4.1 of the Guidelines saying that first in the list of authors is the one who contributed most in work, intellectually or conceptually to the project. There is no evidence that it was the first author who took the 'initial initiative to start' the publication in IAOEH 2008 'with a substantial part in the conception and study design' (point 1.7.3.2.1 of the Guidelines). She neither did take part in the evaluation process, nor did she work on the necessary revision of the publication in 2006, nor did she read the final version of the manuscript finally submitted by the corresponding author for publication. This means that at least three prerequisites mentioned in points 1.7.3.2.1 to 1.7.3.2.5 of the Guidelines for naming an author, let alone a first author, in the meaning of point 1.7.3.2 of the Guidelines are not fulfilled. This fact had to be judged as a 'violation of the defined rules of authorship' inherent in the publication and, thus, a scientific misconduct in the sense of point 2.1.1 of the Guidelines.*

**Clarification:** This claim that the person listed as first author in the publication under discussion would not meet the required qualifications is also a strange allegation. Already in 2007 this team member had been assigned by Prof. Rüdiger to present, as a representative of the team, the findings she had been involved with generating for discussion at an international conference in Switzerland. Based on this presentation, she later wrote the first version of the publication on her own which Prof. Rüdiger then submitted to the editors of the scientific journal IAOEH, without making any substantial changes. The statistical analysis was carried out under her supervision in cooperation with the current head of the laboratory who, incidentally, did not voice any concerns at that time that something may not be quite right with the numbers. Only after the peer-reviewed

manuscript had been returned for revision by the editors, Prof. Rüdiger made changes to the text in coordination with the co-authors. The first author received a copy of the manuscript for a final check. When she distanced herself from the study at the hearing before the Council for Scientific Ethics, it was a surprise that can only be explained by her great fear brought by the claim of the Council that there was no more doubt that a colleague had fabricated data. After all, young scientists are quite aware that a scientific career can be finished before it has really taken off if there is involvement in a fraud case.

The accusation of the Council that the team member did not have the right to be listed as first author cannot be sustained based on these circumstances, and the statement that this would also be regarded as a scientific misconduct is far-fetched. The ludicrousness of the argument was either not recognized or accepted as it did serve their pursued purpose.

***The publication in Mutation Research in 2005 is exonerated from fraud allegation, but presented as scientifically doubtful***

We translate from the final report:

*Concerning the publication Diem et al. (Mutation Research, 2005) for which also charges of data fabrication were voiced, the Council could not find any proof, neither for breaking the code nor for falsification or fabrication of data. However, in the frame of the investigations it was noted that this publication is based on limited data that were gathered in two and a half weeks (in Berlin by the Viennese laboratory employee mentioned above). In particular, only one (!) exposure experiment with two samples was carried out for each time point, but still statistical calculation was done and published (standard deviation mentioned). This is a not-justified scientific procedure and reduces the validity of the publication.*

In addition to this, here is a translated excerpt from the minutes from July 24, 2008:

*The findings of the investigation do not allow to conclude that Ms. E. D. had already been successful in cracking the code of the exposure chambers in her experiments performed in Berlin in 2003 (basis for the publication on 2005) nor that they had been known to her. While acknowledging all the evidence, it rather must be assumed that she concerned herself with the cracking of the coding for the first time (and successfully) in September 2005. Further investigations that would look into the circumstances of the experiments in Berlin in 2003 are limited by their time and space constraints and seem hopeless.*

**Clarification:** In an e-mail from September 3, 2008, the technical assistant writes to Prof. Adlkofer and Prof. Rüdiger: "As to the paper from Berlin: at that time (data were generated prior to 2005), I worked with an RF chamber - I was not even allowed to go to the washroom by myself, let alone doing anything on my own with this chamber, certainly not cracking its code."

By injecting its doubts about the validity of this study in the final report, the Council for Scientific Ethics again shows its intention to undermine the credibility of the research findings by the team of Prof. Rüdiger as a whole. Thus, the Council not only overstepped its investigation mandate, but it also entered an area where it lacked the professional competence to judge. That the peer reviewers of the scientific journal *Mutation Research* as established experts had agreed to the publication did not seem to be of interest to the Council.

***Earlier studies***

We translate from the final report:

*The investigations ordered by the rector covering earlier publications of the authors concerned did not produce any proof of scientific misconduct.*

**Clarification:** In this context it is only important to note that the rector as well as Prof. Lerchl initially forgot, in addition to the retraction of the two publications, to also demand the retraction of those six studies in which the same authors had investigated the biological effects of ELF radiation. To call these findings into question, in which the mobile phone industry had very little interest, did obviously not belong to their mandate. Only when they realized months later that neglecting the effects of this kind of radiation could draw inconvenient inquiries, did they also request the examination of these publications. In this case the activity level, however, did not even begin to compare with the one regarding the mobile phone data.

The final report is a document of contradiction. It states that no evidence of data fraud has been found, but is of the opinion that this is not relevant because in any case the published results have been created in a dubious way.

## 9. The acquittal from the accusation of data fraud is confirmed by the Austrian Agency for Research Integrity

At some point, Prof. Lerchl and Prof. Schütz did realize that all their attempts had failed to convince the editors of the two scientific journals of the necessity to retract the publications of the Vienna team from the scientific literature. But all the sudden they had, encouraged by them or not, a final opportunity to still reach this goal.

Just then the Austrian Agency for Research Integrity (OeAWI) was founded, an agency whose members include 12 Austrian universities, the Austrian Academy of Sciences, the Vienna Science and Technology Fund (WWTF), the Institute of Science and Technology Austria (IST), and the Austrian Science Fund (FWF). Most probably at the request of Prof. Schütz and certainly of Prof. Lerchl this agency was commissioned to address that which the Council for Scientific Ethics of MUV had refused to do: To finally withdraw the publications of the Vienna team suspected of being faked from circulation. Considering the dominant role of the MUV and its rector in the medical sciences in Austria, the close ties between all research facilities in Austria, and the Austrian style of solving problems by negotiating agreements between friends in advance, they could indeed assume that their unsuccessful efforts over the past three years to destroy the data would finally be successful.

Shortly before the OeAWI made its decision, the Austrian *Forum Mobilkommunikation* (FMK) - whose task it is to impart to the public, but especially to the decision makers in the country the correct understanding of science in mobile phone research the way the mobile communication industry sees it - again presented Prof. Alexander Lerchl's long list of 'suspicious facts, indications, and evidence of data manipulation', which as he is convinced give evidence of the scientific misconduct of Prof. Hugo W. Rüdiger's team. Either as a threat or a warning, the release stated<sup>19</sup> that it remains to be seen whether the agency would be able to fulfil the assignment with which it was entrusted. The REFLEX study would be a first test. On November 26, 2010, after nearly a year of investigation, the statement of the Commission for Research Integrity, set up by the Austrian Agency for Research Integrity, was released<sup>20</sup>. The report starts with the remark that the result of the hearing of the Commission is publicized for once only because the topic of the present case is already widely known in public. As quite common in Austria, the results of the investigation might be best described as an understandable, but factually indefensible effort to try to please all parties without meeting the expectations of any.

In its statement (on available in German) on "Fall 2009/01" - the first case to be decided since its inception - the Commission states that the fraud allegations concerning the publications of Diem et al. 2005 (part of the REFLEX study) and Schwarz et al. 2008 (a follow-up study) could not be verified. Therefore, it must follow that Prof. Lerchl and Prof. Schütz are slanderers who took every opportunity over the past three years to destroy the scientific reputation of Prof. Rüdiger's team and to wrongfully violate the personal integrity of its members. At an event, co-organized by the FMK in Vienna in 2009, Prof. Emilio Bossi, a Swiss expert for ethics in science, declared that the character of those who slander someone is not so different from those who commit fraud and that those slanderers should receive similar punishment. The Commission obviously tried to avoid this because, in their view, there were probably overriding considerations.

While the Commission on one hand rejects the accusations of Prof. Lerchl and Prof. Schütz, it does state on the other hand that for all publications of Prof. Rüdiger's team, even those dealing not with electromagnetic fields, the documentation of the original data and their presentation raises doubts about the reliability of the results. The scientific community, therefore, has not yet come to a final conclusion on genotoxic effects of electromagnetic fields, and further carefully designed and conducted scientific studies are necessary to clarify any possible associations between electromagnetic radiation and cell damage including their causes. With this statement, which could have been dictated by the FMK, the Commission may well have succeeded in pacifying the mobile phone industry and ensuring also its own survival.

In this context it is absolutely essential to address some of the most serious shortcomings of the Commission's statement, which are at odds with the actual circumstances or events:

- On two publications with data referred to as contradictory and incomprehensible by Prof. Lerchl and published prior to the time Prof. Rüdiger started his studies on possible biological effects of electromagnetic fields the Commission states, and we translate: *On the comments concerning the publications of Diem et al. 1999 and Ivancsits et al. 2002 Prof. Rüdiger responded to in writing and in person and could partly clarify the raised issues. However, it remained unclear*

how the published results were generated from the available original data. Based on this, the Commission could neither confirm nor deny the fraud allegation made by Mr. Lerchl. Prof. Rüdiger explained in writing to the Commission: "This turn of events is completely unclear to me. The complete set of the experiments' documentation of the publications was available to the Commission. Therefore, I am unable to comprehend what this turn of events is supposed to mean."

- In another paragraph, the Commission repeats criticism about all publications of Prof. Rüdiger's team, including those that do not deal with the effects of electromagnetic fields, and we translate: *In all publications, the documentation of the original data and their presentation do not follow the guidelines of good scientific practice and, thus, lack the care necessary to be able to follow the published results.* Prof. Rüdiger also responded to the Commission concerning this issue: "Again, I am unable to follow your judgment here, especially since there is no explanation provided. After all, this is about publications in peer-reviewed journals." Yet, far more important is the fact that the original documents of the mobile phone studies have not been examined at all by the Commission. Prof. Rüdiger as the head of the team did not provide them as he had never been asked to do so.
- The following request of the Commission, which could have been also adopted from the mobile phone industry, seems particularly strange, and we translate: *Considering the importance of the results for the widespread use of mobile phone technologies, it would have been appropriate to have the experiments confirmed by an independent team prior to their publication.* In his reply to the Commission, Prof. Rüdiger objected as a part of the studies "had been conducted within the EU-supported REFLEX project. The REFLEX group included twelve teams from seven European countries, and the results were presented in detail and extensively discussed at conferences every six months. Back then, it was said that our results should certainly be published. This was also a request of the financial sponsor, in this case the EU." Based on the fact that the genotoxic effect of mobile phone radiation had been observed in hundreds of experiments and that, in addition to the MUV's REFLEX team, another REFLEX team at the Charité in Berlin had also noted genotoxic effects, it can be assumed that doubts about the validity of the study results are not justified. Because of the importance of the findings for protecting the public from possible risks of mobile phone radiation but also for the further development of mobile phone technologies, scientists and medical doctors do not have a choice. They must follow their conscience and act accordingly. The Commission's criticism is out of place.
- The following statement of the Commission is also completely incomprehensible, and we translate: *Indeed, the experiments of Diem et al. 2005 were repeated by the team around Prof. Speit in 2006, that is, after the data had been published. In doing so, the findings of the Vienna team could not be reproduced. The fact that Speit et al. were not able to reproduce the findings does not mean that the fraud allegation would have been confirmed.* The VERUM Foundation-financed experiment at Prof. Speit's place was a failure that can be traced to fact that the carrier frequency of 1800 MHz was unintentionally used instead of the modulated form of radiation; however, this was only discovered afterwards. Prof. Rüdiger asked the Commission why it does not once mention the numerous publications that do confirm his findings. He also pointed out that his publications about genotoxic effects of mobile phone radiation have been published in peer-reviewed scientific journals and that, despite the heavy pressure by Prof. Lerchl and Prof. Schütz, they have not been withdrawn from the scientific literature because the editors did not consider the scientific criticism to be credible. The Commission did not consider it necessary to respond. It bluntly states: That which we have written remains written.

The Commission's line of argument to consciously disregard the current body of research is an attempt to justify and excuse the behaviour of Prof. Lerchl and Prof. Schütz. Since a data manipulation could not be proven, they both would have faced rather uncomfortable consequences if not for the Commission's consideration of their interests. They would not have lasted in their positions. If they had been found irresponsible, the institutions they represent, namely the German Commission on Radiological Protection at the Federal Office for Radiation Protection as well as the Medical University of Vienna, would have faced enormous problems. The Commission obviously did not wish to take this responsibility and decided on the matter as quite common in Austria with a bad compromise.

Consequently, the Commission took the path of least resistance. It attempted to surmount the insurmountable. It acquitted the team of the charge of data manipulation, but at the same time the team had to accept that in the public opinion the significance of their study results was nearly ruined. The mobile phone industry had to accept that the fabricated story, of which they had grown so fond, had dissolved into thin air. Industry was compensated with the statement that further research is needed because up to now the results offer no reliable conclusions. The Commission's obvious struggle for a credible compromise raises considerable doubts about its independence its ethical competence. There is much to suggest that the mobile phone industry and the friends in science wielded their mighty pen. Perhaps is this also a reason why one of the commission's members declared to be biased and declined the assistance in investigating the case.

---

## Conclusion

The events at MUV reported here are based on the conflict between economic and scientific interests, which has been part and parcel of industrialization of the world from its beginning. As can be seen throughout the history of science, this conflict manifests itself very clearly when certain products or their applications that promise great financial profits are presumed to be associated with risks to human health and the environment. Research findings with possible consequences for the economy, especially when they cannot be reconciled with the currently established paradigm, may have a particularly difficult time.

At the moment, mobile phone research is a striking case in point. Industry and politics tend to take the view in regard of possible health risks of RF radiation that wireless technologies are safe for humans. Even though the current state of knowledge no longer allows for such an assumption, this view is defended by all means. The industry relentlessly employs its huge profits from this technology to push through their interests - with specific public relations and by influencing political decisions. This is only possible with the help of a notable number of scientists who - for whatever reasons - are willing to support this view. An impressive example of how differently findings in epidemiological studies can be interpreted, depending on the view of the scientist, is given by the only recently published INTERPHONE<sup>iii</sup> study<sup>21</sup>. While such scientists as Prof. Lerchl use the results for an all clear signal and once in a while even suggest positive effects<sup>22</sup>, independent scientists tend more to the opinion that mobile communication radiation helps to develop e.g. brain tumours and perhaps also neurodegenerative diseases.

Downplaying interpretation of available epidemiological data is only possible when the findings of basic research as from the REFLEX project or its follow-up study at MUV are completely disregarded. The DNA-damaging effects of mobile phone radiation as shown in isolated human cells provide strong support for the assumption that the epidemiologically demonstrated relationship between long-term mobile phone use and the development of brain tumours is causal. The knowledge about this relationship is most likely the true reason for the campaign against the research findings from MUV aimed at damaging the reputation and honesty of the Vienna research group. The only goal of the campaign was and continues to be to remove unpleasant publications from the scientific literature by all means. The findings reported in the publications are not in the interest of the mobile phone industry because they are a wake-up call to politicians to provide precautionary protection for the public, long before they are forced to do so most probably in the future based on the findings of epidemiological studies. The probability of such a development grows from year to year. Precautionary measures, however, not only threaten the high profits of the industry, but also require efforts to consider new and safer technical solutions.

What the authors of the campaign did overlook with their short-sighted decision is the fact that by now we do not depend anymore on the research findings from Vienna regarding the assessment of causal links. Within the past years, several studies have been published that prove beyond doubt the DNA-damaging potential of mobile phone radiation:

- Franzellitti et al.<sup>23</sup> published in *Mutation Research* in October 2009 a study in which they prove that the rate of DNA strand breakage increases significantly — similar to the observations in Vienna — in isolated human trophoblasts after GSM exposure for 16 or 24 hours, respectively. No increase in the rate of DNA strand breakage can be observed when the cells are exposed exclusively to the carrier frequency of the mobile phone radiation.
- Only a few days later, Xu et al.<sup>24</sup> followed with a publication in *Brain Research* in which they demonstrate the genotoxic potential of mobile phone radiation with a different method. They report that the rate of DNA

---

<sup>iii</sup> INTERPHONE: International case control studies of cancer in relation to mobile telephone use (QLK4-CT-1999-01563). Supported within the 5th Research Framework Programme of the EU

adducts caused by oxygen radicals in the mitochondria of cultured neurons (nerve cells) increases significantly after a 24-hour exposure to GSM radiation.

- In another paper published at the beginning of 2010 in *Neuroscience Letters*, Campisi et al.<sup>25</sup> find an increase in oxygen radicals and DNA strand breakage in primary glia cell cultures of rats after the exposure to an RF electromagnetic field (900 MHz, modulation similar to GSM). In order to demonstrate the effect, an exposure of only 20 minutes at a field strength of 10 V/m (exposure limit: 41 V/m) is sufficient. Again, the genotoxic effect remains absent when the exposure only consists of the unmodulated carrier frequency.
- In addition, a study published by Kesari et al.<sup>26</sup> in the *International Journal of Radiation Biology* at the beginning of April in 2010 shows that RF electromagnetic fields (2450 MHz) also develop their genotoxic effect under in vivo conditions. In rat brain cells exposed for over 35 days at two hours each day with a whole-body SAR of approximately 0.11 W/kg, a highly significant increase in the rate of DNA strand breakage was observed.
- Guler et al.<sup>27</sup> provide findings in their also in 2010 published study with which they show that white New Zealand rabbits also respond to the exposure (15 minutes per day for 7 days) of 1800-MHz signals similar to GSM radiation (electrical field strength: 14 V/m, exposure limit: 58 V/m) with oxidative lipid and DNA damage. Once again, evidence was provided that modulated RF electromagnetic fields well below currently valid exposure limits can cause genotoxic changes in the brain of experimental animals whose whole body was exposed. Why this should be different in humans, there is no explanation.
- For now the latest findings that indicate DNA-damaging effects of GSM-1800-MHz signals were presented by Xu et al.<sup>28</sup> at the International Meeting of the Bioelectromagnetics Society (BEMS) in Seoul, Korea, in June 2010. In two out of four different cell lines, in lung cells of Chinese hamsters and in human fibroblasts, a significant increase in DNA double-strand breaks is observed—just like in Vienna—after a 24-hour intermittent radiation exposure (5 minutes on, 10 minutes off) at an average of 3 W/kg compared to the controls. In human amnion cells only a trend toward an increase is found, and human lens cells show no response. Thus these results suggest a cell-specific effect of GSM radiation.

It remains to be seen how these new findings are dealt with, as they actually reduce the campaign against the publications of Vienna team to an absurdity. Truth, of which the initiators of the campaign like to talk in order to hide their true interests, cannot be suppressed in science in the long term.

In the context of the documented events at MUV, we also ponder another question: What motivated two scientists in outstanding social positions, Prof. Alexander Lerchl as chairing member of the Commission on Radiological Protection in Germany and Prof. Wolfgang Schütz as rector of the Medical University of Vienna, to invest a great deal of time and effort to portray scientific data as faked in order to force their retraction from the scientific literature? Why did they attempt to do this through means that otherwise are completely uncommon in the dealing with research findings, namely untruthful statements, unfair practices of different types, and defamation of their colleagues? The discrepancy between the weakness of their arguments and the ruthlessness with which they pursued their cause leads to the conclusion that most probably the reasons for their doings must lie outside science.

In this documentation we limit ourselves to the scheming of the rector of MUV, Prof. Wolfgang Schütz. We will dedicate a separate documentation to the activities of Prof. Lerchl, who evidently failed miserably as a participant of DMF (<http://www.pandora.stiftung.eu>). Prof. Schütz shoulders the responsibility for the following absolutely incredible events at MUV:

- For the trap disguised as a quality control, which was set up for the technical assistant months after the criticized studies had been finished;
- For the claim that the fabrication of the research results by the provoked scientific misconduct of the technical assistant can be taken for sure;
- For the member selection of the first Council for Scientific Ethics contrary to the rules where the chair had to be replaced due to partiality;
- For the lack of neutrality of the subsequent Council for Scientific Ethics, which kept two of the former, demonstrably biased members on the Council and who continued to represent his interests;
- For three press releases discrimination Prof. Hugo Rüdiger's team, of which the last two do not at all correspond with the investigation findings of the Council for Scientific Ethics;
- For the request to the editors of two scientific journals to retract publications, which he had wrongfully accused of being fabricated, from the literature;
- For handing over the classified minutes of the meeting of the Council for Scientific Ethics from July 24, 2008 to Prof. Lerchl, which the authors of the publications had been denied;
- For the damage to MUV caused by the publicity-grabbing, but unjustified refund over EUR 100,000.00 to the sponsoring organization AUVVA, supporting the research projects of Prof. Rüdiger's team;
- For the loss of reputation of the scientists involved with the studies inside and outside of MUV, but also MUV itself, where he is rector;

- For preventing the information of the public about possible health effects of mobile phone radiation, where warnings need to be issued according to our current knowledge – this also especially in view of the findings obtained at his university.

Two years ago, a group of physicians and professors, who call themselves *Freunde der MUW* [Friends of MUV] suspected the currently acting "regime" around Prof. Schütz of corruption and abuse of power and filed charges with the Vienna District Attorney's Office<sup>29</sup>. The events documented by us did not play any role but do fit the picture the "Freunde" have gained about the leadership of their academic institution. A report in the renowned scientific journal *Nature*<sup>30</sup> about an actual fraud scandal at the University of Innsbruck concludes with the statement: "*Austria is a small country, and networks between power-brokers are small and tight. But something, it seems, is rotten in the state of Austria, and needs to be faced and dealt with openly.*" Based on their findings, the authors of the documentation presented here cannot agree more with this devastating assessment.

---

## References

- <sup>1</sup> Diem E, Schwarz C, Adlkofer F, Jahn O, Rüdiger HW (2005) Non-thermal DNA breakage by mobile phone radiation (1800 MHz) in human fibroblasts and transformed GFSH-R17 rat granulosa cells in vitro. *Mutat Res* 583:178-83.
- <sup>2</sup> Schwarz C, Kratochvil E, Pilger A, Kuster N, Adlkofer F, Rüdiger HW (2008) Radiofrequency electromagnetic fields (UMTS, 1,950 MHz) induce genotoxic effects in vitro in human fibroblasts but not in lymphocytes. *Int Arch Occup Environ Health* 81(6):755-67.
- <sup>3</sup> Goebel T (2008) Strahlenschmutz [Dirty radiation]. *Profil* 27/08. <http://www.profil.at/articles/0826/560/210769/strahlenschmutz>
- <sup>4</sup> Medical University of Vienna (2008) Suspicion of an erroneous study by the former Division of Occupational Medicine. [http://www.meduniwien.ac.at/homepage/news-und-topstories/en/?tx\\_ttnews%5Btt\\_news%5D=204%20&cHash=f9dc8746ac](http://www.meduniwien.ac.at/homepage/news-und-topstories/en/?tx_ttnews%5Btt_news%5D=204%20&cHash=f9dc8746ac)
- <sup>5</sup> Adlkofer F & Rüdiger HW (2008) Stellungnahme zur Presse-Aussendung des Rektors der Medizinischen Universität Wien betreffend „Verdacht auf fehlerhafte Studie in der ehemaligen Abteilung für Arbeitsmedizin. [Comment on press release of rector of the Medical University of Vienna regarding "Suspicion of an erroneous study by the former Division of Occupational Medicine"]. Per e-mail to Austria Press Agency on 25 May 2008
- <sup>6</sup> Dworschak M (2008) Beim Tricksen ertappt [Caught at foul play]. *DER SPIEGEL* 22:149. <http://www.spiegel.de/spiegel/print/d-57119391.html>
- <sup>7</sup> Siegmund-Schultze N & Zylka-Menhorn V (2008) Forschungsbetrug: Daten zu Handystrahlung gefälscht [Research fraud: data on mobile phone radiation faked]. *Dtsch Arztebl* 105(23):A-1267/B-1100/C-1075. <http://www.aerzteblatt.de/v4/archiv/artikel.asp?id=60417>
- <sup>8</sup> Vogel G (2008) Fraud charges cast doubt on claims of DNA damage from cell phone fields. *Science* 321:1144-5. <http://www.sciencemag.org/cgi/content/summary/321/5893/1144a>
- <sup>9</sup> Tuffs A (2008) University calls for mobile phone research to be withdrawn after technician admits faking data. *BMJ* 336:1270. <http://www.bmj.com/content/336/7656/1270.5.extract>
- <sup>10</sup> Medical University of Vienna (2008) Protokoll über die 5. Sitzung des Rates für Wissenschaftsethik am 24.7.2008 [Minutes of the 5th meeting of the Council for Scientific Ethics on 24 July 2008]. Strangely enough, under: [http://www.laborjournal.de/editorials/ed425/Protokoll\\_24\\_7\\_08.pdf](http://www.laborjournal.de/editorials/ed425/Protokoll_24_7_08.pdf)
- <sup>11</sup> Medical University of Vienna (2008) Prof. Hugo Rüdiger withdraws incorrect study about mobile phone radiation. [http://www.meduniwien.ac.at/homepage/news-und-topstories/en/?tx\\_ttnews%5Btt\\_news%5D=231&cHash=7%20efbd60593](http://www.meduniwien.ac.at/homepage/news-und-topstories/en/?tx_ttnews%5Btt_news%5D=231&cHash=7%20efbd60593)
- <sup>12</sup> Dworschak M (2008) Die Favoritin des Professors [The professor's favorite]. *DER SPIEGEL* 35:148-50. <http://www.spiegel.de/spiegel/print/d-59403083.html>
- <sup>13</sup> Medical University of Vienna (2008) Science and truth. [http://www.meduniwien.ac.at/homepage/news-und-topstories/en/?tx\\_ttnews%5Btt\\_news%5D=243&cHash=60bf54ce01](http://www.meduniwien.ac.at/homepage/news-und-topstories/en/?tx_ttnews%5Btt_news%5D=243&cHash=60bf54ce01)
- <sup>14</sup> Lerchl A (24.07.2010) REFLEX – Anfrage an Prof. Richter [Question to Prof. Richter]. IZGMF Forum. <http://www.izgmf.de/scripts/forum/index.php?id=41139> / removed!
- <sup>15</sup> Adlkofer F (2008) Wissenschaft und Wahrheit in der Mobilfunkforschung [Science and truth in mobile phone radiation research]. E-mail message to the press
- <sup>16</sup> Medizinische Universität Wien (2008) Endbericht des Rates für Wissenschaftsethik der Medizinischen Universität Wien betreffend Publikationen über erbgutschädigende Wirkungen von Mobilfunkstrahlungen (Causa Alexander Lerchl gegen Elisabeth Diem/Kratochvil et al.) [Final report of the Council for Scientific Ethics of the Medical University of Vienna regarding publications on DNA-damaging effects of mobile phone radiation (Alexander Lerchl vs. Elisabeth Diem/Kratochvil et al.)]. Strangely enough, under: [http://www.izgmf.de/endbericht\\_wien.pdf](http://www.izgmf.de/endbericht_wien.pdf)
- <sup>17</sup> Adlkofer A, Rüdiger HW (2009) The scandal surrounding faked data in Vienna. <http://www.diagnose-funk.ch/assets/adlkofer-ruediger--vienna-scandal.pdf>
- <sup>18</sup> Lerchl A (2010) Folge 7: Die Untersuchung der Medizinischen Universität [The investigation of the Medical University of Vienna]. *Laborjournal online*. [http://www.laborjournal.de/editorials/425\\_07.html](http://www.laborjournal.de/editorials/425_07.html)
- <sup>19</sup> Forum Mobilkommunikation (08.10.2010) Die Selbstreinigung der Wissenschaft [Science cleans up its act]. [http://www.fmk.at/Forschung/News/2010/10\).aspx](http://www.fmk.at/Forschung/News/2010/10).aspx)
- <sup>20</sup> Österreichische Agentur für Wissenschaftliche Integrität - OeAWI (23.11.2010) Stellungnahme der Kommission für Wissenschaftliche Integrität zum Fall 2009/01 [Statement of the Commission for Research Integrity on Case 2009/01]. <http://www.oeawi.at/downloads/Stellungnahme-der-Kommission-20101126.pdf>

- 
- <sup>21</sup> INTERPHONE Study Group (2010) Brain tumor risk in relation to mobile telephone use: Results of the Interphone international case-control study. *Int J Epidemiol* 39(3):675-92. <http://ije.oxfordjournals.org/cgi/reprint/39/3/675>
- <sup>22</sup> Microwave News (17.05.2010) Interphone Resources. <http://www.microwavenews.com/Interphone.Resources.html>
- <sup>23</sup> Franzellitti S, Valbonesi P, Ciancagli N, Biondi C, Contin A, Bersani F, Fabbri E (2009) Transient DNA damage induced by high frequency electromagnetic fields (GSM 1.8 GHz) in the human trophoblast HTR-8/SVneo cell line evaluated with the alkaline Comet assay. *Mutat Res* 682(1-2):35-42.
- <sup>24</sup> Xu S, Zhou Z, Zhang L, Yu Z, Zhang W, Wang Y, Wang X, Li M, Chen Y, Chen C, He M, Zhang G, Zhong M (2009) Exposure to 1800 MHz radiofrequency radiation induced oxidative damage to mitochondrial DNA in primary cultured neurons. *Brain Res* 1311:189-96.
- <sup>25</sup> Campisi A, Gulino M, Acquaviva R, Bellia P, Raciti G, Grasso R, Musumeci F, Vanella A, Triglia A (2010) Reactive oxygen species levels and DNA fragmentation on astrocytes in primary culture after acute exposure to low intensity microwave electromagnetic field. *Neurosci Lett* 473(1):52-5.
- <sup>26</sup> Kesari KK, Behari J, Kumar S (2010) Mutagenic response of 2.45 GHz radiation exposure on rat brain. *Int J Radiat Biol* 86(4):224-43.
- <sup>27</sup> Guler G, Tomruk A, Ozgur E, Seyhan N (2010) The effect of radiofrequency radiation on DNA and lipid damage in non-pregnant rabbits and their newborns. *Gen Physiol Biophys* 29(1):59-66.
- <sup>28</sup> Xu S, Zeng Q, Zhang D, Chiang H, Leszczynski D, Xu Z (2010) The effect of 1800 MHz GSM mobile phone radiation on cellular DNA stability. Bioelectromagnetics Society Annual Meeting; June 14-18, 2010; Seoul. Abstract Collection: 9-3.
- <sup>29</sup> Freunde der MUW (2009) Eingabe 212-22/Rev 4 2009-03-03 an die Oberstaatsanwaltschaft & Staatsanwaltschaft Wien [Submission 212-22/Rev 4 2009-03-03 to Vienna Chief District Attorney & District Attorney Office]. <http://meduniwien.wordpress.com/anzeige-marz-2009/>
- <sup>30</sup> Editorial (2008) Scandalous behaviour. *Nature* 454(7207):917-8. <http://www.nature.com/nature/journal/v454/n7207/pdf/454917b.pdf>

**PART II - Prof. Alexander Lerchl**

## Summary

With this second part of the documentation *About The Handling of Scientific Findings regarding Mobile phone Research at the Medical University of Vienna (MUV)*, we now add a report about the events that took place outside MUV. Within the framework of the Europe-wide REFLEX study, Prof. Rüdiger had observed that both ELF- and RF-electromagnetic fields have genotoxic potential. In a follow-up study, his team had shown that the genotoxic potential of the radiation considerably depends on the modulation of the carrier frequency. In comparison to GSM radiation (2nd generation mobile phone technology), UMTS radiation (3rd generation mobile phone technology) has shown to be approximately 10 times more effective in producing DNA strand breaks in isolated human cells.

In Part I of the documentation, we reported about all actions that had been taken by the rector of the Medical University of Vienna, Prof. Wolfgang Schütz, or his office to remove the research results from the scientific literature, which had been looked upon as suspect by the mobile phone industry. Now, Part II of the documentation deals with the activities of the initiator of this campaign: Prof. Alexander Lerchl.

### **Assaults and its methods**

The campaign had been launched anonymously and as an ambush in mid-2007, which we will see are quite common features of Prof. Lerchl's actions. This "blitzkrieg" against the REFLEX study, orchestrated most probably with Prof. Schütz, the rector of MUV, and supported by - who can still doubt that - the mobile phone industry, had erupted without warning in April 2008 and had failed within a few months due to their own scheming. Mid-2008 it turned into a "trench war" in which constantly new attacks were followed by constantly new defeats. Now this war moves into its fourth year. Although it is pointless by now, there seems to be no end in sight.

- Prof. Lerchl launched his attacks against the Vienna team in the *Laborjournal* in April 2008. Through numerous other articles and through all further stages of the campaign, this scientific journal is his most important ally when it comes to spreading his message within the scientific community that the research findings from Vienna are fraudulent.
- In two articles, for which Prof. Lerchl supplied the contents and the journalist Manfred Dworschak the writing, the German newsmagazine *Der Spiegel* broadcasts the news of alleged data manipulation to the public. These articles convey the impression as if the team from Vienna would have already been convicted of fraud. And on top of all that, the team is even exposed to ridicule because of the assumed clumsy way it manipulated data.
- In his self-published book "Fälscher im Labor und ihre Helfer [*Fraudsters in the Lab and Their Helpers*]" from 2008, Prof. Lerchl presents the accusation of data manipulation as part of the historically proven cases of scientific misconduct. By exposing the fraudulent behaviour of this team, he already sees himself going down in history as a prominent investigator. He tells the mobile phone industry in no uncertain terms that, should the results of the team from Vienna be true, they would announce the beginning of the end of wireless communications. Thus, he shows the mobile phone industry in his own blatant way how important he is for them, because with his awareness campaign he has eliminated a problem of gigantic economic proportions.
- At a workshop in Vienna in 2009 by the German Research Association for Radio Applications e.V. (FGF) - a lobby group of the mobile phone industry within the scientific community - there was hope to finally being able to lay the Vienna REFLEX study results to rest at their place of origin with a lecture by Prof. Lerchl. With its unexpected course, however, the workshop also showed the cracks in the already crumbling disguise of Prof. Lerchl's intentions to serve the mobile phone industry.
- The editors of both scientific journals, in which the suspected studies have been published, face the joint pressure from Prof. Lerchl and the rector of MUV to withdraw the studies during the course of this campaign. When, despite quite some irritations, after a thorough examination they cannot find any reason for withdrawal, Prof. Lerchl goes with his complaint to the Committee on Publication Ethics (COPE) in London.
- Even after MUV's Council for Scientific Ethics had already rejected the suspicion of data manipulation in 2008, Prof. Lerchl requests that the newly appointed Austrian Agency for Research Integrity (OeAWI) examine the fraud accusations once more in order to make the apparently impossible somehow possible, that is, to remove the Vienna research findings from the scientific literature. But in December 2010 this organization also acquits the Vienna team of the fraud accusations.

By exploiting the forum of the German information centre against mobile communication (IZgMF) Prof. Lerchl's campaign reaches its lowest point so far. It shows that this scientist stops at nothing in order to advertise his accusations of fraud in public. Since for years this forum of interested people has not only been known for his defamation of those who challenge the mobile communication industry, but also for his statements that confuse criticism with slander, freedom of opinion with defamation. Considering the chosen media and thus the audience addressed, the series of attacks against the Vienna research findings provide a rather diffuse picture at first. But when looked at them altogether, the actions and the consistency of many arguments actually reveal a general unifying strategy:

- The foremost criticism has always focused on the observed statistical abnormalities and the assumption that the research team did not adhere to the "blinding" protocol during the experiments. This criticism lacks any basis, and for none of the investigative reviewers was there ever sufficient evidence to consider the data manipulation, as claimed by Prof. Lerchl, proven.
- In order to widen the narrow scientific basis of his claims and to make the fraud appear more likely, in many cases Prof. Lerchl systematically obliterates the otherwise common distinction between alleged and proven fraud.
- With his accusations of fraud, Prof. Lerchl intends to ruin the scientific and ethical reputation of the members of the Vienna team, especially those of the senior authors. The ultimate goal of all the efforts is meant to culminate in the withdrawal of the studies from the scientific literature.

### ***Stages of failure***

By now Prof. Lerchl's multilayered campaign also includes an impressive series of serious defeats:

- As early as mid-July in 2008 - after the first commission chair, an employee of the Austrian mobile phone industry, had been forced to be replaced - the MUV Council for Scientific Ethics states that there is no evidence for the data manipulation as claimed by Prof. Lerchl and Prof. Schütz.
- After many month of dealing with Prof. Lerchl's request to have the suspected studies withdrawn, the editors of the two scientific journals where the studies of the Vienna research group have been published come to the conclusion that his claim is unfounded.
- The complaint regarding this issue that Prof. Lerchl had filed with COPE in London is definitively rejected in September 2009; and COPE explicitly confirms to the editors that they have acted correctly.
- The newly appointed OeAWI also acquits the Vienna research group of the fraud accusations in December 2010 even though Prof. Lerchl and Rector Schütz had placed new hope in this - for them - highly unsatisfactory situation in this agency to still reach their goal of having these unpleasant research findings withdrawn after all.

Yet all these commissions, which deal with Prof. Lerchl's accusations of fraud and are unable to confirm them, are criticized by him for their poor review work in a rather rigid and arrogant manner. The MUV Council for Scientific Ethics, which under its new chair had come to a different conclusion, he accuses of incompetence and even corruption. The editors of the two scientific journals, who reviewed the request for withdrawal but also rejected it, he accuses of incompetence and irresponsibility. The OeAWI he attacks as a 'Research-Fraud-Investigation-Prevention-Commission', which obviously is unable or unwilling to fulfil its task. There is only one fact he does not dispute, namely, that the MUV Council for Scientific Ethics under its first chair, who purely by chance turned out to be an employee of the mobile phone industry, meant to quickly confirm the accusations of fraud.

### ***'Investigating' as a way to unmask oneself***

The ungracious verdicts not only reveal the dilemma Prof. Lerchl has run into because that which he announced to the public and promised to the mobile phone industry is quite different from what the results turned out to be. They are also coloured by the awareness that his acceptance of the outcome of the review commissions would be equal to his admission of having for years committed character defamation and slander. But they also reveal Prof. Lerchl's relationship to the latest research that has confirmed in multiple studies the genotoxic effects of mobile phone radiation and, thus, handed him the worst of all defeats, which he is obviously unable to admit to himself. Because if the new research findings registered with him, he would now have to tell industry, government, and the public - based on his own theory - that the end of mobile phone technologies has come. However, if he plans to continue or even expand - which seems to be his intention - his campaign against the available results, he reduces himself to a funny character, his attacks to a piece of absurd theatre.

The documentation shows that Prof. Lerchl's alleged unmasking of his scientific opponents as frauds continues to be an unmasking of himself. His denial of an advancing international research, his own scientific failure within the German Mobile Telecommunication Programme and his derision of two commissions and two editors of scientific journals, who rejected his accusations of fraud, altogether disqualify him as a scientist. The methods of his campaign against the Vienna research group and their publications as well as his commitment to the interests of the mobile communication industry, for which the protection of human health and nature is the lowest-ranking priority, also disqualify him from an ethical and moral perspective. Under these circumstances it can be ruled out that he would do justice to the mandate at the Commission for Radiological Protection (SSK) of the German Federal Office for Radiation Protection (BfS) assigned to him by political decision makers.

In the history of science there seem to be only a few examples in which someone with a similar fanatic attitude and similar doubtful methods tried to prove that the results reported in scientific publications are fabricated, as occurred in the REFLEX project. Would Prof. Alexander Lerchl, who started the smear campaign, be just a biologist at the private Jacobs University in Bremen, this must unfortunately be taken as one of the rare examples of a misguided scientific activity in which limited qualification is mixed up with serving commercial interests. However, in the meantime Prof. Lerchl has been appointed for a second term head of the Committee Non-Ionizing Radiation in the SSK of the BfS, and as such he is at the same time the most important adviser of

the German government in regard of the biological effects of electromagnetic fields. His proven deficits in scientific and ethical competence and his misunderstanding of radiation protection turn out to be a danger for the health and the environment of 80 million Germans. Without doubt, steps have to be taken against this.

---

## Introduction

In this part of the documentation *About The Handling of Scientific Findings regarding Mobile phone Research at the Medical University of Vienna (MUV)*, we now add a report about the events that took place outside MUV. Within the framework of the Europe-wide REFLEX study, Prof. Rüdiger had observed that both ELF as well as RF electromagnetic fields have genotoxic potential. In a follow-up study, his team had shown that the genotoxic potential of the radiation depends considerably on the modulation of the carrier frequency. In comparison to GSM radiation (2nd generation or 2G mobile phone technology), UMTS radiation (3rd generation or 3G mobile phone technology) has shown to be approximately 10 times more effective in producing DNA breaks in isolated human cells.

In a completely unexpected move, Prof. Alexander Lerchl, a biologist at the private Jacobs University in Bremen and a member of the German Commission for Radiological Protection (SSK) at the Federal Office for Radiation Protection (BfS), conveyed his suspicions to the MUV rector, Prof. Wolfgang Schütz: that the research findings produced at the Department of Occupational Health at MUV and published in *Mutation Research*<sup>1</sup> in 2005 were fraudulent. In early 2008, he levelled similar charges of fraud against a study<sup>2</sup> from MUV that had been published in the *International Archives of Occupational and Environmental Health* (IAOEH).

Prof. Alexander Lerchl's unprecedented campaign pursues the goal of eliminating research findings that pose a threat to commercial interests. The threat occurs because the reported findings challenge existing exposure limits, which until now have been considered adequate for protection of the public; they have challenged those in senior positions in industry and politics to reflect on the possibility that the current levels could cause serious and irreversible biological long-term effects and incalculable risks for humans and the environment.

The detailed events of the campaign that occurred at MUV are described in detail in Part I of this documentation. The focus of Part II is on Prof. Alexander Lerchl, who initiated this campaign. We will present his varied activities to spread and maintain the allegations of fraud within the scientific community and among the public. We will also report on his abject failure to succeed in his goal, as a result of his limited scientific competence, his over-inflated opinion of his abilities, and his unscrupulous handling of the truth. This scandal has reached far beyond Austria and Germany: it has spread internationally and shines a light on the problematic network of relations between the mobile phone industry, politics, and those agencies responsible for protection of the public from radiation. Because of his position and his responsibilities, Prof. Lerchl plays a key role in this case. It is irrelevant whether his actions are based on his own free will or whether he is being used by others. As authors of this documentation, we make no pretence - science plays a most disgraceful role in this conglomerate of industrial, political, and scientific power. The scandal of science as *claimed* by Prof. Lerchl has now turned into an *actual* scandal of science in quite a different sense.

### 1. The *Laborjournal* brings Prof. Lerchl's allegations of fraud before the scientific community

In numerous articles, the research magazine *Laborjournal* presented the research findings of Prof. Rüdiger's team, but each time it was from the perspective and interpretation of Prof. Lerchl. In the first editorial, written by the journalist Siegfried Bär, the findings were referred to as suspicions, but in the following editorials, all of which Prof. Lerchl signed as the author, they had quickly become allegations.

**Prof. Lerchl: There is no biophysical mechanism that could lead to damage**

The campaign against the Vienna research findings was launched with an article<sup>3</sup> by Siegfried Bär in April 2008. Without making any inquiries or investigating the circumstances, the journalist simply adopted Lerchl's ideas. It was their common goal to call the attention of the scientific community to the events in Vienna - as seen through Lerchl's eyes. The accusations are not only directed at the research results but also the authors of the report. Prof. Franz Adlkofer, the coordinator of the REFLEX project, became a special target of the accusations despite the fact he was not involved in the actual research but because he took a stand against the defamation of the research group.

Siegfried Bär headed his editorial from 25 April 2008: *"Who is actually being paid by industry? – Are mobiles a danger for your health? A recent study by Schwarz et al presents evidence that electromagnetic fields from mobiles lead to DNA breakage in human fibroblasts. Biologist Alexander Lerchl however finds serious faults in this study."*

Bär freely admits that he has neither insight into mobile phone radiation research nor any particular interest in it. What would usually be considered as a journalist's lack of competence, he makes up for by placing great confidence in the outstanding professional competence of Prof. Lerchl. As a result, the article reads in many instances as if Prof. Lerchl himself had guided his hands across the keyboard.

- As to mobile phone radiation risks in general and the question of DNA damage in particular, the following statement is made:

*"...: the vast majority of scientific investigations concerning the possible risks of mobile phone electromagnetic fields is negative, i.e. no effects were seen. Indeed, such effects would be difficult to explain since the energy of such fields is too weak to break chemical bonds, e.g. in DNA strands. So far, there is no biochemical mechanisms, which would be able to explain such damages."*

In science, usually majority - which, as we know, can change rather quickly - does not decide whether something is correct or not. That, according to the latest body of scientific research, mobile phone radiation does not *directly* cause DNA breakage but *indirectly* through miscommunication between intracellular processes has been known in science for quite some time, but obviously has not yet filtered down to Siegfried Bär or Prof. Lerchl.

- After assurances of how safe mobile phone radiation is, statements about statistical abnormalities in the Vienna studies are made:

*"At the beginning of April, the German research magazine Laborjournal anonymously received a manuscript written by Alexander Lerchl, a biologist from Bremen, Germany, that had been accepted by Int Arch Occup Environ Health.[...] Lerchl took a close look at the paper by Schwarz et al. and concludes in his paper: 'The critical analysis of the data given in the figures and the tables furthermore reveal peculiar miscalculations and statistical oddities which give rise to concern about the origin of the reported data'."*

The word "anonymously" shows that camouflage and deception are an integral part of the Vienna scandal. What Prof. Lerchl refers to as statistical oddities correspond to the normal conditions of experimental design and the process. This misinterpretation has received detailed discussion in Part I of this documentation.

- Additional statements deal with corruptible scientists:

*"That scientists have been bribed by industry to play down possible dangers of their products has been shown and is probably still the case. One example is the tobacco industry. [...] In Germany in 1975, the 'Verband der Cigarettenindustrie' (association of tobacco industry) founded the 'Forschungsrat Rauchen und Gesundheit' (research board on smoking and health), which was the centre for such activities. [...]*

*Whether the mobile phone industry uses similar tools is unknown to me. [...]*

*During my inquest into this case I was told repeatedly that Alexander Lerchl is a lobbyist for the mobile phone industry. I could find no proof of this allegation. The following is, however, interesting:*

*The second senior author, Franz Adlkofer, is a member of the foundation board and CEO of the Verum foundation, the successor of the research board on smoking and health [...]."*

Thus, Siegfried Bär states that bribery was common in the tobacco industry, while he had not found any such evidence for the mobile phone industry or specifically for the person of Prof. Lerchl. Reading between the lines, Siegfried Bär and Prof. Lerchl are alluding to their intent: with the help of a conspiracy theory, which we will get back to later, Prof. Adlkofer's cover as a lobbyist of the tobacco industry is to be blown. He supposedly arranged funds from the tobacco industry to be invested into research that would be of disadvantage to the mobile phone industry, thus drawing attention to a new health issue and away from the issues and risks of smoking and passive smoking.

Prof. Rüdiger and Prof. Adlkofer, who are asked a few questions by Siegfried Bär for the sake of appearances, refute all his statements - which, as expected, is of no interest to either Siegfried Bär or Prof. Lerchl. The differences in opinion about the current knowledge and the legitimacy of the procedure are irreconcilable.

**Prof. Lerchl: This is the end of the reputation of the Medical University of Vienna, the worst-case scenario**

On 26 June 2009 - over a year after the launch of Prof. Lerchl's campaign, and almost a year after the Vienna team had been cleared of the fraud allegations by the MUV Council for Scientific Ethics - the *Laborjournal* offers Prof. Lerchl an opportunity to go public with his accusations of fraud. The headline summarizes the contents of the article as follows: *Worst-case scenario in Vienna. There are scandals nobody is interested in at some point, and there are those that get worse. Into the last category falls that which is currently happening at the Medical University of Vienna (MUV).*<sup>4</sup>

➤ Initially, the fraud allegations are repeated. But it becomes clear that there is an irreconcilable conflict between Prof. Lerchl's wishful thinking and the rationale of the Council for Scientific Ethics as he states, and we translate:

*What happened? Nothing. Not one of the suspect studies was withdrawn. Neither the five publications from between 2002 and 2005 nor the publication from 2005 published in Mutation Research. Since the corresponding experiments had been carried out before September 2005, Rüdiger and the Ethics Council assume or do not rule out that the blinding must still have worked at this time. In view of the data fabrication in the quality management [...] and the strange statistics in both publications a naïve assumption.*

The five publications between 2002 and 2005 refer to papers dealing with the biological effects of extremely low-frequency electromagnetic fields. In the interim, their results have been confirmed<sup>5</sup> beyond doubt. The data for the publication in *Mutation Research*<sup>1</sup> have been generated at the Free University of Berlin, now Charité. The blinding was not the responsibility of the lab technician from Vienna, who carried out the experiments, but the lab personnel on site in Berlin.

➤ According to Prof. Lerchl, the damage to science associated with the failure to heed his allegations could hardly be greater, and we translate:

*The Ethics Council from Vienna should have requested the withdrawal of all seven publications. Unconcerned Hugo Rüdiger and Franz Adlkofer, senior authors of the studies, continue to publish posters and papers. This is the end of the reputation of the Medical University of Vienna, the worst-case scenario.*

Prof. Lerchl has absolutely no idea that the damage caused by him - if he should be mistaken about his judgment of the research findings from Vienna - would be much greater than he assumes, because the well-being of the people is concerned. That he has lost any sense of proportion, especially regarding his own greatness, is also indicated by his statement about the end of MUV's reputation.

➤ Prof. Lerchl bestows a certain level of understanding of the MUV rector, Prof. Schütz, who had been accused of lacking determination in the handling this affair (see chapter 2). After all, Prof. Schütz had never made any secret of his conviction in his press releases that the studies have been fudged, and we translate:

*In his press release from 1 September 2008, Schütz had, indeed, demanded from Rüdiger to withdraw both publications, the one in Int Arch Occup Environ Health (2008) and the one in Mutation Research (2005). There is no denying Schütz's determination.*

*Especially when considering that Schütz had to reckon with the possibility that the same fate that had befallen Clemens Sorg, who at that time had been dismissed -or put more frankly 'fired' - as rector from the Medical University of Innsbruck, could also befall him. Sorg's downfall was that he had concerned himself too much with the investigation of a clinic scandal. [...]*

*The events bear an uncanny resemblance. Ethics commissions, by the way, are independent in their decision making, also from the rector, and for better or worse Schütz had to accept the decision of the MUV Council for Scientific Ethics as presented in their final report.*

The rector's initial support and later disregard of a compromise are not even mentioned by Prof. Lerchl. The slant of his line of argument becomes very clear when you consider the differences between the events in Innsbruck and Vienna. In Innsbruck, the dismissal of the rector was intended to prevent the clarification of a proven fraud. In Vienna a case of fraud had to be invented so as to clarify it in the desired way. Prof. Lerchl's loss of reality is demonstrated by equalizing these kinds of differences as well as in perceiving and evaluating the findings of the Council for Scientific Ethics as a worst-case scenario.

**Prof. Lerchl: Science alone is not able to clean up its act - that much is clear**

To launch another very well-timed attack at the research findings from MUV, Prof. Lerchl once again uses his connections to the *Laborjournal*. In April 2010, he recaps all that he dislikes about the MUV publications and their authors in a 10-part series of editorials<sup>6</sup>. The sweeping headline summarizes the objects of his discomfort, and we translate: *Strange comets and how science cleans up its act. Rarely have we seen research findings that have stirred up such a whirlwind: Magnetic fields and mobile phone radiation destroy DNA molecules - at least the EU-funded REFLEX Program says so. It turned out, however, that the data of the Vienna team had been fabricated. In this series of articles the background and (non)responses of publishers and journals are described. Science alone is not able to clean up its act—that much is clear.*

Prof. Lerchl obviously wrote this series of articles to convince the newly appointed Austrian Agency for Research Integrity (OeAWI) of the validity of his fraud accusations and the necessity to act accordingly. The agency had been established to pass final judgment on the events in Vienna and Innsbruck. After Lerchl's accusations of fraud had been met with very little understanding by the Council for Scientific Ethics and the editors of the scientific journals, he and probably also the rector of MUV placed their last hope in the OeAWI to force the virtually impossible, namely the withdrawal of the publications.

The series of articles offers very few new points. However, there is a new twist: Prof. Lerchl now casts doubt over those papers that study the genotoxic effects of extremely low-frequency electromagnetic fields. This is obviously meant to counteract the emerging misleading impression that he would only be interested in mobile phone studies, and not all other investigations from this laboratory in Vienna. Furthermore it is confirmed that a trap, disguised as a 'quality control procedure' was set up for the suspect lab technician. And at last it is also confirmed that the classified minutes from 24 July 2008, in which Prof. Rüdiger's team was exonerated, was sent 'anonymously' to Prof. Lerchl.

**Prof. Lerchl: Flawed investigation of the Austrian Agency for Research Integrity (OeAWI)**

On 23 November 2010, the OeAWI published a statement<sup>7</sup> regarding the investigation and cleared the Vienna team of the fraud allegations. According to Prof. Lerchl, again science was not able to clean up its act in order to meet his expectations, and of course, those of the mobile phone industry. Otherwise, the highly controversial research results would have been withdrawn as part of the essential scientific clean-up.

After the release of the OeAWI report, Prof. Lerchl sent a commentary<sup>8</sup> to the *Laborjournal*, with last changes on 13 December 2010 - it appears he had access on short notice. We reproduce part of his commentary here:

*The report or investigation, respectively, is flawed in various ways:*

- [...] *It is, therefore, doubtful whether the Commission has actually been provided with all the relevant files from MUV, and it should be clarified which files may possibly not have been made accessible to the Commission.*

- *My firm request a day prior to the release of the statement not to publish it, but to go right back into the investigation due to the changed situation was rejected by the commission chair on the same day.*

- *The Commission could 'neither confirm nor invalidate the fraud allegation' made by me or further 'fraud allegations could not be verified', respectively. In such a case, the rules of procedure of the Commission (4.2.) stipulate: 'If a sufficient assessment of the facts is not possible on the basis of the material submitted, the members of the Commission may hold a hearing with the parties involved.'*

*Not at any time have I been heard or invited to a hearing at Vienna, neither in written or oral form. A hearing would have prevented the above-mentioned neglect as well as perhaps further mistakes.*

*It, therefore, can be established that the Commission has not investigated the fraud allegations with the required effort and necessary care, and has acted against its own rule of procedure.*

*Prof. Dr. Alexander Lerchl*

In his line of argument, Prof. Lerchl fails to recognize two things: first, if a fraud cannot be verified, the act of maintaining the allegation of fraud is regarded as defamation; second, the rector and the affected persons who alone can report about the events in Vienna have been heard by the OeAWI. Prof. Lerchl only has distinguished himself by slandering the team from afar but otherwise has no relationship with it. A hearing with him would probably have produced only more of the same coming straight from his imagination, which the Commission obviously could do without.

On 4 January 2011, the commentary in the *Laborjournal* is followed by an editorial<sup>9</sup> by Prof. Lerchl where he makes it clear that he plans to continue his campaign. He also criticizes three

commissions dealing with the investigation of alleged or perhaps also actual cases of fraud, including the case at MUV, which he calls *Research-Fraud-Investigation-Prevention-Commission*. To carry his nonsense to extremes, he encourages the readers of the *Laborjournal* to support his efforts to resolve this issue by sending in their comments, which he will collect and forward to the relevant commissions.

At the same time, he makes serious accusations against OeAWI regarding their decision on the REFLEX case. He suspects partiality. As the *Bremen Sherlock Holmes*, a byname he was awarded by *Spatenpauli*, the host of the IZgMF forum, for his exposure of the Vienna scandal, he believes to have discovered a network of connections which would explain his recent failure to invalidate the research. He suspects the chair of the commission mandated by the OeAWI to carry out this investigation is biased. He also states that the investigation conducted by the commission was flawed in several ways and as a result, certain events and two investigative reports regarding the research findings from Vienna have not been considered. In the end Prof. Lerchl only reiterates: he is always right and others are stupid, irresponsible, or even corrupt. Prof. Lerchl urgently calls on the OeAWI to *reopen the investigation regarding the REFLEX Programme*.<sup>10</sup>

In his letter<sup>11</sup> to the OeAWI, he asks a question under the headline "*Who does and who does not benefit from the Commission of the Austrian Agency for Research Integrity (OeAWI)?*" - which he himself answers as follows, and we translate:

- I. *The Commission protects the ones committing research fraud.*
- II. *The Commission damages the reputation of the Austrian science community.*
- III. *The Commission harms its whistleblowers.*

Then he adds, and we translate: *After studying this letter, I am certain, you will come to understand my - admittedly - harsh criticism. I (still) nourish hope that the serious mistakes that have been made will be corrected.* It remains to be seen whether or not he will actually succeed in having a third commission look into his concern and fulfil all wishes of the REFLEX foes. That he can imagine truth and the progress in science only according to his subjective standard of knowledge provides the conditions for a potentially never-ending story. And as we know from experience, the support of influential people makes many things happen in Germany, and almost everything in Austria.

## **2. The newsmagazine *DER SPIEGEL* provides Prof. Lerchl's campaign with the desired broad public exposure**

Since Prof. Lerchl sees the public at risk of falling victim to uncertainty because of irresponsible scientists, he expands his campaign to the general public at the start. It was his declared intention to present alleged risks of mobile phone radiation as misinformation and to expose the originators of the information as fraudsters. In order to emphasize his point, he compares them to known frauds in science history. The newsmagazine *DER SPIEGEL* provides the campaign of Prof. Lerchl with the desired broad public exposure. This might have to do with their lack of understanding the interrelationships but also with being considerate of their business relations. However, to those readers of the *SPIEGEL* who are familiar with the situation in Vienna and the current body of research, the irresponsible handling of this issue by a leading German newsmagazine is a great disappointment - especially regarding the independence of our media and their ability to criticize. The *SPIEGEL's* support - certainly appreciated by the mobile phone industry - was obviously provided without validating Prof. Lerchl's allegations and, in the course of the story, contributed to deceiving the public so completely that it can hardly be undone.

In May and August 2008, the *SPIEGEL* journalist Manfred Dworschak and Prof. Lerchl published two slanderous articles about the Vienna researchers and their work. Undoubtedly, Prof. Lerchl is responsible for the contents and Manfred Dworschak for the sensational language. A few quotes illustrate the style and the intention of their work.

### ***Caught at foul play***

In *DER SPIEGEL* 22/2008, Manfred Dworschak reports on the sensational turn of events that the assessment of the worldwide quoted MUV research findings of the biological effects of mobile phone radiation has taken<sup>12</sup>, and we translate:

*It was one of the most horrific findings about the danger of mobile phones. Mobile phone radiation, so it said, would break the fragile strands of the DNA inside the cells. Possible effect: cancer.*

*A research group from the Medical University of Vienna had announced the terrible news. [...]*

*Now, it has turned out that most likely all of this is a fraud. A lab technician simply invented tons of data.*

*Worse still, this woman has obviously continued to play foul for many years - until now when an investigative commission of the Vienna University succeeded in catching her in the very act. 'Ms. K. confessed immediately,' said Wolfgang Schütz, the rector of the Medical University of Vienna. 'We terminated the employment contract.'*

Reflecting the views of Prof. Lerchl, Manfred Dworschak points to the necessary consequences this alleged foul play must have, and we translate:

*After her confession, two much discussed studies have basically become obsolete. The university demands that they are withdrawn. The older study from 2005 deals with mobile phone radiation as used in common GSM networks. [...]*

*The second study, published this spring, came to a similar conclusion but this time with radiation of modern UMTS networks.*

Again in keeping with the position of Prof. Lerchl, Manfred Dworschak covers the infamous role of the professors Adlkofer and Rüdiger which, according to Lerchl, at least in the actions of Adlkofer are rooted in the tobacco industry, and we translate:

*That mobile phones cause 'strand breaks' in the DNA is dogma among the mobile phone opponents. As early as 2003, the much quoted EU research project 'Reflex' had announced a similar finding. The coordinator of the latter study, Prof. Franz Adlkofer from Munich, is now also involved in the dubious studies from Vienna.*

*Adlkofer looks back at a distinguished biography: for almost two decades, he has been a senior scientist with a lobby association of the tobacco industry. [...]*

*He [= Prof. Lerchl] has had his suspicions about the studies from Vienna for quite some time. "There is simply no imaginable effect mechanism that could explain the DNA damage at such low energy waves," he says.*

*Due to Lerchl's persistence, the University of Vienna became active. Now the infamous role of the professors Adlkofer and Rüdiger still awaits clarification.*

Even in the Internet forum of the German information centre against mobile communication (IZgMF), which - with the support of its hosts - Prof. Lerchl had chosen as his preferred tool in his fight against the research findings from Vienna, the question is raised whether or not it was an appropriate decision to have Manfred Dworschak deal with this issue. A forum member with the alias *Doris* voices her doubt on 26 May 2008 as follows<sup>13</sup>, and we translate:

*To me it seems to be anything but clever to once again have Manfred Dworschak tackle this serious issue when he has his very own way of dealing with mobile phone radiation. Among critics the name Dworschak is very well known and does certainly not stand for factual and serious reporting on this issue, which is why the majority of the critics will wearily turn away by now and not attach any further importance to it. Rüdiger/Adlkofer will just like Dr. Oberfeld go down as victims of the mobile phone industry in the history of its opponents.*

### **The professor's favorite**

Under the headline *Die Favoritin des Professors [The Professor's Favourite]*<sup>14</sup> in the *SPIEGEL* edition of 35/2008, Manfred Dworschak begins his article with an announcement printed in bold, and we translate: *Vienna researchers believe to have shown that mobile phone radiation damages DNA - with apparently fabricated studies. The case is a lesson of how to handle tough fraudsters: who should uncover fraud cases when science itself cannot cope with it?* The article goes on to relate what Prof. Lerchl will later present in his book about the *Fraudsters from Vienna and Their Helpers*. The previous allegations are more or less presented as facts. A new element is added: ridicule the enemy and make the campaign initiator a hero. Illustrated with corresponding images, the *old* Prof. Rüdiger is portrayed as some kind of *Professor Unrat* (a book by Heinrich Mann) who is infatuated by a young and beautiful woman, without realizing how she is fooling him. He is juxtaposed with the *proper* Prof. Lerchl who has bravely taken up the fight against the infamous fraudsters in science and succeeded against all opposition. Prof. Lerchl and Manfred Dworschak largely ignore that the MUV Council for Scientific Ethics was unable to verify the fraud claims and that recent studies confirm the validity of the research findings from Vienna. Both these facts only seem to serve as a motivation to continue the campaign with even more dedication.

### **The conditions at MUV are made responsible for the unsatisfactory result of the investigation**

The second Dworschak article obviously owes its existence to Prof. Lerchl's extreme disappointment about the course of the investigation regarding the 'causa Rüdiger' at MUV. It is reported with displeasure that the investigation at MUV drags on and on and that the current

results of the investigation are highly unsatisfactory - despite the clear circumstances of the fraud, as claimed by Lerchl. According to the minutes of a meeting on 24 July 2008, the serious accusations made by Prof. Lerchl and the rector have been rejected as unfounded by the Council for Scientific Ethics. In these minutes it is stated explicitly that there is no evidence for accusations of data fabrication. Consequently, the article does not spare discriminatory language when referring to the responsible persons at MUV. The rector of MUV is also given a taste of Prof. Lerchl's anger. It seems as if the rector has not acted according to their agreement and thus is made jointly responsible for the unexpected result of the investigation, and we translate:

*Everything must be checked, Wolfgang Schütz, the rector of the Medical University, promised when the scandal became public.*

*There is no more talk about that, yet a surprising turn of events took place. A three-person commission of the university half-heartedly pokes at the case; K. juggles confessions and retractions; her superior professor denies any misconduct... .*

Prof. Lerchl interprets his campaign as a lamentable object lesson of a failed investigation, and we translate:

*At the end of the day nothing did happen. Not a single study has officially been withdrawn. Instead, the case turns into a lesson: it seems that science is incapable of resolving an obvious fraud scandal by its own effort. [...]*

*For questionable cases the university has a Council for Scientific Ethics. The names of the council members are classified information; the commission is accountable to the rector only. Now this ethics council arrived on the scene, met, debated, heard the persons involved, considered what it had heard, and debated again.*

*Result: not worth mentioning. [...]. There is hardly anything to connect the suspects with.*

### **Independent journalists criticize the SPIEGEL article**

There are still journalists who go to the trouble of doing their own investigations before they inform the public about bold claims. In an article entitled *SPIEGEL slanders researchers critical of mobile phone radiation as fraudsters with unfounded information - and in this context refers to persons who are close to the mobile phone industry* the journalist Torsten Engelbrecht states on 1 February 2009<sup>15</sup>, and we translate:

*Regarding the issue whether mobile phones cause cancer, the SPIEGEL published two articles in May and August 2008, which were also published at SPIEGEL Online. Readers were given a clear message as if it were a fact that the studies of researchers from Vienna, which were designed to clarify the genotoxic and carcinogenic potential of mobile phone radiation, would have been tampered with. [...] It was especially the lab technician Elisabeth K. who was incriminated, but also the principal investigators of the studies, professors Hugo Rüdiger and Franz Adlkofer. [...]*

*And most important: just as indignant as the SPIEGEL writes about the researchers and as prematurely as it condemns them as fraudsters and persistent manipulators, so badly and far from the facts were the stories investigated.*

Tina Göbel from the Austrian newsmagazine *profil*, who locally made efforts to discover the background of the evident scandal at MUV, turns the observed conflict between mobile phone industry and science into a study of Austrian morality. In her article called *Reputation suppression: The morality behind the allegedly fabricated mobile phone studies* from 24 November 2008, she concludes<sup>16</sup>, and we translate

*The fraud scandal of the mobile phone studies at the Medical University of Vienna received a worldwide response. But documents accessible to profil appear to make a fraud questionable - and show the conflict of interest between the mobile phone industry and science.*

In the interim, the MUV Council for Scientific Ethics<sup>17</sup> and the OeAWI<sup>7</sup> both rejected Prof. Lerchl's accusations of fraud in public statements. In this situation it would have been an appropriate measure to limit the damage committed, if in a third article the *SPIEGEL* had reported that two ethics commissions were unable to confirm the scientific misconduct suspected by the newsmagazine and his contributor Prof. Lerchl.

### **Prof. Lerchl seeks a strange deal with profil journalist Tina Göbel**

When pursuing his goals, Prof. Lerchl is not too particular about the means to accomplish them. One example among others is the handling of the minutes of the Council for Scientific Ethics meeting on 24 July 2008<sup>18</sup> which had been declared classified information by the MUV rector, but passed on - anonymously - to Lerchl. Obviously he had a hard time accepting what was written in the minutes about the lack of evidence for his fraud allegations. In an attempt to determine if the document, which had probably been leaked from the rector's office at MUV, was truly authentic, he asked the aforementioned *profil* journalist Tina Göbel to verify it through her connection to Prof.

Adlkofer and Prof. Rüdiger. She had told him previously that she did not know the document that the rector had declared classified. Even though she was known to him as a harsh critic of his activities, he now hoped - in return for giving her a copy of the minutes - that she would help him to verify the authenticity of this document. An e-mail from 25 June 2009 explains the suggested deal, and we translate:

*Now you did receive it from me. Service in return: You look into its authenticity and immediately let me know. Deal? I know, you would probably prefer to do anything else but a deal with me, the evil radiation risk denier, but it is worth it, isn't it?*

*For security reasons only: Without my written consent, none of the contents of my mails to you may be forwarded or published. I hope you have understanding for this safeguard.*

AL

We will refrain from making any comment or judgment on this.

### **3. A book about *Fraudsters in the lab and their helpers* unmasks its author as an unbridled slanderer**

In his short book on *Fraudsters in the lab and their helpers - The Vienna mobile phone studies - A single incident or a symptom*<sup>19</sup>, Prof. Lerchl repeats and expands with more details the condensed versions that had been published in the *Laborjournal* and *SPIEGEL*. Already in the Preface, he points to the extent of the fraud he uncovered and its consequences. He also does not fail to mention the lack of understanding he had to endure from others with his analyses. The message he tries to convey is that he unwaveringly supports the implementation of ethical principles in science and for this he should receive thanks and appreciation, but instead he is suspected of representing the interests of the mobile phone industry. In the Preface he reports the scandal he uncovered and the reactions he went through, and we translate:

*It has taken me over a year and still occupies my time, and most likely the scandal will be discussed for a long time to come. It brought an entire university into discredit, careers were cut short, and many critical questions about the system of quality control in science were raised. When in summer 2007, I analyzed the data for the first time in my office over a weekend and noticed that something was definitely off with the study from Vienna, I had no idea what this discovery would unleash. The reactions ranged from colleagues who were critical of my analyses to editors of scientific journals who did not adhere to their own ethical principles, culminating in attempts to withhold important documents and to prematurely terminate investigations, to say nothing of the personal attacks by mobile phone opponents from whom I took their strongest arguments [research findings at MUV]. This even went so far as to slander me as a paid lobbyist of the mobile phone industry.*

#### ***The difference between alleged and proven fraud is levelled***

The topics of the book have the obvious goal to destroy the scientific and moral reputation of the members of the MUV team, and Prof. Lerchl must have completely lost his sense of proportion. In the chapter called *Research fraud - not a single incident*, he describes a number of major fraud cases in science, including the case of the South Korean cloning researcher Hwang, to whom we will return later. Prof. Lerchl points out that falsified data are more common in science than realized and makes clear where the team from Vienna must be ranked. In the chapters called *The first incident: Diem et al. 2005* and *The second incident: Schwarz et al, 2008*, he provides a detailed account of how he arrived at the conclusion that the study results of the Vienna team must be falsified. In the chapters called *The non-response by Mutation Research* and *The strange responses by the journal IAOEA*, he goes into his dispute with the editors of those scientific journals who declined to withdraw the publications he considered as fraud. Since the editors did not believe his claims, they incur the accusation of irresponsible behaviour.

In several chapters Prof. Lerchl describes how he and the rector of MUV assessed the events in Vienna. A separate chapter is dedicated to the Verum Foundation in Munich and its executive director Prof. Adlkofer. The latter is alleged to have become involved in mobile phone research at the instigation of the tobacco industry so as to distract public attention from smoking and passive smoking by establishing new risks. In the concluding chapters called *Consequences for science* and *Legal consequences?*, Prof. Lerchl lectures the public about the consequences for science and jurisdiction, which arise from scientific misconduct, and makes suggestions on how to resolve this problem.

#### ***Commercial interests dominate public health interests***

One paragraph in his book is especially revealing, because Prof. Lerchl explains the commercial motives for his actions (page 141), and we translate:

*When, as in the present case, studies are published that discredit an entire technology - in this case mobile communication - the damage is probably a considerable one, and that for very different reasons. When a new base station is to be installed, citizens who see their health put at risk routinely protest against it. Mobile phone service providers are criticized, they have to defend themselves at town hall meetings and are sometimes exposed to harsh criticism why a base station is to be placed exactly at the proposed site. Often, after having obtained expert assessments, alternative sites are sought and found, all of which is associated with high costs. And then there are those people who are so confused that they decide for themselves and their families to use mobile phones as little as possible or even to completely do without mobile phones. These damages (non-completion of contracts) are also difficult to quantify and in the end are not suitable as a basis for damage claims.*

This quote clearly shows that commercial interests are given precedence over public health interests. If Prof. Lerchl were a physician, he would be violating his Hippocratic Oath. There is a large discrepancy between the mandate assigned to Prof. Lerchl to protect the public from health risks and his own self-image as a biologist; he cannot even see the obvious conflict of interest. This clearly illustrates how close Prof. Lerchl became a tool of the mobile phone industry.

### **Genotoxicity evoked as a risk of mobile phone radiation**

In terms of the services he offers, the following sentence from his book takes on a special meaning (page 43), and we translate:

*The findings of Diem et al. were truly alarming. If they should be confirmed, would this be not only a wake-up call but also the beginning of the end of wireless technologies because DNA damage is the first step in the process of cancer development.*

When taking the actual conditions of the Vienna experiments into consideration, this claim is unsubstantiated and it certainly overshoots the mark. But it may have been designed to show the mobile phone industry how much they are dependent on Prof. Lerchl for defending their interests. His chumming up to the mobile phone industry, on the other hand, also demanded that decisive action is taken after such big words. That Prof. Lerchl expected to receive recognition from the scientific community for that casts doubt on the way he sees himself as a scientist.

In the afterword Prof. Lerchl summarizes the conclusion of his investigation, delivers his damning verdict of the Vienna team, and again demands that all their publications should be withdrawn, and we translate:

*Two studies about DNA damage in human cells alleged to be caused by electromagnetic fields of mobile phone radiation have clearly been uncovered as a fraud. A lab technician - for whatever reasons - faked the data. It was easy for her to commit the fraud because the allegedly secure blinding mechanism of the exposure chambers could be overridden with a simple trick. [...]*

*In addition, a grave accusation is also justified against the editors. Due to their inaction, the impression was created that evil forces were out to get the responsible scientists and discredit them. That the exact opposite is true is of as little interest to the editors as the extensive damage they have caused through their actions for the reputation of science as a whole.*

*When considering the 'speed' and the 'determination' of the agencies in charge, probably many years will pass until finally an end can be put to the affair of the Vienna studies. This can only happen when all publications, which have been produced with the collaboration of the lab technician Elisabeth Diem/Kratochvil or with an exposure set-up that can be so easily manipulated, are withdrawn.*

Nearly four years after Prof. Lerchl had unleashed the scandal and nearly three years after the publication of his book about the fraudsters from Vienna, it should be noted that to this day the evidence of data manipulation at MUV could not be produced. Already on 24 July 2008<sup>18</sup>, the MUV Council for Scientific Ethics had stated that it does not accept the statistical abnormalities challenged by Prof. Lerchl nor the knowledge of the blinding code - which was contested by the accused team member - as evidence for the fabrication of the obtained research findings. The OeAWI confirmed this conclusion in December 2010<sup>7</sup>.

As usual, Prof. Lerchl ignores the judgment of the Council for Scientific Ethics with an argument that is so typical of him: the Ethics council is either incompetent or corrupt. He also confronts the OeAWI with comparable insinuations. An important reason for why he is defending his wild fraud accusations so bitterly and aggressively may be found in the misjudgement of his own research findings, which, according to his assessment, indicate no adverse effects of mobile phone radiation. Insofar as biological effects exist at all, in his opinion the positive ones even seem to predominate. It is his mistake to mostly block out the advances made in international research while attaching a

completely inappropriate significance to his own modest, perhaps erroneous, findings - which we will get back to later.

#### ***An author and two obliging reviewers misunderstand the nature of clarification***

In his book, Prof. Lerchl presents himself as a fearless public interest watchdog of mobile phone research. And two obliging reviewers are eager to confirm this status. Dipl.-Ing. (FH) Anja zur Nieden<sup>20</sup> from the Institute of Hygiene and Environmental Health in Giessen is stunned at the possibility that two mobile phone studies from Vienna, whose data fabrication is so well documented, are not being immediately withdrawn. And Stephan Schall, whose mobile phone forum we will get back to later, not only pays his respects to the *unfailing determination to uncover* in his review<sup>21</sup> from 2 January 2009, but he also praises Prof. Lerchl as the *Bremen Sherlock Holmes*, who has finally put an end to this fraud, and recommends his *very reasonably priced book*. Yet all three of them, Prof. Lerchl as well as the two obliging reviewers ignore the profound difference between alleged and proven fraud, which is a legal and an accepted standard in an educated society. The misinterpretations of his own research findings can help to understand some aspects of Prof. Lerchl's campaign. But altogether they also reveal limits of his own scientific horizon and prevent that industry and government respond to new knowledge in a timely and appropriate manner. For the mobile phone industry, Prof. Lerchl has become a highly valuable instrument protecting their economic interests. For the citizens of this country, however, the likelihood has increased that he - by means of his position - is causing irreparable harm to them.

#### **4. A workshop by the Research Association for Radio Applications e.V. (FGF) is meant to destroy the MUV research findings**

Until the completion of the REFLEX project in 2004, the German mobile phone industry had been content with simply ignoring the MUV research findings presented at numerous national and international conferences. Any criticism, at first limited to the methodology of the experiments, started only after the publication of the study in *Mutation Research*<sup>1</sup> in 2005. A first culmination point was achieved at the workshop on *Genotoxic Effects of Radiofrequency Fields - Lessons from the Conflicting Results*,<sup>22</sup> which took place in Neuherberg/Munich in 2007. It had been organized by the Research Association for Radio Applications e.V. (FGF), which represents the interests of the mobile phone industry in the scientific community.

Even back then, the vehemence of the attacks revealed that consequences were expected from the new research findings on public health policies and the acceptance of wireless technologies among the public, and this was to be avoided. The emerging threat to commercial interests required a quick and permanent solution. The FGF supported the search for a solution wherever possible even though it could not be open about it without risking damaging its reputation. In this situation, hope obviously concentrated on Prof. Lerchl who at that time most likely might have been encouraged to proceed against the Vienna research findings, and he launched his campaign. In fall 2009, a workshop of the FGF in cooperation with the Austrian Forum *Mobilkommunikation* (FMK) in Vienna was designed to assist in getting rid of the controversial research findings.

#### ***Fraud accusations by Prof. Lerchl became the core theme of a scientific event***

The FGF/FMK workshop called *Serious Research or "Junk Science"? Quality Standards for Scientific Work in Mobile Phone Research* took place in Vienna on 22 November 2009. The workshop presenters included Prof. Emilio Bossi, president of the committee *Scientific Integrity* of the Swiss Academies of Arts and Sciences; Prof. Michael Kundi, member of the organizing committee of the BioInitiative Report; Prof. Mats-Olof Mattsson, chair of the team electromagnetic fields at the Scientific Committee on Emerging and Newly Identified Health Risks of the EU Commission (SCENIHR); as well as Prof. Alexander Lerchl, chair of the committee on non-ionizing radiation at the Commission on Radiological Protection (SSK) of the Federal Office for Radiation Protection (BfS). The ambitious set-up of the event and the selection of highly esteemed presenters were obviously meant to disguise the goals hinted at in the invitation. They read as follows, and we translate: *One core theme will pursue the question as to how fabricated and falsified studies should be handled.*<sup>23</sup> That this, however, was going to be *the* theme of the entire event could not be discerned from the announced lecture by Prof. Lerchl, who intended to speak about the SSK assessment guidelines.

Prof. Lerchl wasted no more than 5 minutes on the announced topic when he dedicated the remaining 20 minutes to the research findings from MUV. He goes on to list all his reasons that have made him realize that the Vienna research findings must be based on data fabrication. The organizers of the workshop mostly adopt Prof. Lerchl's account in their press release. Again, the fraud is presented as a proven fact. The conference is considered a success because it was possible to demonstrate that the MUV research findings must not be taken seriously when applying the assessment criteria of the SSK as well as those of other national and international agencies. The press release conveys the overall impression as if the faked Vienna studies would finally have been put to rest at the site of their origin. All of this occurs against better judgment, because at this time Prof. Lerchl's arguments had already been invalidated by the MUV Council for Scientific Ethics. It says in the press release of the FMK<sup>24</sup>, and we translate:

*Experts from Austria, Germany, and Switzerland discuss good, bad, and faked research.*

*'How are research results assessed and how can you protect yourself against "black sheep" in science?' Four international presenters shed light on this and other questions at the information session of the Research Association for Radio Applications (FGF) and the Forum Mobilkommunikation (FMK) in Vienna on 22 November 2009. Against the background of numerous and at times hotly debated mobile phone research results, the assessment criteria of research results from national and international agencies were presented. The focus was also placed on individual publications of the last years, especially of mobile phone research, that had been accused of inaccuracy or even fraud. [...]*

*The lecture [by Prof. Bossi] showed the reasons how scientific misconduct develops and which strategies can be employed to limit it. "Scientific integrity is a basic moral attitude. It cannot be separated from the responsible use of human thirst for knowledge and human curiosity." [...]*

*After reporting about the work of the German SSK and the classification of scientific results, Alexander Lerchl discussed the impact of controversial studies: "An increasingly serious issue are studies that, based on faked data, claim adverse effects which cannot be reproduced in follow-up studies, but cause continuing great unrest and fear in the public because of their alarming findings. It has been demonstrated that science management shows considerable shortcomings when dealing with fabricated data."*

Reports by Prof. Adlkofer and Prof. Mosgöller, however, show how the public was misled about the course of the conference and the current state of research.

### **Prof. Adlkofer's statement offers a different picture of the conference**

Prof. Adlkofer, a workshop participant, offers the following comment on the event a few days later<sup>25</sup>:

*"Title and location of the event did make clear its actual purpose. In his introduction, Emilio Bossi was to point to the disastrous effects of scientific misconduct. Subsequently, Alexander Lerchl was to talk about an especially serious fraud to the detriment of the mobile communication industry which he revealed, so to speak, single-handedly. The results obtained at the Medical University of Vienna (MUV) during the last years that point to a genotoxic potential of mobile radiation are, in his opinion, based on 'data fabrication'. [...]*

*In the following discussion I asked Emilio Bossi if he knows any cases in which data fabrication had been claimed unjustly in order to elegantly get rid of unpleasant scientific results. He stressed that such cases happen and that they are of special meanness because from such a slander always something is remembered that even might lead to an irreparable damage of the results. Of course, someone who acts in this way must be treated the same way as the forger.*

*In the first few minutes of his talk Alexander Lerchl did explain the study evaluation system of the SSK, which seems to be well-founded and which can surely contribute to a gain in knowledge in the difficult area of mobile radiation research. [...]*

*As expected, further 20 minutes Alexander Lerchl dealt with the papers published by the MUV research team which altogether would show that the reported results cannot have been derived from decent laboratory work. This assumption would not only be supported by the revision of the statistical data analysis by himself and others; also in the Final Report of MUV's Council on Ethics in Science the research team is confronted with the allegation of scientific misconduct. Though he would like to, he could not understand why the editors of the scientific journals did accept the manuscripts for publication in first place and why they still refuse to withdraw the studies from the scientific literature considering the overwhelming evidence. A Letter of Concern published already in the one case and asked for by the Committee on Publications Ethics (COPE) in the other case would not be sufficient to compensate for the already emerged detriment.*

*In the following discussion I, being a co-author of the criticized papers, confronted Alexander Lerchl with the fact that according to the Final Report of the MUV's Council of Ethics in Science there is no evidence of data fabrication and that his accusations would be solely based on suspicion. Of course, I had expected that finally he would realize his mistake and that he would apologize to the MUV research team for his excessive assault on their scientific and personal integrity. Instead, I had to experience that the assault was not only repeated but even intensified. Obviously, Alexander Lerchl would be unable to correctly interpret the refusal of the editors to follow his ultimate request to withdraw the papers from the scientific literature. One has to wait how he would act when soon further papers are published that confirm the research result of the MUV team. To classify also these papers as 'junk science' would not be possible.*

*The host's question if Alexander Lerchl wants to reply to these comments remained unanswered."*

### **Prof. Mosgöller poses the question what Prof. Lerchl wants to achieve with the vehemence of his allegations**

Prof. Mosgöller from MUV shares his impressions in a similar way<sup>26</sup>:

*"A performance of sorts was put on by Prof. Dr. Alexander Lerchl, chair of the committee on 'non-ionizing radiation' of the German Commission on Radiological Protection (SSK). He was the one who originally launched the fraud allegations against the Vienna group of scientists. The topic of his presentation was announced as a discussion of the study assessment guidelines of the German SSK. Rather disappointing - or even to be expected? - he quickly changed gears and discussed the alleged fraud at Vienna in detail. It was beyond his comprehension that the investigation he had initiated had not yet generated the desired results. The relevant scientific journals have not yet withdrawn the publications in question. The questions as to whether this might have anything to do with the fact that his fraud allegations may be unjustified or the playful question if everybody else but him were corrupt remained with the audience.*

*Lerchl used his allotted time in order to reinforce his fraud allegations. But anything he said about, for example, the time periods for analyzing cells, good laboratory practices, even hair-splitting sample calculations sounded far from convincing to a research specialist. And maybe he did not know yet that there had already been new studies accepted for publication that confirm the DNA breaks observed by the Vienna researchers.*

*To the disappointment of all those who had followed the announcement and would have liked to learn more about the study assessment guidelines of the German SSK, the presenter who had obviously been shaken by the critical questions left the event – hastily and all alone. In the audience quite a few then were left with the question as to what he wanted to achieve with the vehemence of his allegations."*

### **Fraud allegations as in the case of the Vienna studies are not an isolated incident**

Louis Slesin, the editor of *Microwave News*, reports on the unchallenged assumption that Prof. Lerchl owes his career first and foremost to his demand to bring Prof. Rüdiger of MUV to account for his scientific misconduct<sup>27</sup>. That this misconduct could not be verified does not faze Lerchl. Slesin counts this case among the innumerable attempts of the mobile phone industry to use their middlemen in science to publicly accuse researchers, whose findings interfere with their interests, of scientific misconduct. But Slesin also demands that the conduct of these industry-controlled scientists be scrutinized and punished according to the same guidelines that apply to any other scientist without such a background. With great concern, he raises the question: *"Why doesn't anyone speak out against the corruption in our midst?"* This is exactly what is happening here.

## **5. The defamation campaign fails with the Committee on Publication Ethics (COPE) in London**

In December 2008, Prof. Lerchl turns to the Committee on Publication Ethics (COPE) in London, a forum that advises and supports publishing companies and editors on how to handle ethical issues. He complains about the fact that the editors of the scientific journals, in which the Vienna research findings<sup>1,2</sup> had been published, would not respond to his fraud allegations in an appropriate manner and thus would not have fulfilled their contractually binding responsibility as members of COPE. When faced with the rejection of the editors of *Mutation Research* and *IAOEH* to follow his request for withdrawing the publications of the Vienna team, Prof. Lerchl considers his course of action to *clean up science* as urgently needed.

### **COPE rejects Prof. Lerchl's complaint as unfounded**

COPE does not consider the question of whether fraud has occurred, but it limits its investigation to the question whether or not the two relevant scientific journals violated the *Code of Conduct* they have signed. In its reply<sup>28</sup> to Prof. Lerchl from September 2009, COPE explains first how to proceed in this case: The editors' decision would have to depend on the evidence of the fraud allegation and its assessment by MUV. In case of any indication of data fabrication the editors should first contact the scientific institution at which the authors of the criticized publication work. If there is verifiable evidence of fabricated data that implicate the authors, the editors would be obligated to immediately withdraw the paper. When, however, the relevant scientific institution provides unsatisfactory answers or does not respond at all, the editors would be well advised to publish a *Letter of Concern*. Should there be any doubts as to the fairness of the hearing of the accused authors or the thoroughness of the investigation again a *Letter of Concern* appears to be more appropriate than the withdrawal of the publication. While in this case Prof. Lerchl is personally convinced that the evidence of data fabrication had been provided long ago, the editors apparently have quite a different opinion. But the latter certainly did accommodate Prof. Lerchl when they had

an *Expression of Concern* [IAOEH]<sup>29</sup> and a critical *Editorial* [Mutation Research]<sup>30</sup> published. Overall, the reports received from MUV had been so contradictory and confusing that no conclusions could have been drawn.

Prof. Lerchl, who probably had hoped at the start of his campaign against the Vienna team to handle the issue as an anonymous prosecutor in a way that suits him and in close cooperation with the MUV rector, he himself is not spared criticism. COPE confronts him with the fact that despite the request of the editors of *Mutation Research*, he declined to substantiate his concerns in a letter to the editors - which would not have been possible as an anonymous person. Altogether, COPE comes to the conclusion that the editors' decision to not comply with his request for withdrawing the publications was correct. It is then confirmed that they have satisfied the *Code of Conduct*. The editors of *Mutation Research*, however, are advised to also publish a *Letter of Concern*, which clearly indicates that these research results may be subject to reservations, in addition to the *Editorial*, which by its very nature is better suited for the scientific debate of different opinions.

### **The IAOEH editors decline Prof. Lerchl's request after initial irritations**

While COPE issued its decision without consulting with the authors of the publications, the latter had been heard by the editors of the scientific journals before decisions were being made about the destiny of their publications in the scientific literature. Even though, according to the agreement with the rector of MUV from 24 June 2008, Prof. Rüdiger had basically given his consent to withdraw the 2008 publication on the genotoxic effect of UMTS radiation<sup>2</sup> from IAOEH and to inform the editors accordingly. However, Prof. Adlkofer, co-author of the publications, told the editors that, based on his current knowledge, he would have to resolutely oppose the withdrawal of the publication:

*"In contrast to him [Prof. Rüdiger], I start from the premise that the analysis of the data has actually been performed under blind conditions. This corresponds with the, as far as I know, unchallenged statement of his former team member Ms. Kratochvil who repeatedly maintained that all assessments had been performed to the best of her knowledge. [...]"*

*Presently, there are numerous reasons that enforce the assumption that the request for the withdrawal of our publications by the rector of the Medical University of Vienna has nothing to do with science, but a great deal with politics. My conscience, therefore, commands me to decline his request. The inspection of the minutes of the ethics commission meeting from 26 August 2008 revealed that the investigation had been carried out correctly in all respects.*

The *Expression of Concern* by the editors of IAOEH<sup>29</sup> had come about in a situation where, on the one hand, the events at MUV were rather unclear and, on the other hand, major pressure originating from Prof. Lerchl<sup>31</sup> had been put on the editors. Prof. Adlkofer and Prof. Rüdiger, who had quickly realized the limited value of a compromise with the rector of MUV, provide their view of Prof. Lerchl's fraud allegations in the scientific journal *Umweltmedizin in Forschung und Praxis* [*Environmental medicine: research and practice*]<sup>32</sup>. They acknowledged that the editors of IAOEH had rejected Prof. Lerchl's criticism of the statistical analysis of their data as unfounded after they had been thoroughly reviewed by specialists. Prof. Lerchl's request for the withdrawal of the publications would certainly have come to nothing had it not been for a new and unexpected event at MUV, which was timely for him.

Also in a *revealing report*<sup>33</sup> in *Bioelectromagnetics* Prof. Christian Wolf, a former colleague and then acting successor of Prof. Rüdiger, accuses the lab technician, who was responsible for the counting of the cells, to have analyzed the samples without blinding. This information, which contradicts the statement of the accused lab technician, provides an opening for Prof. Lerchl to not only continue his campaign but also to expand it. The editors of IAOEH, irritated by the mounting pressure from Prof. Lerchl, seize the opportunity to bring this unpleasant incident to a satisfying close - this, however, at the authors' expense.

They do not ask how Prof. Wolf's evidence regarding the missing blinding had come about, and they do not know that this was the basis for a fatal compromise between Prof. Rüdiger and the rector. They also have no idea about the power struggle within the university that followed when Prof. Rüdiger retired from MUV. They also did not file a request for access to the minutes of the Council for Scientific Ethics. Without checking the facts and in great haste, they use Prof. Wolf's<sup>33</sup> revelations as an opportunity to apologize to their readers for publishing a study that they now find unworthy of publication. Shortly thereafter the editors share their change of judgment in their *Expression of Concern*<sup>29</sup>. Unintentionally, they generally follow the COPE guidelines even if only based on the vague suspicion that no blinding had occurred. How the revealing report by Prof. Wolf

should really be judged, that is, how misleading it is, can be gathered from Prof. Kuster's<sup>34</sup> statement.

Shortly after the publication of their *Expression of Concern*, the editors of IAOEH must have realized themselves that bowing to the pressure of Prof. Lerchl was unnecessary. This assumption is supported by the fact that they did not make use of the opportunity to withdraw the publication when Prof. Rüdiger, as the corresponding author, offered it in his *Letter of Retraction* (see Part I). The worthless compromise between Prof. Rüdiger and the rector of MUV must obviously have convinced them that this was about a scheme at MUV, in which they were supposed to have been involved. And their controversy with Prof. Lerchl may also have raised doubts about his credibility<sup>35</sup>. With their final decision not to withdraw the publication, they remained faithful to their original judgment of this study.

### ***The editors of Mutation Research decline Prof. Lerchl's request as well***

The editors of *Mutation Research*, in which the REFLEX study about genotoxic effects of GSM radiation<sup>1</sup> had been published in 2005, ask the authors to comment on the allegation that blinding had been lacking from the process of generating the data. Prof. Rüdiger, who had shown himself to be open to compromise regarding the study from 2008, stated very strongly<sup>36</sup>:

*"Here and now, I clearly wish to state that our paper published in 2005 in Mutation Research [...] is not affected by these considerations. All experimental work for this publication was finished in February 2003. Moreover, the experimental work was performed by the first author in a foreign laboratory (Free University of Berlin, Germany), because we did not have a high-frequency exposure unit at that time. She [= the lab technician] was then completely unfamiliar with the settings of the exposure unit, and the programming of this instrument was done by co-workers of the hosting laboratory. As a consequence, doubts about the reliable blinding of the experiments described in our publication in 2005 are unfounded."*

As recommended by COPE, the editors of *Mutation Research* then publish - in addition to the *Editorial*<sup>30</sup> - also a *Letter of Concern*<sup>37</sup>, in which they explain their decision not to withdraw the study. In August 2007 a scientist, who did not wish to have his name mentioned, claimed that the study by Diem et al. was based on fraudulent experiments. The review by two independent peer reviewers, however, did not confirm this claim, even though statistical abnormalities were present. The suggestion to detail the reasons for the allegation voiced in a letter to the editor of *Mutation Research* had been declined - probably because this author did not intend to reveal his identity. In May 2008, a letter from the rector of MUV arrived in which the willingness of the authors to have their paper withdrawn was announced<sup>38</sup>. The editors, however, had to reply that this was not correct. They had received letters from Prof. Rüdiger<sup>36</sup> and Prof. Adlkofer<sup>39</sup> in which these authors very strongly rejected the allegations of fabricated data and the cracking of the blinding codes prior to analysis. An information exchange with the editors of IAOEH, in which the paper by Schwarz et al.<sup>2</sup> had been published in 2008, could not resolve the open questions.

At this state of the affair, the editors of *Mutation Research* saw no reason to withdraw the paper by Diem et al.<sup>1</sup> But in their *Letter of Concern*<sup>37</sup>, they agreed to "leave this issue open for scientific debate."

## **6. Prof. Lerchl's last attack on the REFLEX results so far turns out to be a flop**

Prof. Lerchl, of course, would not miss any chance to continue his campaign. Despite all the defeats in his fight against the Vienna research findings, backing down is not an option for him. He ignores the decision of the Council for Scientific Ethics, which cannot find any evidence for fabricated data, saying that the council is either incompetent or even corrupt. The rejection of the editors of the scientific journals to withdraw the relevant publications because they interpret the documents available to them in a different light than himself, he also explains away with scientific and moral failure. Unperturbed by all the rejections of his allegations, he launches a crucial attack at the end of 2009 with which he hopes not only to finally finish off the Vienna research findings but also the Vienna team behind it.

Together with his colleague Prof. Adalbert F.X. Wilhelm, a statistician, Prof. Lerchl sends a letter with the title *Critical comments on DNA breakage by mobile-phone electromagnetic fields [Diem et al., Mutat.Res. 583 (2005) 178-183]*<sup>40</sup> to the editors of *Mutation Research* in December 2009. Because of its length the letter is called *Comment* by the editors. Out of desperation, both authors once again present the entire spectrum of allegations that are known from Prof. Lerchl's previous

accusations. No new arguments are presented, but the phrasing is further intensified - maybe based on the wrong assumption that this way the editors of the scientific journal could still be convinced of the validity of the fraud allegation. The withdrawal of the criticized publication from the scientific literature, which Prof. Lerchl must have initially promised the mobile phone industry, could still be achieved, and the REFLEX study could be disposed. The recognition for his valuable contributions as a fearless fighter to the truth in science would surely be his. And he would finish the elaborate campaign stretching over years not as a funny character, but as a triumphant winner.

With fierce determination, the *Comment* presents the fraud allegation as proven; the possibility of being wrong is ruled out. But the actual infamy of the text resides in the fact that - as is often the case with Prof. Lerchl - truth, half-truth, and falsehood are presented as a colourful mix, which can make a detailed reply quite a challenge. Together with this *Comment*, however, *Mutation Research* also publishes a letter by Prof. Rüdiger and Prof. Adlkofer<sup>41</sup>, who take a stand on the five topics of the *Comment*. In their letter, they explain why (a) Prof. Lerchl's description of the Vienna team as a fraud gang, (b) his explanation for proceeding against the Vienna team, (c) his evidence of fraud by statistical means, (d) his description of the events at MUV, and finally (e) his presentation of the current scientific body of knowledge need to be corrected.

***(a) Equating the Vienna team with known fraud gangs must be regarded as the result of Prof. Lerchl's progressive loss of reality***

Prof. Lerchl and his co-author begin their *Comment* with a list of serious fraud cases in science to highlight the significance and far-reaching consequences of the fraud uncovered by them. Since his contributions to the *Laborjournal*, in his book on the fraudsters, and at the Vienna Workshop in September 2009, Lerchl by now has refined this approach, following his very own standard and style of scientific argumentation. Due to a lack of evidence, he replaces scientific argumentation with speculative suggestion. Along this line, the fraud allegations turn into libel and defamation of character. In this case, they are also a testament to the progressive loss of reality suffered by the author of these allegations.

***(b) His aggressive approach against the Vienna team, Prof. Lerchl justifies with the argument that the public, medical doctors, and politicians should not be disturbed by negative research findings such as from MUV***

With respect to the economic and socio-political importance of mobile communication technologies, Prof. Lerchl and his co-author rightly demand from scientists in this research area to adhere to the highest ethical standards that guarantee the integrity of their work. Both of them, of course, are convinced that the team at MUV is lacking those qualifications. But even scathing criticism quickly loses its credibility and turns into hypocrisy when it is passed on by someone who himself very much falls short as a scientist and a person. Prof. Lerchl conveniently forgets to mention that the Vienna research group never called for doing away with mobile communication technologies, but simply for making the technologies biocompatible with the human body - not vice versa. There are sufficient reasons for this demand. The number of scientists whose research indicates concern increases with each year. They are juxtaposed against the research projects with null results that are used by governments and industry to provide assurances of safety, which in a very big way applies to the project results of Prof. Lerchl<sup>42,43</sup>. It should give us pause that these research projects were usually wholly or at least partially funded by the mobile phone industry<sup>44,45</sup>, which for its money obviously expects a certain cooperation.

***(c) Prof. Lerchl's statistical explanation of the fabricated data is based on impaired reasoning***

In their *Comment*, Prof. Lerchl and his co-author initially describe the basis of the criticized research project as well as the method used to verify DNA strand breaks - and this was done quite correctly. They explain their fraud allegation as follows: There are several statistical parameters that, based on the provided numerical values, can be checked, and they speak against a correct generation and evaluation of the data. The low standard deviations and the equally low variation coefficients as well as the fact that certain final values are not as evenly distributed as to be expected, they quote as proof of data fabrication. In their opinion, the abnormalities can be best explained with the assumption that the data were fabricated and that there was no blinding in place prior to counting the cells.

But, as has already been documented in Part I, the statistical abnormalities have nothing to do with an alleged cracking of the code, but with the used method of analysis. The type of visual data analysis used in the study is inherently associated with what was referred to as abnormalities and thus for the most part cannot be avoided. An experienced and highly qualified lab technician such as Ms. Diem, who was involved in the study, can quickly recognize under the microscope as to whether a sample was exposed to RF radiation or not. As a result, the blinding is at least partially eliminated, which can certainly have an impact on the counting of the cells. However, no positive effects can be produced when they do not exist. This type of analysis, if performed by qualified personnel, is on par with the automatic one, if not superior.

Prof. Lerchl and his co-author simply lack the insight that, even in research of natural sciences, there is some latitude for subjectivity, which requires a high level of responsibility on the part of the scientists. Undisturbed by the assessment of the Vienna research findings by several other peer reviewers, who also speak of abnormalities, but certainly do not regard them as a proof of fraud, they still prefer - out of a lack of insight or scruples - to cling to their claim of data fabrication. Otherwise, they would be forced to acknowledge the Vienna research findings as valid and to draw conclusions they themselves and especially the mobile phone industry would dislike very much.

**(d) The account of the events at MUV contradict the facts**

In their *Comment*, Prof. Lerchl and his co-author also recount the almost unbelievable events at MUV. To what extent Prof. Lerchl is responsible for what transpired there is not mentioned. Rather an account of the events in contrast to the facts is used to further support their fraud allegations. To what extent this account contradicts or rather distracts from the actual course of events is described in great detail in Part I of our documentation and will not be repeated here.

**(e) The genotoxic potential of mobile phone radiation can now be considered confirmed**

As expounded in his book about the *Fraudsters in the Lab*, Prof. Lerchl considers genotoxic effects of mobile phone radiation neither proven nor fathomable. If anything, they are certainly consistent in their *Comment* on the Vienna studies when he and his co-author claim that, to date, there is no other evidence of a genotoxic potential for mobile phone radiation. This claim, however, is not consistent with the facts. For years there have been publications in which structural and functional changes in genes of isolated cells or lab animals have been documented after exposure to RF electromagnetic fields<sup>46,47</sup>. It is correct, though, that none of the other studies could ever demonstrate the extent of the DNA damage as clearly as the studies from MUV.

To support rejection of the possibility of genotoxic effects caused by RF electromagnetic fields, Prof. Lerchl and Prof. Wilhelm rely on a study by Speit et al.<sup>48</sup> that used the same cell line as the MUV study, without observing genotoxic effects. Somehow they forget to mention that in their study Speit et al. only used the GSM carrier wave at 1800 MHz, which other research groups could not demonstrate any effect, either. In Vienna, however, a modulated GSM radiation was applied. In several studies published since mid-2009 - like in the two Vienna studies - evidence has been provided that this type of radiation has a genotoxic potential<sup>49,50,51,52,53</sup>. This fact, for whatever reasons, is simply ignored by Prof. Lerchl and Prof. Wilhelm.

To cast even more doubt over the Vienna studies of the REFLEX project, Prof. Lerchl and his co-author prefer referring to a study by Scarfi et al.<sup>54</sup> in which 50-Hz ELF electromagnetic fields were studied with no genotoxic effect observed. Meanwhile this question has also been clearly answered by Focke et al.<sup>5</sup>, whose findings have been published in *Mutation Research* at the end of 2009, but they are not mentioned: 50-Hz ELF electromagnetic fields also show a genotoxic potential - as was observed in Vienna. In contrast to other research areas, the comparison of the study results once again confirms that it is much easier for authors of scientifically less convincing studies with negative results to have their studies published in scientific journals than authors of well-substantiated positive results<sup>55</sup>. After all, this is the true reason for the dismal state of mobile phone radiation research as a whole and to a large extent the logical consequence of the peer-review system that is dominated by scientists who are close or even dependent on the mobile phone industry.

It remains to be seen when Prof. Lerchl will start attacking the authors of these more recent publications. Otherwise, his campaign against the Vienna team would have been pointless.

### **The editors of Mutation Research stick to their earlier decision**

Considering the reputation of *Mutation Research* as a scientific journal, as of yet the *Comment* by Prof. Lerchl and Prof. Wilhelm represents the most apparent attack on the significance of the Vienna research findings and the scientific as well as the personal integrity of their authors. This one missed its target, too. Their account, which clearly contradicts the facts, did not prompt the editors of *Mutation Research* to withdraw the paper by Diem et al.<sup>1</sup>. The excessiveness of the attacks should have strengthened their earlier decision with which they had rejected Prof. Lerchl's request as scientifically unfounded. Perhaps they also looked into the motivations that would make Prof. Lerchl's fanatic dedication factually comprehensible, but they could not find a scientifically or morally satisfactory answer. So far nobody has taken *Mutation Research* up by its offer to continue the scientific debate.

### **7. Using a defamation-friendly mobile phone forum finally turns the campaign against the REFLEX findings into mudslinging**

Prof. Lerchl's campaign certainly hit rock bottom when he began using the information centre against mobile communication (IZgMF) for his goals. Starting out as a public forum critical of mobile phone technologies, it has now turned into a medium with a rather dubious reputation for vehemently attacking scientists, medical doctors, and citizens critical of mobile phone technologies. Any person who publicly discusses possible health risks of mobile phone radiation and expresses a dissenting opinion will have to reckon with attacks in which criticism is basically met with defamation. This practice of the forum offered Prof. Lerchl a perfect opportunity to continue his campaign against the Vienna research group at a level that would have repelled any other media that had a minimal sense of fairness. Conflict communication styles not common in science showed up in this dirty forum, and industry-friendly activities can be disguised behind the empty façade of a formerly critical platform. The pull to this forum seemed to be so great for Prof. Lerchl that in May 2008, i.e. shortly after the launch of his campaign, he joined the circle of forum contributors.

#### **Prof. Lerchl turns the allegedly fabricated data of the REFLEX project and the person of Prof. Adlkofer into core issues of the forum**

The IZgMF forum starts discussing the REFLEX project when its final report is released in 2004. In the introduction of a first statement, and we translate<sup>56</sup>:

*Since August 2003 the REFLEX research project must have been a thorn in the side of mobile communication providers. Using live cell cultures, the project justly showed that the radiation of common mobile phones is strong enough to cause serious cell damage. It is still unclear if the results can ever be extrapolated to humans. But if this should be accomplished, the devastating message would be: Mobile phone radiation can cause cancer. The mobile communication industry, therefore, can have no interest whatsoever in seeing the results of the REFLEX project enter their clients' awareness.*

A more intense discussion of the REFLEX project at the IZgMF only occurred when Prof. Lerchl took up this subject since mid-2008. At first, all his interest was exclusively focused on two papers of the Rüdiger team in *Mutation Research* (2005)<sup>1</sup> and *IAOEH* (2008)<sup>2</sup> that he had criticized. Right from the beginning, he leaves no doubt about his conviction that the results of these papers are fabricated and implies that, beside the Vienna team, especially Prof. Adlkofer, the coordinator of the international REFLEX study, is responsible for this. He suspects the latter of lobbyism in favour of the tobacco industry.

The forum member "Doris" summarizes Prof. Lerchl's obvious intention as follows, and we translate:

*After the extensive study of Prof. Lerchl's articles in the Laborjournal, I for myself have come to the conclusion that he does not join a public forum and possibly expects to discuss the study results among experts. The background about Does Dr. Adlkofer still work for the tobacco industry, however, could be discussed or at least these thoughts should be shared.*

Prof. Lerchl replies to this critical comment on 1 May 2008 and shares his thoughts about what made him join the IZgMF forum. The suspicion of "Doris" is confirmed, and we translate:

*My motivation to join a "public forum" has several reasons:*

*1) The study of Schwarz et al. seems to confirm earlier findings of this team around Rüdiger, namely, that mobile phone radiation causes DNA damage. It is **completely irrelevant** in this context whether the damage*

is found in cells (in vitro) instead of animals or humans; had these effects really been observed at as low as 0.05 W/kg SAR, this would certainly have an effect in intact living organism. We are talking about the type of damage here that, otherwise, is only known to occur through ionizing ("radioactive") radiation. This study, however, is riddled with numerous errors, inconsistencies, and inaccuracies (also with respect to earlier findings of the same team), not to mention the lack of an effect mechanism. I, therefore, expected to initiate a discussion about this study **at your forum**, which obviously is somewhat difficult because none of you feels competent enough to **objectively** comment on my points of criticism (positive or negative). But this does not require any special knowledge in biology, but rather some basic knowledge in statistics and logic, and anybody has that. This tells me, however, that a detailed description of the problems and statistical backgrounds is obviously needed, which I hopefully will provide soon through a suitable venue (either at the forum or at my home page).

2) Mr. Adlkofer's motivation etc. was news to me in the form it was discussed in the Laborjournal and casts a new, glaring light on the entire mobile phone debate.

But "Doris" remains skeptical, and we translate:

*Either Dr. Lerchl together with Siegfried Bär is on to something rotten, which with all the mobile phones around us would be very objectionable in view of the emerging public fear. [...] Or a dirty trick is played on Dr. Adlkofer. I am anxious to see whether this issue will be resolved.*

Prof. Lerchl's reply is as elusive as it is ambiguous: *Let's wait and see. Sincerely, Alexander Lerchl.*

### **The course is set for a frontal attack on Prof. Adlkofer**

Only a little later, on 27 June 2008, the webmaster Stephan Schall (to his friends and critics better known under his forum name *Spatenpauli*) addresses Prof. Adlkofer. He asks him to answer six questions that concern the replication study of the Vienna findings by Prof. Primo Schär from Basel University, which is depicted as a failure at IZgMF. Based on his convictions, Prof. Adlkofer replies that - in contrast to Prof. Lerchl's depiction - there is no reason to doubt the credibility of the findings of the REFLEX study or its follow-up study<sup>57</sup>. That there is a campaign against him in the making that is orchestrated from the background by Prof. Lerchl while *Spatenpauli* gets the forum ready, he is unable to anticipate at this time.

In order to effectively heat up the discussion, shortly thereafter Schall adds another question that is hotly debated at the forum: does base station radiation cause health risks? Even though Prof. Adlkofer is more cautious by now and others concluded for quite a time this to be a trap, he is naïve enough to believe that, if someone asks him as a scientist a serious question with the explicit request to answer he must do so. In his posting he takes the view that the current body of evidence altogether is not too convincing, but that some evidence certainly indicates health risks. Puzzled by the aggression aimed at him, Prof. Adlkofer includes in his statement<sup>58</sup> the announcement that he is not planning to continue the discussion at the forum:

*" [...] in the hope that the silent majority of the readers of your forum are capable of distinguishing between all the trash you heap on others and their desire to be objectively informed about the difference between base station radiation and mobile phone radiation, I have decided - despite my dismay about how forum members treat each other online - to answer your final questions. I will not reply to any further requests."*

On 10 July 2009, *Spatenpauli* says thank you for the information, but already predicts that his refusal to continue any further discussion will probably turn out to be a mistake regarding the defence of Prof. Adlkofer's study, and we translate:

*I hear with regret that you will not be available to share further information with me. Considering the serious accusations made against you at the IZgMF forum, I can understand your decision. The forum is not censored so that everybody can make use of his right of freedom of expression as long as he abides by the rules. [...] I, hereby, can only offer all my support to help you post replies. However, I think, I already know that you will neither take me up on my offer nor reply. From my point of view, this is a mistake because, when in an open and uncensored forum the voice of the opposing position keeps silent, this certainly cannot be helpful for the opposing position. Should I be mistaken and you would like to directly reply to one or two accusations, please let me know.*

*KlaKla*, wife of *Spatenpauli* and official operator of IZgMF, explains to the forum members on the very same day what in her opinion has to happen next. The actual hunt begins, and we translate:

*[...] In my opinion, Dr. Adlkofer has shattered the basic trust in science, and for this reason alone, I would as a person in charge not support any other study Adlkofer is involved in. His actions regarding smoking must have consequences. Maybe the SPIEGEL could again stick to his heels and publish an eye-opening article. You should continue to complete the story on the REFLEX research project in the whirlpool of economic interests. Be sure to mention his link to the tobacco industry.*

### ***The conspiracy theory of tobacco against mobile phone industry elicits diverse responses***

Almost as if by chance, another contributor joins the IZgMF forum at this time; Günther Krause from the German non-smoking initiative (NID) is known as a fanatical opponent of tobacco and has pursued Prof. Adlkofer for almost two decades. By his own account, he picked an alias called *Sektor3* out of fear from the tobacco industry. From now on Prof. Lerchl, *Spatenpauli*, and *Sektor3* form a tight trio, assuming different roles but concentrating on the dismantling of Prof. Adlkofer.

In his postings, *Sektor3* compares Prof. Adlkofer with crimes against humanity, similar to Pol Pot and Idi Amin - which goes too far for even *Spatenpauli* so that he decides to delete this posting. But they agree with one another over the common goal to unmask Prof. Adlkofer as fraud acting in the name of the tobacco industry. A sweeping conspiracy theory on the background of the REFLEX project features Prof. Adlkofer as the main character in a scheme of the tobacco industry that allegedly crusades against the mobile phone industry<sup>59</sup>, and we translate:

*It sounds almost unreal: Tobacco multinationals have researchers investigate the disease-causing consequences of mobile phone radiation, not out of their love for humanity, but to be able to present a scapegoat worldwide that is meant to distract from the disease-causing consequences of smoking. The basis for this speculation was the REFLEX study coordinated by Prof. Franz Adlkofer, and because the results were highly alarming caused quite a stir back in 2003: weak electromagnetic fields below the currently valid exposure limits can potentially cause carcinogenic effects, so it said!*

The story continues under the headline: Suspicions grow stronger, and we translate.

*For quite some time, the enormous suspicion was only sheer speculation; there was the plausible motive of distracting with this research, but no concrete facts were to be had. This changed suddenly at the end of May in 2008: For the first time, the Med. University of Vienna informed the public about the justified fraud allegation that had been made against the REFLEX study and a similar follow-up study (UMTS). This gave the suspicion of distraction research new food for thought because this type of research got to be successful: it must find something of concern under all circumstances that can provide for a distraction. If necessary, so the new speculations from back then, the urgently needed alarming finding must be arranged at the expense of the truth. It actually took another year before the thread of the alleged distraction research of the tobacco multinationals was picked up again. At the end of June 2009, a new member with the alias "Sektor3" signs on to the IZGMF forum who stuck to Prof. Adlkofer's heels and meticulously searched for signs that could transform the suspicion of a tobacco-industry-instigated mobile phone distraction research from an idée fixe to a proven fact.*

Intoxicated by the exchange of their ideas, which under *Spatenpauli's* direction turns ever more ludicrous, the three activists increasingly lose their grip on reality. In his posting on called *Clone fraud Hwang belongs in prison* on 1 September 2009, *Sektor3* goes so far as to say, among other things, that Prof. Adlkofer would even outstrip the clone fraud Hwang on the fraud severity scale:

*With this level of experience, Hwang cannot keep up. Adlkofer has corrupted science for decades, bought decision makers, and nobody really pissed on him ever.*

This went too far even for Prof. Adlkofer who until then had responded to defamation with the motto that you cannot fight wars against fools. He enlists the help of a lawyer. Only with the reservation of a prior review as to whether the accusations made were truly unjustified, the IZgMF is willing to delete this posting. Since this apparent concession only seems to discretely continue the invectives, the case has now been decided by the Berlin regional court. We translate the legally binding verdict:

*The forum posting under investigation here [...], when taking the whole picture into account, obviously pursues only one goal, that is, to libel the defendant [Prof. Adlkofer] in a criminal sense by referring to the actual, completely unfounded, and therefore formally offending core message under the headline "Experience with research fraud" while using a pseudo-objective pretext in a particularly perfidious way, stating that the defendant had "corrupted science for decades and bought decision makers...". [...] Thus the entire posting represents an attempt to deeply manipulate a reader's opinion by seriously degrading the personality and the professional recognition of the defendant in this manner; for such an extreme case, there exist no grounds for justification or liability relief.*

Most IZgMF members have adopted the theory of a great conspiracy of the tobacco vs. mobile phone industry developed by Prof. Lerchl, *Spatenpauli*, and *Sektor3*, which does not surprise when considering the intellectual level of many postings at the IZgMF forum. Doubts about this interpretation, however, have also been raised. The greatest opposition was raised by the forum member *wuff*. In his opinion, the text of the discriminating posting was not penned by *Sektor3*, but Prof. Lerchl himself. In his posting called *Assault via remote-controlled missile* from 18 September 2009, one day after the deletion of the defamatory posting had been enforced by a court order, he explains his assumption as follows:

*In the deleted posting, Sektor3 seemed to write in a totally different style than usual, namely, in the smooth style of a professor and at the intelligence level of a university lecturer. This caught my eye because Sektor3 has been trailing me extensively in the past, and he has written in a completely different style back then. Whose posting could Sektor3 have posted under his own name? Only the birds in the fields [Lerchl = Lerche = lark in English] will ever know for certain. Most likely Sektor3 uploaded the posting on behalf of the person who also encouraged him to write his own postings in the first place.*

Even though Prof. Lerchl and *Spatenpauli* respond to this assumption with an outcry of indignation, *wuff* continues to repeat and clarify his assumption several times, for example, on 23 September 2009, and we translate:

*After I had challenged Sektor3 in my posting „Assault via remote-controlled missile“ and rumoured “that he who controls the switch to the remote control of Sektor3, the remote-controlled missile, would know best. Hopefully, the remote control does not get out of control,” it was interestingly enough Lerchl who chimed in. This would be nothing out of the ordinary if Lerchl had not sworn only recently to never read my postings again. If he does not read them himself, someone else must have called his attention to them. This could have been Sektor3 as the front man to the person behind him.*

*Another strange fact is that Sektor3 does not at all deny my assumption that he uploaded a text not authored by him.*

*But: I cannot help myself that everything that Sektor3 writes about tobacco immediately reminds of the suspicious activities of the mobile communication providers, their associations and foundations, and the Bioelectromagnetics “researcher”. From hindsight, in maybe 20 years when the denial of health relevant biological effects has become obsolete, the most important difference between smoke and smog will only be expressed in the number of deaths.*

On 28 September 2009, *wuff* sums it up by saying, that he recognized with certainty beyond all reasonable doubt - based on the style, contents, and above all the level of intelligence - [...], that *Sektor3* himself could not have written the deleted posting. Prof. Adlkofer has also come to the conclusion that *wuff* is right about all three of these evaluation criteria. Another piece of evidence for Lerchl's authorship, he also sees in the fact that Dr. Hwang Woo-Suk had already starred in several of Lerchl's publications where famous fraudsters were lined up, which now also include the Vienna authors thanks to Prof. Lerchl's awareness campaign. And all of this occurred long before Prof. Lerchl used the clueless *Sektor3* for his purposes.

With this and other critical statements, *wuff* assisted in uncovering the true intentions of this strange trio. But, when he was excluded from the forum, he also had learned that the alleged freedom of expression of the open-minded IZgMF may better not violate the interests of those operating the forum.

### ***Prof. Adlkofer stands by his former activity of tobacco research***

The authors have thought long and hard whether to include this chapter, because they fear that its contents could be misunderstood. They would also have preferred to spare the readers the encounter with all kinds of distortions and lapses due to a lack of culture in the media. Finally, though with lingering doubts, they decided to take a stand on this issue. They do not want to leave it to the IZgMF operators and their ally Prof. Lerchl to continue to spread their stories without contradiction. Especially, as both violate in a grotesque way their claim of clarification and democratic opinion-forming.

The conspiracy theory of tobacco vs. mobile phone industry and the major role of Prof. Adlkofer is, in all likelihood, a figment of Prof. Lerchl's imagination. With the help of the IZgMF, he made the ruthless attempt to ruin Prof. Adlkofer as a scientist and as a person with the goal to exclude him from the public discourse about mobile phone radiation for good. Prof. Adlkofer stands by his role in tobacco research. From 1976 to 1992, he was secretary of the German *Research Council Smoking and Health* and at the same time the chair of the science department of the German *Tobacco Industry Association*. A comprehensive documentation of the activities of the *Research Council Smoking and Health*, which included leading German scientists from the medical and natural sciences between 1975 and 1992, is in preparation. While sifting through the American tobacco documents, *Sektor3* only looked for those quotes that after having been taken out of context would serve the purpose of distorting Prof. Adlkofer's image. It may not have been by accident that there are also other quotes that were withheld from his readership as can be found, for example, in the following document<sup>60</sup>:

### ***A Voice of Honesty within the Industry***

*“This document reveals a pivotal moment in 1988 when members of the global tobacco industry came together to talk about the difficulties they faced regarding the issue of environmental tobacco smoke (ETS). Thanks to a*

rare voice of reason from within their ranks, they had an opportunity at this moment to decide between staying their present course of global deception on ETS, or deciding to deal with the issue honestly and realistically. It isn't often you get to see a tobacco industry scientist stand up to the rest of the industry and urge them to deal with reality, but we see it in this document. These are privileged and confidential minutes of a joint industry meeting held in London in 1988. Representatives of the European, Japanese, Canadian, the American and United Kingdom tobacco companies were present. Of particular interest are the statements of German cigarette industry scientist, Dr Adlkofer, who questioned the industry's creation of its own "marketable science." In a stunning departure from typical industry plotting, Dr. Adlkofer stated his view that what the industry was really seeking was "good public relations material, not good science." Dr. Adlkofer further said that "real science" would be "essential if the industry was to prevail on the ETS issue." Admirably, Dr. Adlkofer proved to be a voice of honesty from within the industry. According to these minutes, Dr. Adlkofer "refused to endorse a situation in which scientific research is guided by public relations needs." Moreover, Dr. Adlkofer questioned the wisdom of the industry's present course on ETS. He urged the industry instead to concentrate on identifying a threshold level for risk of ETS exposure. This controversial suggestion instantly caused a flurry of "widespread disagreement" among the meeting's participants. [...] To this Adlkofer responded, "Science cannot propel the industry any further on the ETS issue unless it is able to say that not one person has died from exposure to ETS." There was nothing further added in discussion of this landmark statement."

As this excerpt shows, the tobacco industry expected science to deliver good PR material rather than new knowledge. Dealing with the mobile phone industry teaches us that its way of thinking does not differ from the one of the tobacco industry in the slightest. In the same manner as Prof. Adlkofer took a stand against the abuse of science through the tobacco industry back then, he now opposes similar efforts of the mobile phone industry. His dispute over the activities of Prof. Lerchl is to be understood in this context.

---

## Conclusion

The documentation shows the effort and the methods that Prof. Lerchl has tried to remove two publications of the Medical University of Vienna from the scientific literature, which indicate that mobile phone radiation has a genotoxic potential. It also shows how he failed. Neither scientific ethics commissions nor the editors of two scientific journals could be convinced that the data of the Vienna research group was fabricated.

From this point of view, Lerchl's campaign can be safely considered settled. In spite of his failure, his actions did not remain without consequences for science and for the protection of the public from mobile phone radiation risks.

- According to the motto „semper aliquid haeret“ (something always sticks), the research findings from MUV must be considered damaged goods, although they have now been confirmed multiple times. As a result of the defamation campaign - certainly to the great delight of the mobile phone industry - a major portion of its credibility has been lost.
- The two Austrian ethics commissions in science, which acquitted the Vienna team of the fraud allegation, were also instrumental in this regard. Out of consideration for the high-ranking positions of the slanderous professors Lerchl and Schütz, they questioned the quality of the research findings in an inappropriate manner and to such an extent that their criticism - if it were true - would be equivalent to a devaluation of these findings.

The two commissions had been asked to investigate the fraud allegation only. That they lacked the qualification to also evaluate the scientific dignity of the research findings, which would be a breach of their mandate, becomes clear, if nothing else, in their lack of knowledge regarding the latest body of evidence in this research area. Apart from that, an advanced investigative mandate would not only have required the selection of different commission members, but another question should have been asked: what damage does the campaign cause to the defamed scientists, to the research that studies the risks associated with electromagnetic fields for humans and the environment but also to the public, and what demands should be placed on the liable parties? The course of events shows how susceptible science is to external influences and how this is exploited when specific interests are at work to even rob those research findings, which have been confirmed multiple times, of their deserved importance.

### **The facts about Prof. Lerchl's scientific qualification and his ethical/moral attitude speak a clear language**

The chief culprits for the damage to the Vienna research findings in science and society are Prof. Wolfgang Schütz, rector of MUV, and to an even greater extent Prof. Alexander Lerchl. As far as the rector is concerned, we have already shared our evaluation of him in Part I of the documentation. Prof. Lerchl's drastic actions against the Vienna team and individual members of the group were described in this Part II of the documentation. His activities and the methods he uses raise questions that go far beyond his person and

especially concern his mandate within the radiation protection office in Germany. What right does he have to damage the reputation of the scientists associated with the Vienna studies in such a fundamental way that their professional career would have already been destroyed if only a fraction of the accusations had been true? And does he have such outstanding qualifications that he should feel himself called to disqualify anything that is not in line with his own thinking with the label "junk science"? Or is the opposite true where his huge shortcomings of scientific and ethical competence made it easier for external interests to use him as a means to an end and thus also motivate his highly aggressive approach?

Our documentation confirms the coming together of shortcomings in scientific and ethical qualifications with the exploitation from forces outside of science in a number of points:

- The basis for his claim that research on electromagnetic fields from mobile communication over the past decades could not observe any other biological effect mechanism than heating, Prof. Lerchl has created himself by labelling all research findings of the international scientific community that are not in line with his thinking as "*junk science*."
- Several of his scientific studies within the framework of the German Mobile Telecommunication Research Programme Prof. Lerchl had designed and carried out in such a way that from the beginning it was to be expected that the desired results would support the safety of mobile phone radiation. Occasional outliers, i.e. data that did not meet his expectation, were met with contempt<sup>42,43</sup>. This kind of research approach, however, has nothing to do with science.
- On numerous occasions Prof. Lerchl rated the Vienna research group among the top fraudsters whose activities have shaken the international scientific community. Considering the fact that his fraud allegations could not be confirmed by any of the follow-up investigations, he is guilty of defamation of character.
- The editors of scientific journals and the ethics commissions in science, who dealt with Prof. Lerchl's fraud allegations and were unable to verify them, were arrogantly and heavily criticized by him for the shortcomings of their work and accused of incompetence or even corruption. Beyond the misjudgements and hubris, this is also a testament to his shortcomings in scientific culture.
- In his book *Fraudsters in the Lab and Their Helpers*, which combines a heavy dose of self-praise with the most incredible slanders of his opponents, he offers his services to the mobile phone industry between the lines: he dramatizes the economic impact, which could follow from the Vienna research findings, in order to also evaluate the path of how the issue could be solved with his help.
- For the mudslinging against Prof. Adlkofer at the Internet forum IZgMF, which ended with a crushing defeat for the forum before the court, Prof. Lerchl bears the main responsibility with his obvious backstage involvement. That he made use of the criminal energies of the IZgMF to slander an opponent should be difficult to reconcile with his position in the radiation protection office. Or is it?

That industry and politicians would even get involved with such a support as offered by Prof. Lerchl does not bring honour to either of them, but it is certainly nothing unusual in dealing with science. At the Vienna Symposium in September 2009, Prof. Emilio Bossi, president of the committee "Scientific Integrity" of the Swiss Academies of Arts and Sciences, states that scientists who wrongfully accuse others of data fabrication and thus bring their research findings into disrepute would have to be punished in the same way as those who commit fraud. Prof. Lerchl obviously did not take this statement to heart, which had been following his slanderous presentation. The request made to him to see reason on this occasion he did not follow. Should it not have dawned on the politicians and industry by now that the damage done by this man may have already exceeded the benefit quite some time ago - even from their perspective?

***Prof. Lerchl disqualified himself as the highest ranking German radiation protection officer***

Considering the above-described circumstances, it is only with resignation that we take note of the fact that the Federal Environment Ministry (BMU) has recently confirmed Prof. Lerchl, who lacks both the scientific as well as the personal qualifications for any public office, for another two-year term as chair of the Committee Non-ionizing Radiation. Thus that which had begun a year and a day ago and had reached a new climax a few months ago will continue. In mid-2010 the BfS granted Prof. Lerchl 600,000 euro for a research project that - following his previous intention - will most likely show that mobile phone radiation considerably improves the quality of life of rats. The BMU - of course in agreement with the mobile phone industry - can then deduce that the further expansion of mobile communication technologies will be good for humans.

The continued support of Prof. Lerchl through the BMU and the BfS can only be understood as further evidence that the representatives of these agencies either lack any scientific competence or that they are unable to assume the responsibility for public health because they, together with Prof. Lerchl, are under the control of the mobile phone industry. Recently Prof. Lerchl was informed by the International Agency for Research on Cancer (IARC) in Lyon, the cancer research institute of the WHO, that his participation in the Monograph Team, which will start meeting in May 2011 to investigate the issue whether high-frequency electromagnetic fields have a carcinogenic potential, is not welcome. The IARC explains it as follows: "*Taking the above points into account [consultancy for the German Informationszentrum Mobilfunk; about half of your recent publications are [...]*

*criticisms of studies that suggest harmful effects of exposure to radiation], we feel that your participation would not contribute to a balanced search for consensus within the forthcoming Working Group."*

For ten years BMU and BfS have relied for their advice specifically on Prof. Lerchl and made him the highest ranking radiation protection officer in Germany. Any warnings concerning his person were rejected, evidence as to his dismissal of current scientific knowledge was regularly brushed off with the standard argument that serious risks are not known to BMU or BfS. Now both of these agencies had to have the currently most important international organization regarding radiation protection attest to the fact that Prof. Lerchl has close ties to the industry and is biased. It remains to be seen if the BMU and BfS are willing to accept this public disclosure, owing to Prof. Lerchl's need to talk and justify himself at the dirty IZgMF forum, or if they might take the necessary action after all, even if far too late. If it were not about the health protection of 80 million people who live in Germany, you could simply pity Prof. Lerchl and those who got involved with him - but the seriousness of the situation prohibits any gloating.

---

## References

- <sup>1</sup> Diem E, Schwarz C, Adlkofer F, Jahn O, Rüdiger HW (2005) Non-thermal DNA breakage by mobile phone radiation (1800 MHz) in human fibroblasts and transformed GFSH-R17 rat granulosa cells in vitro. *Mutat Res* 583:178-83.
- <sup>2</sup> Schwarz C, Kratochvil E, Pilger A, Kuster N, Adlkofer F, Rüdiger HW (2008) Radiofrequency electromagnetic fields (UMTS, 1950 MHz) induce genotoxic effects in vitro in human fibroblasts but not in lymphocytes. *Int Arch Occup Environ Health* 81(6):755-67.
- <sup>3</sup> Bär S (25.04.2008) Wer wird hier von der Industrie bezahlt [Who is paid by the industry here]? <http://www.laborjournal.de/rubric/archiv/editorials/304.lasso>
- <sup>4</sup> Lerchl A (26.06.2009) GAU in Wien [Worst-case scenario in Vienna]. <http://www.laborjournal.de/editorials/383.html>
- <sup>5</sup> Focke F, Schuermann D, Kuster N, Schär P (2010) DNA fragmentation in human fibroblasts under extremely low frequency electromagnetic field exposure. *Mutat Res* 683(1-2):74-83.
- <sup>6</sup> Lerchl A (2010) Komische Kometen und die Selbstreinigung der Wissenschaft [Strange comets and how science cleans up its act]. <http://www.laborjournal.de/editorials/425.html>
- <sup>7</sup> Österreichische Agentur für Wissenschaftliche Integrität (23.11.2010) Stellungnahme der Kommission für Wissenschaftliche Integrität zum Fall 2009/01 [Statement of the Commission for Research Integrity on case 2009/01]. <http://www.oewi.at/downloads/Stellungnahme-der-Kommission-20101126.pdf>
- <sup>8</sup> Lerchl A (03.12.2010) Fehlerhafte Ermittlung der Österreichischen Agentur für Wissenschaftliche Integrität (OeAWI) [Flawed investigation of the Austrian Agency for Research Integrity (OeAWI)]. <http://www.laborjournal.de/editorials/467.html>
- <sup>9</sup> Lerchl A (04.01.2011) Aufklärungsverhinderung? <http://www.laborjournal.de/editorials/474.html>
- <sup>10</sup> Originaltext-Service Österreich (20.01.2011) Schwere Anschuldigungen gegen die OeAWI nach REFLEX-Gutachten [Serious accusations against the OeAWI after REFLEX report]. [http://www.ots.at/presseaussendung/OTS\\_20110120\\_OTS0083/schwere-anschuldigungen-gegen-die-oeawi-nach-reflex-gutachten/](http://www.ots.at/presseaussendung/OTS_20110120_OTS0083/schwere-anschuldigungen-gegen-die-oeawi-nach-reflex-gutachten/)
- <sup>11</sup> Lerchl A (07.12.2010) Wem nützt und wem schadet die Kommission der Österreichischen Agentur für Wissenschaftliche Integrität (OeAWI)? [Who benefits and who does not from the Commission of the Austrian Agency for Research Integrity (OeAWI)?] <http://www.laborjournal.de/editorials/474.html> (Link to: Schreiben vom 07.12.2010 an die OeAWI)
- <sup>12</sup> Dworschak M (2008) Beim Tricksen ertappt [Caught at foul play]. *DER SPIEGEL* 22:149. <http://www.SPIEGEL.de/SPIEGEL/print/d-57119391.html>
- <sup>13</sup> IZgMF Forum (26.05.2008) Posting by *Doris*. <http://www.izgmf.de/scripts/forum/index.php?id=21451> (removed due to legal issues)
- <sup>14</sup> Dworschak M (2008) Die Favoritin des Professors [The professor's favorite]. *DER SPIEGEL* 35:148-50. <http://wissen.SPIEGEL.de/wissen/image/show.html?did=59403083&aref=image037/2008/08/23/ROSP200803501480150.PDF&thumb=false..>
- <sup>15</sup> Engelbrecht T (02.01.2009) Der SPIEGEL diffamiert mobilfunkkritische Forscher mit unbewiesenen Infos als Fälscher – und beruft sich dabei auf Personen, die der Telekomindustrie nahe stehen [The SPIEGEL slanders researchers critical of mobile phone radiation as fraudsters with unfounded information - and in this context refers to persons who are close to the mobile phone industry]. <http://www.SPIEGELblog.net/SPIEGEL-bezeichnet-handystrahlen-forscher-vorschnell-als-falscher-ohne-die-beweise-dafur-in-der-hand-zu-haben.html>
- <sup>16</sup> Goebel T (24.11.2008) Rufunterdrückung: Das Sittenbild hinter den angeblich gefälschten Handystudien [Reputation suppression: the morality behind the allegedly fabricated mobile phone studies]. *profil* online. <http://www.profil.at/articles/0847/560/226363/rufunterdrueckung-das-sittenbild-handystudien>
- <sup>17</sup> Medizinische Universität Wien (2008) Endbericht des Rates für Wissenschaftsethik der Medizinischen Universität Wien betreffend Publikationen über erbgutschädigende Wirkungen von Mobilfunkstrahlungen (Causa Alexander Lerchl gegen Elisabeth Diem/Kratochvil et al.) [Final report of the Commission on Ethics in Science at the Medical University of Vienna regarding publications on DNA-damaging effects of mobile phone radiation (Causa Alexander Lerchl vs. Elisabeth Diem/Kratochvil et al.)]. Oddly enough at: [http://www.izgmf.de/endbericht\\_wien.pdf](http://www.izgmf.de/endbericht_wien.pdf)
- <sup>18</sup> Medizinische Universität Wien (2008) Protokoll über die 5. Sitzung des Rates für Wissenschaftsethik am 24.7.2008. [Minutes of the 5th meeting of the Commission on Ethics in Science on 24/7/2008]. Oddly enough at: [http://www.laborjournal.de/editorials/ed425/Protokoll\\_24\\_7\\_08.pdf](http://www.laborjournal.de/editorials/ed425/Protokoll_24_7_08.pdf)

- 
- <sup>19</sup> Lerchl A (2008) Fälscher im Labor und ihre Helfer [Fraudsters in the lab and their helpers]. Books on Demand GmbH. ISBN-13: 9783837063417.
- <sup>20</sup> zur Nieden A (2009) Rezensionen: Fälscher im Labor und ihre Helfer [Reviews: Fraudsters in the lab and their helpers]. Umweltmed Forsch Prax 14(1):38. <http://www.ecomed-medizin.de/sj/ufp/Pdf/aId/10787>
- <sup>21</sup> Schall S (02.01.2009) Kein Waschpulver für die weiße Weste von Weißkitteln Kundenrezension [No laundry powder for the the clean slate of white coats. Client review]. [http://www.amazon.de/F%C3%A4lscher-Labor-ihre-Helfer-Mobilfunk-Studien/dp/3837063410/ref=sr\\_1\\_1?ie=UTF8&s=books&qid=1278674941&sr=1-1](http://www.amazon.de/F%C3%A4lscher-Labor-ihre-Helfer-Mobilfunk-Studien/dp/3837063410/ref=sr_1_1?ie=UTF8&s=books&qid=1278674941&sr=1-1)
- <sup>22</sup> Haberland L (2006) Genotoxische Effekte hochfrequenter Felder – Lektionen aus den widersprüchlichen Ergebnissen [Genotoxic effects of RF radiation – Lessons from conflicting results]. NEWSletter 4:6-8 [http://www.fgf.de/publikationen/newsletter/einzel/NL\\_07-02/Genotoxische\\_Effekte\\_hochfrequenter\\_Felder\\_02-07d.pdf](http://www.fgf.de/publikationen/newsletter/einzel/NL_07-02/Genotoxische_Effekte_hochfrequenter_Felder_02-07d.pdf)
- <sup>23</sup> Forum Mobilkommunikation & Forschungsgemeinschaft Funk e.V. (22.09.2009) Einladung: Handy & Co. Seriöse Forschung oder „Junk Science“? [Invitation: Handy & Co. - Serious research or „junk science“?] [http://www.fgf.de/forschungsprojekte/berichte/workshops/hintergrund/Einladung-JunkscienceWien\\_090901.pdf](http://www.fgf.de/forschungsprojekte/berichte/workshops/hintergrund/Einladung-JunkscienceWien_090901.pdf)
- <sup>24</sup> Forum Mobilkommunikation (23.09.2010) FGF/FMW-Workshop in Wien: Seriöse Forschung oder „Junk Science“? Presseausendung [FGF/FMW Workshop in Vienna: Serious research of „junk science“? Press release]. <http://www.fmk.at/Medien/FMK-Presseausendungen/2009/FGF/FMK-Workshop-in-Wien--Seriose-Forschung-oder--Junk>
- <sup>25</sup> Adlkofer F (2009) Qualitätsstandards wissenschaftlichen Arbeitens in der Mobilfunkforschung [Quality standards of scientific work in mobile radiation research]. In: Unverantwortliche Fälschungen oder unverantwortliche Fälschungsvorwürfe? [Irresponsible fraud or irresponsible fraud allegations]:4-5. <http://www.verum-foundation.de/eu-projekte/reflex.html> (Statement on Vienna Workshop)
- <sup>26</sup> Mosgöller W (2009) Eine Veranstaltung mit kurioseem Einschlag [An event with a peculiar touch]. In: Unverantwortliche Fälschungen oder unverantwortliche Fälschungsvorwürfe? [Irresponsible fraud or irresponsible fraud allegations]: 6. <http://www.verum-foundation.de/eu-projekte/reflex.html> (Statement on Vienna Workshop)
- <sup>27</sup> Slesin L (2009) Corruption in our midst. Microwave News XXIX(10):7. <http://www.microwavenews.com/docs/RealJunkScience.pdf>
- <sup>28</sup> COPE complaint report 2 Sept 2009. <http://www.publicationethics.org> (access only via login)
- <sup>29</sup> Drexler H, Schaller KH (2009) Expression of Concern. Int Arch Occup Environ Health 82:143-4. <http://www.springerlink.com/content/5022080g32010570/fulltext.pdf>
- <sup>30</sup> Baan RA (2009) Editorial. Mutat Res 673:1.
- <sup>31</sup> Lerchl A (2008) Umgang mit kritischen Kommentaren zu veröffentlichten Daten [Dealing with critical comments on published data]. Umweltmed Forsch Prax 13(3):143.
- <sup>32</sup> Rüdiger HW, Adlkofer F (2008) Stellungnahme zu Fälschungsvorwürfen von A. Lerchl sowie zum Leserbrief von H. Drexler und K.H. Schaller betreffend unsere Publikation in *International Archives of Occupational and Environmental Health* [Statement on the fraud allegations by A. Lerchl as well as the letter to the editor by H. Drexler und K.H. Schaller regarding our publication in *International Archives of Occupational and Environmental Health*]. Umweltmed Forsch Prax 13(6):391-2.
- <sup>33</sup> Wolf C (2008) Security considerations in blinded exposure experiments using electromagnetic waves. Bioelectromagnetics 29(8):658-9.
- <sup>34</sup> Kuster N (2008) Comments on the brief communication "Security considerations in blinded exposure experiments using electromagnetic waves" by Christian Wolf. Bioelectromagnetics 29(8):658-9.
- <sup>35</sup> Drexler H, Schaller KH (2008) Kommentar zu A. Lerchl „Umgang mit kritischen Kommentaren zu veröffentlichten Daten“ [Comment on A. Lerchl „Dealing with critical comments on published data“]. Umweltmed Forsch Prax 13(4):261-4.
- <sup>36</sup> Rüdiger HW (2009) Letter to the Editor. Mutat Res 673(1):2.
- <sup>37</sup> Baan RA (2010) Letter of Concern. Mutat Res 695(1-2):1.
- <sup>38</sup> Medical University of Vienna / Schütz W (2008) Letter of retraction. Copy with the authors.
- <sup>39</sup> Adlkofer F (06.06.2008) Letter to the editors of Mutation Research. Copy with the authors.
- <sup>40</sup> Lerchl A, Wilhelm AFX (2010) Critical comments on DNA breakage by mobile-phone electromagnetic fields [Diem et al., Mutat. Res. 583 (2005) 178-183]. Mutat Res 697(1-2):60-5.
- <sup>41</sup> Rüdiger HW, Adlkofer F (2010) Letter to the Editor. Mutat Res 697(1-2):66-7.
- <sup>42</sup> Adlkofer F (2010) Kritischer Kommentar zu A. Lerchl: Untersuchungen zu Wirkungsmechanismen an Zellen unter Exposition mit hochfrequenten elektromagnetischen Feldern in der Mobilfunktechnologie. B. Pinealdrüse [Critical commentary on A. Lerchl: Investigation of mechanisms of action in cells exposed to the high frequency electromagnetic fields of mobile telephone technology. B. pineal gland]. [http://pandora-foundation.eu/downloads/ki\\_2010-08-16\\_gutachten-zu-lerchl\\_en.pdf](http://pandora-foundation.eu/downloads/ki_2010-08-16_gutachten-zu-lerchl_en.pdf) or [http://www.pandora-stiftung.eu/downloads/ki\\_2010-08-16\\_gutachten-zu-lerchl\\_de.pdf](http://www.pandora-stiftung.eu/downloads/ki_2010-08-16_gutachten-zu-lerchl_de.pdf)
- <sup>43</sup> Adlkofer F (2010) Kritischer Kommentar zu A. Lerchl: Beeinflussung der spontanen Leukämierate bei AKR/J-Mäusen durch nieder- und hochfrequente elektromagnetische Felder & *in vivo*-Experimente unter Exposition mit hochfrequenten elektromagnetischen Feldern der Mobilfunkkommunikation. B. Kanzerogenese [Critical commentary on A. Lerchl: Influence of low and high frequency electromagnetic fields on spontaneous leukaemia in AKR/J mice & *in vivo* experiments on exposure to the high frequency electromagnetic fields of mobile telecommunication B. Carcinogenesis]. [http://www.pandora-foundation.eu/downloads/adlkofer\\_gutachten-2\\_20-12-2010\\_eng.pdf](http://www.pandora-foundation.eu/downloads/adlkofer_gutachten-2_20-12-2010_eng.pdf) or [http://www.stiftung-pandora.eu/downloads/bmu\\_gutachten-zu-lerchl.pdf](http://www.stiftung-pandora.eu/downloads/bmu_gutachten-zu-lerchl.pdf)
- <sup>44</sup> Huss A, Egger M, Hug K, Huwiler-Müntener K, Rössli M (2008) Source of funding and results of studies of health effects of mobile phone use: systematic review of experimental studies. Environ Health Perspect 115(1):14-14. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1797826/pdf/ehp0115-000001.pdf>
- <sup>45</sup> Slesin L (2006) Radiation research and the cult of negative results. Microwave News, vol XXVI No. 4. <http://www.microwavenews.com/docs/mwn.7-06.RR.pdf>
- <sup>46</sup> Rüdiger HW (2009) Genotoxic effects of radiofrequency electromagnetic fields. Pathophysiology 16(2-3):89-102.
- <sup>47</sup> Lai H, Singh NP (1996) Single- and double-strand DNA breaks in rat brain cells after acute exposure to radiofrequency electromagnetic radiation. Int J Radiat Biol 69(4): 513-21.
- <sup>48</sup> Speit G, Schutz P, Hoffmann H (2007) Genotoxic effects of exposure to radiofrequency electromagnetic fields (RF-EMF) in cultured mammalian cells are not independently reproducible. Mutat Res 626(1-2):42-7.

- 
- <sup>49</sup> Franzellitti S, Valbonesi P, Ciancagli N, Biondi C, Contin A, Bersani F, Fabbri E (2009) Transient DNA damage induced by high frequency electromagnetic fields (GSM 1.8 GHz) in the human trophoblast HTR-8/SVneo cell line evaluated with the alkaline Comet assay. *Mutat Res* 682(1-2):35-42.
- <sup>50</sup> Xu S, Zhou Z, Zhang L, Yu Z, Zhang W, Wang Y, Wang X, Li M, Chen Y, Chen C, He M, Zhang G, Zhong M (2009) Exposure to 1800 MHz radiofrequency radiation induced oxidative damage to mitochondrial DNA in primary cultured neurons. *Brain Res* 1311:189-96.
- <sup>51</sup> Campisi A, Gulino M, Acquaviva R, Bellia P, Raciti G, Grasso R, Musumeci F, Vanella A, Triglia A (2010) Reactive oxygen species levels and DNA fragmentation on astrocytes in primary culture after acute exposure to low intensity microwave electromagnetic field. *Neurosci Lett* 473(1):52-5.
- <sup>52</sup> Kesari KK, Behari J, Kumar S (2010) Mutagenic response of 2.45 GHz radiation exposure on rat brain. *Int J Radiat Biol* 86(4):224-43.
- <sup>53</sup> Guler G, Tomruk A, Ozgur E, Seyhan N (2010) The effect of radiofrequency radiation on DNA and lipid damage in non-pregnant rabbits and their newborns. *Gen Physiol Biophys* 29(1):59-66.
- <sup>54</sup> Scarfì MR, Sannino A, Perrotta A, Sarti M, Mesirca P, Bersani F (2005) Evaluation of genotoxic effects in human fibroblasts after intermittent exposure to 50 Hz electromagnetic fields: a confirmatory study. *Radiat Res* 164(3):270-6.
- <sup>55</sup> Kuster N (2010) Increasing bias towards false negative replications? *Bioelectromagnetics Newsletter* 217:1.
- <sup>56</sup> IZgMF Meldungen (2004) Forschungsprojekt REFLEX im Strudel wirtschaftlicher Interessen [REFLEX research project in the whirlpool of economic interests]. [http://www.izgmf.de/Aktionen/Meldungen/Archiv\\_04/Reflex-Abschlussbericht/reflex-abschlussbericht.html](http://www.izgmf.de/Aktionen/Meldungen/Archiv_04/Reflex-Abschlussbericht/reflex-abschlussbericht.html)
- <sup>57</sup> Adlkofer F (02.07.2009) Keinen Grund an REFLEX zu zweifeln. Antworten auf Fragen von Stephan Schall (IZgMF) [No reason to doubt REFLEX. Answers to questions by Stephan Schall]. [http://www.diagnose-funk.org/assets/2009-7-2\\_df\\_keinen-grund-an-reflex-zu-zweifeln.pdf](http://www.diagnose-funk.org/assets/2009-7-2_df_keinen-grund-an-reflex-zu-zweifeln.pdf)
- <sup>58</sup> Adlkofer F (09.07.2009) REFLEX und Fragen der Wirkungen. Antworten auf Fragen von Stephan Schall (IZgMF) [REFLEX and questions regarding effects. Answers to the questions by Stephan Schall]. [http://www.diagnose-funk.ch/assets/2009-7-9\\_df\\_reflex-wirkungen.pdf](http://www.diagnose-funk.ch/assets/2009-7-9_df_reflex-wirkungen.pdf)
- <sup>59</sup> IZgMF Forum (01.09.2009) Beitrag von Sektor3 [Posting by Sektor3]. [http://www.izgmf.de/Aktionen/Meldungen/Archiv\\_10/Adlkofer\\_vs\\_IZGMF/adlkofer\\_vs\\_izgmf.html](http://www.izgmf.de/Aktionen/Meldungen/Archiv_10/Adlkofer_vs_IZGMF/adlkofer_vs_izgmf.html) (removed due to legal issues)
- <sup>60</sup> Landman A (no date) A voice of honesty. <http://tobaccodocuments.org/landman/186856.html>