Confidential



Universität Zürich

Mühlegasse 21 8001 Zürich Tel. 044 634 23 20 Fax 044 634 43 79 tinsner@evaluation.uzh.ch www.evaluation.uzh.ch

To the persons involved in the evaluation process of the Brain Research Institute of the University of Zurich

Karen Tinsner
Wissenschaftliche Mitarbeiterin

Zürich, September 3, 2008

Evaluation of the Brain Research Institute of the University of Zurich Written statement on the comprehensive Experts' Report

Dear Sir or Madam,

The Evaluation Office received the report of the external team of experts. According to § 14 of the Regulations for Evaluations, those being evaluated have access to the report and may comment on its content.

The Evaluation Office therefore invites you to comment on the attached Experts' Report, particularly on the areas you are involved in. Statements on the Experts' Report can be written either by the Institute of Brain Research as a whole, by the different status groups or by individuals.

The Experts' Report, together with your statements, will be integrated into the Evaluation Office's final report, on which you will be invited to make a written statement as well. The final report will then, together with your written statements, be forwarded to the relevant authorities, i.e., the Board of the University, the Executive Board of the University and the Dean of the Faculty of Medicine.

The Experts' Report is confidential and may not be passed on to persons not being involved in the evaluation process.

Please send your written statement – a hard copy and, if possible, an electronic version as well – marked «Confidential» by **September 29, 2008** to Karen Tinsner, Evaluationsstelle, Mühlegasse 21, 8001 Zürich or, respectively, by email to tinsner@evaluation.uzh.ch.

If you should have any questions, please feel free to contact me.

Sincerely yours

Karen Tinsner

Enclosure

Expert's Report Evaluation of the Brain Research Institute of the University of Zurich

Overall view

The Brain Research Institute is one of the foremost neuroscience research institutes in the world, and is a credit to the University of Zurich. The experts were greatly impressed by the quality of the research output of the Institute from all its groups, by the high quality of the scientists at all levels, by the excellent technical and management staff, and by the high level of morale and commitment demonstrated by everyone that we met. The Institute functions at the highest international level in both research and education. There is also an almost unique involvement in the translation of reconstructive neurobiology to ongoing clinical trials.

The institute forms part of a vibrant neuroscience community within Zurich, and our discussions revealed interactions between groups and institutes at many levels. However, neuroscience is spread around the city at several locations. There is a new concept of a NeuroTower into which most neuroscience institutions would move. We found a high level of enthusiasm for this plan, both within and outside the Brain Research Institute. We consider this to be an extremely positive development which would greatly strengthen both basic and clinical neuroscience within Zurich.

The Institute has one very large group led by Prof. Martin Schwab, who is also a very central figure within Zurich Neuroscience overall, and who has been responsible for initiating several integrating scientific networks within Zurich, including the Neuroscience Centre and the NCCR. His retirement in 6 years time will leave a huge gap in the Institute and in Zurich overall. We recommend that the Institute starts to consider succession planning now. It will probably not be possible to replace Schwab's group satisfactorily with a very senior group recruited from outside. It makes sense now to consider the appointment or advancement of at least one group in the Institute at assistant professor level or higher. The Institute is an optimal environment to bring on talented young scientists, and if appointed soon the new group or groups will be growing at the time of Prof. Martin Schwab's retirement.

The two other new professorial groups in the Institute, under Professors Mansuy and Helmchen, are both of the highest international standard, and, with newly appointed groups, will ensure that the Brain Research Institute remains at the leading edge of international neuroscience research.

The Institute has a fourth professorship, for which recruitment is currently in progress. This will provide additional opportunities for collaboration between the Institute groups and strengthening of the research strategy.

1 Organization, management, and administration

1.1 Organization, management, administration, working climate

The Institute is managed by a committee of the three Professors, with the directorship rotating approximately every four years. The current director is Professor Isabelle Mansuy. The success of the institute and of its staff and the generally high level of morale speak to successful management. Nevertheless some suggestions for improvements in management style were made by junior and technical staff.

1.2 Main strengths, main weaknesses

Strengths

The strengths of the management are the openness and good relations between the three professors and the staff, and the clear research priorities and direction of the institute. There are resources to achieve most of the aims of the Institute, and in general these are appropriately deployed.

Areas for improvement

Several staff members felt that management could be more open, and that there was insufficient flow of information on management decisions to coworkers at all levels. The management committee consists of the three professors only, with no representatives of the junior group leaders, post-docs, PhD students and technical staff.

The technical, support and management assistant staff point out that their number has not increased with an increase in the size of the Institute and with the demands made upon them.

A regular appraisal process for staff members is not yet in place. The post-docs in particular would welcome regular appraisals with positive suggestions for development and future plans.

Regular financial information is not always provided for groups.

1.3 Recommendations for improvements and changes

There should be regular management meetings at which an elected representative of the post-docs, PhD students and technicians is present. Minutes should be issued which are available to all at the Institute.

If possible the number of workshop, accountancy and computing personnel should be increased. If not, the staff may need more help with prioritizing the demands made upon them.

Regular annual appraisals of Institute staff should be made routine, not just performed when requested.

2 Resources

2.1 Resource management; human resources, financial resources, material resources

In general, compared with competing organizations around the world, the Institute is well provided for. The Professorships are adequately to well supported, there are many sources of funding for research staff, and there are sufficient funds to provide for administrative, technical and animal house support.

2.2 Main strengths, main weaknesses

Strengths

The Professorships are supported by several positions. There is funding available for PhD students and post-docs through several neuroscience initiatives within Zurich. Institute members have been successful in raising outside funds. The Institute is able to afford support staff sufficient to maintain its activities at a high level.

Weaknesses

There is no succession plan for the retirement of Prof. Schwab.

There is no endowment fund built from donations from Foundations and Companies.

The level of University support of the different Professorships is a potential source of friction.

The electronics and mechanical workshops are overstretched, and have difficulty prioritizing demands and delivering work on the timescale requested by scientists.

The accounts administrator is under time pressure, and is not always able to deliver full financial reports when requested.

The IT support staff feel unable to respond on the timescale requested, and lack expertise in Macintosh computers.

For a research post-doc to have to spend a large proportion of his time running the animal house is not acceptable.

The charges made by the animal house are considered to be high by the users.

2.3 Recommendations for improvements and changes

Succession planning for Prof. Schwab should begin now. We recommend that a) fundraising should start now, with the University declaring it a high priority, in order to raise money for a new Assistant or Associate Professorship for at least 5 years. b) the University consider transferring an open position to the Brain Research Institute, c) that a temporary Assistant Professor position be created from an existing or newly created Oberassistent position for a young scientist who will be ready for a permanent position in 6 years time.

Prof. Schwab's Professorship could be replaced with two standard sized positions.

The Institute should be in a very strong position to raise significant funds for future expansion and for its future support. Fundraising should be started.

The support level of Professorships should be regularly reviewed by ETH and the University to match performance and third party funding.

The electronics and mechanical engineering teams have developed specific expertise for the type of research performed within the Institute, so incorporation into a larger campus-wide workshop would probably not be an improvement. Additional mechanical workshop-staff is required.

Each of the Professorships should have a full time administrative assistant instead of sharing. This could provide additional accountancy capability and increase efficiency.

Because of the presence of full-time IT support the level of expectation of users is high. Given suitable written instruction they could probably do more for themselves. The provision of IT support for the Institute needs to be reviewed. It was not clear whether the University's central computing service could provide more help. Some decentralization of this organization to institutes might provide more relevant support.

Organization of the animal house management is required, so that a research post-doc is not running the facility as at present.

Funding of animal houses is an intractable issue worldwide, as required care standards are ramped up. Institute members have made their animal charges much cheaper than the world norm by paying the staff from central Institute funds, and just charging consumable costs to users. It is important that the Institute works out the full economic cost of animal care, and that this figure is placed in grant applications rather than the reduced charges currently in place. For outside and commercial users it is normal to charge a multiple of full economic cost, double or triple. These changes might bring in additional funds to employ more staff.

Some major items of equipment are old and need to be replaced.

3 Research

3.1 General assessment of research, research management

The three professorial groups are excellent on an international rating. The Institute has a clear, coherent and successful research strategy. The spectrum of research spans from basic cellular and molecular biology to translational research including clinical applications in patients. There are additional opportunities for collaborations between the groups which could further augment the impressive research profile of the Institute.

The management structure of the Institute with a rotating directorship is appropriate.

The appointment of a fourth professorship within the Institute needs to be concluded with the appointment of a researcher whose area of research synergises with that of the existing groups.

3.2 Assessment of the research done by the chairs / research groups

3.2.1 Prof. Isabelle Mansuy

Prof. Mansuy's main body of research focuses on the role of protein phosphatases (PPTs) in neuronal plasticity mechanisms that subserve learning and memory. The conceptual framework that guides her work considers the obligatory role of posttranslational modifications in the acquisition and shortterm persistence of memory. These posttranslational modifications involve phosphorylation of synaptic and cell-wide proteins by serine/threonine protein kinases (PKs). Serine/threonine PPTs, by dephosphorylating the phosphorylated targets of the PKs, can reverse the use-dependent cellular change and hence result in unlearning. PPTs could hence be considered as potential "erasers" of memory. Toward that end, Prof. Mansuy pioneered studies of the role of protein phosphatase 1 (PP1) and calcineurin (CaN) in multiple types of learning and memory paradigms in the mouse. More recently, she has expanded her sphere of attention to include the role of epigenetic mechanisms in learning and memory. In this context, Prof. Mansuy studies the role of PPTs in chromatin remodeling as well as the role of environmental factors, including enrichment and stress, on learning and memory capabilities. In her research program, Prof. Mansuy skillfully combines behavioral analysis, molecular biology and neurogenetics.

Prof. Mansuy's research is concerned with very important topics at the cutting edge of molecular biology of memory. She is an international leader in her field. She made several signal discoveries on the role of PPTs in neuronal plasticity. Her publication record is excellent. She has obtained several research grants from within Switzerland, from the Human Frontiers Foundation and from EMBO. We feel that at the current state of her highly successful career, she could take advantage of her rich and fruitful expertise as well as the scientific environment of the Institute to even further enhance her impressive signature in the field. In view of her recent advancing into an increasingly broader front, we think that she could benefit from focusing still further into the specific roles of PPT in cellular mechanisms of learning and memory. Her research could be even further strengthened by enhancing her on-site collaborations, particularly in electrophysiology and imaging. For example, collaboration between Prof. Mansuy and Prof. Helmchen might culminate in a unique contribution to in vivo imaging of plasticity changes that underlie learning and memory, including encoding, consolidation and erasure of memory in the behaving animal. The Institute provides an excellent environment for such synergism. Given the potential usefulness of PPT ligands in modulation of learning and memory, such synergism could also mature into important translational research, which fits the spirit of the Institute as well as the future plans to further integrate basic and clinical research.

3.2.2 Prof. Martin E. Schwab

Professor Schwab is regarded by the international scientific community as one of the strongest neuroscientists at the present time. The research in his group is of the highest standard and in the frontline. His work has been recognised by a series of landmark publications, by several international prizes and medals, and by extensive funding by outside organizations. The work of the Schwab group on inhibitors of fiber regeneration in the injured central nervous system, mainly Nogo-A, continues to be outstanding and world-leading. This research has focused on spinal cord lesions but during recent years, similar studies have extended into the field of cortical plasticity following stroke. The Schwab group performs innovative basic morphological, biochemical, molecular, and behavioral studies with state-of-the-art technologies. The research in the Schwab group has a strong multidisciplinary approach and involves collaborations with many other national or international research groups. Most importantly, the work in the Schwab group has, from an international perspective, a unique and strong translational component involving close

interaction with clinicians as well as with industry. The group has performed extremely careful neurobiological studies on the role of Nogo-A and the effect of anti-Nogo-A delivery in animal models, which provides the necessary basis for clinical application. Combined with the development of the necessary infrastructure in the clinic, where Prof. Martin Schwab in close interaction with clinical colleagues have been instrumental, the research in the Schwab group has lead to the ongoing clinical trials with anti-Nogo-A treatment for patients with spinal cord injury. The future plans exploring, e.g., in more detail Nogo-A mechanisms during development and identifying the Nogo-A receptor, are cutting-edge science. The results obtained by the Schwab group after delivery of anti-Nogo-A in animal models of stroke, indicating that plasticity and functional recovery can be stimulated, raise the possibility that such treatment can also be beneficial for patients with this condition leading to a new clinical application.

3.2.3 Prof. Fritjof Helmchen

Professor Fritjof Helmchen is one of the world's leading experts in highresolution optical imaging in the brain. His major scientific achievements include groundbreaking discoveries on the in vivo function of dendrites of cortical neurons the first assessment of the in vivo function of microglial cells in the brain, the discovery that sulforhodamine 101 is a marker for astrocytes as well as a plethora of new inventions and technical developments in optical imaging. His current work has two major focus points. One of them is the development of imaging approaches that would allow functional analyses of entire cortical circuits, with single cell resolution, in the brains of behaving animals. The preliminary efforts involving the construction of miniaturized two-photon imaging devices are very promising. At present, some of these efforts are limited by the lack of manpower in the infrastructure (workshop, computation). A second line of research is focused on the exploration of the mechanisms of coding and plasticity of cortical networks in health and disease. This latter work is done within his own research group as well as in collaboration with many other groups in Zurich (e.g. Schwab, Nitsch) and elsewhere (e.g. Larkum, Berne; Seibel, Washington University, USA; Wang, Princeton, USA). Prof. Heimchen has managed to build up a strong and well organized laboratory within just a few years after being appointed to the Brain Research Institute in 2005. The potential new interactions with Prof. Mansuy's group could lead to highly original findings in the cellular mechanisms of learning and plasticity in vivo. Although appointed to the medical school, he has strong interactions with the groups in physics and neuroinformatics. His co-affiliation to the Faculty of Science is strongly recommended in order to facilitate registration of PhD students, and because of his expressed interest in teaching basic science students. He is well

integrated in the Neuroscience Community of Zurich and has started numerous promising collaborations. His highly successful scientific activities are documented by an excellent record of publications and by his numerous research grants from within Switzerland and from the EU.

3.2.4 Neurophysiology (Prof. Urs Gerber)

Professor Urs Gerber is a senior scientist with a long-standing expertise in *in vitro* electrophysiology. With his expertise, he is an excellent partner of collaboration for the groups of Prof. Mansuy and Prof. Helmchen. Importantly, he provides his colleagues within and outside the institute with the necessary know how and practical help for the manufacturing of slice cultures, a preparation that was pioneered by his mentor and, now, Emeritus Professor Beat Gähwiler. Prof. Urs Gerber is running a small, but effective research group. He is well supported by several research grants. He is also actively involved in the teaching and examination of physiology for medical students, with a larger teaching commitment than his colleagues.

3.2.5 Neuromorphology

The Neuromorphology section comprises two independent groups. The conditions for developing independence for young group leaders within the Neuromorphology group are judged to be very good. One group leader (Michaela Thallmair) will in one year leave the institute and the other (Olivier Raineteau) has started at the beginning of this year. The work planned in the Raineteau group on neural stem cells has strong potential.

3.3 Main strengths, main weaknesses

Strengths

The research programmes are excellent.

There is a coherent and innovative research strategy.

The research strategy spans from basic to translational.

Weaknesses

Appointment to the fourth professorship has been protracted.

3.4 Recommendations for improvements and changes

The fourth professorship needs to be filled.

The possibility for additional tenure-track assistant professorships should be explored.

The collaboration between groups is good, but there remain unexploited unique possibilities between the three main groups. Inclusion of the junior groups in collaborative links is important and should be promoted.

4 Support for the advancement of young academics/scientists

4.1. General aspects of promotion of young academics/scientists, work situation, success of promotion of young academics/scientists

There is an excellent body of post-docs, originating from many countries. They are well supported and have an excellent opportunity to become trained in state-of-the-art neuroscience, and to progress to good positions in other academic, clinical and industrial institutions. The Institute provides many activities that support the development of post-doc careers.

There is an appropriate male/female ratio amongst the post-docs.

Support for young scientists with families has improved in the past few years, but still falls short of desirable international standards.

We think that the Junior Group Leader track is an excellent selection system. However, we recommend several modifications in the current system, in order to render it even more attractive.

- a. As things stand now, the Junior Group Leaders lack career planning, since their appointment at the Institute is bound to terminate at the end of the 6th year unless they obtain an assistant professorship grant from outside. We think that allowing selected highly successful Junior Group Leaders to proceed into a tenure-track position at the end of the Junior Group Leader period could be of great value in attracting top-notch young investigators as well as in harnessing their experience for the Institute in the long-run.
- b. We sense that Junior Group Leaders may benefit from better mentoring, particularly in the first phase of their joining the Institute.
- c. We were told that in certain cases the annual consumable support for Junior Group Leader was exploited before all the Junior Group Leaders could make use of it. The Institute should consider allotting the consumable support for Junior Group Leaders ad persona to prevent such imbalanced use of the overall budget allotted for that purpose. Furthermore, increasing this allocation might prove highly beneficial for Junior Group Leaders at least at the beginning of their career.

d. Consideration of the specific obstacles facing young women investigators in advancing their career is apt and highly warranted. In our interviews with women scientists in the Institute at various levels of their academic career, we recurrently encountered concerns with respect to the adaptiveness of the milieu to special needs stemming from potential conflicts of family and career. This conflict is likely to impact both genders but in practice is much more prohibitive for women. While we are well aware of the role of the cultural milieu at large in this conflict, we do recommend that the university and the Institute take an initiative toward ameliorating the situation. The scientists perceive the current daycare centre to be inadequate. Provision of a spacious facility that is open for the full working day and without a long waiting list could be of significant help.

4.2 Main strengths, main weaknesses

Strengths

There is an international group of talented and excellent post-doctoral fellows.

There are high quality research opportunities and support for post-docs.

The Junior Group Leader position is an effective selection system; which provides Independence of the Junior Group Leaders while at the same time allowing them to benefit from resources, advice and prestige of host groups.

Weaknesses

No career path on site for Junior Group Leaders, which entails potential deterrence for some excellent young investigators, loss of excellent young investigators for the Institute, and loss of accumulated experience gained on site.

Support for young families still falls short of the best international standards.

4.3. Recommendations for improvements and change

There are additional opportunities for post-doc mentoring.

Allow selected highly successful Junior Group Leaders to proceed into a tenure-track position at the end of the Junior Group Leader term.

Consider more extensive mentoring to Junior Group Leaders, particularly at the beginning of their Junior Group Leader period.

Consider allotting consumable funding ad persona.

Based on our interviews we recommend that the University should take an initiative in providing an advanced, day-long daycare center on campus of sufficient size, to facilitate the working conditions and potential successful career of young faculty members with families, women scientists in particular.

A mentoring programme for female researchers should be provided by the University.

5 Teaching and academic program

Undergraduate teaching

The Brain Research Institute is actively involved in teaching of undergraduate medical and biology students. The basic conditions for teaching are very good. Many undergraduates come to the Institute for practical classes, which are conducted in the research laboratories. At all levels, professors, senior scientists, postdocs and PhD students, there is a very positive attitude to participating in teaching. It is a strength of the Institute, of major value for attracting the best students to further, advanced studies, that research active senior scientists and professors are involved in teaching also of undergraduate students. This involvement should continue because it ensures that lectures and information to students are up-to-date.

A problem is that currently, resources for teaching are taken from research grants. No separate teaching budget is provided by the university. The number of hours used for teaching by Institute members is also in some cases high, especially when they have dual appointments at university and ETH. It is important to identify a budget for teaching, separate from research budget, which provides appropriate support for equipment and consumables which are used for teaching purposes. Also, the number of hours for teaching should be identified for the different positions.

Prof. Helmchen, who is currently appointed only to the medical faculty would benefit from a joint appointment with a basic science faculty.

Postgraduate teaching

The Institute has played a decisive part in the establishment of the International PhD Programme in Neuroscience. The programme provides an excellent set of lectures and practical classes, which provide a solid background training to beginning PhD students. This well-structured programme is regarded as excellent by the PhD students.

The PhD programme at the Brain Research Institute conforms to the best international standards.

PhD students come from a wide international background.

In general the PhD students complete their studies within an appropriate timescale.

Several PhD students complete their studies with high level publications, and many go on to post-doctoral fellowships in excellent laboratories around the world.

The teaching programs have been modified to conform to the Bologna process.

Recommendations for improvements and changes

The department needs a teaching budget for its undergraduate teaching.

A joint appointment in a basic science department would be useful for Prof. Helmchen, to allow him to teach basic science students, and to facilitate registration of PhD students.

Some of the post-docs indicated that they would like more experience in undergraduate teaching.

The involvement of senior scientists in undergraduate teaching is very positive, and should continue.

6 Services

6.1 Academic Services

The Institute is very well equipped with equipment for most of its research projects. There are extensive collaborations from around Zurich and elsewhere, with several visiting scientists within the Institute at any one time. The Institute provides research resources freely, with several outside collaborators commenting on the openness and helpfulness of the scientists. In turn the institute relies on central university facilities for genomics, proteomics and some forms of microscopy. These facilities were thought to be excellent. Less strong were the facilities for the creation of transgenic animals, which are undergoing re-organization at present.

6.2 Other Services

The Institute plays an important role in communication with the public on issues related to brain research, particularly related to spinal cord injury. Prof. Martin Schwab is a well known figure in Switzerland, and is in demand for media appearances. The other Institute members have been involved in media presentations, Brain Fair and other public outreach events. The Institute participates in public education events relating to its role.

6.3 Main strengths, main weaknesses

The Institute is performing its duties admirably in collaborations with other departments. The University Central facilities work well and provide a good service.

The main temporary weakness appears to be in the University transgenic facility, which is currently being re-organized.

6.4 Recommendations for improvements and changes None

7 Evaluation summary

7.1 Overall assessment

The Brain Research Institute is one of the foremost neuroscience research institutes in the world, and is a credit to the University of Zurich and to Swiss science at large. The experts were greatly impressed by the quality of the research output of the Institute from all its groups, by the high quality of the scientists at all levels, by the excellent technical and management staff, and by the high level of morale and commitment demonstrated by everyone that we met. The Institute functions at the highest level in both research and education. There is also an almost unique involvement in the translation of reconstructive neurobiology to ongoing clinical trials.

7.2 Main strengths and main opportunities of the Brain Research Institute

Strengths

The group of Prof. Schwab is one of the world's most prominent neuroscience units. The two newer professorial groups, those of Professors Mansuy and Helmchen, in the Institute are both of the highest international standard, and, with existing and newly appointed groups, will ensure that the Brain Research Institute remains at the leading edge of international neuroscience research.

The Institute is situated in a new purpose-built building that provides optimal research space. It is extremely well equipped, providing an excellent research environment.

Research within the Institute conforms to a strong and coherent strategy, and spans from basic cell and molecular biology to clinical applications. The translation of basic reparative neurobiology to the clinic is almost unique in the world.

The Institute is well supported by infrastructure provided within the Institute itself, and by platforms and facilities in Zurich.

Zurich has a strong and collaborative neuroscience community, of which the Institute is a central component. The existence of the NCCR and the Neuroscience Centre of Zurich within this community provide post-doc and PhD student researchers, and help to integrate neuroscience research.

The Institute recruits excellent post-docs from around the world, and provides them with every opportunity to excel.

The PhD programme within Zurich, of which the Institute is an organizer and a key part attracts highly talented students from around the world and provides them with a truly excellent PhD training.

Opportunities

The Institute forms part of a vibrant neuroscience community within Zurich, and our discussions revealed interactions between groups and institutes at many levels. However, neuroscience is spread around the city at several locations. There is a new concept of a NeuroTower into which most neuroscience institutions would move. We found a high level of enthusiasm for this plan, both within and outside the Brain Research Institute. We consider this to be an extremely positive development which would greatly strengthen both basic and clinical neuroscience within Zurich.

Professor Schwab is such a key figure within the Institute that planning for his succession needs to start soon. Consideration of whether to do this through appointments of advancement at assistant, associate or full professor level or a combination of these will allow the Institute to formulate its future scientific strategy.

As the Institute has grown through raising external funds, a mismatch has developed between the number of scientists and the provision of infrastructure support services. A review of infrastructure support would assist the Institute in its future aims and growth.

8 Recommendations

8.1 Recommendations to the Executive Board of the University

We strongly support the plan for a NeuroTower building to integrate and enhance the interactions between basic science and clinical neuroscience groups within the University. This should further augment the international profile of Zurich neuroscience.

The fourth professorship in the Institute needs to be filled.

The Institute should be in a very strong position to raise significant funds for future expansion and for its future support. Fundraising should be started now.

Succession planning for Prof. Schwab should begin now. We recommend that a) fundraising should start now, with the University declaring it a high priority, in order to raise money for a new Assistant or Associate Professorship for at least 5 years. b) the University consider transferring an open position to the Brain Research Institute, c) that a temporary Assistant Professor position be created from an existing or newly created Oberassistent position for a young scientist who will be ready for a permanent position in 6 years time.

The option of senior professorships for distinguished retired professors should be explored. This could provide the University with a valuable group of expert leaders.

The support level of Professorships should be regularly reviewed by ETH and the University to match performance and third party funding.

As the Institute has grown through raising external funds, a mismatch has developed between the number of scientists and the provision of infrastructure support services.

The in house electronics and mechanical workshops are overstretched. The electronics and mechanical engineering teams have developed specific expertise for the type of research performed within the Institute, so incorporation into a larger campus-wide workshop would probably not be an improvement. Additional mechanical workshop-staff is required.

The provision of IT support for the Institute needs to be reviewed. It was not clear whether the University's central computing service could provide more

help. Some decentralization of this organization to institutes might provide more relevant support.

Some major items of equipment are old and need to be replaced.

The department needs a teaching budget for its undergraduate teaching.

A joint appointment in a basic science department would be useful for Prof. Helmchen, to allow him to teach basic science students, and to facilitate registration of PhD students.

Based on our interviews we recommend that the University should take an initiative in providing an advanced, day-long daycare center on campus of sufficient size, to facilitate the working conditions and potential successful career of young faculty members with families, women scientists in particular.

A mentoring programme for female researchers should be provided by the University.

The scientists complain that parts of the building become unbearably hot due to the absence of air conditioning.

8.2 Recommendations to the Faculty of Medicine

The fourth professorship needs to be filled.

The possibility for additional tenure-track assistant professorships should be explored.

Succession planning for Prof. Schwab should begin now. We recommend that a) fundraising should start now, with the University declaring it a high priority, in order to raise money for a new Assistant or Associate Professorship for at least 5 years, b) the University consider transferring an open position to the Brain Research Institute, c) that a temporary Assistant Professor position be created from an existing or newly created Oberassistent position for a young scientist who will be ready for a permanent position in 6 years time.

Prof. Schwab's Professorship could be replaced with two standard sized positions.

The electronics and mechanical engineering teams have developed specific expertise for the type of research performed within the Institute, so incorporation

into a larger campus-wide workshop would probably not be an improvement. Additional mechanical workshop-staff is required.

The provision of IT support for the Institute needs to be reviewed. It was not clear whether the University's central computing service could provide more help. Some decentralization of this organization to institutes might provide more relevant support.

The potential need for further animal facility capacity needs to be reviewed. Expansion of the facility will probably be necessary in order to facilitate the appointment of further excellent academic staff.

Some major items of equipment are old and need to be replaced.

Allow selected highly successful Junior Group Leaders to proceed into a tenure-track position at the end of the Junior Group Leader term.

Based on our interviews we recommend that the University should take an initiative in providing an advanced, day-long daycare center on campus of sufficient size, to facilitate the working conditions and potential successful career of young faculty members with families, women scientists in particular.

The department needs a teaching budget for its undergraduate teaching.

The involvement of senior scientists in undergraduate teaching is very positive, and should continue

8.3 Recommendations to the Brain Research Institute

The fourth professorship needs to be filled.

The Institute should be in a very strong position to raise significant funds for future expansion and for its future support. Fundraising should be started.

Succession planning for Prof. Schwab should begin now. We recommend that a) fundraising should start now, with the University declaring it a high priority, in order to raise money for a new Assistant or Associate Professorship for at least 5 years, b) the University consider transferring an open position to the Brain Research Institute, c) that a temporary Assistant Professor position be created from an existing or newly created Oberassistent position for a young scientist who will be ready for a permanent position in 6 years time.

Prof. Schwab's Professorship could be replaced with two normally sized positions.

There should be regular management meetings at which an elected representative of the PhD students, post-docs and technicians is present. Minutes should be issued which are available to all at the Institute.

Regular annual appraisals of Institute staff should be made routine, not just performed when requested.

The collaboration between groups is good, but there remain unexploited unique possibilities between the three main groups. Inclusion of the junior groups in collaborative links is important and should be promoted.

Each of the two younger Professors should have a full time administrative assistant instead of sharing. This could also provide additional accountancy capability.

Because of the presence of full-time IT support the level of expectation of users is high. Given suitable written instruction the users could probably do more for themselves. The provision of IT support for the Institute needs to be reviewed. It was not clear whether the University's central computing service could provide more help. Some decentralization of this organization to institutes might provide more relevant support.

Organization of the animal house management is required, so that a research post-doc is not running the facility as at present.

Funding of animal houses is an intractable issue worldwide, as required care standards are ramped up. Institute members have made their animal charges much cheaper than the world norm by paying the staff from central Institute funds, and just charging consumable costs to users. It is important that the Institute works out the full economic cost of animal care, and that this figure is placed in grant applications rather than the reduced charges currently in place. For outside and commercial users it is normal to charge a multiple of full economic cost, double or triple. These changes might bring in additional funds to employ more staff.

If possible the number of workshop, accountancy and computing personnel should be increased. In the meantime the staff may need more help with prioritizing the demands made upon them.

There are additional opportunities for post-doc mentoring.

Consider more extensive mentoring to Junior Group Leaders, particularly at the beginning of their Junior Group Leader period.

Consider allotting consumable funding to Junior Group Leaders ad persona.

Some of the post-docs indicated that they would like more experience in undergraduate teaching.

The involvement of senior scientists in undergraduate teaching is very positive, and should continue.

9 Expert's signatures

	Jari Dali
Place and Date	Prof. Yadin Dudai
21/8/08. Zunich	Janes talt-
Place and Date	Prof. James Fawcett A. Ku
Place and Date	Prof Arthur Konnerth
Place and Date	Prof. Olle Lindvall