Prof. Adriano Aguzzi – MD, PhD hc, DVM hc, FRCP, FRCPath

Born December 1, 1960
Citizen of Italy (Pavia) and of Switzerland (Rorbas)
Married to Monika Landert, MD
Two daughters, Chiara, born 21.10.2004,
and Laura, born 18.6.2008

Currently held positions:

- Professor of Neuropathology (Faculties of Medicine and of Science)
- Chairman, Department of Pathology

- Director, Institute of Neuropathology
- Director, Swiss National Reference Center for Prion diseases

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Institute of Neuropathology
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Education and Training

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Freiburg (D). Internship in Basel (CH) and Freiburg (D).	M.D.	1980-86	Medical School
Columbia University, New York, Dept. of Pathology)		1983	Immunology
Foreign medical graduates Examination in the Medical Sciences USA	ECFMG	1985	Human Medicine
University Hospital of Zürich, CH	Neuro-pathology Board	1986-89	Resident in Neuropathology
Institute of Molecular Pathology, Vienna, A		1989-92	Postdoctoral training in molecular biology

Positions

1993 Attending physician (Oberarzt) and Lecturer (Privat-Dozent) in Pathology and Neuropathology, University of Zürich

1995 Director of the Swiss National Reference Center for Prion Diseases

1997 Ordinarius (Full Professor, tenured) of Neuropathology and Director of the Institute of Neuropathology, University of Zürich.

1998 Joint Professor of the Medical Faculty and Faculty of Natural Sciences, University of Zurich.

2004 Chairman, Department of Pathology, University Hospital of Zurich.

Professional Memberships

- *Swiss Society of Neuropathology* (President: 1998-2002)
- *Royal College of Pathology* (FRCPath) since 1996, Fellow since 2003
- *German Society of Neuropathology*
- *International Society of Neurovirology* (Member of the Board of Directors 1999-2007)
- *International Society of Neuropathology* (Councilor 1997-99)
- *Spongiform Encephalopathy Advisory Committee* to the British Government (1997-2004)
- *Swiss Academy of the Medical Sciences* (SAMW): individual member since 2000
- *Academic Association"Forschung für Leben"* (President since 1999)
- *Italian Society of Virology*: Honorary Member
- *Austrian Academy of Sciences* since 2001: Corresponding member
- *German Academy of Sciences Leopoldina*: Co-opted member since 2001
- *American Society for Microbiology (since 2000)*
- *European Dana Alliance for the Brain, London*
- *Foederatio Medicorum Helvetiae*
- *Medical Society of Zurich*

Honors

Doctor medicinae honoris causa, University of Liége, 2002

Doctor medicinae veterinariae honoris causa, University of Teramo, I, 2005

Doctor scientiae honoris causa, University of Bologna, 2002

Fellow, Royal College of physicians (FRCP), London 2002

German Academy of Science (Leopoldina) Prize, Halle 2001

Medal of the *Royal Swedish Academy of Medicine*, Stockholm 2001

ICAAC Award and Lecture, Chicago 2001

Aschoff Medal, Freiburg 2000

Cameron Lecturer, Birmingham 2000

Robert-Koch-Prize, Berlin 2003

Glaxo Award for Translational Neuroscience, Lisbon 2004

Emil von Behring Lecture, Erfurt 2005

Biotech Award, Milano 2000

Ernst-Jung Prize for Medicine, Hamburg 1999

Tibor Greenwalt Lecturer, San Francisco 1999

EMBO Gold Medal of the European Molecular Biology Organization, Lisbon 1998

Membership to the *European Molecular Biology Organization,* 1998

Cloëtta Award, Zürich 1998

Pfizer Award for Neurobiology, Zürich 1997

Ernst Th. Jucker Prize, Zürich 1995

Marcel-Benoist Prize, Zurich 2004

Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences, Dubai 2004

Ernst Friedheim Lecture, Rockefeller University, New York 2005

Premio A. Feltrinelli, Accademia Nazionale dei Lincei, Rome, 2009

Editorial activities

- Member of the Editorial Board of the following journals:
  - *Science,* Board of Reviewing Editors (BoRE) since 2009
  - *Brain Pathology:* Deputy editor 1994-95, now Member of the Editorial Board.
  - *Nature, Nature Medicine, Lancet, J. Neurosci.:* referee on a regular basis

- *Acta Neuropathol.*
- *Brain Pathology*
- *Cell Death Different. (2002-2006)*
- *European Neurol. (until 2007)*
- *J. Exp. Pathol.('96-'03)*
- *J. Neurovirology*
- *Neuropathol. Appl. Neurobiol.*
- *Pathologica*
- *Transgenics*
- *Virchows Arch. Pathol.*
- *Haematologica (until 2007)*
- *Glia (1998-2003)*
- *Int. J. Cancer (2000-2003)*
- *Trends in Microbiol.*
- *Molecular Aspects of Medicine*
- *Neuromol. Medicine*
- *The Lancet Neurol (2001-03)*
- *J. Mol. Neurosci.*
- *Journal of Neurology*
- *The EMBO Journal (2001-2008)*

- *EMBO Reports (2001-2008)*
- *Neurodegen. Diseases*
- *Nature Reviews Microbiology*
- *PLoS Medicine*
- *Nature Clin. Pract. Neurol.*

Extracurricular activities

- *President, Board of Trustees, The Neuropath Foundation (since 2006)*
- *Chairman, Scientific Advisory Board, Institut Suisse de Recherche Expérimentale sur le Cancer, Epalinges, Switzerland (2002-2007)*
- *Chairman, Scientific Advisory Board, Synapsis Foundation, Zurich, CH*
- *Director, Board of the European Brain Research Institute (since 2003)*
- *Program Director, MD-PhD program, University of Zürich (since 2004)*
- *Member of the following Scientific Advisory Boards:*
  - *Italian Institute of Technology (since 2009)*
  - *Center for Molecular Biology ZMBH, Heidelberg, D (2001-2009)*
  - *Wellcome Trust Neurosciences Committee, UK (2004-5)*
  - *Interdisciplinary Center for Neurosciences, Heidelberg, D (since 2002)*
  - *Julius-Klaus Foundation, Zürich (2001-2006)*
  - *Charles-Rodolphe Brupbacher Foundation, Zürich (1998-2008)*
  - *European Mouse Mutant Archive, Monterotondo, I (since 2000)*
  - *Giovanni Armenise-Harvard Foundation, Boston MA (2004-2008)*
  - *Vienna Fund for Science and Technology, WWTF (since 2003)*
- *Board of Governors (ETH-Rat), Swiss Federal School of Technology (ETH) (2003-2007)*
- *Board of Referees, Human Frontiers Science Program (1997-2001)*
- *Board of Directors, Roche Research Foundation (2003-2008)*
- *Patronage committees:*
  - *Postgraduate Program of the Universities of Zürich and Basel*
  - *Gen-Suisse Foundation, Berne*
  - *Sonnweid Alzheimer Foundation, Wetzikon CH*
- *Board of Trustees, International Forum for TSE and Food Safety, Berne CH*
- *Board of Trustees, Walter and Gertrud Siegenthaler Foundation*
- *TSE/BSE ad hoc Group, European commission, Brussels (1997-2002)*
- *Technical Steering Committee, Functional Genomics Center Zürich*
- *Prions Study Group, International Committee on Taxonomy of Viruses (1999 – 2002)*
- *Swiss Federal Committee for Biological Safety (2000-2001)*
- *Associate Dean for Research, University of Zurich Medical School (2000-2002)*
- *Visiting Professor at the Institute of Psychiatry, King's College, London UK (2000-2002)*
- *Scientific Advisory Board, Istituto di Ricerche Biomediche, Bellinzona (since 2005)*

Patents

- *Aguzzi, A., Klein, M.A., Raeber, A.J., Weissmann, C., Zinkernagel, R.: Diagnostics and therapeutics for transmissible spongiform encephalopathy and method for the manufacture of non-infective blood products and tissue derived products. European Patent Application 97122186.6-1270 / WO9930738A2. Filed Dec. 8, 1997*

- *Aguzzi A., Fischer M.B. : Prion-binding activity in serum and plasma. Filed Sept. 28, 1999*

- *Aguzzi A., Genoud N., Räber A.J.: Soluble hybrid prion proteins and their use in the diagnosis, prevention, and treatment of transmissible spongiform encephalopathies. EP27008-03117. Filed March 14th, 2003*

- *Aguzzi, A.; Miele G.: Surrogate marker for early diagnostic of prion disease. Filed July 7th, 2004*

Scientific Leadership Profile

Career achievements: After high school in Italy, I studied Medicine in Freiburg (Germany). Three years into medical school, I took a leave to do a thesis at Columbia Univ. (NY, USA). This work resulted in 5 peer-reviewed publications. During my subsequent specialty training in Neuropathology, I developed models of glioma induction by gene transfer to telencephalic grafts – a technique that I still teach and use in my current lab. In 1989, I joined Erwin Wagner at the Institute of Molecular Pathology (Vienna), where I continued my studies of neurooncogenesis and neurovirology. Results from this research were published, inter alia, in *Nature*, *Science*, and *Cell*. In 1992 I was recruited as PI to the Institute of Neuropathology at the University Hospital of Zurich, and I had the good fortune to meet Charles Weissmann, thence Director of the Institute of Molecular Biology at the University of Zurich. The first result of our collaboration was the demonstration that the *Prnp* gene is required for prion replication (*Büeler, Aguzzi, Sailer, Greiner, Autenried, Aguet and Weissmann* **Cell** 73:1339-47, '93).

I then showed that PrP^C expression is necessary for development of disease using a system that I had invented a few years earlier (*Aguzzi, Kleihues, Heckl and Wiestler* **Oncogene** 6:113-118, '91): neuronal cells from transgenic mice overexpressing the normal prion protein were grafted into the brain of *Prnp* knockout mice. The manuscript describing these experiments (*Brandner, Isenmann, Raeber, Fischer, Sailer, Kobayashi, Marino, Weissmann and Aguzzi* **Nature** 379:339-43, '96) has garnered >385 citations to date. My interest then shifted to the mechanism by which prions reach the brain. Prions typically enter the body from extracerebral sites, notably in BSE and variant Creutzfeldt-Jakob Disease (CJD). My lab has shown that neuroinvasion (the process by which prions travel through the body and reach the nervous system) relies on expression of PrP^C in non-hematopoietic extracerebral cells (*Blättler, Brandner, Raeber, Klein, Voigtländer, Weissmann and Aguzzi* **Nature** 389:69-73, '97). I proposed that neuroinvasion takes place in distinct steps: first the epithelium is trespassed (*Heppner, Christ, Klein, Prinz, Fried, Kraehenbuhl and Aguzzi* **Nat Med** 7:976-7, '01), then the lymphoreticular system is colonized by the agent, and finally infectivity progresses from lymphoreticular organs to the central nervous system (*Aguzzi and Weissmann* **Nature** 389:795-798, '97) via peripheral nerves(*Glatzel, Heppner, Albers and Aguzzi* **Neuron** 31:25-34., '01).

In order to enable therapeutical and prophylactic approaches, progress in the understanding of pathogenesis should go hand-in-hand with the development of diagnostic procedures. With this in mind, my lab has screened plasma proteins that bind the prion protein. We identified plasminogen as the first such protein (*Fischer, Roeckl, Parizek, Schwarz and Aguzzi* **Nature** 408:479-83., '00; *Maissen, Roeckl, Glatzel, Goldmann and Aguzzi* **Lancet** 357:2026-8., '01). We then found that soluble dimeric prion protein binds selectively PrP^{Sc} and potently inhibits prion replication, and clarified the molecular mechanism of this therapeutic effect: the modified prion protein attaches to the pathological prions, but cannot be converted into a pathological form itself. Therefore, infectious prions are sequestered in an inactive form and cannot replicate (*Meier, Genoud, Prinz, Maissen, Rulicke, Zurbriggen, Raeber and Aguzzi* **Cell** 113:49-60, '03; *Aguzzi and Heikenwalder* **Nature** 423:127-9, '03). More recently, we have established a completely novel prion strain differentiation procedure based on fluorescence spectroscopy (*Sigurdson, Nilsson, Hornemann, Manco, Polymenidou, Schwarz, Leclerc, Hammarstrom, Wuthrich and Aguzzi* **Nat Methods** 4:1023-30, '07), which may lead to sensitive diagnostics of prion diseases.

We then dissected how prions subvert the immune system to gain access to the brain. We demonstrated that B-lymphocytes are required for the spread of the agent (*Klein, Frigg, Flechsig, Raeber, Kalinke, Bluethmann, Bootz, Suter, Zinkernagel and Aguzzi* **Nature** 390:687-90, '97) irrespectively of the presence of the normal prion protein (*Klein, Frigg, Raeber, Flechsig, Hegyi, Zinkernagel, Weissmann and Aguzzi* **Nat Med** 4:1429-33, '98). With Charles Weissmann, we showed that the mechanism of action of B-lymphocytes consist of presentation of lymphotoxin-ß to follicular dendritic cells (FDCs), and that inhibition of this signal transduction pathway can deplete

lymphoreticular organs of prions (*Montrasio, Frigg, Glatzel, Klein, Mackay, Aguzzi and Weissmann* **Science** 288:1257-9, '00). This discovery paved the way to post-exposure prophylaxis strategies (*Aguzzi and Collinge* **Lancet** 350:1519-20, '97) exploiting soluble lymphotoxin-ß receptors. We then showed that positioning of FDCs controls the speed of prion neuroinvasion (*Prinz, Heikenwalder, Junt, Schwarz, Glatzel, Heppner, Fu, Lipp and Aguzzi* **Nature** 425:957-62, '03). But what are the mechanisms by which prions target FDCs? We studied these mechanism and showed that prion uptake is mediated by components of the complement system (*Klein, Kaeser, Schwarz, Weyd, Xenarios, Zinkernagel, Carroll, Verbeek, Botto, Walport, Molina, Kalinke, Acha-Orbea and Aguzzi* **Nat Med** 7:488-92., '01). We also found that neutralizing antibodies can protect against prions (*Heppner, Musahl, Arrighi, Klein, Rulicke, Oesch, Zinkernagel, Kalinke and Aguzzi* **Science** 294:178-82, '01) suggesting the feasibility of antiprion vaccinations.

My interest now focuses onto what happens after prions reach the brain. My laboratory has therefore developed a conditional microglial paralysis model (*Heppner, Greter, Marino, Falsig, Raivich, Hovelmeyer, Waisman, Rulicke, Prinz, Priller, Becher and Aguzzi* **Nat Med** 11:146-52, '05) which was adapted to long-term organotypic brain slices and has enabled us to identify a potent "priolytic" activity of microglia (*Falsig and Aguzzi* **Nat Protoc** 3:555-62, '08; *Falsig, Julius, Margalith, Schwarz, Heppner and Aguzzi* **Nature Neurosci** 11:109-17, '08). Maybe we can only understand what goes wrong in prion diseases by learning the function of the normal prion protein, PrP^C. I have long argued that the toxicity of amino terminally truncated ΔPrP^C (*Shmerling, Hegyi, Fischer, Blattler, Brandner, Gotz, Rulicke, Flechsig, Cozzio, von Mering, Hangartner, Aguzzi and Weissmann* **Cell** 93:203-14, '98) offers a window of entry, since it can be competed by full-length PrP^C – which implies the existence of a common PrP^C receptor (*Weissmann and Aguzzi* **Science** 286:914-5, '99). This area is vigorously pursued at present in my laboratory (*Baumann, Tolnay, Brabeck, Pahnke, Kloz, Niemann, Heikenwalder, Rulicke, Burkle and Aguzzi* **EMBO J** 26:538-47, '07; *Behrens, Genoud, Naumann, Rulicke, Janett, Heppner, Ledermann and Aguzzi* **EMBO J** 21:3652-3658, '02).
My team also monitors prion epidemiology in Switzerland, and has identified a hitherto unexplained rise in CJD incidence in Switzerland (*Glatzel, Rogivue, Ghani, Streffer, Amsler and Aguzzi* **Lancet** 360:139-41., '02). In this context he found surprisingly frequent deposits of PrP^{Sc} in spleen and skeletal muscle of sporadic CJD victims (*Glatzel, Abela, Maissen and Aguzzi* **N Engl J Med** 349:1812-20, '03). This finding is significant for public health, and has instructed prion biosafety regulations. Finally, we have reported a crucial link between prion infections and inflammatory diseases (*Heikenwalder, Zeller, Seeger, Prinz, Klohn, Schwarz, Ruddle, Weissmann and Aguzzi* **Science** 307:1107-10, '05; *Heikenwalder, Kurrer, Margalith, Kranich, Zeller, Haybaeck, Polymenidou, Matter, Bremer, Jackson, Lindquist, Sigurdson and Aguzzi* **Immunity** 29:998-1008, '08). Our subsequent discovery that secretory and excretory organs of mice (*Seeger, Heikenwalder, Zeller, Kranich, Schwarz, Gaspert, Seifert, Miele and Aguzzi* **Science** 310:324-6, '05) and sheep (*Ligios, Sigurdson, Santucciu, Carcassola, Manco, Basagni, Maestrale, Cancedda, Madau and Aguzzi* **Nat Med** 11:S, '05) shed prions when inflamed suggests that chronic inflammation is a decisive cofactor for the horizontal spread of scrapie, chronic wasting disease, and other natural prion infections.

Mentoring: Many of my former students and postdocs were awarded tenured professorships, including S. Brandner (Institute of Neurology, London), M. Glatzel (Hamburg), M. Prinz (Freiburg), F. Heppner (Berlin), A. Behrens (Senior Scientist, Cancer Research UK, London). Others got top company jobs (T. Blättler, Head of Clinical Neurology, Roche). To my knowledge, every Full Professorship in Neuropathology advertised by German Universities in the past 5 years was awarded to former members of my lab. For the past 10 years I have directed the MD-PhD program at the University of Zurich – an activity placing significant demands on my time, yet extremely rewarding. In an outcome analysis carried out by the Swiss Academy of Medical Sciences, >90% of MD-PhD students trained during my program directorship have gone on to highly successful academic careers within exceptionally short time frames. I was always attentive to gender issues in order to actively promote women in science, e.g. through appropriate maternity

arrangements. In 2008 I persuaded the Stavros Niarchos Foundation to endow a Tenure-Track Professorship of Experimental Neuropathology at my institute, which was awarded to Manuela Neumann. Manuela works on frontotemporal dementia and has discovered TDP43 (Neumann, *Science* 2006) as one of its causes; the proximity of her and my laboratory fosters substantial synergies and cross-pollination.

Public understanding of science: I am convinced that public support of science is best secured if scientists take public outreach seriously. Therefore, I have always dedicated a sizeable slice of my time to the public understanding of science. As the president of "Forschung für Leben", a Swiss society dedicated to science popularization, I fostered a "mobile gene lab". In the mid 1990s, when "mad cow disease" galvanized public opinion, I served as an advisor to the Swiss, Italian, and British Governments, and helped shaping prion biosafety regulations. I contributed to public education with newspaper editorials, >30 appearances in TV and radio talk shows, and by organizing "café scientifiques" throughout Switzerland. Also, I intervened in societal discussions around synthetic biology, and played a key role in organizing the scientists' response to the referendum on the "Gene Protection Initiative" (1998), whose stated goal was to interdict all genetic research in Switzerland. Through these efforts, which culminated when I proposed and successfully organized a demonstration of >3'000 scientist in Zurich's main shopping street, I contributed to explaining life science's goal to the broad public and to defeating the prohibitionist referendum. My recollections of these events are laid out in an autobiographical essay published upon conferral of the EMBO Gold Medal 1998 (*Aguzzi* **Embo J** 17:6107-14, '98).

10-Year-Track-Record

The primary approach of my laboratory is to genetically manipulate mice and to determine the effects of the resulting mutations onto diseases of the nervous system. From these mutations we then extract basic mechanisms of disease pathogenesis.

Impact of research: I have published >300 scientific papers, 28 of which appeared in *Nature/Science/Cell* and >80 papers in other *Nature* Journals, *PNAS*, and other top journals in their fields. My work was cited >18'100 times with an average of 38.9 citations per item (Fig. 2). My "h-index" is 69, meaning that 69 of my papers were quoted ≥69 times. Over the past several years I have been the most frequently quoted faculty member at Zurich University Hospital. *Laborjournal* listed me twice as the 1st most cited neuropathologist and the 3rd most cited neuroscientist in German-speaking countries.

Top 10 publications as senior author (only papers published in 2001 or later):

1. Klein MA, Kaeser PS, Schwarz P, Weyd H, Xenarios I, Zinkernagel RM, Carroll MC, Verbeek JS, Botto M, Walport MJ, Aguzzi A. (2001). Complement facilitates early prion pathogenesis. **Nature Medicine** 7:488-492.
2. Heppner FL, Musahl C, Arrighi I, Klein MA, Rulicke T, Oesch B, Zinkernagel RM, Kalinke U, Aguzzi A. (2001). Prevention of Scrapie Pathogenesis by Transgenic Expression of Anti-Prion Protein Antibodies. **Science** 294:178-182.
3. Glatzel M, Abela E, Maissen M, Aguzzi A. (2003). Extraneural pathologic prion protein in sporadic Creutzfeldt-Jakob disease. **New England J Medicine** 349:1812-1820.
4. Meier P, Genoud N, Prinz M, Maissen M, Rulicke T, Zurbriggen A, Raeber AJ, Aguzzi A. (2003). Soluble dimeric prion protein binds PrP(Sc) in vivo and antagonizes prion disease. **Cell** 113:49-60.
5. Prinz M, Heikenwalder M, Junt T, Schwarz P, Glatzel M, Heppner FL, Fu YX, Lipp M, Aguzzi A. (2003). Positioning of follicular dendritic cells within the spleen controls prion neuroinvasion. **Nature** 425:957-962.

6. Heikenwalder M, Polymenidou M, Junt T, Sigurdson C, Wagner H, Akira S, Zinkernagel R, Aguzzi A. (2004). Lymphoid follicle destruction and immunosuppression after repeated CpG oligodeoxynucleotide administration. **Nature Medicine** 10:187-192.
7. Heppner FL, Greter M, Marino D, Falsig J, Raivich G, Hovelmeyer N, Waisman A, Rulicke T, Prinz M, Priller J, Aguzzi A. (2005). Experimental autoimmune encephalomyelitis repressed by microglial paralysis. **Nature Medicine** 11:146-152.
8. Heikenwalder M, Zeller N, Seeger H, Prinz M, Klohn PC, Schwarz P, Ruddle NH, Weissmann C, Aguzzi A. (2005) Chronic lymphocytic inflammation specifies the organ tropism of prions. **Science** 307:1107-1110.
9. Seeger H, Heikenwalder M, Zeller N, Kranich J, Schwarz P, Gaspert A, Seifert B, Miele G, Aguzzi A. (2005). Coincident scrapie infection and nephritis lead to urinary prion excretion. **Science** 310:324-326
10. Heikenwalder M, Kurrer M.O, Margalith I, Kranich J, Zeller N, Haybaeck J, Polymenidou M, Matter M, Bremer J, Lindquist SL, Aguzzi A (2008). Lymphotoxin-dependent prion replication in inflammatory stromal cells of granulomas. **Immunity** 29:998-1008.

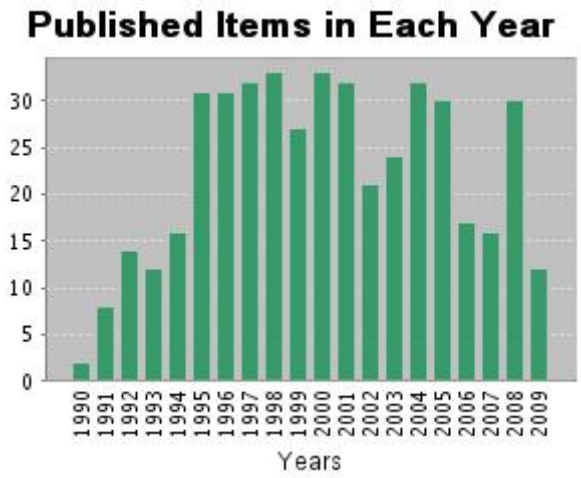
Important papers as senior author dating from before 2001:
1. Brandner S, Isenmann S, Raeber A, Fischer M, Sailer A, Kobayashi Y, Marino S, Weissmann C, and Aguzzi A. (1996). Normal host prion protein necessary for scrapie-induced neurotoxicity. **Nature** 379:339-343.
2. Blättler T, Brandner S, Raeber A.J, Klein M.A, Voigtländer T, Weissmann C, and Aguzzi A. (1997). PrP-expressing tissue required for transfer of scrapie infectivity from spleen to brain. **Nature** 389:69-73.
3. Klein M.A, Frigg R, Flechsig E, Raeber A.J, Kalinke U, Bluethmann H, Bootz F, Suter M, Zinkernagel R.M, and Aguzzi A. (1997). A crucial role for B cells in neuroinvasive scrapie. **Nature** 390:687-690.
4. Fischer M.B, Roeckl C, Parizek P, Schwarz H.P, and Aguzzi A. (2000). Binding of disease-associated prion protein to plasminogen. **Nature** 408:479-483.

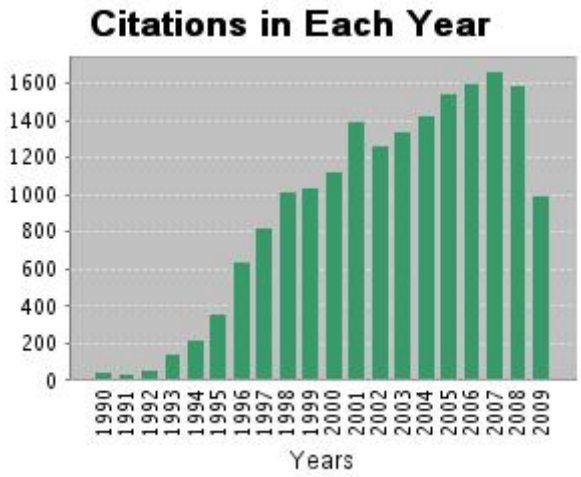
Invited presentations: I have been invited to give >300 public lectures on my research including many keynote or "distinguished" lectures. In addition to scientific seminars, I have lectured on public policies to political assemblies, and I gave lectures to children and high-school students. Some recent lectures are:
- **Plenary Lecture of the American Society of Virology**, Vancouver 2009
- **CNNR Lecture**, Yale, USA, 2009
- **Research Lectures at Nobel Forum**, Stockholm, Sweden, 2008
- **Miami Nature Biotechnology Winter Symposium**, Miami, USA, 2007
- **Cohn Lecture, Harvard Medical School,** Boston, USA, 2006
- **Ernst Friedheim Lecture**, Rockefeller University, New York 2005
- **Emil von Behring Lecture**, Erfurt 2005

Organized conferences. In addition to serving on the scientific committees of many conferences, I have been the main scientific organizer of the following conferences:
- Ernst Klenk Symposium, **Center for Molecular Medicine Cologne**, 2008
- Prion Diseases, **Keystone Symposia**, Snowbird, USA, 2005
- **International Neuropathology Winter Meeting**, St. Moritz, Switzerland, every 2nd year 1994-2008
- The new Prion Biology, **Istituto Veneto di Scienze**, Venice, Italy, every 3rd year 2002-2009
- Course in Neurodegenerative Diseases, **Cold Spring Harbor**, USA, 1998
- Prion biology and biochemistry in vitro and in vivo, **EMBO Practical Course**, 2003

Bibliometric report (as of July 2009)

This report reflects citations to source items indexed within ISI Web of Science. The latest 20 years are displayed.

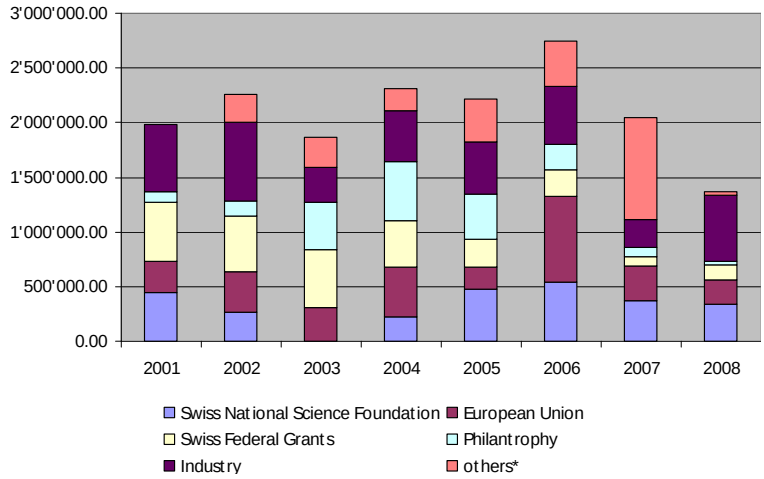




Total Publications:	450
Sum of the Times Cited :	>18’400
Average Citations per Item :	38.18
h-index :	69 (this means that 69 papers have been cited ≥69 times)

Current funding: My laboratory has enjoyed generous funding in the past 15 years. In the past 2 years, however, appropriation has decreased (Fig. 1) partly because BSE is no longer considered a health-care priority. In 2008 I could largely compensate these losses with intensified industrial collaborations – but I have found that "there is no such thing as a free lunch", and partnerships with industry made it more difficult for me to unconditionally follow my scientific curiosity. Accordingly, I am currently intensifying my fundraising efforts towards philanthropic and non-profit resources.

Fig. 1 Non-institutional research funds since 2001



** "others" include grants by the USA Department of Defense and the UK Department for Environment, Food and Rural Affairs.*

2009-2012 Swiss National Science Foundation (CHF 800'000): "Dissecting the interplay between immune cells and their stromal niches with innovative transgenic methods"

2006-2012 Swiss National Science Foundation (CHF 1'764'000): Project funding in investigator-driven research: "Understanding peripheral prion pathogenesis".

2008-2012 Novartis Research Foundation (CHF 3'200'000): "Innovative diagnostics of protein aggregation diseases"

2001-2012 Swiss National Science Foundation (CHF 100'000 p.a.): National Centre of Competence in Research: NCCR Neural Plasticity and Repair

2003-2011 Stammbach Foundation (CHF 750'000): Research program on Alzheimer's disease and related pathologies

2008-2010 Swiss Federal Office of Public Health (CHF 120'000): "Characterization of the prion strains present in Swiss CJD patients"

1999-2009 Swiss Federal Office of Public Health (CHF 100'000 p.a.): National Reference Center for Human Prion Diseases

2006-2009 FP6 European Framework Programme (EUR 357'228): ImmunoPrion, Specific Targeted Research or Innovation Projects: "Strains, Species and Immunology in Prion Diseases"

2005-2009 FP5 European Framework Programme "Food Quality and Safety" (CHF 207'200): NeuroPrion, Integrated Project: "Prevention, Control and Management of Prion Diseases"

Past funding:

2006-2008 FP6 European Framework Programme (EUR 692'800): TSEUR, Specific Targeted Project: "An integrated immunological and cellular strategy for sensitive TSE diagnosis and strain discrimination" (Coordinator)

2005-2008 Swiss National Science Foundation (CHF 377'000): Project funding in investigator-driven research: "The role of the cysteine protease inhibitor Cystatin F in neurodegenerative diseases"

2005-2008 DEFRA – Department for Environment, Food and Rural Affairs, UK (GBP 176'430). "Investigation of sheep scrapie transmission via milk from the inflamed mammary gland"

2005-2008 DEFRA UK (GBP 174'124): "Assessment of candidate secreted surrogate biomarkers for early diagnosis of prion disease in farm animals"

2005-2008 DEFRA UK (GBP 176'430) "Application of the transient Scrapie cell assay (TRASCA) for in vitro detection of ovine and bovine prions"

2003-2007 USA Med Research - Department of Defense (USD 1'500'000); Diagnostic, Prognostic, and Therapeutically Relevant Prion Co-Factors: An Approach Based on Functional Genomics

2003-2007 TR-SFB: Transregio-Sonderforschungsbereich Konstanz-Zürich (CHF 427'500): „Function of the normal prion protein, PrPC, and its homologue Doppel"

2003-2007 Swiss National Science Foundation (CHF 958'375): National Research Programme NPF38^{+}: Characterization of the prion strains present in Swiss Creutzfeldt-Jakob Disease patients

2004-2006 FP5 European Framework Programme "Health"(CHF 220'345): APOPIS, Integrated Project: "Abnormal proteins in the pathogenesis of neurodegenerative disorders"

2001-2006 Swiss Federal Office of Public Health (CHF 2'330'000): "Abklärungen zur Verminderung des Risikos der Übertragung von Prion-Erkrankungen"

2003-2005 Volkswagen Foundation (EUR 300'000): "Cell contact-mediated lineage ablation"

2002-2005 FP5 European Framework Programme "Life/Infectious Diseases" (CHF 48'095): PRIOVAX, RTD Project: "Vaccination against Prion Disease"

2001-2005 FP5 European Framework Programme "Life/Infectious Diseases" (CHF 844'583):PRIONS, RTD Project: "Strategies for the Prevention and Treatment of Prion Disease"

2002-2004 FP5 European Framework Programme "Life/Infectious Diseases" (CHF 304'679): TSELAB, RTD Project: "Human TSEs; The European Diagnostic Laboratory"

2002-2004 FP5 European Framework Programme "Life/Cell Factory" (CHF 624'987): DIADEM, RTD Project: "Early Diagnosis of Alzheimer's Disease and related Dementia"

International collaborations: We have had multiple international collaborations with groups throughout Europe and the USA, Canada, and Japan during the past 15 years. My group has also participated in many EU network grants (see funding synopsis), i.e. we have become well entrenched into of the European research community. I also have been the coordinator of a FP6 European project termed "TSEUR".