

CURRICULUM VITAE

Name: Giuseppe Antonio Legname

Current Title and Department: Associate Professor,
Neuroscience, SISSA

Date and Place of Birth: August 31, 1962 in Gela, Italy

Citizenship: Italian/American

Address: SISSA - Neurobiology Sector,
via Bonomea 265 34136 Trieste – Italy
Phone: +39-040-3787 715
Fax: +39-040-3787 702
E-mail: legname@sissa.it

WWW <http://www.sissa.it/main/?s=Legname&phonly=1>
<http://www.sissa.it/nb/prionlab/>
<http://www.sissa.it/phdgenomics/>

Education:

- 1982-1988 Biological Sciences Laurea (Doctoral Degree in Biochemistry and Molecular Biology), with a thesis entitled: "Produzione e caratterizzazione di anticorpi monoclonali anti tossina colerica e tossina tetanica" (score 109/110), supervisor Professor Giuliana Zanetti at University of Milan, Milan, ITALY.
- 1989-1992 Advanced School of Applied Biotechnology Diploma (Specialist in Applied Biotechnology) with a final score of 50/50, supervisor Professor Bianca M. Ranzi at University of Milan, Milan, ITALY (equivalent to Master in Biotechnology).
- 1993-1997 Doctor of Philosophy with a thesis entitled "Dianthin 30, a ribosome inactivating protein from *Dianthus caryophyllus*", supervisor Professor J. Michael Lord at University of Warwick, Coventry, UK.

Honors and Awards:

- 1982-1988 Science Fellowship from I.C.I. Pharmaceutical, Milan, ITALY.
- 1988-1989 Neuro-Immunology Fellowship from 'Ospedale Maggiore di Milano', Milan, ITALY.
- 1989-1991 Visiting Fellow at Warwick University, Coventry, UK
- 1991-1996 Researcher and Senior Scientist at ITALFARMACO, SpA Research Center, Cinisello Balsamo, (Milan), ITALY.
- 1996-1999 Research Associate at National Institute for Medical Research, Medical Research Council, London, UK
- 1999-2000 Visiting Assistant Researcher at the Department of Neurology/Institute for Neurodegenerative Diseases, Professor Stanley B. Prusiner, University of California at San Francisco, USA.
- 2004 Awarded 1st Place Best Poster Prize at the First International Conference of the European Network of Excellence NeuroPrion, PRION2004, May 24th-28th, Institute Pasteur, Paris, France. "De novo Generation of Mammalian Prions"
- 2008 Awarded Best Poster Prize at the Fifth International Conference of the European Network of Excellence NeuroPrion, PRION2008, October 8th-10th, 2008, Auditorium Hotel, Madrid, Spain. "Developmental role of the prion protein in the nervous system"
- 2011 Awarded Best Poster Prize at the Eighth International Conference on Prion Diseases and Related Disorders, New World, PRION2011, Montreal, Quebec, Canada, May 16th-19th. "Brain delivery of AAV9 expressing anti-PrP molecules delay prion disease onset in mice"
- 2012 Awarded *Premio Città Impresa ai 1.000 fabbricatori di idee del Nordest*, May 2nd, Fiera Vicenza, Vicenza, Italy
- 2012 Awarded Best Poster Prize at the Nineth International Conference on Prion Diseases and Related Disorders, PRION2012, May 9th-12th, 2012 Amsterdam, The Netherlands. "Nanobody stabilize the crystal structure of full-length human PrP"

Professional Activities:

- 2002 Scientific Advisory Member for the NIH-Sponsored Reagent Repository Workshop on Prions
- 2002 Scientific Member of the 2002 National Prion Research Program Review Panel, Department of Defense, United States Army Medical Research

- and Material Command, Congressionally Directed Medical Research Programs
- 2003 Member of the Board for evaluation of PhD candidates, Albert Einstein College of Medicine, Bronx, NY
- 2003-present NIH Grant Reviewer, Manuscript Reviewer for several International Journals (including Science, Nature, Cell, Proceedings of National Academy of Sciences of the USA, Journal of Molecular Biology, Journal of Immunology, Journal of Clinical Investigation, Journal of Neurochemistry, Chemistry & Biology, FASEB Journal, FEBS Journal, Journal of Virology, Journal of General Virology, NeuroReports), EU Grant Reviewer, Italian Agency for Prion Research Reviewer, Polish Medical Research Council Reviewer
- 2007 Member and President of the Board for evaluation of PhD candidates, Università di Padova
- 2008 Scientific Advisory Board Member for EU projects, Scientific Organizer of the International Workshop on 'Human and Animal TSE', June 26-28, 2008, Grado, Italy
- 2008-2010 Faculty at 'Concorsi per l'ammissione al primo anno dei Corsi Ordinari di primo livello della Scuola Superiore di Catania - a.a. 2008-2009 – 2009-2010 – 2010-2011. Classe delle Scienze Sperimentali.'
- 2008-2009 EU Grant Reviewer for Network of Excellence Neuroprion
- 2009 Member and President of the Board for evaluation of PhD candidates, Università di Trieste
- 2009-present Reviewer for Public Library of Science One (PLoS One), Public Library of Science Biology (PLoS Biology) and Public Library of Science Pathogens (PLoS Pathogens)
- 2011-present Guest Editor of Public Library of Science Computational Biology.
- 2011 *Ad hoc* reviewer for Italian Ministry of Education, Universities and Research for Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN)
- 2011 Expert Scientific Evaluator, Skolkovo Foundation, Moscow, Russia
<http://www.sk.ru/en/>
- 2011 Scientific Organizer of the 1st FVG Summer school on Molecular Biomedicine, Date: July 26-29, 2011, Università di Trieste, Trieste, Italy.
- 2012 Scientific Organizer of the 2nd FVG Summer school on Molecular Biomedicine, Date: July 9-13, 2012, Università di Udine, Udine, Italy.
- 2012 *Ad hoc* reviewer for the Polish National Science Centre.

Career History

- 1982-1985 Research Assistant working on circadian rhythm of melatonin in man at the laboratory of the Chair of Chemotherapy, Professor F.Fraschini, at the "Istituto di Farmacologia e Chemioterapia Medica", University of Milan, ITALY.
- 1985-1988 Doctoral experimental thesis on production and characterization of monoclonal antibodies to bacterial toxins at the laboratory of Immunology, Dr. Y.M.Galante, RECORDATI S.p.A., Milan, ITALY.
- 1988-1989 One-year Fellowship on neurological diseases with an auto immune basis, laboratory of Neuroimmunology, Professor E.Nobile-Orazio, at the "Istituto di Clinica Neurologica", University of Milan, ITALY.
- 1989-1991 Visiting Fellow at the laboratory of Plant Biochemistry, Professor J.M.Lord, Department of Biological Sciences, University of Warwick, Coventry, UK, to study some aspects of the molecular biology of N-glycosidase enzymes.
- 1991-1994 Researcher at ITALFARMACO S.p.A. Research Center, Cinisello Balsamo (Milan), ITALY.
- 1994-1996 Senior Scientist at the ITALFARMACO S.p.A. Research Center, Cinisello Balsamo (Milan), ITALY.
- 1996-1999 Research Associate at the Dept. of Molecular Immunology at National Institute for Medical Research (N.I.M.R.), Medical Research Council, The Ridgeway, Mill Hill, London, UK
- 1999-2000 Visiting Assistant Researcher at the Department of Neurology/Institute for Neurodegenerative Diseases, Professor Stanley B. Prusiner, University of California at San Francisco, USA.
- 2000-2004 Assistant Adjunct Professor at the Department of Neurology/Institute for Neurodegenerative Diseases, Professor Stanley B. Prusiner, University of California at San Francisco, USA.
- 2004-2006 Associate Adjunct Professor at the Department of Neurology/Institute for Neurodegenerative Diseases, Professor Stanley B. Prusiner, University of California at San Francisco, USA.
- 2006-present Associate Professor at the Neurobiology Sector, SISSA, Trieste, Italy.
- 2011-present Coordinator of PhD Program in Functional and Structural Genomics SISSA, Trieste, Italy.
- 2012-present Member-elect of Academic Senate, SISSA, Trieste, Italy.

Teaching Experience:

- 1982-1987 Part-time teaching Biology and Mathematics courses at Secondary Schools in Italy.
- 1987-1989 Teaching Biology courses at Independent Psychology School in Milan, Italy.
- 1989-1991 Taught students, visiting scientist, and new coworkers at Plant Biochemistry Laboratory, Warwick University, purification techniques (conventional and HPLC). Advised on protein sample purification, antibody purification and related techniques.
- 1991-1996 Taught research assistants and new coworkers molecular biology techniques in the Immuno-Oncology laboratory of Italfarmaco Research Center.
Supervised British under-graduate students towards experimental thesis on molecular biology and biochemistry projects.
Supervised post-graduate student in developing transgenic models of inflammation.
- 1996-1999 Advisor to postdoctoral fellows and Ph.D. students in several biochemistry and molecular biology projects at the Division of Molecular Immunology at MRC, London, UK
- 1999-2006 Manage research activities carried out by Technical Staff, advisor to postdoctoral scholars in biochemical approaches to identify novel proteins interacting with different form of prion protein.
- 2006-present Advisor to PhD students in Neurobiology, Physics And Chemistry Of Biological Systems and in Structural and Functional Genomics at SISSA.
- 2006-present Teaching Courses on Neurobiology of Disease, Neurodegenerative Diseases, Physiology of Cellular Communication and Signal Transduction for PhD Programs in Functional and Structural Genomics and in Neurobiology at SISSA.
- 2006-2010 Advisor to PhD students in Neurosciences at the Università di Milano-Bicocca.
- 2007 Teaching Course on "Neuropathology of TSEs in man and animals" within the Master of "Diagnostic Applications of Biotechnology" Consorzio Universitario Internazionale - Facoltà di Medicina Veterinaria, Università di Udine.
- 2008/2012 Teaching Course on Neurodegenerative Diseases at University of Medicine and Pharmacy at Ho Chi Minh City, Ho Chi Minh City, Vietnam.

Invited presentations:

- June 19, 1992 3rd International Symposium on Immunotoxins. Sheraton World Resort, Orlando, Florida, USA. "In vitro expression, processing and activity of pre-dianthin 30 and dianthin 30"
- July 9, 1993 22nd FEBS Meeting, Stockholm, Sweden. "Molecular and structural studies on dianthin 30"
- June 15, 1993 6th European Congress on Biotechnology. Firenze, Italy. "Expression and activity of pre-dianthin 30 and dianthin 30"
- May 13, 1999 Infection and Immunity Series, National Institute for Medical Research, MRC, London, UK. "Thymopoiesis in Ick inducible mice"
- October 14, 2002 Lecture at Chiron Corporation, Emeryville, California, USA. "Prion and doppel proteins bind to granule neurons of the cerebellum"
- November 27, 2002 Lecture at Istituto Scientifico San Raffaele, DIBIT, Segrate, Milan, Italy. "Ligands in the brain binding prion and doppel proteins"
- November 28, 2002 Istituto di Biologia e Biotecnologia Agraria del Consiglio Nazionale delle Ricerche, Palazzo L.I.T.A., Segrate, Milan, Italy. "Cooperative binding of prion protein to kringle domains"
- May 30, 2003 Centro de Estudios Avanzados, University of Santiago, Santiago, Spain. Frontiers in Prion Research. "*In vivo* efficacy of quinacrine in mice model of prion disease"
- November 25, 2003 Invited lecture at the Environmental Toxicology Department, University of California Santa Cruz, Santa Cruz, CA, USA. "Prion Protein: Function, Toxicity And Therapy"
- February 12, 2004 Department of Physiology & Biophysics, Albert Einstein College of Medicine, Bronx, New York, NY, USA. "Prion Protein: Function, Toxicity And Therapy"
- April 28, 2004 Annual Meeting of the Biological Safety Affairs Forum, University of California San Francisco, San Francisco, CA, USA. "Recent Advances in Prion Research and Safety Management"
- May 28, 2004 First International Conference of the European Network of Excellence NeuroPrion, Institute Pasteur, Paris, France. "*De novo* Generation of Mammalian Prions"
(Oral presentation for 1st Place Best Poster Award)
- October 4, 2004 Institute of Child Health Series Lectures, University College of London, UK. "Synthetic Mammalian Prions"
- October 21, 2004 Special Lecture at the Department of Chemical Science, University of Catania, Italy. "Synthetic Mammalian Prions"

- January 21, 2005 Invited Speaker at the Annual SOTAB 2005 (State of the Art in Biology), Masters Hall of the Georgia Center for Continuing Education on the University of Georgia Athens Campus, January 21-22, 2005, Athens, Georgia, USA. "Prion Protein: Infectivity, Function and Therapy"
- February 14, 2005 Invited Speaker at the Cambridge Healthtech Institute's 9th Annual Transmissible Spongiform Encephalopathies, February 14-15, 2005, McLean, Virginia, USA. ""*De novo* Generation of Mammalian Prions"
- April 7, 2005 Invited Speaker at the 2nd International Symposium on the New Prion Biology: Basic Science, Diagnosis and Therapy. Istituto Veneto di Scienze, Lettere ed Arti, April 7-9, 2005, Venice, Italy. "*De novo* Generation of Mammalian Prions"
- October 26, 2005 Special Lecture at University of Turin, Dept. of Neuroscience, Turin, Italy. "Synthetic Mammalian Prions"
- November 27-30, 2005 Invitation to attend and present at "Prion Biology: Puzzles and Paradoxes," Banbury Center, Cold Spring Harbor Laboratory, NY, USA. "Synthetic mouse prion transmission studies in mice"
- December 19, 2005 Special Lecture at the Neuroscience Department, Istituto di Ricerche Farmacologiche "Mario Negri", Milan, Italy. "Synthetic Mammalian Prions"
- December 20, 2005 Invited Lecture at CNR Conference on the interaction between prions and soil. Rome, Italy
- April 28, 2006 Invited Lecture at ELETTRA - Sincrotrone Trieste S.C.p.A. di interesse nazionale - AREA Science Park – Trieste, ITALY
- July 16, 2006 Invited Speaker at 'The 10th International Conference on Alzheimer's Disease and Related Disorders', July15-20, 2006, Madrid, Spain. "Transmission studies of mouse synthetic prions"
- September 11, 2006 Invited Speaker at the XVIth INTERNATIONAL CONGRESS OF NEUROPATHOLOGY. September 10-15, 2006, San Francisco, CA, USA. "Synthetic Mouse Prions".
- September 13, 2006 Invited Speaker at the 2006 Sterling Hendricks Memorial Lectureship Award presented to Stanley B. Prusiner at the AGFD Symposium. 232nd American Chemical Society National Meeting. September 10-14, 2006, San Francisco, CA, USA. "Mouse Synthetic Prions"
- October 4, 2006 Invited Speaker at PRION2006. October 4-6, 2006, Turin, Italy. "Less stable prions replicate more rapidly in mice"
- December 15, 2006 Invited Lecture at ICGEB, Padriciano - AREA Science Park – Trieste, ITALY. "Prion Biology and Disease"
- December 21, 2006 Invited Lecture at NMR Center - National Institute of Chemistry, Ljubljana, SLOVENIA. "Structural Insight of Infectious Prions"

- January 31, 2007 SISSA- Neurobiology Sector's seminars. Basovizza, Trieste. "Biosafety in prion diseases"
- March 19, 2007 Invited Lecture at the MIR@W – Winter Term 2006/2007, Prions: Properties, Propagation and Pathology, University of Warwick, Coventry CV4 7AL, United Kingdom. "*In vitro* and *in vivo* mechanism of prion replication"
- May 23, 2007 Workshop on "L'emergenza Mucca Pazza - Status e proposte di ricerca a tutela del comparto agroambientale" Villa Chiozza – Scodovacca (UD). "Mucche pazze, Prioni e Alimentazione"
- September 14-15, 2007 Invited host at Workshop on IPRs and Transfer of Knowledge: from Research Institutions to the Market. University of Trieste, Italy.
- October 4, 2007 Invited Speaker at Consortium of Biomolecular Medicine Retreat, Piancavallo (PN). "Mucche pazze, Prioni e Alimentazione: Necessita' di nuovi interventi diagnostici"
- November 12, 2007 Invited Speaker at Consortium of Biomolecular Medicine Workshop on Intrinsic Structural Disordered Proteins: Functional and Pathological Implications, Trieste, Italy. "Unstructured proteins in neurodegenerative disorders"
- November 20, 2007 Invited Speaker at the conference on "Protezione e valorizzazione della proprietà intellettuale: fatti e miti, opportunità e pericoli", Aula Magna della S.I.S.S.A. - Scuola Internazionale Superiore di Studi Avanzati, Via Beirut 2-4 – Trieste. "Gestione della proprietà intellettuale nel biotech in America e in Italia: due realtà a confronto"
- December 10, 2007 Invited Lecture at the Facoltà di Medicina Veterinaria, Università di Udine, Udine, Italy. "Of Mad Cows and Mad Men: Is the TSE Epidemic Over?"
- February 28, 2008 Invited Lecture at the National Institute for Medical Research, MRC, London, UK. "Prion biology and disease: novel paradigms in protein sciences"
- March 4, 2008 Invited Lecture at the exhibition on "I segreti del corpo" (*I fogli di Windsor di Leonardo da Vinci e il lungo viaggio alla scoperta del nostro corpo*). Centro Trevi and the Università di Bolzano, Bolzano, Italy. "Invecchiamento e cervello". La conferenza riproposta mercoledì 5 alle ore 10.45 presso l'aula magna del liceo scientifico "E.Torricelli" di Bolzano. <http://www.leonardoelcorpo.it>
- March 12, 2008 Invited Lecture at the conference "La prevenzione nei Laboratori di Ricerca" organized by ICGEB (International Centre for Genetic Engineering and Biotechnology), Trieste, Aula Magna della Facoltà di Medicina e Chirurgia, Ospedale di Cattinara, Università degli Studi di Trieste, Trieste, Italy. "La ricerca sui prioni : problematiche di sicurezza in laboratorio"

- March 13, 2008 Invited Lecture at the workshop on “Basi molecolari delle patologie neurologiche: possibili implicazioni diagnostiche e terapeutiche”, Meetings Clinico-Scientifici, Scuola di Specializzazione in Neurologia, Facolta' di Medicina e Chirurgia, Universita' degli Studi di Trieste, Trieste, Italy.
- March 19, 2008 Invited Lecture at Special Event Journal FEST organized within FEST: <http://www.aliasfvg.it/tagnewsdett.php?nzid=1243&tag=giornalismo&tag=fiera&tag=trieste&>
- April 17, 2008 Invited Lecture on “Mechanism of prion protein aggregation leading to infectious prions”, Kolloquien, Department of Virology and Immunology, Deutsches Primatenzentrum, Göttingen, Germany.
- May 15, 2008 Invited Lecture on “Prion Biology: a new paradigm in Protein Science”, at the Dipartimento di Biochimica, Dipartimento di Biologia Evoluzionistica Sperimentale, Scuola di Dottorato in Scienze Biologiche, Biomediche e Biotecnologiche, University of Bologna, Bologna, Italy
- June 9, 2008 Invited Lecture on “Structural requirements for mammalian prion replication”, Department of Chemistry and Biochemistry, University of California - Santa Cruz, Santa Cruz, CA 95064, USA.
- June 25, 2008 Invited Speaker on “*In vitro* prion replication and amplification” at Transmissible Spongiform Encephalopathies, 25-26 June 2008, Corinthia Towers Hotel, Prague, Czech Republic.
- June 28, 2008 Invited Speaker on “*In vitro* and *in vivo* generation of synthetic mammalian prions” at the International Workshop on ‘Human and Animal TSE’, June 26-28, 2008, Grado, Italy.
- August 29, 2008 Invited Speaker at 3° Corso Estivo di Orientamento - Scuola Superiore di Catania - Università degli Studi di Catania Summer School in Catania 25-30 agosto 2008, Catania, Italy.
- September 18, 2008 Invited Speaker at the workshop on “Aspetti Molecolari delle Malattie Neurodegenerative” organized by the ‘Accademia delle Scienze dell'Istituto di Bologna’, University of Bologna, Bologna, Italy.
- October 8-10, 2008 Fifth International Conference of the European Network of Excellence NeuroPrion, PRION2008, October 8th-10th, 2008, Auditorium Hotel, Madrid, Spain. “Developmental role of the prion protein in the nervous system”
(Oral presentation for 1st Place Best Poster Award)
- October 13-14, 2008 Invited Speakear at “Modern Trends in Nanobiology and Nanomedicine” Workshop, October 13th-14th, 2008, ELETTRA Seminar Room, Area Science Park-Basovizza-Trieste.
- November 5, 2008 Invited Lecture “Structural insights into infectivity and stability of synthetic prions”, MRC Prion Unit Department of Neurodegenerative Diseases,

Institute of Neurology, University College London, London, UK.

- November 26, 2008 Invited Speaker on “Solving the prion puzzle with synchrotron radiation” at ELETTRA/Sincrotrone Trieste XVI Users’ Meeting, November 24-26, 2008, I.C.T.P. – Adriatico Guest House, Kasteler Hall, Trieste.
- November 27, 2008 Invited Speaker at the ‘XII° Convegno degli Istituti Zooprofilattici Sperimentali sulle encefalopatie spongiformi animali’, November 27-28, 2008, Sala Conferenze Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d’Aosta, Torino, Italy.
‘Meccanismo molecolare di replicazione dei prioni: una prospettiva strutturale’
- February 10, 2009 Invited Speaker at the Magnetic Moments Pre-Conference: Kick-Off Meeting: East-NMR EU-FP Project Conference venue: Otocec/Slovenia, February 10-11, 2009.
- April 2-4, 2009 Invited Speaker at the 3rd International Symposium On The New Prion Biology: Basic Science, Diagnosis And Therapy. Istituto Veneto di Scienze, Lettere ed Arti, April 2-4, 2009, Venice, Italy. “New Insights into Prion Structure: Exploring New Methods for the Generation of Prions”
- April 28, 2009 Invited Lecture at Institut fur Physikalische Biologie - Heinrich-Heine-Universitaet Duesseldorf, April 28, 2009, Duesseldorf, Germany.
“Prion Protein aggregation and infectivity: a structural perspective”
- May 7, 2009 SISSA COLLOQUIUM May 7th, SISSA, Trieste Italy. “Aging, Neurodegeneration And The New Biology Of Prions”
- May 29, 2009 Invited Lecture at the VIB Department of Molecular and Developmental Genetics KULeuven - Center for Human Genetics, Leuven, Belgium.
“Prion biology and disease”
- June 26, 2009 Oral communication at the INFORMA - Transmissible Spongiform Encephalopathies 2009 conference, June 25-26, 2009, Cologne, Germany. “Investigation of selectively oriented prions confined by atomic force microscopy”
- July 23, 2009 Invited communication at the 3rd International Chronic Wasting Disease Symposium, July 22-24, 2009, Park City, Utah, USA. “Evidence for Soil Humic Substances Interaction with Prions”
- September 4, 2009 Oral communication at the MC2009, International Microscopy Conference, August 30 – September 4, 2009, Graz, Austria. “Modulation of alpha-synuclein aggregation by dopamine analogs”
- October 6, 2009 Invited communication at the Summer School on Dopaminergic Neurons. Leonardo Da Vinci Building, The Abdus Salam International Centre For Theoretical Physics (ICTP), Trieste, Italy. “Modulation of alpha-synuclein aggregation by dopamine analogs”

- December 18, 2009 Invited Lecture at the University of Milan – Bicocca. Milan, Italy. “Prion Biology and Disease”
- May 4, 2010 Invited Lecture at the The German Research School for Simulation Sciences (jointly RWTH Aachen University and Forschungszentrum Jülich). German Research School for Simulation Sciences Jülich, Germany. “Prion Biology and Disease”
- June 10, 2010 Invited communication at the INFORMA - Transmissible Spongiform Encephalopathies 2010 conference, June 10-11, 2010, Cologne, Germany. “*In vitro* assay of prion infectivity: Potential applications in the manufacture of biologicals”
- September 9, 2010 Keynote Lecture at the National Congress of the Italian Chemical Society, Biological Systems Division, San Vito di Cadore, 9-11 September 2010. “Prion Biology and Disease”
- October 11, 2010 Invited Speaker at the Conference on Molecular Aspects of Cell Biology: A Perspective from Computational Physics, The International Centre for Theoretical Physics, 11-15 October 2010, Trieste. “Prion Biology and Disease”
- November 25, 2010 Invited speaker at the “1st National Prion Congress of Spain” hosted by CIC Biogune. 25-26 November, 2010, Bilbao, Spain. “Structural determinants of genetic prion diseases”
- December 22, 2010 Invited speaker at the “Round Table 2, Italy-Russia@Dubna, Space Physics and Biology. 19-23 December, 2010, Dubna, Russia. “Neurodegenerative diseases”
- January 24, 2011 Invited Lecture at the University of Science- Ho Chi Minh City, Vietnam. “Molecular Biology of Prions”
- March 18, 2011 Invited speaker at the Neurodegenerative and Psychiatric Diseases: New Frontiers in Neuroimmunology. Bergamo 16-19 Marzo 2011, Italy “Immunity and Prions”
- April 30, 2011 Invited speaker at The NEURI 2011 – 1ST STUDENTSKI KONGRES NEUROZNANOSTI, 1st Student Neuroscience Congress of the School of Medicine, University of Rijeka, Croatia. “Prion Biology and Disease”
- July 8, 2011 Invited speaker at the Workshop on Structural Bioinformatics and Computational Biophysics. SISSA, July 7-8, 2012. “Common structural traits across pathogenic mutants of the human prion protein”
- October 14, 2011 Invited speaker at the Conference on Nanotechnology for Biological and Biomedical Applications (Nano-Bio-Med) - (10-14 October 2011) the Abdus Salam International Centre for Theoretical Physics (ICTP) of UNESCO and the IAEA, 34151 Trieste, Italy.

- “Structural Traits Of The Prion Protein Via Precise Interfacial Nanostructure Measurements”
- November 10, 2011 Invited Lecture at Seminari di Scienze Pre-Cliniche, Istituto Neurologico Carlo Besta, Sala Riunioni – Sede Di Via Amadeo, 42, Milan, Italy.
“Structural Studies on Prion Proteins and Prions”
- December 14, 2011 Invited presentation at the XIX World Congress on Parkinson’s Disease and Related Disorders. Shanghai, China, December 11th – 14th, 2011.
“Human α -synuclein fibrils induce α -synuclein aggregation *in vitro* and behavioral alteration *in vivo* upon inoculation in wild-type mice”
- January 11, 2012 Invited speaker at the 4th International Conference on the Development of Biomedical Engineering in Vietnam, Ho Chi Minh City, Vietnam, January 8th – 12th, 2012. Computational Medicine Conference.
“Synthetic infectious prions”
- April 5, 2012 Invited Lecture at NMR Center - National Institute of Chemistry, Ljubljana, SLOVENIA. “Sailing unexplored compartments: the tale of anchorless prions”
- April 11, 2012 Invited Lecture at Institute of Computational Science, Università della Svizzera Italiana (USI) - Lugano Campus, Lugano, SWITZERLAND.
“Structural determinants of infectious prions”
- April 20, 2012 Speaker and Chair at the XIV Congress of the Italian Society of Neuroscience – 1st Joint Meeting with the Israel Society of Neuroscience, Catania, Italy, April 19th - 22nd, 2012. Workshop on *Prions as a model for neurodegenerative conditions*. “Synthetic Prions, Anchorless Prion and Structural Determinants of Prion Conversion”
- May 19, 2012 Speaker at BIT’s 3rd Annual World Conference of Neurotalk-2012 – Open the Black Box of Nervous System. May 18th – 20th, Beijing International Convention Center, Beijing, China. “Synthetic Prions, Anchorless Prion and Structural Determinants of Prion Conversion”
- May 22, 2012 Scientific Organizer and Speaker at the International Workshop on Essential Metals in Brain Development and Neurodegeneration. May 21st – 22nd, SISSA, Trieste, Italy. “Prion Protein, Prions and Copper”
- October 3, 2012 Speaker at BrainTrain Workshop on Functional Genomics of Neurodegenerative Diseases - October 3rd, 2012. SISSA, Trieste, Italy.
- October 10, 2012 Invited Lecture at the Department of Neuroscience, Karolinska Institutet. October 10, 2012 - Stockholm, Sweden. “Structural determinants of mammalian prion conversion”.
- October 19, 2012 Invited Lecture at the CIC Biogune. October 19, 2010, Bilbao, Spain.
“Structural determinants of genetic prion diseases”

- October 26, 2012 Invited Lecture at the Riken Brain Science Institute. October 26, 2012, Tokyo, Japan. "Structural determinants of mammalian prion conversion"
- December 6, 2012 Invited Lecture at INSERM, Montpellier, France. "Structural determinants of mammalian prion conversion"
- February 8, 2013 Invited Seminar at Colorado State University, Fort Collins, Colorado, USA. "Structural determinants of prion conversion in the full-length prion protein"
- May 26-29 2013 Speaker at PRION 2013, Banff, Canada. "Synthetic human alpha-synuclein prions"

Memberships and Associations

- ACS American Chemical Society
- AAAS American Association for the Advancement of Science
- The Biochemical Society
- The Protein Society
- SIF Società Italiana di Fisiologia
- SINS Società Italiana di Neuroscienze

Most Significant Recent Publications (since 2003):

C.Ryou, S.B.Prusiner, **G.Legname** (2003) Cooperative binding of dominant-negative prion protein to kringle domains. *J. Mol. Biol.* 329(2), 323-333.

G.Legname, I.V.Baskakov, H.-O.B.Nguyen, D.Riesner, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2004) Synthetic mammalian prions. *Science* 305, 673-676.

G.Legname, H.-O.B.Nguyen, I.V.Baskakov, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2005) Strain-specified characteristics of mouse synthetic prions. *Proc. Natl. Acad. Sci. USA* 102(6), 2168-2173.

J.Kanaani, S.B.Prusiner, J.Diacovo, S.Baekkeskov, **G.Legname** (2005) Recombinant prion protein induces rapid polarization and development of synapses in embryonic rat hippocampal neurons *in vitro*. *J.Neurochem.* 95, 1373-1386.

G.Legname, H.-O.B.Nguyen, D.Peretz, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2006) Continuum of prion protein structures enciphers a multitude of prion isolate-specified phenotypes. *Proc Natl Acad Sci U S A.* 2006 Dec 12;103(50):19105-10. Epub 2006 Dec 1.

M.Polano, A.Bek, F.Benetti, M.Lazzarino, **G.Legname** (2009) Structural Insights Into Alternate Aggregated Prion Protein Forms. *J Mol Biol.* 2009 Nov 13;393(5):1033-42. Epub 2009 Aug 2

D.W.Colby, K.Giles, **G.Legname**, H.Wille, I.V.Baskakov, S.J.DeArmond, S.B.Prusiner (2009) Design and construction of diverse mammalian prion strains. *Proc Natl Acad Sci U S A.* 2009 Dec 1; 106(48):20417-22. Epub 2009 Nov 13.

D.W.Colby, R.Wain, I.V.Baskakov, **G.Legname**, C.G.Palmer, H.O.Nguyen, A.Lemus, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2010) Protease-sensitive synthetic prions. *PLoS Pathog.* 2010 Jan 22; 6(1):e1000736.

S.Benvegnù, I.Poggiolini, **G.Legname** (2010) Neurodevelopmental expression and localization of the cellular prion protein in the central nervous system of the mouse. *J Comp Neurol.* 2010 Jun 1;518(11):1879-91

J.Stöhr, J.C.Watts, **G.Legname**, A.Oehler, A.Lemus, H.-O.B.Nguyen, J.Sussman, H.Wille, S.J.DeArmond, S.B.Prusiner, K.Giles (2011) Spontaneous generation of anchorless prions in transgenic mice. *Proc Natl Acad Sci U S A.* 2011 Dec 27;108(52):21223-8. Epub 2011 Dec 12.

I.Biljan, G.Giachin, G.Ilc, I.Zhukov, J.Plavec, **G.Legname** (2012) Structural basis for the protective effect of the human prion protein carrying the dominant-negative E219K polymorphism. *Biochem J.* 2012 Sep 1;446(2):243-51. doi: 10.1042/BJ20111940.

M.D.Caiati, V.F.Safiulina, G.Fattorini, S.Sivakumaran, **G.Legname**, E.Cherubini (2013) PrPC Controls via Protein Kinase A the Direction of Synaptic Plasticity in the Immature Hippocampus. *J Neurosci.* 2013 Feb 13;33(7):2973-83. doi: 10.1523/JNEUROSCI.4149-12.2013.

List of Publications

Original Articles

- 1) P. Lissoni, M. Resentini, R.Mauri, D.Esposti, D.Rossi, **G.Legname** and F.Fraschini (1986) Effects of tetrahydrocannabinol on melatonin secretion in man. *Hormone Metab. Res.* 18, 77-8.
- 2) P.Lissoni, M.Resentini, R.Mauri, C.Demedici, F.Morabito, D.Esposti, L.Di Bella, G.Esposti, D.Rossi, **G.Legname** and F.Fraschini (1986) Effect of an acute injection of melatonin on the basal secretion of hypophyseal hormones in prepubertal and pubertal healthy subjects. *Acta Endocrinol.* 111, 305-311.
- 3) Y.M.Galante and **G.Legname** (1988) Purificazione di proteine di mammifero in biotecnologia. *Chimica-Oggi* 1/2, 67-72.
- 4) G.Racchetti, R.Comitti, G.Fossati, D.Modena, S.Putignano, P.Gnocchi, **G.Legname** and Y.M.Galante (1988) Strategy for the production of murine monoclonal antibodies to polypeptide hormones and to bacterial toxins. *Chimica-Oggi* 10, 41-50.
- 5) E.Nobile-Orazio, E.Francomanno, R.Daverio, M.Carpo, S.Barbieri, P.Marmioli, E.Manfredini, M.Carpo, M.Moggio, **G.Legname**, L.Baldini and G.Scarlato (1989) Anti-MAG IgM titers in neuropathy associated with macroglobulinemia. *Ann. Neurol.* 26, 543-550.
- 6) E.Nobile-Orazio, **G.Legname**, R.Daverio, M.Carpo, A.Giuliani, S.Sonnino and G.Scarlato (1990) Motor neuron disease in a patient with a monoclonal IgMk directed against GM1, GD1b and high molecular weight neural-specific glycoproteins. *Ann. Neurol.* 28, 190-194.
- 7) E.Nobile-Orazio, M.Carpo, **G.Legname**, N.Meucci, S.Sonnino and G.Scarlato (1990) Anti-GM1 IgM antibodies in motor neuron disease (MND) and neuropathy. *Neurology* 40, 1747-1750.
- 8) **G.Legname**, P.Bellosta, G.Gromo, D.Modena, J.N.Keen, L.M.Roberts and J.M.Lord (1991) Nucleotide sequence of dianthin 30 cDNA: a ribosome inactivating protein from *Dianthus caryophyllus*. *Biochem. Biophys. Acta* 1090, 119-122.
- 9) M.R.Hartley, **G.Legname**, R.Osborn, Z.Chen and J.M.Lord (1991) Single chain ribosome inactivating proteins from plants depurinate Escherichia coli 23S ribosomal RNA. *FEBS Lett.* 290, 65-68.
- 10) **G.Legname**, G.Gromo, J.M.Lord, N.Monzini and D.Modena (1993) Expression and activity of pre-dianthin 30 and dianthin 30. *Biochem. Biophys. Res. Comm.* 192, 1230-1237.
- 11) N.Monzini, **G.Legname**, F.Marcucci, G.Gromo and D.Modena. (1994) Identification and cloning of human chaperonin 10 homologue. *Biochem. Biophys. Acta* 1218, 478-480.
- 12) G.Bravi, **G.Legname** and A.W.E. Chan (1995) Substrate recognition by ribosome-inactivating protein studied by molecular modelling and molecular electrostatic potential. *J. Mol. Graph.* 13, 83-88.
- 13) A.Bolognesi, P.L.Tazzari, **G.Legname**, F.Olivieri, D.Modena, R.Conte and F.Stirpe (1995) Anti-CD30 immunotoxins with native and recombinant dianthin 30. *Cancer Immunol. Immunother.* 40, 109-114.

- 14) M.A.Bonardi, E.Giovanetti, **G.Legname**, G.Fossati, G.Porro, G.Gromo, D.Modena and F.Marcucci (1995) Cochaperonins are histone-binding proteins. *Biochem. Biophys. Res. Comm.* 206, 260-265.
- 15) **G.Legname**, G.Fossati, G.Gromo, N.Monzini, F.Marcucci and D.Modena (1995) Expression in *Escherichia coli*, purification and functional activity of recombinant human chaperonin 10. *FEBS Lett.* 361, 211-214.
- 16) **G.Legname**, G.Fossati, N.Monzini, G.Gromo, F.Marcucci, P.Mascagni and D.Modena (1995) Heterologous expression, purification, activity and conformational studies of different forms of dianthin 30. *Biomed. Pept. Proteins Nucl. Acids* 1, 61-68.
- 17) G.Fossati, P.Lucietto, P.Giuliani, A.M.R.Coates, S.Harding, H.Coelfen, **G.Legname**, E.Chan, A.Zaliani and P.Mascagni (1995) Mycobacterium tuberculosis chaperonin 10 forms stable tetrameric and heptameric structures: implication for its diverse biological activities. *J. Biol. Chem.* 270, 26159-26167.
- 18) **G.Legname**, P.Buono, G.Fossati, N.Monzini, P.Mascagni, D.Modena and F.Marcucci (1996) Evidence for GroES acting as a transcriptional regulator. *Biochem. Biophys. Res. Comm.* 229, 412-418.
- 19) S.Fabbrini, E.Rappociolo, D.Carpani, M.Solinas, B.Valsasina, U.Breme, U.Cavallaro, A.Nykjaer, E.Rovida, **G.Legname** and M.Soria (1997) Characterization of a saporin isoform with lower ribosome-inhibiting activity. *Biochem. J.* 322, 719-727.
- 20) M.Minto, G.Galli, I.Eberini, **G.Legname**, G.Fossati, D.Modena, F.Marcucci, P.Mascagni, P.Ghezzi, and M.Fratelli (1998) Mycobacterial cpn10 promotes recognition of the mammalian homologue by a mycobacterium-specific antiserum. *Biochem. Biophys. Acta* 1403, 151-157.
- 21) **G.Legname**, B.Seddon, M.Lovatt, P.Tomlinson, N.Sarner, M.Tolaini, K.Williams, T.Norton, D.Kioussis, R. Zamoyska (2000) Inducible expression of a p56Lck transgene reveals a central role for Lck in the differentiation of CD4 SP thymocytes. *Immunity* 12(5), 537-546.
- 22) I.Lorenzetti, A.Meneguzzi, G.Fracasso, C.Potrich, L.Costantini, E.Chiesa, **G.Legname**, G.Menestrina, G.Tridente, M.Colombatti (2000) Genetic grafting of membrane-acting peptides to the cytotoxin dianthin augments its ability to de-stabilize lipid bilayers and enhances its cytotoxic potential as the component of transferrin-toxin conjugates. *Int. J. Cancer* 86(4), 582-589.
- 23) M.A.Basson, T.J.Wilson, **G.A.Legname**, N.Sarner, P.D.Tomlinson, V.L.Tybulewicz and R.Zamoyska (2000) Early growth response (Egr)-1 gene induction in the thymus in response to TCR ligation during early steps in positive selection is not required for CD8 lineage commitment. *J. Immunol.* 165(5), 2444-2450.
- 24) B.Seddon, **G.Legname**, P.Tomlinson, and R.Zamoyska (2000) Long-term survival but impaired homeostatic proliferation of naïve T cells in the absence of p56^{lck}. *Science* 290(5489), 127-131.
- 25) S.Supattapone, T.Muramoto, **G.Legname**, I.Mehlhorn, F.E.Cohen, S.J. DeArmond, S.B. Prusiner, and M.R. Scott (2001) Identification of two prion protein regions that modify scrapie incubation time. *J.Virol.* 75(3), 1408-1413.

- 26) E.Leclerc, D.Peretz, H.Ball, H.Sakurai, **G.Legname**, A.Serban, S.B.Prusiner, D.R.Burton, R.A.Williamson (2001) Immobilized prion protein undergoes spontaneous rearrangement to a conformation having features in common with the infectious form. *EMBO J.* 20(7), 1547-1554.
- 27) I.V.Baskakov, **G.Legname**, S.B.Prusiner, F.E. Cohen (2001) Folding of prion protein to its native α -helical conformation is under kinetic control. *J Biol. Chem.* 276(23), 19687-19690.
- 28) J.R.Requena, D.Groth, **G.Legname**, E.R.Stadtman, S.B.Prusiner, R.L. Levine (2001) Copper-catalyzed oxidation of the recombinant SHa (29-231) prion protein. *Proc. Natl. Acad. Sci. USA.* 98(13), 7170-7175.
- 29) D.Peretz, R.A.Williamson, K.Kaneko, J.Vergara, E.Leclerc, G.Schmitt-Ulms, I.R.Mehlhorn, **G.Legname**, M.R.Wormald, P.M.Rudd, R.A.Dwek, D.R.Burton, S.B.Prusiner (2001) Antibodies inhibit prion propagation and clear cell cultures of prion infectivity. *Nature* 412(6848), 739-743.
- 30) R.C.Moore, P.Mastrangelo, E.Bouzamondo, C.Heinrich, **G.Legname**, S.B.Prusiner, L.Hood, D.Westaway, S.J.DeArmond, P.Tremblay (2001) Doppel-induced cerebellar degeneration in transgenic mice. *Proc. Natl. Acad. Sci. U S A.* 98(26), 15288-15293.
- 31) G.Schmitt-Ulms, **G.Legname**, M.A.Baldwin, H.L.Ball, N.Bradon, P.J.Bosque, K.L.Crossin, G.M. Edelman, S.J. DeArmond, F.E.Cohen, S.B.Prusiner. (2001) Binding of neural cell adhesion molecules (N-CAMs) to the cellular prion protein. *J. Mol. Biol.* 314(5), 1209-1225.
- 32) P.J.Bosque, C.Ryou, G.Telling, D.Peretz, **G.Legname**, S.J.DeArmond, S.B.Prusiner (2002) Prions in skeletal muscle. *Proc. Natl. Acad. Sci. USA.* 99(6), 3812-3817.
- 33) I.V.Baskakov, **G.Legname**, M.A.Baldwin, S.B.Prusiner, F.E.Cohen (2002) Pathway complexity of prion protein assembly into amyloid. *J Biol. Chem.* 277(24), 21140-21148.
- 34) D.Peretz, R.A.Williamson, **G.Legname**, Y.Matsunaga, J.Vergara, D.R.Burton, S.J.DeArmond, S.B.Prusiner, M.R. Scott (2002) A change in the conformation of prions accompanies the emergence of a new prion strain. *Neuron* 34(6), 921-932.
- 35) K.Kuwata, H.Li, H.Yamada, **G.Legname**, S.B.Prusiner, K.Akasaka, T.L.James (2002) Locally disordered conformer of the hamster prion protein: a crucial intermediate to PrP^{Sc}? *Biochemistry* 41(41), 12277-12283.
- 36) J.G.Safar, M.Scott, J.Monaghan, C.Deering, S.Didorenko, J.Vergara, H.Ball, **G.Legname**, E.Leclerc, L.Solfrosi, H.Serban, D.Groth, D.R.Burton, S.B.Prusiner, R.A.Williamson (2002) Measuring prions causing bovine spongiform encephalopathy or chronic wasting disease by immunoassays and transgenic mice. *Nat. Biotechnol.* 20(11), 1147-1150.
- 37) **G.Legname**, P.Nelken, Z.Guan, Z.F.Kanyo, S.J.DeArmond, S.B.Prusiner (2002) Prion and doppel proteins bind to granule cells of the cerebellum. *Proc. Natl. Acad. Sci. USA* 99(25), 16285-16290.
- 38) E.Leclerc, D.Peretz, H.Ball, L.Solfrosi, **G.Legname**, J.Safar, H.Serban, S.B.Prusiner, D.R.Burton, R.A.Williamson (2003) Conformation of PrP^C on the cell surface as probed by antibody. *J. Mol. Biol.* 326(2), 475-483.

- 39) R.Zamoyska, A.Basson, A.Filby, **G.Legname**, M.Lovatt, B.Seddon (2003) The influence of the src-family kinases, Lck and Fyn, on T cell differentiation, survival and activation. *Immunol. Rev.* 191, 107-118.
- 40) C.Ryou, S.B.Prusiner, **G.Legname** (2003) Cooperative binding of dominant-negative prion protein to kringle domains. *J. Mol. Biol.* 329(2), 323-333.
- 41) C.S.Burns, E.Aronoff-Spencer, **G.Legname**, S.B.Prusiner, W.E.Antholine, G.J.Gerfen, J.Peisach, G.L.Millhauser (2003) Copper coordination in the full-length, recombinant prion protein. *Biochemistry* 42(22), 6794-6803.
- 42) C.Ryou, **G.Legname**, D.Peretz, J.C.Craig, M.A.Baldwin, S.B.Prusiner (2003) Differential inhibition of prion propagation by enantiomers of quinacrine. *Lab. Invest.* 83(6), 837-843.
- 43) A.Mironov,Jr., D.Latawiec, H.Wille, E.Bouzamondo-Bernstein, **G.Legname**, R.A.Williamson, D.Burton, S.J.DeArmond, S.B.Prusiner, P.J.Peters (2003) Cytosolic prion protein in neurons. *J. Neurosci.* 23(18), 7183-7193.
- 44) I.V.Baskakov, **G.Legname**, Z.Gryczynski, S.B.Prusiner (2004) The peculiar nature of unfolding of the human prion protein. *Protein Sci.* 13(3), 586-595.
- 45) **G.Legname**, I.V.Baskakov, H.-O.B.Nguyen, D.Riesner, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2004) Synthetic mammalian prions. *Science* 305, 673-676.
- 46) A.Serban, **G.Legname**, K.Hansen, N.Kovaleva, S.B.Prusiner (2004) Immunoglobulins in urine of hamsters with scrapie. *J. Biol. Chem.* 279, 488117-488120 [Epub August 12, 2004 ahead of print].
- 45) J.R.Requena, M.N.Dimitrova, **G.Legname**, S.Teijeira, S.B.Prusiner, R.L.Levine (2004) Oxidation of methionine residues in the prion protein by hydrogen peroxide. *Arch. Biochem. Biophys.* 432, 188-195.
- 46) L.Yung, Y.Huang, P.Lessard, **G.Legname**, E.T.Lin, M.Baldwin, S.B.Prusiner, C.Ryou, B.J.Guglielmo (2004) Pharmacokinetics of quinacrine in the treatment of prion disease. *BMC Infect Dis.* 4, 53.
- 47) **G.Legname**, H.-O.B.Nguyen, I.V.Baskakov, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2005) Strain-specified characteristics of mouse synthetic prions. *Proc. Natl. Acad. Sci. USA* 102, 2168-2173.
- 48) J.Kanaani, S.B.Prusiner, J.Diacovo, S.Baekkeskov, **G.Legname** (2005) Recombinant prion protein induces rapid polarization and development of synapses in embryonic rat hippocampal neurons *in vitro*. *J.Neurochem.* 95, 1373-1386.
- 49) Y.Huang, H.Okochi, B.C.May, **G.Legname**, S.B.Prusiner, L.Z.Benet, B.J.Guglielmo, E.T.Lin. (2006) Quinacrine is mainly metabolized to mono-desethyl quinacrine by CYP3A4/5 and its brain accumulation is limited by P-glycoprotein. *Drug Metab Dispos.* 34(7): 1136-44. Epub 2006 Mar 31.
- 50) J.G.Safar, H.Wille, M.D.Geschwind, C.Deering, D.Latawiec, A.Serban, D.J.King, **G.Legname**, K.H.Weisgraber, R.W.Mahley, B.L.Miller, S.J.DeArmond, S.B.Prusiner. (2006) Human prions and plasma lipoproteins. *Proc. Natl. Acad. Sci. U S A* 103(30): 11312-7.

- 51) **G.Legname**, H.-O.B.Nguyen, D.Peretz, F.E.Cohen, S.J.Dearmond, S.B.Prusiner. (2006) Continuum of prion protein structures enciphers a multitude of prion isolate-specified phenotypes. *Proc. Natl. Acad. Sci. U S A* 103(50): 19105-10.
- 52) B.C.May, J.A.Zorn, J.Witkop, J.Sherrill, A.C.Wallace, **G.Legname**, S.B.Prusiner, F.E.Cohen (2007) Structure-activity relationship study of prion inhibition by 2-aminopyridine-3,5-dicarbonitrile-based compounds: parallel synthesis, bioactivity, and in vitro pharmacokinetics. *J Med Chem.* 2007 Jan 11;50(1):65-73. Erratum in: *J Med Chem.* 2007 Mar 8; 50(5):1086.
- 53) D.J.King, J.G.Safar, **G.Legname**, S.B.Prusiner (2007) Thioaptamer interactions with prion proteins: sequence-specific and non-specific binding sites. *J Mol Biol.* 2007 Jun 15; 369(4):1001-14. Epub 2007 Feb 9.
- 54) D.W.Colby, J.Zhang, S.Wang, D.Groth, **G.Legname**, D.Reisner, S.B.Prusiner (2007) Prion detection by amyloid seeding. *Proc Natl Acad Sci U S A* 2007 Dec 26;104(52):20914-9. Epub 2007 Dec 20. Erratum in: *Proc Natl Acad Sci U S A.* 2008 Feb 5; 105(5):1774.
- 55) D.W.Colby, J.Zhang, S.Wang, D.Groth, **G.Legname**, D.Reisner, S.B.Prusiner (2008) Prion detection by amyloid seeding. *Proc Natl Acad Sci U S A* 2008 Feb 5; 105(5):1774.
- 56) V.Campana, L.Zentilin, I.Mirabile, A.Kranjc, P.Casanova, M.Giacca, S.Prusiner, **G.Legname**, C.Zurzolo. (2009) Development of antibody fragments for immunotherapy of prion diseases. *Biochem J.* [Epub ahead of print 2008 Nov 11]. 2009 Mar 15; 418(3):507-15.
- 57) S.Benvegnù, D.Franciotta, J.Sussman, A.Bachi, E.Zardini, P.Torreri, C.Govaerts, S.Pizzo, **G.Legname** (2009) Prion Protein paralog Doppel Protein interacts with alpha-2-macroglobulin: a plausible mechanism for Doppel-mediated neurodegeneration. *PLoS ONE*, 2009 Jun 18; 4(6):e5968.
- 58) M.Zampieri, **G.Legname**, C.Altafini (2009) Investigating the conformational stability of prion strains through a kinetic replication model. *PLoS Comp. Biol.*, 2009 Jul; 5(7):e1000420. Epub 2009 Jul 3.
- 59) S.H.Bae, **G.Legname**, A.Serban, S.B.Prusiner, P.E.Wright, H.J.Dyson. (2009) Prion proteins with pathogenic and protective mutations show similar structure and dynamics. *Biochemistry.* 2009 Sep 1; 48(34):8120-8.
- 60) A.Kranjc, S.Bongarzone, G.Rossetti, X.Biarnés, A.Cavalli, M.L.Bolognesi, M.Roberti, **G.Legname**, P.Carloni (2009) Docking Ligands on Protein Surfaces. The Case Study of Prion Protein. *J Chem Theory Comput.*, 2009 Aug 14; 5(9):2565-73.
- 61) M.Polano, A.Bek, F.Benetti, M.Lazzarino, **G.Legname** (2009) Structural Insights Into Alternate Aggregated Prion Protein Forms. *J Mol Biol.* 2009 Nov 13; 393(5):1033-42. Epub 2009 Aug 28.
- 62) F.Benetti and **G.Legname** (2009) *De novo* mammalian prion synthesis. *PRION*, 2009 Oct 26; 3(4). [Epub ahead of print].
- 63) D.W.Colby, K.Giles, **G.Legname**, H.Wille, I.V.Baskakov, S.J.DeArmond, S.B.Prusiner (2009) Design and construction of diverse mammalian prion strains. *Proc Natl Acad Sci U S A.* 2009 Dec 1; 106(48):20417-22. Epub 2009 Nov 13.

- 64) S.Ghaemmaghami, M.Ahn, P.Lessard, K.Giles, **G.Legname**, S.J.DeArmond, S.B.Prusiner (2009) Continuous quinacrine treatment results in the formation of drug-resistant prions. *PLoS Pathog.* 2009 Nov; 5(11):e1000673. Epub 2009 Nov 26.
- 65) D.W.Colby, R.Wain, I.V.Baskakov, **G.Legname**, C.G.Palmer, H.O.Nguyen, A.Lemus, F.E.Cohen, S.J.DeArmond, S.B.Prusiner (2010) Protease-sensitive synthetic prions. *PLoS Pathog.* 2010 Jan 22; 6(1):e1000736.
- 66) F.Benetti, L.Gasperini, M.Zampieri, **G.Legname** (2010) Gene expression profiling to identify druggable targets in prion diseases. *Expert Opin. Drug Discov.* 2010 Feb; 5(2): 177-202.
- 67) D.Latawiec, F.Herrera, A.Bek, V.Losasso, M.Candotti, F.Benetti, E.Carlino, A.Kranjc, M.Lazzarino, S.Gustincich, P.Carloni, **G.Legname** (2010) Modulation of alpha-synuclein aggregation by dopamine analogs. *PLoS ONE.* 2010 Feb 16; 5(2):e9234.
- 68) H.N.A.Tran, S.Bongarzone, P.Carloni, **G.Legname**, M.L.Bolognesi (2010) Synthesis and evaluation of a library of 2,5-bisdiamino-benzoquinone derivatives as probes to modulate protein-protein interactions in prions. *Bioorg & Med Chem Lett.* 2010 Mar 15; 20(6):1866-1868. Epub 2010 Feb 4.
- 69) S.Benvegnù, I.Poggiolini, **G.Legname** (2010) Neurodevelopmental expression and localization of the cellular prion protein in the central nervous system of the mouse. *J Comp Neurol.* 2010 Jun 1;518(11):1879-91.
- 70) F.Benetti, M.D.Geschwind, **G.Legname** (2010) De novo prions. *F1000 Biology Reports* 2010, Jun 23;2. pii: 46.
- 71) M.L.Bolognesi, H.N.A.Tran, M.Staderini, A.Monaco, A.López-Cobeñas, S.Bongarzone, X.Biarnés, P.López-Alvarado, N.Cabezas, M.Caramelli, P.Carloni, J.C.Menéndez, **G.Legname** (2010) Discovery of a class of diketopiperazines as antiprion compounds. *ChemMedChem.* 2010 Aug 2;5(8):1324-34.
- 72) G.Ilc, G.Giachin, M.Jaremko, Ł.Jaremko, F.Benetti, J.Plavec, I.Zhukov, **G.Legname** (2010) NMR structure of the human prion protein with the pathological Q212P mutation reveals unique structural features. *PLoS One.* 2010 Jul 22;5(7):e11715.
- 73) A.Didonna, **G.Legname** (2010) Aberrant ERK 1/2 complex activation and localization in scrapie-infected GT1-1 cells. *Mol Neurodegener.* 2010 Aug 9;5(1):29.
- 74) G.Rossetti, G.Giachin, **G.Legname**, P.Carloni (2010) Structural facets of disease-linked human prion protein mutants: A molecular dynamic study. *Proteins.* 2010 Dec;78(16):3270-80. doi: 10.1002/prot.22834.
- 75) H.N.A.Tran, F.Sousa, F.Moda, S.Mandal, M.Chanana, C.Vimercati, M.Morbin, S.Krol, F.Tagliavini, **G.Legname** (2010) A novel class of potential prion drugs: preliminary in vitro and in vivo data for multilayer coated gold nanoparticles. *Nanoscale.* 2010 Oct 14. [Epub ahead of print]
- 76) F.Sousa, S.Mandal, C.Garrovo, A.Astolfo, A.Bonifacio, D.Latawiec, R.H.Menk, F.Arfeffi, S.Huwel, **G.Legname**, H.J.Galla, S.Krol (2010) Functionalized gold nanoparticles: a detailed in vivo multimodal microscopic brain distribution study. *Nanoscale.* 2010 Oct 15. [Epub ahead of print]

- 77) B.Sanavio, D.Scaini, C.Grunwald, **G.Legname**, G.Scoles, L.Casalis (2010) Oriented Immobilization of Prion Protein Demonstrated via Precise Interfacial Nanostructure Measurements. *ACS Nano*. 2010 Nov 23;4(11):6607-16. Epub 2010 Oct 19.
- 78) S.Bongarzone, H.N.A.Tran, A.Cavalli, M.Roberti, P.Carloni, **G.Legname**, M.L.Bolognesi (2010) Parallel Synthesis, Evaluation, and Preliminary Structure-Activity Relationship of 2,5-Diamino-1,4-benzoquinones as a Novel Class of Bivalent Anti-Prion Compound. *J Med Chem*. 2010 Nov 3. [Epub ahead of print]
- 79) R.N.Abskharon, S.H.Soror, E.Pardon, H.El Hassan, **G.Legname**, J.Steyaert, A.Wohlkonig (2010) Crystallization and preliminary X-ray diffraction analysis of a specific VHH domain against mouse prion protein. *Acta Crystallogr Sect F Struct Biol Cryst Commun*. 2010 Dec 1;66(Pt 12):1644-6. Epub 2010 Nov 26.
- 80) A.Natalello, F.Benetti, S.M.Doglia, **G.Legname**, R.Grandori (2011) Compact conformations of α -synuclein induced by alcohols and copper. *Proteins*. 2011 Feb;79(2):611-21.
- 81) M.Kosmač, S.Koren, G.Giachin, T.Stoilova, R.Gennaro, **G.Legname**, V.Č.Serbec (2011) Epitope mapping of a PrP(Sc)-specific monoclonal antibody: Identification of a novel C-terminally truncated prion fragment. *Mol Immunol*. 2011 Feb;48(5):746-50. Epub 2010 Dec 19.
- 82) A.Didonna, L.Vaccari, A.Bek, and **G.Legname** (2011) Infrared Microspectroscopy: A Multiple-Screening Platform for Investigating Single-Cell Biochemical Perturbations upon Prion Infection *ACS Chem. Neurosci.*, Articles ASAP (As Soon As Publishable) Publication Date (Web): January 11, 2011 (Research Article) DOI: 10.1021/cn1000952
- 83) S.Benvegnù, L.Gasperini, **G.Legname** (2011) Aged PrP null mice show defective processing of neuregulins in the peripheral nervous system. *Mol Cell Neurosci*. Feb 17. [Epub ahead of print]
- 84) S.Benvegnù, P.Roncaglia, F.Agostini, C.Casalone, C.Corona, S.Gustincich, **G.Legname** (2011) Developmental influence of the cellular prion protein on the gene expression profile in mouse hippocampus. *Physiol Genomics*. 2011 Mar 15. [Epub ahead of print]. 2011 Jun 28;43(12):711-25.
- 85) S.Bongarzone, H.N.Tran, A.Cavalli, M.Roberti, M.Rosini, P.Carloni, **G.Legname**, M.L.Bolognesi (2011) Hybrid lipoic Acid derivatives to attack prion disease on multiple fronts.*ChemMedChem*. 2011 Apr 4;6(4):601-5. doi: 10.1002/cmdc.201100072. Epub 2011 Mar 15.
- 86) R.Abskharon, S.Soror, E.Pardon, H.El Hassan, **G.Legname**, J.Steyaert, A.Wohlkonig (2011) Combining in-situ proteolysis and microseed matrix screening to promote crystallization of PrP^C-nanobody complexes. *Protein Eng Des Sel*. 2011, Sep;24(9):737-41. Epub 2011 May 1.
- 87) G.Rossetti, X.Cong, R.Caliandro, **G.Legname**, P.Carloni (2011) Common structural traits across pathogenic mutants of the human prion protein and their implications for familial prion diseases. *J Mol Biol*. 2011 Aug 19;411(3):700-12. Epub 2011 Jun 12.
- 88) I.Biljan, G.Ilc, G.Giachin, A.Raspadori, I.Zhukov, J.Plavec, **G.Legname** (2011) Toward the Molecular Basis of Inherited Prion Diseases: NMR Structure of the Human Prion Protein with V210I Mutation. *J Mol Biol*. 2011 Sep 30;412(4):660-73. Epub 2011 Aug 4.

- 89) M.Zampieri, **G.Legname**, D.Segrè, C.Altafini (2011) A system-level approach for deciphering the transcriptional response to prion infection. *Bioinformatics*. 2011 Oct 20. [Epub ahead of print]
- 90) J.Stöhr, J.C.Watts, **G.Legname**, A.Oehler, A.Lemus, H.-O.B.Nguyen, J.Sussman, H.Wille, S.J. DeArmond, S.B.Prusiner, K.Giles (2011) Spontaneous generation of anchorless prions in transgenic mice. *Proc Natl Acad Sci U S A*, 2011 Dec 27;108(52):21223-8. Epub 2011 Dec 12.
- 91) G.Chiriano, A.De Simone, F.Mancini, D.I.Perez, A.Cavalli, M.L.Bolognesi, **G.Legname**, A.Martinez, V.Andrisano, P.Carloni, M.Roberti (2011) A small chemical library of 2-aminoimidazole derivatives as BACE-1 inhibitors: Structure-based design, synthesis, and biological evaluation. *Eur J Med Chem*. 2011 Dec 16. [Epub ahead of print]
- 92) R.N.Abskharon, S.Ramboarina, H.El Hassan, W.Gad, M.I.Apostol, G.Giachin, **G.Legname**, J.Steyaert, J.Messens, S.H.Soror, A.Wohlkonig (2012) A novel expression system for production of soluble prion proteins in *E. coli*. *Microb Cell Fact*. 2012 Jan 10;11:6.
- 93) **G.Legname** (2012) Early structural features in mammalian prion conformation conversion. *Prion*. 2012 Jan 1;6(1):37-9. [Epub ahead of print]
- 94) F.Benetti, S.Gustincich, **G.Legname** (2012) Gene expression profiling and therapeutic interventions in neurodegenerative diseases: a comprehensive study on potentiality and limits. *Expert Opin Drug Discov*. 2012 Mar;7(3):245-59. Epub 2012 Feb 13.
- 95) A.Didonna, J.Sussman, F.Benetti, **G.Legname** (2012) The role of Bax and caspase-3 in doppel-induced apoptosis of cerebellar granule cells. *Prion*, Jul 1;6(3). [Epub ahead of print]
- 96) X.Cong, S.Bongarzone, G.Giachin, G.Rossetti, P.Carloni, **G.Legname** (2012) Dominant-negative effects in prion diseases: insights from molecular dynamics simulations on mouse prion protein chimeras. *J Biomol Struct Dyn*. 2012 Aug 30. [Epub ahead of print]
- 97) I.Biljan, G.Giachin, G.Ilc, I.Zhukov, J.Plavec, **G.Legname** (2012) Structural basis for the protective effect of the human prion protein carrying the dominant-negative E219K polymorphism. *Biochem J*. 2012 Sep 1;446(2):243-51.
- 98) F.Modà, C.Vimercati, I.Campagnani, M.Ruggerone, G.Giaccone, M.Morbin, L.Zentilin, M.Giacca, I.Zucca, **G.Legname**, F.Tagliavini (2012) Brain delivery of AAV9 expressing an anti-PrP monovalent antibody delays prion disease in mice. *Prion*. 2012 Sep 1;6(4).
- 99) I.Biljan, G.Ilc, G.Giachin, J.Plavec, **G.Legname** (2012) Structural Rearrangements at Physiological pH: Nuclear Magnetic Resonance Insights from the V210I Human Prion Protein Mutant. *Biochemistry*. 2012 Sep 12. [Epub ahead of print]
- 100) I.Poggiolini, **G.Legname** (2012) Mapping the prion protein distribution in marsupials: insights from comparing opossum with mouse CNS. *PLoS One*. 2012;7(11):e50370. doi: 10.1371/journal.pone.0050370. Epub 2012 Nov 29.
- 101) M.Staderini, S.Aulić, M.Bartolini, H.N.A.Tran, V.González-Ruiz, D.I.Pérez, N.Cabezas, A.Martínez, M. Antonia Martín, V.Andrisano, **G.Legname**, J.C.Menéndez, and M.L.Bolognesi (2012) A Fluorescent Styrylquinoline with Combined Therapeutic and Diagnostic Activities against Alzheimer's and Prion Diseases. *ACS Med. Chem. Letters*. 2012, 4(2) 225–229. December 28, 2012 (Letter) doi: 10.1021/ml3003605.

- 102) M.D.Caiati, V.F.Safiulina, G.Fattorini, S.Sivakumaran, **G.Legname**, E.Cherubini (2013) PrPC Controls via Protein Kinase A the Direction of Synaptic Plasticity in the Immature Hippocampus. *J Neurosci.* 2013 Feb 13;33(7):2973-83. doi: 10.1523/JNEUROSCI.4149-12.2013.
- 103) G. Giachin, I. Biljan, G. Ilc, J. Plavec, **G. Legname** (2013) Probing early misfolding events in prion protein mutants by NMR spectroscopy. *Molecules.* 2013 Aug 7;18(8).
- 104) F. Agostini, C.G. Dotti, A. Pérez-Cañamás, M.D. Ledesma, F. Benetti, G. Legname (2013) Prion protein accumulation in lipid rafts of mouse aging brain. *PLoS One.* 2013 Sep 10;8(9)
- 105) I. Biljan, G. Ilc, G. Giachin, **G. Legname**, J. Plavec (2013) NMR Structural Studies of Human Cellular Prion Proteins. *Curr Top Med Chem.* 2013 Sep 23. [Epub ahead of print]
- 106) M. Staderini, **G. Legname**, M.L. Bolognesi, J.C. Menéndez (2013) Modulation of Prion by Small Molecules: From Monovalent to Bivalent and Multivalent Ligands. *Curr Top Med Chem.* 2013 Sep 23. [Epub ahead of print]
- 107) X. Cong, N. Casiraghi, G. Rossetti, S. Mohanty, G. Giachin, **G. Legname**, P. Carloni (2013) Role of prion disease-linked mutations in the intrinsically disordered N-terminal domain of the prion protein *Journal of Chemical Theory and Computation* [in press]

Impact indices

	All	Since 2008
Citations	6205	3172
H-index	36	28
i10-index	66	54

Over 100 communications and abstracts to International Conferences.

Book Chapters

P.Mascagni, G.Fossati, P.Lucietto, H.L.Ball, P.Giuliani, **G.Legname**, E.Chan and A.Zaliani (1995) Elucidation of Protein Structure through Chemical Synthesis, CD Spectroscopy and Molecular Modelling: The Heat-Shock Protein Case in: *Perspectives on Protein Engineering*, edited by M.J.Geisow and R.Epton. Mayflower Worldwide Ltd., pp. 283-286.

G. Fossati, P. Lucietto, H.L.Ball, P. Giuliani, E.Chan, A.R.M. Coates, S.Harding, H.Colfen, **G.Legname**, A.Zaliani and P.Mascagni (1996) Chemical Synthesis, Structure And Biochemical Function Of *Mycobacterium Tuberculosis* Cpn 10 Innovation And Perspectives In Solid Phase Synthesis, edited by R.Epton. Mayflower UK, pp. 259-262

S.B.Prusiner, **G.Legname**, S.J.DeArmond, F.E.Cohen, J.Safar, D.Reisner, K.Kaneko (2004) Some Strategies And Methods For The Study Of Prions. In: Prion Biology And Diseases (2nd edition), edited by S.B.Prusiner. Cold Spring Harbor Laboratory Press, pp. 857-920.

G.Legname, S.J.DeArmond, F.Cohen, S.B.Prusiner (2007) Pathogenesis of Prion Diseases. In: Protein Reviews Volume 6 - Protein Misfolding, Aggregation and Conformational Diseases. Part B: Molecular Mechanisms of Conformation Diseases (1st edition), edited by V.N.Uversky and A.L.Fink. Springer Science – Business media, LLC, pp.125-146.

M.D.Geschwind and **G.Legname** (2007) Trasmissible Spongiform Encephalopathies. In: Protein Misfolding in Neurodegenerative Diseases: Mechanisms and Therapeutic Strategies (1st edition), edited by H.J.Smith and C.Simons. Taylor & Francis Group, LLC, pp. 507-533.

G.Legname, G.Giachin, F.Benetti (2012) Structural Studies of Prion Proteins and Prions. In: Fibrillar Amyloidogenic Protein Assemblies-Common Cytotoxins Underlying Degenerative Diseases, edited by F.Rahimi and G.Bitau. Springer, 2012 edition (January 11, 2012), pp. 289-317.

G.Legname, G. Zanusso (2012) Molecular Pathogenesis of Prion Diseases. In: Miscellanea on Encephalopathies / Book 1. Rijeka, Croatia:Intech, ISBN: 979-953-307-040-6.

G. Legname, N. Tran Thanh Le, G. Giachin (2012) Synthetic prions. In: Prions and Prion Diseases: New Developments. HAUPPAUGE NY 11788-3619: Nova Science Publishers, Inc., ISBN: 978-1 62100-027-3

PATENTS

G.Legname, G.Gromo, D.Modena, D.Brocchetti: Nucleotide sequence coding for ribosome inactivating proteins. Publication info: **ZA9205721**. March 3, 1993.

D.Modena, **G.Legname**, F.Breviario, E.Dejana, M.Introna, A.Mantovani: Cloning and characterization of a gene, inducible by cytokines. Publication info: **WO 93/21313**. October 28, 1993.

D.Modena, **G.Legname**, F.Breviario, E.Dejana, M.Introna, A.Mantovani: Cloning and characterization of a gene, inducible by cytokines. Publication info: **AU3952793**. November 18, 1993.

G.Legname, G.Gromo, D.Modena, D.Brocchetti: Processo per la preparazione di proteine inibenti i ribosomi. Publication info: **ITM1931034**. November 21, 1994.

G.Legname, G.Gromo, D.Modena, D.Brocchetti: Nucleotide sequences coding for ribosome inactivating proteins. Publication info: **USA Patent 5,501,970**. March 26, 1996.

G.Legname, G.Gromo, D.Modena, D.Brocchetti: Nucleotide sequences coding for ribosome inactivating proteins. Publication info: **IT1262945**. July 22, 1996.

S.B.Prusiner, **G.Legname**, R.Wain: Method of amplifying infectious proteins. Filed in the United States Receiving Office on May 24, 2005. **WO/2005/116266**. August 12, 2005.

G.Legname, S.Krol, M.F.Costa De Sousa: Nanoparticelle di oro rivestite con polielettroliti e loro uso come medicamento per il trattamento di malattie neurodegenerative causate da aggregati proteici. Filed in ITALY, request number **RM2008A000602**. November 7, 2008.

G.Legname, L.Leita, P.Sequi: *Humic sustances and therapeutic uses thereof*. Filed in the United States Receiving Office on July 16, 2009. **US PROV NEURO - OC/106982**.

G.Legname, L.Leita, P.Sequi: *Humic sustances and uses thereof in agriculture*. Filed in the United States Receiving Office on July 16, 2009. **US PROV AGRO - OC/106983**.