CV FJB 01-26

CURRICULUM VITAE Francisco J. Barrantes

Personal data

Name: Francisco José BARRANTES
Place of Birth: Buenos Aires, Argentina

Marital Status: Married, 3 offspring, 6 grandchildren

Present Positions:

- Director, Laboratory of Molecular Neurobiology, Institute of Biomedical Research, Faculty of Medicine, Pontif. Cath. University of Argentina-CONICET *(National Scientific and Technical*
- *"Investigador Superior*" Highest rank research category in the National Scientific and Technical Research Council (CONICET) of Argentina (1994-to date).
- ORCID https://orcid.org/0000-0002-4745-681X
- Web of Science ResearcherID: HCH-0258-2022.
- Science Profiles: https://sciprofiles.com/profile/429269

Highly ranked Lifetime ScholarGPS™ ID: 53010231740772
Google Scholar Citations h-Factor: 60 i-10: 177
Ranked No. 5 among scientists in his discipline in Argentina

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Academic Degrees:
M.D., Faculty of Medicine, Univ. of Buenos Aires, Argentina (12-1968).
Ph. D., University of Buenos Aires, Argentina (03-1973).

Research Posts held:

2025-2026. Visiting professor at Dept. Biophotonics (c/o Prof. Stefan Hell), Max-Planck-Institute for Multidisciplinary Research, Göttingen, Alexander von Humboldt Prize.
2023-2024. Visiting scientist in the framework of an Alexander von Humboldt Foundation "Institutpartnerschaft Grant" at the Institute of Applied Optics and Biophysics, Friedrich-Schiller-Universität Jena, Jena, and Leibniz Institute of Photonic Technologies, Jena, Germany (c/o Prof. Christian Eggeling).

2011 to date. Director, Molecular Neurobiology Unit, Institute of Biomedical Research, Faculty of Medicine, Pontif. Cath. University of Argentina-CONICET (National Scientific and Technical Research Council of Argentina).
2015-2017. Science Without Borders Visiting Senior Scientist, Ministry of Science & Technology, Federative Republic of Brazil, at the Institute of Biophysics Carlos Chagas Filho, Federal Univ. of Rio de Janeiro, Brazil.
2014-2015 Visiting Adjunct Professor, Tata Institute of Fundamental Research, Mumbai, India.
2007-2009/2009-2011. Director of CONICET-Bahia Blanca *(National Scientific and Technological Research Council of Argentina, Centro Científico Tecnológico CONICET-Bahía Blanca: Institutes of Chemical Engineering, Mathematics, Physics, Electrical Engineering, Chemistry, Oceanography, Biochemistry, Agronomy, Geology and Economy and Regional Development)*, Argentina (2007-2009) (and second term, 2009-2011).
1983-2011. Director of Institute of Biochemical Research (INIBIBB), Bahía Blanca, Arg. Natl. Research Council (CONICET), Argentina.
2009-2013. Visiting scientist. National Center for Biological Sciences (NCBS), Tata Institute for Fundamental Reseach, Bangalore, India.
1993-1994. Visiting Professor, Biochemistry Dept. Oxford University, U.K.
1994-to date. Highest rank research category in the National Scientific Research Council (CONICET) of Argentina.
1993. Visiting professor, Dept. of Biochemistry and Molecular Biology, Univ. of Extremadura, Spain.
1992-1994. Visiting Professor, Biochemistry Dept., Univ. Bath, UK.
1991 Royal Society (London) Guest Research Fellow at the Medical Research Council, Laboratory of Molecular Biology, Cambridge, U.K. Trinity College, University of Cambridge.
1990-1991. Human Frontier Research Fellow. Medical Reseach Council, Laboratory of Molecular Biology, Cambridge, U.K. Trinity College, University of Cambridge.
1987 Visiting professor. Dept. Neurobiology, Weizmann Institute of Science, Rehovot, Israel.
1986-1987 Visiting professor. Dept. Neurobiology and Behavior, State University of New York at Stony Brook, N.Y., U.S.A.
1986 Fellow. The Neurosciences Institute, Rockefeller University, New York, U.S.A.
1983-1994. Principal Career Investigator, National Scientific Research Council (CONICET) of Argentina
1978-1983. Joint Head of the Membrane Biophysics Group (Gruppe 14, Barrantes-Neher-Sakmann) together with Drs. Erwin Neher and Bert Sakmann at the Max-Planck-Institute for Biophysical Chemistry, Göttingen, Germany.
1974-1977. Member of Research Staff. Department of Molecular Biology, Max-Planck Institute for Biophysical Chemistry, Göttingen, Germany. (Dr. T. Jovin).
1973-1974. Research Associate, Inst. Cell Biology, Fac. Medicine, Univ. of Buenos Aires.
1972-1973. Research Associate. Department of Biochemistry, School of Chemical Sciences, Univ. of Illinois. Urbana-Champaign (Prof. G. Weber).
1969-1971. Research Fellow, Argentine Scientific Research Council, Inst. Cell Biology, Faculty of Medicine, Univ. Buenos Aires (Prof. E. De Robertis).

Other appointments and positions held

2023- Appointed Chief Special Editor, *Methods & Techniques in Neurosciences, Frontiers in Neuroscience.*
2018- Elected President of the Alumni Association of the Alexander von Humboldt Foundation in Argentina.
2017- Appointed member of the Editorial Board, Alzheimer's and Parkinson's Diseases.
2017- Appointed member of the selection committee for the Weber Thesis Award 2017.
2016- Appointed member of the Editorial Board, *OBM Neurobiology.*
2016- Appointed Associate Editor, *Frontiers in Cell and Developmental Biology.*
2016- Appointed Associate Editor, *Frontiers in Physics, Frontiers in Molecular Biosciences.*
2014- Appointed Associate Editor, *Frontiers in Synaptic Neurosciences*.
2014- Appointed member of Editorial Board, Journal of Advanced Neuroscience Research.
2014- Appointed member of Editorial Board, World Journal of Neuroscience.
2012- Appointed member, Scientific Exchange Programme of the German-Argentinian Center for University Exchange.
2010- Appointed member of the Research Council, Pontificial Catholic University of Argentina.
2011- Appointed Senior Editor, *Internat. J. Biochemistry & Molec. Biology.*
2010- Appointed Associate Editor of *Frontiers in Membrane Physiology and Biophysics*, a specialty section of *Frontiers in Physics*.
2009-2012. One of the two members of the Scientific Advisory Board of the FP7 European Project NeuroCypres on Cys-loop Receptors.
2008- Associate Editor, *Biochemica et Biophysica Acta (BBA)*, *Biomembranes*.
2008- Member of Advanced School Committee, ISN.
2008-2012 Member of the editorial board, *Biophysical Reviews*.
2006-2008. Appointed Member of Council, International Union for Pure and Applied Biophysics (IUPAB).
2006-2007. Chairman, Biochemistry Reviewing Committee, Arg. Scientific Research Council (CONICET).
2007- Member of the Editorial board, *The Open Structural Biology Journal*.
2006-to-date. Appointed member of the Basic Science Subcommission, International League Against Epilepsy (ILAE).
2006. Co-chairman, Biochemistry Reviewing Committee, Arg. Scientific Research Council (CONICET).
2004- Appointed member of the editorial board of the *Braz. Journal of Medical and Biological Research.*
2003-to date. Reviewer for *Am. J. Physiology*, *Biochemistry*, *BBA*, *Biophys. J.*, *Chem. Phys. Lipids*, *Eur. Biophys. J.*, *Eur. J. Pharmacol.*, *Mol. Brain Res.*, *Nature Biotechnology*, *J. Neuroscience, Brit. J. Pharmacol., Biophys. J.,*
2003-to date. Member of the External Reviewing Board of FONDAP, Catholic University of Chile.
2002- Appointed Member of the Biology Committee of the Latin American Network for Biological Sciences (RELAB). UNESCO.
1997-1998. Editor, ISN News, International Society for Neurochemistry.
1994 Member of the Special Evaluation Commission, Secretariat of Science and Technology, Universidad Nacional del Sur.

1993 Appointed Member of the Banco de Evaluadores de Actividades Científicas and Tecnológicas and de Posgrado del Consejo Interuniversitario Nacional.
1991-1998. Member of the editorial board, *Comments on Molecular and Cellular Biophysics*.
1991-1993. Member of the Scientific Advisory Committee of the Argentinian-Brazilian Center for Biotechnology (CABBIO).
1988 External reviewer, Instituto Nacional de Tecnología Industrial (INTI).
1986-1989. Member of the Chemistry Reviewing Committee, Arg. Scientific Research Council (CONICET).
1988-1990. Member of the Council of the Sociedad de Biofísica Latinoamericana (Latin American Biophysical Society, SoBLA).
1988-1990. Member of the Special Commission on Cell and Membrane Transport of the International Union for Pure and Applied Biophysics (IUPAB).
Elected member of the Executive Committee of the above commission
1988-1990. Member of the editorial board, *Neurochemistry International*.
Member of the Biology Committee of the Latin American Network for Biological Sciences (RELAB). UNESCO.
1987-1989. Elected Secretary of the Argentine Neurochemical Society.
1988-to date Reviewer. Scientific Research Council (CONICIT), Chile.
1987(Oct) Consultant of the Biotechnology Program of the Argentine Secretariat of State for Science and Technology (SECYT) in the Federal Republic of Germany.
1979-1988. External reviewer of the National Science Foundation (NSF), U.S.A.
1984-1987. Member (nominated) of the Special Commission on Cell and Membrane Biophysics of the International Union of Pure and Applied Biophysics (IUPAB).

Membership/activities in Scientific Academies

2023. Elected Fellow, International Core Academy of Sciences and Humanities, Hong Kong.
2022. Elected Corresponding National Member, Academy of Medical Sciences in Cordoba, Argentina.
2018. Elected Full Member, National Academy of Medicine, Buenos Aires, Argentina. Seat No. 30 (J.A. Domínguez), formerly occupied by his supervisor, Prof. E. De Robertis.
2015. Elected member of the 2016-2018 Council Nominating Committee, TWAS.
2013-2015. Elected Vicepresident, World Academy of Sciences (TWAS) (2nd. Term).
2011. Elected Corresponding Member, Natl. Academy of Sciences, Argentina.
2010-2012. Appointed member, TWAS Programmes, Policy and Planning Committee.
2010-2012. Elected Vicepresident, The World Academy of Sciences (TWAS).
2009-2012. Re-elected Member, Executive Council, Latin American Regional Office of the TWAS, Rio de Janeiro, Brazil.
2007-2009. Appointed Chairman, TWAS Prize Committee in the field of Biology.
2006-2012. Elected by direct vote member of the Council, Latin American Academy of Science (Academia de Ciencias de América Latina, ACAL).
2005. Elected Member of the Board of Directors (Council), International Society for Neurochemistry (ISN) (2006-2009 period).
2005. Elected Foreign Fellow, Indian National Science Academy (INSA).
1998. Elected Corresponding Member, Brazilian Academy of Sciences (ABC).

1996. Designated one of the five members of the Nominations Committee for the election of the Council of the Academy of Sciences for the Developing World for the 1997-1999 period.
1995-1998. Elected Member of the Membership Committee in Biology of the Academy of Sciences for the Developing World (TWAS).
2004. Appointed Member, Executive Council, Latin American Regional Office of TWAS, Rio de Janeiro, Brazil.

2004. Appointed Full Member, European Academy of Sciences and Arts.
1999. Elected Corresponding Member, National Academy of Medicine, Buenos Aires, Argentina.
1994. Elected Full Member, Latin American Academy of Sciences (ACAL).
1993. Elected Fellow, The World Academy of Sciences, Trieste, Italy.
1991. Elected Corresponding Fellow, The World Academy of Sciences, Trieste, Italy.

Awards and Honours

2025 Scientific Merit Award, 3rd. Argentine Meeting on Gliobastoma, Argentine Society of Immunology.
2023 Elected Fellow, International Core Academy of Sciences and Humanities, Hong Kong.
2022 Elected member of the Academy of Medical Sciences, Córdoba.
2021 "Master of Medicine" Award. The Argentine Medical Press.
2021 Gregorio Weber Award for Excellence in Fluorescence Theory and Applications, Biophysical Society, USA.
2017. Argentine Biochemical Association Prize 2017. Together with Drs. Mariela L. Paz, Paula N. Manuelli, Florencia Aguirre, Andres Villa and Juliana Leoni for the work "Cell-free fluorescent microbead-based autoantibody diagnostic test for myasthenia gravis". Argentina.
2017. Award together with Drs. Pablo. G. Sanz and Lina Grasso: "Strategies to improve quality of life for the elderly with Alzheimer´s Disease through transdisciplinary assistance and translational research" within the framework of the call "Developing ideas and talents", Universidad Católica Argentina.
2016. Bernardo Houssay Award from the Center for the Study & Development of the Chemical-Pharmaceutical Industry in Argentina (CEDIQUIFA).
2015. "Science without Frontiers" award from the Ministry of Education (MEC) and the Ministry of Science and Technology (MCT) of Brazil, through their respective funding agencies - CAPES and CNPq.
2013. Awarded The World Academy of Sciences (TWAS) Medal.
2011. Elected Member. National Academy of Sciences of Argentina.
2009. Awarded the Senior Consacration Prize of the National Academy of Exact, Physical and Natural Sciences of Argentina.
2008. Awarded the Miguel Lillo Medal. Society for Biology, Tucuman, Argentina.
2006. Awarded the Prémio União Latina, Lisbon, Portugal, together with Prof. Dr. M. Prieto.
2006. Elected member of Council of the International Union of Pure and Applied Biophysics (IUPAB). (2006-2008).
2006. Chancellor's Award in the Neurosciences, Univ. Louisiana, U.S.A.
2005. Fulbright Scholar, Harvard Medical School, Boston, MA, USA.

2004. Awarded the Eduardo De Robertis Medal and delivered the 2004 De Robertis Lecture of the Argentine Society for Neurosciences.
2003. Awarded one of the five 2003 Konex Foundation awards in Science and Technology, in the discipline Molecular Biology and Cytology, Argentina ("one of the five most relevant Argentine scientists in Neurobiology in the decade; awarded every 10 years).
2002. Awarded the Sarojini Damodaran International Trust Award, India.
1999. Elected President, Argentine Society for Neurochemistry (SAN). (1999-2001).
1997-1999. Designated Chairman of the Committee for Aid in Neurochemistry, International Society for Neurochemistry (ISN).
1997-1999. Elected Vicepresident, Argentine Society for Neurochemistry (SAN). (1997-1999).
1998. Awarded the Alexander von Humboldt Research Prize (AvH Forschungspreis). Germany.
1995-1997. Elected member of the Committee for Molecular and Cellular Neurosciences, International Union of Physiological Sciences (IUPS).
1995-1997. Elected chairman of the Committee for Aid in Neurochemistry, International Society for Neurochemistry (ISN).
1994-1996. Elected member of the Special Commission on Cell and Membrane Biophysics (IUPAB, International Union of pure and Applied Biophysics).
1993-1996. Elected member of the Board of Directors (Council), International Society for Neurochemistry (ISN).
1993. Elected member of the Argentine Association for the Advancement of Sciences.
1993. Elected member of the Committee for Aid in Neurochemistry of the International Society for Neurochemistry (ISN).
1992. Guest Research Fellow, Royal Society, London, U.K. At the Laboratory for Molecular Biology (LMB), Medical Research Council (MRC), Cambridge, UK
1991. Human Frontier Science Program Fellowship at the Laboratory for Molecular Biology (LMB), Medical Research Council (MRC), Cambridge, UK.
1990-1991. Awarded Fellowship of the John Simon Guggenheim Memorial Foundation, New York.
1989. The World Academy of Sciences (TWAS) 1988 Award in Biology.
1987. "Bernardo Houssay Award" from the Argentinian Scientific Research Council (CONICET) for work on neurotransmitter receptors.
1986. Fellow, The Neurosciences Institute, New York, U.S.A.
1971. Daniel Goytía Award of the Argentinian Association for the Advancement of Science for the work on "Structure and Function of Biomembranes". Award presented by Nobel Awardee in Chemistry, Prof. Luis F. Leloir.
1970. Wellcome Trust Fellowship, U.K., to conduct short training period with Prof. B. Finean, Univ. Birmingham, England.

Teaching Posts held

1962-1968 Teaching Assistant. Chair of Histology and Cytology (Prof. E. De Robertis), Faculty of Medicine, Univ. of Buenos Aires, Argentina.
1968-1971 Assistant Lecturer. Same address as above.
1971-1974 Reader in Cytology and Histology. Same address as above. Fulfillment of the requirements for admission to the professorship level at the University of Buenos Aires.

1972-1974 Lecturer in graduate courses on Membrane Biophysics. Faculty of Sciences, Univ. of Buenos Aires, Argentina.

1983-2009. Full Professor (*Ordinarius*), Biological Chemistry, Department of Biochemistry, Biology, and Pharmacy, Universidad Nacional del Sur, Argentina.

1984-1987 Member of the Council, Graduate School. Universidad Nacional del Sur, Bahía Blanca, Argentina.

1984 (Nov.) Professor at the postgraduate course on "Ionic Channels", Center of Scientific Studies of Santiago (CECS), Santiago, Chile.

1985 Professor at the postgraduate course on "Physical properties of biological membranes" organized by the Center of Scientific Studies of Santiago, Chile and sponsored by the PNUD-UNESCO, September 23-October 31.

1986-1987. Member of Council. Department of Biology. Universidad Nacional del Sur.

1987 August-September. Visiting Professor. Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel.

1991 Professor at the postgraduate course on "Molecular approaches to the study and function of ionic channels", Santiago, Chile. 20 November-6 December.

1993 (Apr.) Professor at the postgraduate course on Molecular Neurobiology, Dept. of Biochemistry & Molecular Biology, University of Extremadura, Spain.

1993-to date Visiting Professor, Department of Biochemistry, University of Bath, U.K.

1994 Professor in charge of postgraduate course on "Expression and functional evaluation of membrane proteins in cellular heterologous systems", Argentinian-Brazilian School of Biotechnology (CABBIO), Bahía Blanca, Argentina, 4-19 October.

1995 Professor in charge of the postgraduate course "Introduction to the study of synaptic transmission", Depart. de Bioquímica e Inmunología - ICB - UFMG, Belo Horizonte, Brazil (08/95).

1995 Professor in charge of the postgraduate course "Introduction to Molecular Neurobiology and Membrane Biophysics", Dept. of Biochemistry, Biology and Pharmacy, Universidad Nacional del Sur, Bahía Blanca, Argentina, September 5-November 30.

1996 Professor in charge of the postgraduate course "Neuropharmacology: Molecular Aspects of Synaptic Transmission in the Nervous System" together with Prof. M.F. Pediconi, Dept. of Biochemistry, Universidad Nacional del Sur, Bahía Blanca, Argentina (April-July).

1997 Professor, postgraduate course "Cell Biology", National Centre for Biological Sciences, TIFR Centre, IISC Campus, Bangalore, India (January).

1997 Professor in charge of the postgraduate course "Molecular biology. Methods for the study of protein-protein interactions" together with Dr. R. Rivera, Max-Planck Institut für biophysikalische Chemie, Göttingen. Dept. of Biochemistry, Biology and Pharmacy, Universidad Nacional del Sur, Bahía Blanca, Argentina (11/97).

1998 Professor, postgraduate course "Fluorescence spectroscopy applications in biology", National Centre for Biological Sciences, TIFR Centre, IISC Campus, Bangalore, India (January).

1998-2009. Professor and Chairholder, UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Argentina.

1999 UNESCO BAC-Professor in Biotechnology. National Center for Biological Sciences, Bangalore, India (1/99).

1999 Professor in charge of postgraduate course "Topics in Biophysics of Membranes", at the UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca (April-November).

2000 Professor in charge of the ICRO/IBRO/TWAS postgraduate course "Novel spectroscopic and physiological approaches to Neurobiology", UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca, Argentina (May 22-31).

2001 Professor in charge of the postgraduate course "Spectroscopic and physiological advances in Neurobiology", UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca, Argentina (April-August).

2002 Professor in charge of the postgraduate course "Spectroscopic and physiological advances in Neurobiology", UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca, Argentina (April-June).

2003 Professor in charge of the postgraduate course "Spectroscopic and physiological advances in Neurobiology", UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca, Argentina (May-July).

2004 Professor in charge of the postgraduate course "Biochemistry and Biophysics of Lipid-Protein Interactions in Biomembranes", UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca, Argentina (June-September).

2005 Professor in charge of the postgraduate course "Biochemistry and Biophysics of Lipid-Protein Interactions in Biomembranes", UNESCO Chair of Biophysics and Molecular Neurobiology, Universidad Nacional del Sur, Bahía Blanca, Argentina (June-October).

2005 Organizer of the First Encounter of Young Scientists of the Academy of Sciences for the Developing World (TWAS). This activity took place in Angra dos Reis, Brazil, during the TWAS 10th General Meeting. The success of the meeting of young scientists from Latin American countries was subsequently adopted by other Regional Offices of TWAS in other regions of the world.

2006 Organizer and professor at the International Brain Research Organization (IBRO) International Course "*From Molecules to Networks and Behavior*" (IBRO International Workshop), Mahabaleshwar, India, January 8-15.

2005-2007. Adjunct Faculty, Visiting Professor, Tata Institute for Fundamental Research, National Center for Biological Sciences (NCBS) and Department of Biological Sciences (DBS), Bangalore, India.

2010-2012. Visiting Professor, Tata Inst. of Fundamental Research, NCBS, Bangalore, India.

2013. Organizer and Professor. International School of the ISN "Synapses and dendritic spines in health and disease", Buenos Aires, Argentina, and Montevideo, Uruguay, September 1-15.

2013. Professor at Workshop and Course on "Advances of Super-resolution optical microscopy", November 18-22, CIBION, Buenos Aires, Argentina.

2014. Organizer and Professor. Advanced international School «Experimental approaches to brain diseases - 3rd ISN Latin American School of Advanced Neurochemistry», Montevideo, Uruguay, Nov 24 - Dec 4. U$D 40.000.

2014. Member of the International Advisory Board. 6th. Special Conference of the International Society for Neurochemistry: "*Dynamic change of nanostructures in the brain in Health and Disease. Cutting Edge of the Technical Innovation*". Tokyo, Japan. Sept. 20-22, 2014.

2016. Professor at Advanced Course on"Correlative light-electron microscopy (CLEM): Theoretical principles and biological applications. Mendoza Argentina, 14-19 March.
2016. Professor at Practical Workshop on Advanced Microscopy, 3rd. MIC@ITT Nanoscopy 2.0 at Istituto Italiano di Tecnologia, Genoa, Italy, December 13-16.
2017. Teaching staff. Banglaore Microscopy Course 2017. Bangaluru, India, September 17-24.
2018. Organizer and profesor of "From the Fundamentals of Optics to Advanced microscopy Techniques" Theory and hands-on course, Buenos Aires, October 15-19.

Other teaching and organizational responsibilities:

1970. Coordination of the 5th edition of "Cell Biology" (De Robertis, Nowinski and Saenz).
1986. Organizer, together with Dr. P. R. Adams, of the International Symposium on "Acetylcholine Receptors". The Neuroscience Institute, Rockefeller University, New York, U.S.A., December 4-8.
1988. Member of the Organizing Scientific Committee of the 16th Congress of the Latin American Societies of Physiological Sciences, Buenos Aires, Argentina, May 16-20.
1988. Organizer of the Minicourse and International Workshop on "Acetylcholine receptors and related membrane proteins: current strategies and future developments". Bahía Blanca and San Martín de los Andes, Argentina, Aug. 30-Sep. 8.
1991. Organizer of the International Workshop on "Structure and Engineering of Proteins (With Special Emphasis on Membrane and Channel-Forming Proteins)", Bahía Blanca, Argentina, November 10-17.
1993. Co-organizer of the Mini-course on "Frontiers in Neurosciences". Sponsored by ICRO-UNESCO and South American Brain Research Organization (SABRO/IBRO-UNESCO). Buenos Aires, Córdoba and Bahía Blanca, Argentina. March 31-April 7.
1994. Organizer of the International Workshop and Postgraduate Course on "Expression in heterologous cell systems and evaluation of functional properties of channel-forming proteins" (Argentine-Brazilian Centre for Biotechnology, CABBIO, SABRO/IBRO-UNESCO), Bahía Blanca, Argentina, October 4-19.
1995. Appointed member of the Programme Committee of the XI Congress of the International Society for Neurochemistry (ISN), Boston, U.S.A., held in 1996.
1999. Appointed member of the Programme Committee of the XI Congress of the International Society for Neurochemistry (ISN), Buenos Aires, Argentina, held in 2001.
1999. Appointed member of the Programme Committee of the Latin American Congress of Physiology, Cancun, Mexico, held in September 2000.
2006. Organizer of the International Brain Research Organization (IBRO) International Course "*From Molecules to Networks and Behavior*" (IBRO International Workshop), Mahabaleshwar, India, January 8-15.
2006. Member, Program Committee of 2nd Special Conference of the International Society for Neurochemistry (ISN) "Neural Glycoproteins and Glycolipids", held in Antigua, West Indies, December 1-5.
2008. Member, International Program Committee of the International Symposium on Cholinergic Mechanisms ("*Neuronal and Non-Neuronal Cholinergic Systems: Molecular and Translational Significance*"), held in Foz do Iguazu, Brazil, Aug.16-20.

2009. Professor at ISN Advanced School on "Cellular communication in the nervous system" held on August 19-23, 2009, in GyoengJu, organized by Profs. E. Gundelfiger and Eujoong Kim.

2009. Organizer, together with Dr. Teresa Manera, of the International Workshop "*Bridging the gap. Darwin: from Molecule to Cultural Implications".* Held at CONICET Bahia Blanca, October 10-12.

2012. Organizer of the International School of the ISN "Synapses and dendritic spines in health and disease", Buenos Aires, Argentina, and Montevideo, Uruguay, September 1-15.

2012. Organizer of the 5th. Special Conference of the International Society for Neurochemistry, "Synapses and Dendritic Spines in Health and Disease", Buenos Aires, Argentina, 12-15 September 2012.

Supervision of research activities

1972-1973 M.C.L. de Carlin. Biochemistry of lipoproteins. Inst. Cell Biology, Univ. Buenos Aires.

1972-1973 J. Saraceno, Fellow, Arg. Pharmacological Society. Cholinergic receptors. Supervisor of research.

1976-1976 W. Folkhard (Inst. Physical Chem., Univ. Graz, Austria) Acetylcholine receptor. EMBO Fellowship at the Max-Planck Inst. Biophysical Chemistry, Göttingen.

1975-1977 Robert Bonner (John Hopkins University) Acetylcholine receptor kinetics. Max-Planck-Society Fellowship at the Max-Planck Inst. Biophysical Chemistry, Göttingen. Currently: Head of Section, NIH, Bethesda, MD, USA.

1977-1981 Yusuf Tan (Middle East Technical Univ. Turkey), Ford Foundation. Acetylcholine receptor. Thesis supervisor at the Max-Planck Inst. Biophysical Chemistry, Göttingen. Currently Professor of Biochemistry, Univ. Ankara and Visiting Scientist, CNRS, France.

1979-1981 Bernat Soria-Escoms (Dep. of Physiology, Alicante). Cholinergic electrophysiology. Fellow, March Foundation, Spain, at the Max-Planck Inst. Biophysical Chemistry, Göttingen. Currently Prof. of Physiology, Univ. Alicante, Elche, and formerly Director of Institute.

1980-1981 Benjamín Suárez-Isla. Cholinergic electrophysiology and pharmacology. Fellow, Max-Planck-Society at the Max-Planck Inst. Biophysical Chemistry, Göttingen. Currently Professor of Physiology and formerly Dean, Dept. of Physiology, Fac. Medicine, Univ. Santiago, Chile.

1980-1983 Manuel Criado. Acetylcholine receptor biochemistry. Fellow of the Alexander von Humboldt Foundation and the Max-Planck Society at the Max-Planck Inst. Biophysical Chemistry, Göttingen. Currently Professor, Institute of Neurobiology, Alicante.

1981-1982 Fred Hagen (Univ. California, Davis). Local anesthetics, cholinergic receptors. Fellow of the DAAD, W. Germany, at the Max-Planck Inst. Biophysical Chemistry, Göttingen.

1981-1982 P. Regenfuss (Univ. Erlanger). Fast kinetics, receptor-ligand interactions. Max-Planck-Society Fellow, at the Max-Planck Inst. Biophysical Chemistry, Göttingen.

1983-1987 Alejandra Braceras de Ocaranza. Acetylcholine receptor research. Fellow Natl. Sci. Res. Council Argentina (CONICET). At the Inst. Invest. Bioquímicas (INIBIBB).

1983-1987 Nora P. Rotstein. Lipid-protein interactions. Fellow Natl. Sci. Res. Council Argentina. At the Inst. Invest. Bioquímicas. Thesis co-supervision with Prof. M. Aveldaño. Currently Career Investigator, CONICET, Argentina.

1984-1986 Susana A. Morelli de Liberti. Lipid metabolism and neurotransmission in the CNS. Fellow CONICET. Currently teaching assistant, Dept. Biochem. Univ. Sur.

1986-1990 Gabriela Amodeo. Fellow of the Sci. Res. Commission Province of Buenos Aires. Patch-clamp studies on *Zea mays*. Co-director of fellowship together with Dr. N. Curvetto. Currently Research Assistant, Physiology, Fac. Medicine, Univ. Buenos Aires.

1987-1989 Edgardo Buzzi. Study of muscarinic acetylcholine receptors. Fellow of the Univ. Nac. del Sur. Currently teaching assistant, Dept. Biology, Univ. Nac. Sur.

1991-1992 Silvia S. Antollini. Student Fellowship. Undertook research studies under my supervision on the acetylcholine receptor at the Instituto de Invest. Bioquímicas de Bahía Blanca.

1991-1992. Sergio A. Kaiser. Student Fellowship Univ. Nac. Sur. Undertook research studies under my supervision on the acetylcholine receptor.

1991. K. MacDonald. Fellow of the Thomas J. Watson Foundation, USA. Undertook research project under my supervision on "The Degenerative Neurological Disorders" at the Inst. Invest. Bioquímicas.

1992-1993 Jan Werkman. Fellow of the University of Waegeningen, Holland. Undertook research studies under my supervision on the acetylcholine receptor at the Instituto de Invest. Bioquímicas de Bahía Blanca.

1994-1996 Sergio A. Kaiser. Fellow Arg. Res. Council. Undertook research studies under my supervision on the acetylcholine receptor at the Instituto de Invest. Bioquímicas de Bahía Blanca. Continued at School of Biol. Sciences, Univ. Bath to obtain Ph.D. Univ. California at Davis. Merc Co.

1993-1995 Iliana C. Sawkó. Fellow of the Comisión de Investigaciones Científicas de la Provincia de Buenos Aires, at the Instituto de Investigaciones Bioquímicas de Bahía Blanca. Currently staff, Boehringer Ingelheim. Buenos Aires branch.

1996-2005. Ingrid Garbus. Fellow of the Universidad Nac. del Sur and CONICET at the Inst. Invest. Bioquímicas. Currently member CONICET, CERZOS.

1997-2000 Ramiro Massol. Fellow of the Universidad Nac. del Sur at the Inst. Invest. Bioquímicas. Currently Assistant Professor, Dept. Pediatrics, Harvard Medical School, U.S.A.

1999-2005. María B. Rauschemberger. Molecular genetics of epilepsies associated with the acetylcholine receptor. Fellowship of Comisión de Investigaciones Científicas de la Provincia de Buenos Aires. At the Instituto de Invest. Bioquímicas de Bahía Blanca.

1999 Dr. Saleena Mathew, Cochin Univ. of Science and Technology, India. Effect of phospholipids on cell membrane alterations caused by peroxides. At the Instituto de Invest. Bioquímicas de Bahía Blanca, within the framework of the CONICET-TWAS agreement.

2000-2001. Javier Baier. Studies on the nicotinic acetylcholine receptor. Fellowship of the Comisión de Investigaciones Científicas de la Provincia de Buenos Aires (CIC). Ciurrently postdoctoral fellow, Univ. Buenos Aires.

2000-2001. Cristina Gallegos. Effect of lipid modifications on the properties of the acetylcholine receptor. Fellowship for advanced students of the Secretariat of Science & Technology. Currently postdoctoral fellow, Atomic Energy Comiss., Buenos Aires.

2000-2001. Ariel Suárez. Lipid environment of the acetylcholine receptor. Fellowship for advanced students of the Dept. of Biology, Biochemistry and Pharmacy, Universidad Nacional del Sur.

2000-2001. María Eugenia Mormina. Studies of α7 acetylcholine rceptor and its possible involvement in inherited epilepsies. Fellowship "Ramón Carrillo-Arturo Oñativia" Ministry of Health, Argentina.

2001-2004. Dr. Jorge Wenz. Studies of acetylcholine receptor in native membranes and cell systems. Postdoctoral fellowship of the Natl. Agency for the Promotion of Science & Technology.

2002-2007. Javier Baier. Studies on the nicotinic acetylcholine receptor. Fellowship of the Natl. Sci. Res. Council Argentina. At the Inst. Invest. Bioquímicas.

2002-2007. Cristina Gallegos. Cholesterol effects on the nicotinic receptor. Fellowship of the Natl. Sci. Res. Council Argentina. At the Inst. Invest. Bioquímicas.

2002-2003. Virginia Borroni. Studies of α7 acetylcholine receptor in inherited epilepsies. Fellowship "Ramón Carrillo-Arturo Oñativia", Ministry of Health, Argentina. At the Inst. Invest. Bioquímicas.

2004-2011. Virginia Borroni. Cell biology studies of acetylcholine receptors. Fellowship of the Natl. Sci. Res. Council of Argentina. At the Inst. Invest. Bioquímicas.

2004-2011. Sofía Vallés. Expression of the human α7 nicotinic acetylcholine receptor and characterization of the effect of steroids on this receptor. Fellowship from the Natl. Sci. Res. Council of Argentina. At the Inst. Invest. Bioquímicas.

2005. Matías Sánchez. Effect of the lipid microenvironment on the structure and activity of the nicotinic acetylcholine receptor. Fellow of the Natl. Agency for the Promotion of Science & Technology. At the Inst. Invest. Bioquímicas.

2004-2006. Gaspar A. Fernández Nievas. Nicotinic acetylcholine receptor in health and disease. Fellowship of the Natl. Agency for the Promotion of Science & Technology. At the Inst. Invest. Bioquímicas.

2007-2009. Gaspar A. Fernández Nievas. Nicotinic acetylcholine receptor in health and disease. Fellowship of the Natl. Sci. Res. Council of Argentina. At the Inst. Invest. Bioquímicas .

2008-2010. Victoria Ayala. Cholesterol and sphingomyelin effects on the distribution and functionality of the α7 AChR in endothelial cells. Implications of the action of nicotine on this receptor. Fellowship of the Universidad Nacional del Sur. At the Inst. Invest. Bioquímicas.

2009-2014. Constanza Kamerbeek. Regulation of the synthesis, assembly and trafficking of the nicotinic acetylcholine receptor by diacylglycerols. Fellowship of the Natl. Scie. Res. Council of Argentina. At the Inst. Invest. Bioquímicas.

2010-2014. Vanesa Perillo. Organization of the nicotinic acetylcholine receptor in simple and complex models. Fellowship of the Natl. Scie. Res. Council of Argentina. At the Inst. Invest. Bioquímicas. Co-director: Dr. Silvia Antollini.

2012-2015. Francisco Sánchez. Fellowship Catholic University of Argentina. At BIOMED, UCA-CONICET, Buenos Aires.

Supervision of doctoral theses

1977-1981 Yusuf Tan (*Middle East Technical Univ*., Turkey), Fellowship of Ford Foundation. *Acetylcholine receptor*. Thesis supervision at Max-Planck-Institute for Biophysical Chemistry, Göttingen, Germany.

1983-1987 Nora Rotstein. Lipid protein interactions. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. In 1987 she was supervised by Dr. M.I. Aveldaño. Degree awarded: Ph. D. in Biochemistry, highest mark.

1985-1990 Luis E. Politi. Study of the development and pathology of photoreceptors in tissue culture. Thesis supervision jointly with Dr. R. Adler (The Wilmer Ophthalmological Institute, John Hopkins University, Maryland, Baltimore, U.S.A.). Degree awarded: Ph. D. in Biology, highest mark. Currently Group Leader, Career Investigator of CONICET at INIBIBB.

1987-1990 Hugo R. Arias. Lipid-AChR protein interactions. Thesis supervision at the Inst. of Biochemical Research, CONICET/Univ. Nac. Sur. Degree awarded: Ph. D. in Biocemistry, highest mark. Currently assoc. Prof. Univ. Phoenix, AZ, USA. Degree awarded: Ph. D. in Biochemistry, highest mark.

1986-1990 Cecilia B. Bouzat. Acetylcholine receptors. Fellow Natl. Sci. Res. Council Argentina. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark. Currently Career Investigator of CONICET and Head of the Institute of Biochemistry (INIBIBB).

1987-1991 María F. Pediconi. Biochemical bases of cerebral asymmetry: coupling between muscarinic cholinergic neurotransmission and lipid metabolism in mammalian brain. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark. Currently Professor, Univ. del Sur, Argentina and Career Investigator of CONICET at INIBIBB.

1988-1994 Laura P. Zanello. Characterization of a potassium channel in vesicles from *Chara contraria*. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biology, highest mark. Currently Assist. Professor, Univ. California at Riverside.

1994-1999 Eugenio Aztiria. Nicotinic receptors: interaction with the lipid environment and aspects that regulate its heterologous expression. Fellowship of the Arg. Res. Council. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca together with Dr. Telma Alonso. Univ. Nac. Sur. Degree awarded: Ph. D. in Biology, highest marks.

1991-1996 Lía I. Pietrasanta. Study of nicotinic acetylcholine receptor. Thesis supervisor at the Universidad Nacional del Sur, together with Dr. T.M. Jovin, Max-Planck Inst. of Biophysical Chemistry, Göttingen, Germany. Degree awarded: Ph. D. in Biochemistry, highest mark. Currently Head of Microscopy Center, Fac. Sciences, Univ. of Buenos Aires.

1994-1999 Silvia S. Antollini. Lipid microenvironment of the nicotinic acetylcholine receptor. Degree awarded: Ph. D. in Biochemistry. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca (INIBIBB). Degree awarded: Ph. D. in Biochemistry, highest mark. Currently Vice-director of INIBIBB.

1995-2000 Ida Bonini. Lipid environment of the cholinergic nicotinic receptor. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest marks.

1996-2000 Ramiro H. Massol. Lipid-protein interactions of the nicotinic acetylcholinre receptor: Molecular and biophysical aspects. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry. Currently Head

2001-2004 María B. Rauschemberger. Molecular Genetics of epilepsy associated to the nicotinic acetylcholine receptor. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry.

2002-2007. Javier Baier. Studies on the nicotinic acetylcholine receptor.Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark.

2002-2007. Cristina Gallegos. Cholesterol effects on the nicotinic receptor. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Ph. D. in Biochemistry, highest mark.

2002-2009 Ana M. Roccamo. Role of lipids in the structure and function of the nicotinic acetylcholine receptor. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark.

2004-2009. Virginia Borroni. Cell biology studies of acetylcholine receptors. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark.

2004-2009. Sofía Vallés. Characterization of the interaction between the anticonvulsivant Lamotrigine and the nicotinic acetylcholine receptor. Thesis supervision at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark.

2004-2009. Gaspar A. Fernández Nievas. Biochemical and biophysical studies of the interaction between the nicotinic acetylcholine receptor and free fatty acids and steroids. Thesis supervision at the Inst. Biochem. Res. in Bahia Blanca. Degree awarded: Ph. D. in Biology.

2004-2011. Vicente Bermúdez, thesis supervision together with Dr. M.I. Aveldaño at the Inst. of Biochemical Research of Bahía Blanca. Degree awarded: Ph. D. in Biochemistry, highest mark.

2009-2014. Constanza Kamerbeek, thesis supervision with Dr. M.F. Pediconi at the Inst. of Biochemical Research of Bahía Blanca.

2010-2014. Vanesa Perillo. Organization of the nicotinic acetylcholine receptor in simple and complex models. Fellowship of the Natl. Scie. Res. Council of Argentina. At the Inst. Invest. Bioquímicas. Co-director: Dr. Silvia Antollini. As from 2012 Dr. Antollini Director, F.J. Barrantes Co-director.

Olszewiki, Nicole

Fuster, Léa
Claverie, Emeline

PRINCEWILL SOPULUCHUKWU UDODI

2017-2024. Ezequiel Serrano. Doctoral Thesis candidate in Biomedical Sciences. Catholic University of Argentina (UCA). Thesis supervisor Co-director: Dr. Pablo G. Sáenz.

Fellowships awarded

1970-1972 Fellow. Argentine Scientific Research Council. Faculty of Medicine Univ. Buenos Aires, Argentina. (Prof. E. De Robertis).
1970. Fellow. The Wellcome Trust. U.K. Univ. of Birmingham, U.K. (Prof. B. Finean).
1972-1973 Pan American Health Organization / WHO Fellow. Research Associate at the Dept. of Biochemistry, Univ. of Illinois, U.S.A. (Prof. G. Weber).
1974-1974 Max-Planck-Society Fellowship. Dept. Molecular Biology, Max-Planck Institute for Biophysical Chemistry, Goettingen. (Dr. T.M. Jovin).
1975 European Molecular Biology (EMBO). Two short-term fellowships. Neurobiologie Moleculaire, Institut Pasteur, France (Prof. Dr. J.-P. Changeux).
1991 Royal Society Guest Research Fellow. Lab. Molec. Biology, MRC, Cambridge, England (Dr. N. Unwin).
1991 Fellow. Human Frontier Research Program, at Lab. Molec. Biology, MRC, Cambridge, England (Dr. N. Unwin).
2004 Fulbright Scholar to conduct studies at Harvard Medical School, Harvard University.

Some of the grants awarded

1979-1981 Deutsche Forschungsgemeinschaft (DFG, German Scientific Research Council). Grant Ba 671/1 (Subject: Kinetische Untersuchungen der molekularen Grundlagen der Signalübertragung an cholinergen Synapsen")
1982-1983 Deutsche Forschungsgemeinschaft (German Scientific Research Council, DFG): grant Ba 671/3-2.
1983-to date Argentinian Scientific Research Council (CONICET). Various research grants.
1988-1990 Volkswagen Stiftung Grant, together with Prof. Dr. T. M. Jovin of the Dept. Molecular Biology, and Dr. D. Marsh, Dept. of Spectroscopy, Max-Planck Institute for Biophysical Chemistry, Göttingen.
1990 (Dec.)-1991 (Mar.). Human Frontier Programme. To conduct research at the Laboratory of Molecular Biology, MRC, Cambridge, U.K.
1990-1993. International Center for Genetic Engineering and Biotechnology (ICGEB, UNIDO). Grant to support research program on: "Ionic channels in plant cells: Molecular basis for plan improvement in semi-arid regions".
1991-1992. Latin American Botanical Network. To undertake joint research project with Dr. R. Latorre, Univ. of Chile, on ionic channels in plant cells.
1992-1993. Joint grant with Prof. C. Gutiérrez-Merino, Department of Biochemistry and Molecular Biology, University of Extremadura, Spain, within the framework of the Programme for Cooperation with Iberoamerica.
1991-1994 ALAS, British Council. To undertake joint research project with Prof. G.G. Lunt, Department of Biochemistry, University of Bath, United Kingdom.
1992-1995 Inter-American Development Bank/CONICET.
1995-1996. Argentinian-Brazilian Biotechnology Commission (CABBIO). Joint grant with Prof. M. Armelin-Sogayar, Univ. of Sao Paulo, Brazil, to undertake a collaborative research project on the action of pesticides on the nicotinic acetylcholine receptor.
1995-1997 European Union. To undertake research on acetylcholine receptors. Collaborative grant with Prof. G. G. Lunt, Univ. of Bath, U.K.
1996-1997 Volkswagen Stiftung grant, together with Dr. T. M. Jovin of the Dept. Molecular Biology, Max-Planck Institute for Biophysical Chemistry, Göttingen. Renewal.

1996-1997 Joint grant with Prof. C. Gutiérrez-Merino, Department of Biochemistry and Molecular Biology, University of Extremadura, Spain, within the framework of the Programme for Cooperation with Iberoamerica.

1999-2001 British Council-Fundación Antorchas. Collaborative grant with Dr. Anthony Watts, Dept. of Biochemistry, Oxford University.

2000-2002 "Ramón Carrillo-Arturo Oñativia" Grant. Studies of α7 acetylcholine receptor and its possible involvement in inherited epilepsies. Ministry of Health, Argentina.

2000-2003 NIH Fogarty International Center Award (FIRCA). Collaborative grant with Dr. Michael White, Dept.Pharmacology, Alegheny University (now Drexel University), Philadelphia, Pennsylvania, U.S.A.

2003. Antorchas Foundation grant.

2004-2006. DAAD-Antorchas Foundation Research grant together with Prof. Stefan W. Hell, Max-Planck Institute for Biophysical Chemistry, Göttingen (*High-resolution optical microscopy of nicotinic receptor*).

2003-2005. Associate investigator in Grant No. 1 R01-DA15389 issued by the Department of Health and Human Services (DHS), National Institutes of Health (NIH), National Institute on Drug Abuse (NIDA), USA, together with Dr. R. Lukas, Catholic Healthcare West, St. Joseph's Hospital & Medical Center, Barrow Neurological Institute ("*Nicotinic receptors*").

2006-2008. Associate investigator in Grant No. R01-DA-15389 issued by the National Institutes of Health, USA, to Dr. R. Lukas, catholic healthcare west, St. Joseph's Hospital & Medical Center, Barrow Neurological Institute ("*Nicotinic receptors*").

2007-2009. Principal Investigator. Research grant from the Philip Morris Research Program of the Philip Morris Corp. on "*Lipid rafts, alpha 7-nicotinic receptor and hypercholesterolemic Endothelial Cell Impairment*".

2008-2012 PICT-Max-Planck 2006-00559 Grant. Ministerio de Ciencia, Tecnología e Innovación Productiva de Argentina, and Max-Planck Gesselschaft, Germany, "*Nanoscopy of acetylcholine receptor supramolecular organization*"**.**

2010-2014 Subsidio PICT-2008-1003. Ministerio de Ciencia, Tecnología e Innovación Productiva de Argentina, "Correlation between acetylcholine receptor and surrounding lipids".

2012-2016 PICT-2011-0604 Grant. Ministerio de Ciencia, Tecnología e Innovación Productiva de Argentina,"Organization and stability of nicotinic acetycholine recepts in health and disease". $343.000.

2012-1015. PIP Nº: 112-201101-01023. Argentinian Res. Council (CONICET). "Organization and dynamics of neuronal acetylcholine receptors" $ 300.000.

2013. "Synapses and dendritic spines in health and disease", International Symposium, International Society for Neurochemistry, $ 150.000.

2013. International School of the ISN "Synapses and dendritic spines in health and disease", Buenos Aires, Argentina, and Montevideo, Uruguay, September 1-15. $ 40.000.

2013-2015. Marie Curie Action- FP7-People-2009-IRSES Acronym: LAEL (Latin America-Europe Liaison, an exchange programme involving SISSA in Trieste, Italy, the University of Cambridge, U.K.

2014. 3rd ISN Latin American School of Advanced Neurochemistry- Experimental approaches to brain diseases. Directors: Prof. F. Dajas and F. J. Barrantes. Montevideo, Uruguay. U$D 40.000.

2016. PIP Nº: 11220150100858 (Res.D.Nº 011/16) del CONICET. *"Supramolecular structure, stability and dynamics of nicotinic receptors in health and disease".* $ 450.000.

2016. PICT 2015-2654 (Res. Nº 240-16) Ministerio de Ciencia, Tecnología e Innovación Productiva de Argentina*,"Lipid modulation of nicotinic acetylcholine receptors in health and synaptopathies".* $ 777.263.

2019. Grant from Nvidia Corporation of a 110 Deep Learning Teraflop Volta-based Nvidia Titan V GPU graphics card.

2021-2025. PICT 2021 Ministerio de Ciencia, Tecnología e Innovación Productiva de Argentina*,"Lipid modulation of nicotinic acetylcholine receptors in health and synaptopathies".* $ 800.000.

2022-2024. Alexander von Humboldt Institutspartnerschaft Grant, together with Prof. Christian Eggeling at Institute of Applied Optics and Biophysics, Friedrich-Schiller-Universität Jena, Jena, and Leibniz Institute of Photonic Technologies, Jena, Germany: "*Super-resolution microscopy studies of the topography and dynamics of acetylcholine receptor-membrane interactions*".

Membership in Scientific Societies:

1969-to date: British Biochemical Society, U. K.

1972-to date: Pharmacological Society, Argentina.

1973-to date: Biophysical Society, Argentina.

1974-1982 Sonderforschungsbereich 33 (Neurosciences) of the German Scientific Research Council (elected).

1977-to date: German Society of Biological Chemistry (elected).

1979-1983. Member of the Schwerpunktprogramm "Molekulare Grundlage der Signalübertragung" of the Deutsche Forschungsgemeinschaft (German Research Council).

1983-to date: Biochemical Society, Argentina.

1985-to date: American Chemical Society, U.S.A. / Biophysical Society, U.S.A.

1986-to date: International Society for Neurochemistry.
Sociedad Argentina de Neuroquímica (SAN).
Sociedad Iberoamericana de Neuroquímica (Ib.S.N.).
American Biophysical Society (nominated).

1986-1989. Secretary of the Sociedad Argentina de Neuroquímica (SAN).

1989-to date: Member, International Brain Research Organization (IBRO).

1994-to date: Member of the American Society for Neurochemistry (ASN).

1997-1999. Vicepresident, Argentine Society for Neurochemistry (SAN).

1999-2001. Member of the Programme Committee, ISN/ASN Biennial meeting Buenos Aires 2001.

1999. Member of the Program Committee, Latin American Physiological Congress, Cancun, August 2000.

1999-2001. President, Argentine Society for Neurochemistry (SAN).

2005. Elected Member of the Board of Directors (Council), International Society for Neurochemistry (ISN) (2005-2008 period).

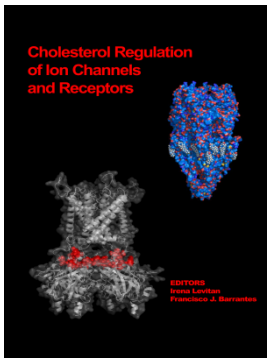
2006- Appointed member of the Basic Basic Science Subcommission, International League Against Epilepsy (ILAE).

2006-2008. Elected member of Council of the International Union of pure and Applied Biophysics (IUPAB).

Publications:

I) Books

Barrantes, F.J. (1998). *The nicotinic acetylcholine receptor: Current views and future trends*. Neuroscience Intelligence Unit. Springer Verlag, Berlin/Heidelberg and Landes Publishing Co., Georgetown, TX 226 pp.



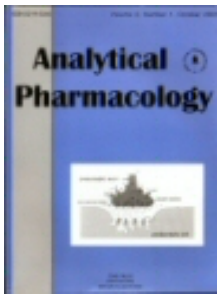
Levitan, I. & Barrantes, F.J. Eds. (2012) *Cholesterol Regulation of Ion Channels and Receptors. John Wiley & Sons. 289 pp.* ISBN-13: **978-0470874325**

II) **Review articles, monographs and chapters in books**

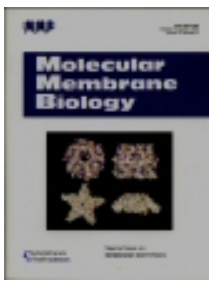
1. Barrantes, F.J. (1971). Biomembranas: Enfoques actuales en el estudio de su estructura. *Ciencia e Invest. 28* 111-124.
2. Barrantes, F.J. (1979). Endogenous chemical receptors: Some physical aspects. *Annu. Rev. Biophys. Bioeng. 8* 287-321.
3. Tan, Y.P., Stender, W., Harvey, A.L., Soria, B. and Barrantes, F.J. (1980). Interactions of fluorescent cholinergic antagonists with the membrane-bound acetylcholine receptor. In: *Molecular Aspects of Bioelectricity* (E. Schoffeniels and E. Neumann, eds.). Pergamon Press, Oxford, Nueva York, p. 257.
4. Zingsheim, H.P., Neugebauer, D.-Ch., Barrantes, F.J. and Frank, J. (1980). Image averaging of membrane-bound acetylcholine receptor from *Torpedo marmorata*. In: *Electron Microscopy at Molecular Dimensions* (W. Baumeister and W. Vogell, eds.) Springer-Verlag, Berlin, pp. 161-169.
5. Zingsheim, H.P., Barrantes, F.J., Haenicke, W., Neugebauer, D.-Ch. and Frank, J. (1980). Single particle image averaging of the acetylcholine receptor from *Torpedo marmorata*. In: *Electron Microscopy,* vol. 2 (P. Braderoo and W. De Priester, eds.), pp. 592-593.
6. Neugebauer, D.-Ch., Barrantes, F.J. and Zingsheim, H.P. (1980). Oxidation-dependent clustering of the acetylcholine receptor from *Torpedo marmorata*. In: *Electron Microscopy*, vol. 2 (P. Braderoo and W. De Priester, eds.), pp. 614-615.

7. Barrantes, F.J. (1982). Interactions between the acetylcholine receptor and the non-receptor, peripheral nu-peptide (Mr 43,000). In: Neuroreceptors (F. Hucho, ed.). W. de Gruyter, Berlin, Nueva York, pp. 315-328.
8. Barrantes, F.J. (1983). Structural, dynamic and functional aspects of the acetylcholine receptor: current state and open problems. *Period. Biol. 85 Suppl. 2* 61-66.
9. Barrantes, F.J. (1983). Recent developments in the structure and function of the acetylcholine receptor. *Int. Rev. Neurobiol*. *24* 258-341.
10. Walzthoeny, D., Barrantes, F.J., Eppenberger, H.M. and Wallimann, T. (1984). Localization of B-creatine kinase on acetylcholine receptor rich membrane vesicles with the immuno-gold technique. In: *Electron Microscopy* (A. Csanady, P. Roehlich and D. Szabo, eds.). Progr. Com. 8th Eur. Congr. Electron Microscopy, Budapest, Hungría, pp. 1609-1610.
11. Barrantes, F.J. (1986). Correlation of molecular structure with functional properties of the acetylcholine receptor protein. In: Ionic Channels in Cells and Model Systems (R. Latorre, ed.), Plenum Publ. Corp., Nueva York, EEUU, 385-400.
12. Barrantes, F.J. (1988). The acetylcholine receptor and its membrane environment. In: Physical properties of biological membranes and their functional implications (C. Hidalgo, ed.) Plenum Publishing Corp. Nueva York, 147-175.
13. Barrantes, F.J. (1988). Muscle Endplate Receptors. In: *Pharmacology & Therapeutics 38* 331-385.
14. Barrantes, F.J. (1989). The lipid environment of the nicotinic receptor in native and reconstituted membranes. In: Crit. Rev. Biochem. Molec. Biol. 24 (G. Fassman, ed.) (CRC Press, Boca Raton, Fl., EEUU), pp. 437-489.
15. Barrantes, F.J. (1992). Structural and functional crosstalk between the acetylcholine receptor and its membrane environment. *Molec. Neurobiol. 6*, 463-482.
16. Ortells, M.O., Cockroft, V.B., Lunt, G.G., Marsh, D. and Barrantes, F.J. (1992). The nicotinic acetylcholine receptor and its lipid microenvironment. Membrane Proteins: Structures, Interactions, and Models. (A. Pullman, B. Pullman, and J. Jortner, eds.), Kluwer Academic Publishers, pp. 185-198.
17. Barrantes, F.J (1993). Lipid effects on nicotinic acetylcholine receptor gating and kinetics: a structural-functional correlation. *Braz. J. Med. Biol. Res. 26* 553-571.
18. Barrantes, F.J. (1993). The lipid annulus of the nicotinic acetylcholine receptor as a locus of structural-functional interactions. In: Protein-Lipid Interactions. New Comprehensive Biochemistry, vol. 26 (Watts, A., ed.) Elsevier, Amsterdam, pp. 231-257.
19. Barrantes, F.J. (1993). Structural-functional correlates of the nicotinic acetylcholine receptor and its lipid microenvironment. *FASEB J. 7* 1460-1467 ***[cover]***.
20. Barrantes, F.J. (1995). Pharmacological sites for some local anaesthetic and steroid ligands at the nicotinic acetylcholine receptor-lipid interface. Proc. 24th Central European Congress on Anesthesiology. Vienna, Austria. Monduzzi Editore S.p.A., Bologna, Italia, pp. 487-492.
21. Barrantes, F.J. (1995). Learning about channel-forming proteins from an archetype cell membrane macromolecule: The acetylcholine receptor. In: Science in Latin America and the Caribbean and its Role in Regional Development. (A. Hamende, M.H.A. Hassan, J.L. Villlaveces and G. Violini, eds.). Editora Guadalupe Ltda., Vol. II, pp. 682-725.
22. Bouzat, C.B. and Barrantes, F.J. (1995). Identification of functional domains of the nicotinic acetylcholine receptor. *Comunic. Biol. 13* 1-34.

23. Barrantes, F.J. (1996). Canales activados por ligandos. Capítulo 13 In: *Biofísica and Fisiología Celular* (R. Latorre, J. López-Barneo, F. Bezanilla and R. Llinás, eds.), Ediciones Univ. Sevilla, España, pp. 337-351.
24. Barrantes, F.J. (1997). The acetylcholine receptor ligand-gated channel as a molecular target of disease and therapeutic agents. *Neurochem. Res. 22* 391-400.
25. Barrantes, F.J. Physical state of the nicotinic acetylcholine receptor membrane and modulation of the receptor channel by lipid effectors. In: From Ion Channel to Cell-to-Cell Conversations. (R. Latorre and J.C. Saenz, ed). Plenum Press, New York, (1997) pp. 199-216.
26. Barrantes, F.J. (1998). Introduction: Structure meets function at the acetylcholine receptor. In: *The nicotinic acetylcholine receptor: Current views and future trends* (F.J. Barrantes, ed.). Springer Verlag, Berlin/Heidelberg and Landes Publishing Co., Georgetown, TX, pp. 1-10.
27. Ortells, M.O., G.E. Barrantes and F.J. Barrantes (1998). Molecular modelling of the nicotinic acetylcholine receptor. In: *The nicotinic acetylcholine receptor: Current views and future trends* (F.J. Barrantes, ed.). Springer Verlag, Berlin/Heidelberg and Landes Publishing Co., Georgetown, TX. pp. 85-108.
28. Barrantes, F.J. (1998). Molecular pathology of the acetylcholine receptor. In: *The nicotinic acetylcholine receptor: Current views and future trends* (F.J. Barrantes, ed.). Springer Verlag, Berlin/Heidelberg and Landes Publishing Co., Georgetown, TX pp. 175-212.
29. Barrantes, F.J., Antollini, S.S. and Massol, R. (1999). Fluorescence studies of the nicotinic acetylcholine receptor in its membrane environment. *Bioscience Report 19* 335-344.
30. Barrantes, F.J., Antollini, S.S., Bouzat, C.B., Garbus, I. and Massol, R.H. (2000). Nongenomic effects of steroids on the nicotinic acetylcholine receptor. *Kidney Internat. 57* 1382-1389.
31. Massol, R.H. and Barrantes, F.J. (2001). Organochlorine insecticides: Ligand-gated ion channels as potential targets? *Anal. Pharmacology 2*, 9-21 ***[selected cover page article]***.



32. Barrantes, F.J. (2001). Cholinergic neurotransmission in health and disease. *Boletin Acad. Med. 78* 297-314.
33. Barrantes, F.J. (2001). Structural studies of the acetylcholine receptor in the membrane environment. *Current Science 81* 983-991.
34. Barrantes, F.J. (2001). Fluorescence studies of the acetylcholine receptor: Structure and dynamics in the membrane environment. *J. Fluoresc. 11* 273-285.
35. Barrantes, F.J. (2002). Lipid matters: nicotinic acetylcholine receptor-lipid interactions. *Molec. Memb. Biol. 19* 277-284 ***[cover page article]***.



36. Barrantes, F.J. (2003). Modulation of nicotinic acetylcholine receptor function through the outer and middle rings of transmembrane domains. *Current Opinion in Drug Discovery & Development 6*, 620-632.

37. Antollini, S., Baier, J., Blanton, M., Bonini, I., De los Santos, B., Gallegos, M.C., Garbus, I., Pediconi, M.F., Prieto, M., Roccamo, A.M., Wenz, J. and Barrantes, F.J. (2004). Structure and dynamics of acetylcholine receptor and its lipid microenvironment: from molecule to the cell. In: Cholinergic Mechanisms. Editorial: Taylor & Francis Group, London, U.K., pp. 33-38 (ISBN 1841840750).

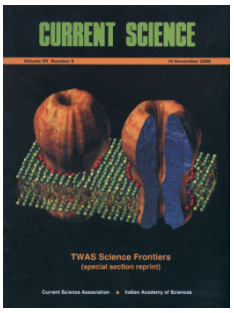
38. Barrantes, F. J. (2004). Structural basis for lipid modulation of nicotinic acetylcholine receptor function. *Brain Res. Rev. 47*, 71-95. ***[cover page article]***

39. Garbus, I., Wenz, J. and Barrantes, F.J. (2005). Nongenomic effects of steroids on the nicotinic acetylcholine receptor. *Current Topics in Neurochem. 4*, 21-34.

40. Antollini, S. and Barrantes, F.J. (2007). Laurdan Studies of Membrane Lipid-Acetylcholine Receptor Protein Interactions. Chap. 36. In: *Methods in Membrane Lipids* (A.M. Dopico, ed.). Humana Press Inc., Totowa, New Jersey, EEUU, pp. 531-542. ISBN 978-1-58829-662-7. ISSN 1064-3745.

41. Barrantes, F.J. (2007). Cholesterol effects on nicotinic acetylcholine receptor. *J. Neurochem. 103* (Suppl. 1), 72-80.

42. Barrantes, F.J. (2008). Dialogue between membrane lipids and acetylcholine receptor. Science Frontiers, TWAS Silver Jubilee, D. Balasubramanian, Ed. *Current Science 95*, 1150-1164. ***[cover page article]***



43. Antollini, S.S., Wenz, J.J. and Barrantes, F.J. (2009). Cholesterol, fatty acids and nicotinic acetylcholine receptors. In: Signal Transduction in Nervous Cells. Ed. S.V. Fedorovich. Research Signpost, Kerala, India, Cap. 3, pp. 39-61.

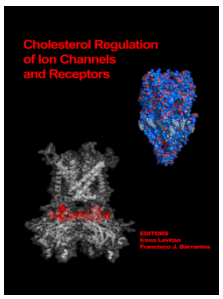
44. Barrantes, F.J., Bermúdez, V., Borroni, M.V., Antollini, S.S., Pediconi, M.F., Baier, C.J., Bonini, I., Gallegos, M.C., Roccamo, A.M., Vallés, A.S., Ayala, V., and Kamerbeek, C. (2009). Boundary lipids in the nicotinic acetylcholine receptor microenvironment. J. Mol. Neurosci. 40:87–90. doi: 10.1007/s12031-009-9262-z.

45. Fantini, J. and Barrantes, F.J. (2009). Sphingolipid/cholesterol regulation of neurotransmitter receptor conformation and function. *Biochim Biophys. Acta Biomemb. 1788,* 2345–2361.

46. Barrantes, F.J. (2009). The "nano-environment" of a neurotransmitter receptor (El "nano-ambiente" de un receptor de neurotransmisor). *Anales de la Academia Nacional de Ciencias Exactas Físicas and Naturales 61*, 55-68.

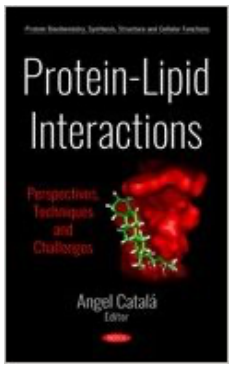
47. Barrantes, F.J., Borroni, V. and Vallés, S. (2010). Neuronal acetylcholine receptor-cholesterol crosstalk in Alzheimer's disease. *FEBS Lett. 584*, 1856-1863. *doi:10.1016-j.febslet.2009.11.036*

48. Barrantes, F.J. (2010). Cholesterol effects on nicotinic acetylcholine receptor: Cellular aspects. In: *Cholesterol binding proteins and cholesterol transport*. Chapter 17. Ed. R. Harris. Springer Verlag. ISSN: 0306-0225 *Subcell Biochem.* 51, 467-487.
49. Borroni, M.V. and Barrantes, F.J. (2011). Amyloid precursor protein in central and peripheral cholinergic synaptopathies. *Alzheimer's Dis. Res. Journal 3:11-28.*
50. Vallés, A.S. and Barrantes, F.J. (2012). Chaperoning α7 neuronal nicotinic acetylcholine receptors. *Biochim. Biophys. Acta –Biomembranes 1818,* 718-729. DOI *10.1016/j.bbamem.2011.10.012*
51. Barrantes, F.J. (2011) España and Argentina: Un fecundo lazo en la Biofísica. pp. 97 106. In: Veinticinco años de la Sociedad de Biofísica de España (1986-2011). *XXV Anniversary of Spanish Biophysical Society (1986-2011)*, Ed. Manuel Cortijo Mérida, Campobell SL, Murcia.
52. Levitan I. and Barrantes F.J. Preface to the book "Cholesterol Regulation of Ion Channels and Receptors" John Wiley & Sons. pp IX-X. (2012)
53. Barrantes, F.J. Regulation of the nicotinic acetylcholine receptor by cholesterol as a boundary lipid. In Levitan, I. and Barrantes, F.J. Eds. (2012) Cholesterol Regulation of Ion Channels and Receptors. John Wiley & Sons. pp. 183-204.

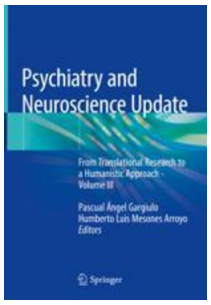


54. Barrantes, F.J. (2012) 5th Special Conference of the International Society for Neurochemistry 'Synapses and Dendritic Spines in Health and Disease'. *Adv. Clin. Neurol. & Rehabilitation 10 (13): 30.*
55. Fantini, J and Barrantes, F.J. (2013) How cholesterol interacts with membrane proteins: an exploration of cholesterol-binding sites including CRAC, CARC, and tilted domains. Front. Physiol. 4:31. 1-9. doi: 10.3389/fphys.2013.00031 1664-042X
56. Barrantes, F.J. (2013). Synapses Tango to the Rhythm of Buenos Aires: Advances and Outlooks, 5th ISN Special Conference "Synapses and dendritic spines in health and disease. J. Neurochemistry (0022-3042) 126:145.
57. Eggeling, C., Willig, K.I. & Barrantes, F. (2013). STED microscopy of living cells – New frontiers in Membrane and Neurobiology. J. Neurochemistry (0022.3042) 126: 203-212. *DOI: 10.1111/jnc.12243.*
58. Willig, K.I. & Barrantes, F.J. (2014). Recent Applications of Superresolution Microscopy in Neurobiology. *Current Opin. Chem. Biol. 20:16-21.*
59. Vallés, A.S., Borroni, M.V. and Barrantes, F.J. (2014). Targeting α7 brain nicotinic acetylcholine receptors in Alzheimer disease: Rationale and current status. *CNS Drugs* 28(11):975-987. *doi: 10.1007/s40263-014-0201-3.*
60. Barrantes F.J. (2014) Cell-surface translational dynamics of nicotinic acetylcholine receptors. *Front. Synaptic Neurosci.* 6:25, 1-16. *doi:10.3389/fnsyn.2014.00025*
61. Barrantes, F.J. (2015). Phylogenetic conservation of protein-lipid motifs in pentameric ligand-gated ion channels. *Biochim. Biophys. Acta. Biomembr.* 1848: 1796–1805. *http://dx.doi.org/10.1016/j.bbamem.2015.03.028.*
62. Barrantes, F.J. (2015). Sinapsis y sinaptopatías. *La Prensa Médica Argentina.* 101: 311-319.
63. Barrantes, F. J. (2015). The world's most complex puzzle. TWAS Newsletter 27 (1) 19.
64. Perez-Lloret, S. & Barrantes, F.J. (2016). Deficits in cholinergic neurotransmission and their clinical correlates in Parkinson's disease. *Nature Parkinson´s Disease 2, 16001, http://dx.doi.org/10.1038/npjparkd.2016.1*.

65. Barrantes, F.J. (2016). Gregorio Weber's Roots in Argentina. In: D.M. Jameson (ed.), *Perspectives on Fluorescence: A Tribute to Gregorio Weber*, Springer Ser. Fluoresc. 17: 17–40, DOI *10.1007/4243_2016_9*, Springer International Publishing Switzerland.
66. Barrantes, F.J. & Fantini, J. (2016). From hopanoids to cholesterol: molecular clocks of pentameric ligand-gated ion channels. *Prog Lipid Res.* 63:1-13. *doi: 10.1016/j.plipres.2016.03.003.*
67. Borroni, M.V., Vallés, A.S. and Barrantes, F.J. (2016). The lipid habitats of neurotransmitter receptors in brain. *Biochim. Biophys. Acta Biomembr*. 1858: 2662–2670.
68.
69. Di Scala, C., Baier, C.J., Evans, L.S., Williams, P.T.F., Fantini, J. & Barrantes, F.J. (2017). Relevance of CARC and CRAC cholesterol-recognition motifs in the nicotinic acetylcholine receptor and other membrane-bound receptors. In: "Sterol Regulation of Ion Channels", Levitan, I. Ed. *Curr. Top. Membr*. 80:3-23. *doi: 10.1016/bs.ctm.2017.05.001.*
70. Barrantes, F.J. (2017). Spatiotemporal dynamics of nicotinic acetylcholine receptors and lipid platforms. In: A. Chattopadhyay, Ed. *Springer series in Biophysics: Membrane Organization and Dynamics* 20, 195-217. *doi 10.1007/978-3-319-66601-3_9.*
71. Barrantes, F.J. (2018). The effects of cholesterol on the nicotinic acetylcholine receptor: An update. pp. 1-23. In: Protein-Lipid Interactions: Perspectives, Techniques and Challenges. Catalá, A. (Ed.) Nova Science Publishers ISNB 978-1-53613-125-3. (**Book cover from my chapter**).



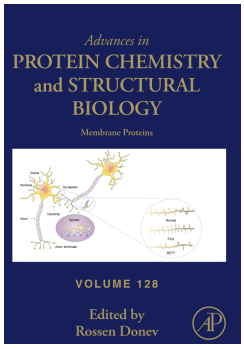
72. Di Scala, C., Fantini, J., Yahi, N., Barrantes, F.J. and Chahinian, H. (2018). Anandamide revisited: How cholesterol and ceramides control receptor-dependent and receptor-independent signal transmission pathways of a lipid neurotransmitter. *Biomolecules* 8, 31; 1-22. *doi:10.3390/biom8020031.*
73. Sanz, P.G., Grasso, L and Barrantes, F.J. (2018). Transdisciplinary assistance and translational research strategies to improve the quality of life of older adults at early stages of Alzheimer disease. *Psychol. Behav. Sci. Int. J.* 9(2) PBSIJ.MS.ID.555757. *doi: 10.19080/PBSIJ.2018.09.555758.*
74. Perez-Lloret, S., Bernath, V. and Barrantes, F. J. (2019). Genetic factors influencing the development and treatment of cognitive impairment and psychosis in Parkinson´s Disease. pp. 359-370. In: "Psychiatry and Neuroscience Update." Gargiulo, P.A. and Mesones Arroyo, H.L. (Eds.). Springer New York. New York. ISBN 978-3-319-95359-5. *doi: Ihttps://doi.org/10.1007/978-3-319-95360-1_29*



75. Barrantes, F.J. (2018). Jugando con el Microcosmos. *Ciencia e Investigación Reseñas* 6(4), 7-22.
76. Antollini, S.S. and Barrantes, F.J. (2019). Fatty acid regulation of voltage- and ligand-gated ion channel function. In: *Modulation of Ion Channels and Ionic Pumps by Fatty Acids: Implications in Physiology and Pathology*. pp. 87-103. Diaz, M. and Retamal, M.A., eds. Lausanne: Frontiers Media. *doi*: *10.3389/978-2-88945-755-7.*
77. Paz, M.L. & Barrantes, F.J. (2019). Autoimmune attack of the neuromuscular junction in myasthenia gravis: nicotinic acetylcholine receptors and other targets. *ACS Chem. Neurosci*. 10, 2186-2194. *doi: 10.1021/acschemneuro.9b00041.*
78. Quintá, H.R. and Barrantes, F.J. (2019). Damage and repair of the axolemmal membrane: From neural development to axonal trauma and restoration. Current Topics in Membranes,

84, 169-185. L.O. Andrade, Ed. Elsevier Inc. ISSN 1063-5823. doi.org/10.1016/bs.ctm.2019.07.007169

79. Fantini, J., Epand, R. and Barrantes, F.J. (2019). Cholesterol-recognition motifs in membrane proteins. In: A Rosenhouse-Dantsker, A.N. Bukiya (eds.), Direct Mechanisms in Cholesterol Modulation of Protein Function. *Adv. Exp. Med. Biol. 1135: 3-25.* https://doi.org/10.1007/978-3-030-14265-0_1
80. Sodero, A.O. & Barrantes F.J. (2020). Pleiotropic effects of statins on brain cells. *BBA Biomembr. 1862,* 18340. doi: 10.1016/j.bbamem.2020.183340
81. Caton, M. Ochoa, E.L.M. and Barrantes, F.J. (2020). The role of nicotinic cholinergic neurotransmission in delusional thinking. *Nature publ group Schizophrenia* 6:16. doi: 10.1038/s41537-020-0105-9.
82. Barrantes, F.J. (2020). While we wait for a vaccine: Why not think about available drugs?. *Frontiers in Physiol*. 11:820. 10.3389/fphys.2020.00820.
83. Barrantes, F.J. (2020). La pandemia covid-19: una singularidad que brinda la oportunidad de reformular estrategias. In: *Pospandemia. 53 políticas públicas para el mundo que viene.* CEPE. Univ. Torcuato Di Tella. pp. 25-28.
84. Barrantes, F.J. (2020). Central nervous system targets and routes for SARS-CoV-2: Current views and new hypotheses. *ACS Chem. Neurosci*. 11:2793-2803. 10.1021/acschemneuro.0c00434.
85. Barrantes, F.J. (2021). Possible implications of dysregulated nicotinic acetylcholine receptor diffusion and nanocluster formation in myasthenia gravis. *Neural Regen. Res.* 16(2):242-246.
86. Paz, M.L. & Barrantes, F.J. (2021). Cholesterol in myasthenia gravis. *Archiv. Biochem. Biophys.* 701:108788.doi: https://doi.org/10.1016/j.abb.2021.108788.
87. Serrano, E., Sanz, P.G. & Barrantes, F.J. (2021). The Impact of Apolipoprotein E Allelic Variants on Alzheimer's Disease. Chapt. 29. In: *Psychiatry and Neuroscience*, P. Á. Gargiulo, H. L. Mesones Arroyo (eds.), Springer Nature Switzerland AG. pp. 397-417. https://doi.org/10.1007/978-3-030-61721-9_29.
88. Barrantes, F.J. (2021). Structural biology of coronavirus ion channels. *Acta Cryst. D77*, 391-402. https://doi.org/10.1107/S2059798321001431.
89. Barrantes, F.J. (2021). The unfolding palette of COVID-19 multisystemic syndrome and its neurological manifestations. *Brain Behav. Immun.-Health* 14:100251. https://doi.org/10.1016/j.bbih.2021.100251
90. Barrantes, F.J. (2021) The contribution of biophysics and structural biology to current advances in COVID-19. *Annu. Rev. Biophys.* 50:493–523. https://doi.org/10.1146/annurev-biophys-102620-080956.
91. Borroni, M.V. & Barrantes, F.J. (2021). Homomeric and Heteromeric α7 Nicotinic Acetylcholine Receptors in Health and Some Central Nervous System Diseases. *Membranes 11, 664.* https://doi.org/10.3390/ membranes11090664.
92. Barrantes, F. J. (2021). Nanoscale interactions between the nicotinic acetylcholine receptor and cholesterol. *Biocell 45, 1479–1484.* http://dx.doi.org/10.32604/biocell.2021.016502
93. Barrantes, F.J. (2021). Fluorescence sensors for imaging membrane lipid domains and cholesterol In: *New Methods and Sensors for Membrane and Cell Volume Research Current Topics in Membranes 88,1-41.* I. Levitan Ed., Elsevier. ISSN 1063-5823. https://doi.org/10.1016/bs.ctm.2021.09.004
94. Vallés, A.S. & Barrantes, F.J. (2021). Nanoscale sub-compartmentalization of the dendritic spine compartment. *Biomolecules 11:*1697. https:// doi.org/10.3390/biom11111697.



95. Vallés, A.S. & Barrantes, F.J. (2022). Dendritic spine membrane proteome and its alterations in autistic spectrum disorder. Membrane Proteins vol. 128, R. Donev, Ed. In: *Adv. Protein Chemistry & Struct. Biology 128:435-474.* Doi: 10.1016/bs.apcsb.2021.09.003 *(chapter illustration is book cover).* Elsevier.
96. Barrantes, F. J. (2022). Fluorescent probes for microscopy visualization of cholesterol topography and dynamics in membranes Chapter 10. In: *Cholesterol: from Chemistry and Biophysics to the Clinic*, A. Bukiya & A. Dopico, Eds., Academic Press, pp. 205-225.
97. Azzaz, F., Chahinian, H., Yahi, N., Di Scala, C., Baier, C.J., Barrantes, F.J. & Fantini, J. (2022). Cholesterol-recognizing amino acid consensus motifs in transmembrane proteins: Comparative analysis of in silico studies and structural data. In: *Cholesterol: From Chemistry and Biophysics to the Clinic,* A. Bukiya & A. Dopico, Eds., Academic Press, pp. 127-145. https://doi.org/10.1016/B978-0-323-85857-1.00004-3
98. Barrantes, F.J. (2022) Fluorescence studies of nicotinic acetylcholine receptor and its associated lipid milieu: The influence of Erwin London´s methodological approaches. *J. Membr. Biol*. 255, 563–574. doi:10.1007/s00232-022-00239-9.
99. Barrantes, F.J. (2022) The constellation of cholesterol-dependent processes associated with SARS-CoV-2 infection. *Progr. Lipid Res. 87*: 101166. doi: 10.1016/j.plipres.2022.101166.
100. Vallés, A.S., Barrantes F.J. (2022). The synaptic lipidome in health and disease. *Biochim Biophys Acta Biomembr. 1864:184033*. doi: 10.1016/j.bbamem.2022.184033.
101. Vallés, A.S & Barrantes, F.J. (2022). Interactions between the Nicotinic and Endocannabinoid Receptors at the Plasma Membrane. *Membranes (Basel)* 12:812. doi: 10.3390/membranes12080812.
102. Barrantes, F.J. (2022). Fluorescence microscopy imaging of a neurotransmitter receptor and its cell membrane lipid milieu. *Front. Mol. Biosci.* 9, 1014659. https://doi.org/10.3389/fmolb.2022.1014659.
103. Colavitta, M.F., Grasso, L. & Barrantes, F.J. (2023). Environmental Enrichment in Murine Models and Its Translation to Human Factors Improving Conditions in Alzheimer Disease. *J Prev Alz Dis* 1-14. http://dx.doi.org/10.14283/jpad.2023.5
104. Barrantes, F.J. (2023). Antecedentes y orígenes de la Catedra de Histología y Embriologia y su Instituto asociado en la Facultad de Medicina de la Universidad de Buenos Aires. In "*Los 200 años de la Facultad de Medicina de la Universidad de Buenos Aires*" (*200 years of the Faculty of Medicine of the University of Buenos Aires*), Edic. Médicas de Sur, pp. 234-274.
105. Barrantes, F.J. (2023). Structure and function meet at the nicotinic acetylcholine receptor-lipid interface. *Pharmacol. Res.* 190, 106729. https://doi.org/10.1016/j.phrs.2023.106729.
106. Vallés, A.S. & Barrantes, F.J. Nicotinic acetylcholine receptor dysfunction in addiction and in some neurodegenerative and neuropsychiatric diseases. (2023). *Cells* 12, *205.* https://doi.org/10.3390/cells12162051.
107. Colavitta, M.F. & Barrantes, F.J. (2023). Therapeutic Strategies Aimed at Improving Neuroplasticity in Alzheimer Disease. Pharmaceutics 15, *2052.* https://doi.org/10.3390/pharmaceutics15082052.
108. Barrantes, F.J. (2024). Modulation of a rapid neurotransmitter receptor-ion channel by membrane lipids. *Front. Cell Dev. Biol*. 11:1328875. doi: 10.3389/fcell.2023.1328875.
109. Antollini, S.S.; Barrantes, F.J. (2024). Carlos Gutiérrez-Merino: Synergy of Theory and Experimentation in Biological Membrane Research. *Molecules* 2024, 29, 820. https://doi.org/10.3390/molecules29040820.

110. Barrantes, F.J. (2024). Cognitive synaptopathy: synaptic and dendritic spine dysfunction in age-related cognitive disorders. *Frontiers Aging Neurosci.* 16:1476909. *doi: 10.3389/fnagi.2024.1476909.*
111. Barrantes, F.J. (2024). The pleomorphic cholesterol sensing motifs of transmembrane proteins. *Chem. Phys. Lipids* 105460. *https://doi.org/10.1016/j.chemphyslip.2024.105460*
112. Vallés, A.S., Barrantes, F.J. (2024). Nicotinic acetylcholine receptors, cannabinoid receptors, and their interplay in drug addiction. In: *Psychiatry and Neuroscience Update Vol. V.* Gargiulo, P.A. & Mesones-Arroyo, Eds. pp. 284-305. Elsevier. ISBN: 978-3-031-72218-9. *doi.org/10.1007/978-3-031-72219-6.*
113. Barrantes, F.J. (2025). Nicotinic acetylcholine receptors in the brain. Chapter 4. pp 38-54. Handbook of Clinical Neurology, Vol. 211, (3rd. series). A.C. Cuello, Editor. Series Editors: Michael. E. Aminoff, Francois Boller, & Dick Swaab. *htpps://doi.org/10.1016/B978-0-443-19088-9.00004-4*.
114. Barrantes, F.J. (2026). Synapse-Associated Neuropathological Markers in Alzheimer Disease. Brain (in press).

iii) Full research papers

114. Barrantes, F.J. (1970). The neuromuscular junction of a pulmonate mollusc. I. Ultrastructural study. *Z. Zellforsch. 104*, 205-212.
115. Barrantes, F.J. and Lunt, G.G. (1970). Enzymic dissection of cerebral cortex synapses. *Brain Res. 23*, 305-313. DOI: 10.1016/0006-8993(70)90058-2
116. Vásquez, C., Barrantes, F.J., La Torre, J.L. and De Robertis, E. (1970). Electron microscopy of proteolipid macromolecules from cerebral cortex. *J. Mol. Biol. 52*, 221-226. DOI: 10.1016/0022-2836(70)90026-4
117. Weber, G., Borris, D., De Robertis, E., Barrantes, F.J., La Torre, J.L. and de Carlin, M.C.L. (1971). The use of a cholinergic fluorescent probe for the study of the cholinergic proteolipid. *Molec. Pharmac. 7*, 530-537.
118. De Robertis, E. and Barrantes, F.J. (1972). Blocking by alpha-bungarotoxin of the high affinity binding site of the cholinergic receptor proteolipid. *Eur. J. Pharmac. 17*, 303-305. DOI: 10.1016/0014-2999(72)90176-8
119. Barrantes, F.J., Vasquez, C., La Torre, J.L. and De Robertis, E. (1972). Structural changes in proteolipid proteins from electric tissue. *J. Microscopie 13,* 391-400.
120. Barrantes, F.J., La Torre, J., de Carlin, M.C.L. and De Robertis, E. (1972). Studies on proteolipid proteins from cerebral cortex. -I- Preparation and some properties. *Biochim. Biophys. Acta 263*, 368-381. DOI: 10.1016/0005-2795(72)90089-X
121. Barrantes, F.J. (1973). A comparative study of several membrane proteins from the nervous system. *Biochim. Biophys. Res. Commun. 54,* 395-402. DOI: 10.1016/0006-291X(73)90935-2
122. Barrantes, F.J. (1972). Studies on proteolipid proteins from cerebral cortex. -II- Liquid-crystalline phases in protein fraction II. *Rev. Micr. Electr. 1* 161-162.
123. Vásquez, C., de Palma, E. and Barrantes, F.J. (1973). Foot-and-mouth disease virus. Capside fine structure. *J. Microscopie 14*, 147-154.
124. Barrantes, F.J., Sakmann, B., Bonner, R., Eibl, H. and Jovin, T.M. (1975). 1-pyrene-butyrylcholine: A fluorescent probe for the cholinergic system. *Proc. Natl. Acad. Sci. U.S.A. 72*, 3097-4001. DOI: 10.1073/pnas.72.8.3097

125. Barrantes, F.J. (1975). The nicotinic cholinergic receptor: Different compositions evidenced by statistical analysis. *Biochem. Biophys. Res. Commun. 62*, 407-414. DOI: 10.1016/S0006-291X(75)80153-7
126. Barrantes, F.J., Arbilla, S., de Carlin, M.C.L. and De Robertis, E. (1975). Purification by affinity chromatography of nicotinic and muscarinic hydrophobic proteins separated by Sephadex LH 20. *Biochim. Biophys. Res. Commun. 63*, 325-327. DOI: 10.1016/S0006-291X(75)80029-5
127. Barrantes, F.J., Changeux, J.P., Lunt, G.G. and Sobel, A. (1975). Differences between the detergent-extracted acetylcholine receptor and the cholinergic proteolipid. *Nature 256*, 325-327. DOI: 10.1038/256325a0
128. Barrantes, F.J. (1976). Intrinsic fluorescence of the membrane-bound acetylcholine receptor: Its quenching by suberyldicholine. *Biochem. Biophys. Res. Commun. 72*, 479-488. DOI: 10.1016/S0006-291X(76)80067-8
129. Barrantes, F.J., Changeux, J.P., Lunt, G.G. and Sobel, A. (1976). Similarities between cholinergic proteolipids and detergent-extracted acetylcholine receptor. *Nature 259*, 605-606.
130. Bonner, R., Barrantes, F.J., and Jovin, T.M. (1976). Kinetics of agonist-induced intrinsic fluorescence changes in the membrane-bound acetylcholine receptor. *Nature 263*, 429-431. DOI:10.1038/263429a0
131. Dowdall, M.J., Barrantes, F.J., Stender, W. and Jovin, T.M. (1976). Inhibitory action of 1-pyrene butyrylcholine and related compounds on choline uptake by cholinergic nerve endings. *J. Neurochem. 27*, 1253- 1255.
132. Barrantes, F.J. (1978). Agonist-mediated changes of the acetylcholine receptor in its membrane environment. *J. Mol. Biol. 124*, 1-26. DOI: 10.1016/0022-2836(78)90144-4
133. Marsh, D. and Barrantes, F.J. (1978). Immobilized lipid in acetylcholine receptor-rich membranes from *T. marmorata*. *Proc. Natl. Acad. Sci. USA. 75* 4329-4333.
134. Macchi, E. and Barrantes, F.J. (1979). Structural characterization of ordered domains in a hydrophobic membrane protein. *Biopolymers 18*, 2979-2992.
135. Tan, Y. and Barrantes, F.J. (1980). Fast kinetics of antagonist-acetylcholine receptor interactions: A temperature-jump relaxation study. *Biochim. Biophys. Res. Commun. 92*, 766-774. DOI: 10.1016/0006-291X(80)90769-X
136. Tan, Y.P., Stender, W., Harvey, A.L., Soria, B. and Barrantes, F.J. (1980). Interactions of fluorescent cholinergic antagonists with the membrane-bound acetylcholine receptor. *Neurochem. Int. 2*, 257-267. DOI: 10.1016/0197-0186(80)90033-9
137. Barrantes, F.J. (1980). Modulation of acetylcholine receptor states by thiol modification. *Biochemistry 19*, 2957-2965.
138. Barrantes, F.J.(1980). Altered physical states of the acetylcholine receptor after affinity alkylation. *Eur. J. Pharmac. 65*, 49-53.
139. Zingsheim, H.P., Neugebauer, D.-Ch., Barrantes, F.J. and Frank, J. (1980). Structural details of membrane-bound acetylcholine receptor from *Torpedo marmorata*. *Proc. Natl. Acad. Sci. USA 77*, 952-956.
140. Barrantes, F.J., Neugebauer, D.-Ch. and Zingsheim, H.P. (1980). Peptide extraction by alkaline treatment is accompanied by rearrangement of the membrane-bound acetylcholine receptor. *FEBS Lett. 112*, 73-78. DOI: 10.1016/0014-5793(80)80131-1
141. Macchi, E.M., Barrantes, F.J. and Rigotti, G.E. (1980). Molecular motions in a solid-solid transition of sodium dodecylsulphate. *J. Appl. Cryst. 13,* 165-168.

142. Marsh, D., Watts, A. and Barrantes, F.J. (1981). Phospholipid chain immobilization and steroid rotational immobilization in acetylcholine receptor-rich membranes from *Torpedo marmorata*. *Biochim. Biophys. Acta 645*, 97-101. DOI: 10.1016/0005-2736(81)90516-2
143. Boheim, G., Hanke, W., Barrantes, F.J., Eibl, H., Sakmann, B., Fels, G. and Maelicke, A. (1981). Agonist-activated ionic channels in acetylcholine receptor reconstituted into planar lipid bilayers. *Proc. Natl. Acad. Sci. USA 78*, 3586-3590.
144. Bartholdi, M., Barrantes, F.J., and Jovin, T.M. (1981). Rotational molecular dynamics of the membrane-bound acetylcholine receptor revealed by phosphorescence spectroscopy. *FEBS Let. 120,* 389-397.
145. Barrantes, F.J. (1982). Oligomeric forms of the membrane-bound acetylcholine receptor disclosed upon extraction of the Mr 43,000 nonreceptor peptide. *J. Cell Biol. 92*, 60-68.
146. Criado, M. and Barrantes, F.J. (1982). Effects of periodate oxidation and glycosidases on structural and functional properties of the acetylcholine receptor and the non-receptor, peripheral nu-polypeptide (Mr 43,000). *Neurochem. Int. 4* 298-302. DOI: 10.1016/0197-0186(82)90066-3
147. Zingsheim, H.P., Neugebauer, D.-Ch., Frank, J., Haenicke, W. and Barrantes, F.J. (1982). Dimeric arrangement and structure of the membrane-bound acetylcholine receptor protein studied by electron microscopy. *EMBO J. 1* 541-547.
148. Criado, M., Eibl, H. and Barrantes, F.J. (1982). Effects of lipids on acetylcholine receptor. Essential need of cholesterol for the maintenance of agonist-induced state transitions in lipid vesicles. *Biochemistry 21* 3622-3629. DOI: 10.1016/0197-0186(82)90066-3
149. Zingsheim, H.P., Barrantes, F.J., Frank, J., Haenicke, W. and Neugebauer, D.-Ch. (1982). Direct structural localization of two toxin-recognition sites on an acetylcholine receptor protein. *Nature 299* 81-84. DOI: 10.1038/299081a0
150. Criado, M., Vaz, W.L.C., Barrantes, F.J. and Jovin, T.M. (1982). Translational diffusion of acetylcholine receptor (monomeric and dimeric forms) of *Torpedo marmorata* studied by fluorescence recovery after photobleaching. *Biochemistry 21*, 5750-5755.
151. Barrantes, F.J., Mieskes, G. and Wallimann, T. (1983). A membrane-associated creatine kinase (EC 2.7.3.2) identified as an acidic species of the non-receptor, peripheral nu-proteins in *Torpedo* receptor membranes. *FEBS Lett. 152*, 270-276. DOI: 10.1016/0014-5793(83)80394-9
152. Barrantes, F.J. (1983). Structural, dynamic and functional aspects of the acetylcholine receptor: current state and open problems. *Period. Biol. 85 Suppl. 2*, 61-66.
153. Barrantes, F.J., Mieskes, G. and Wallimann, T. (1983). Creatine kinase activity in the *Torpedo* electrocyte and in the nonreceptor, peripheral nu-proteins from acetylcholine receptor-rich membranes. *Proc. Natl. Acad. Sci. U.S.A. 80*, 5440-5444.
154. Criado, M. and Barrantes, F.J. (1984). Conversion of acetylcholine receptor dimers to monomers upon depletion of non-receptor peripheral proteins. *Biochim. Biophys. Acta 798*, 374- 381. DOI: 10.1016/0304-4165(84)90112-0
155. Criado, M., Eibl, H. and Barrantes, F.J. (1984). Functional properties of the acetylcholine receptor incorporated in model lipid membranes. Differential effects of chain length and head group of phospholipids on receptor affinity states and receptor-mediated ion translocation. *J. Biol. Chem. 259*, 9188-9198.
156. Regenfuss, P., Clegg, R.M., Fulwyler, M.J., Barrantes, F.J. and Jovin, T.M. (1985). Mixing liquids in microseconds. *Rev. Sci. Instrum. 56*, 283-290. DOI:
157. Wallimann, T., Walzthony, D., Wegmann, G., Moser, H., Eppenberger, H.M. and Barrantes, F.J. (1985). Subcellular localization of creatine kinase in *Torpedo* electrocytes.

Association of brain-type isoenzyme with acetylcholine receptor-rich membranes. *J. Cell Biol. 100*, 1063-1072. DOI: 10.1083/jcb.100.4.1063

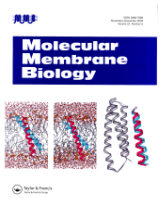
158. Barrantes, F.J., Braceras, A., Caldironi, H.A., Mieskes, G., Moser, H., Toren, E.C. Jr., Roque, M.E., Wallimann, T., and Zechel, A. (1985). Isolation and characterization of acetylcholine receptor membrane-associated (nonreceptor v2-protein) and soluble electrocyte creatine kinases (EC 2.7.3.2.). *J. Biol. Chem. 260*, 3024-3034.
159. Ginóbili de Martínez, M.S., Rodríguez de Turco, E.B. and Barrantes, F.J. (1985). Endogenous asymmetry of rat brain lipids and dominance of the right cerebral hemisphere in free fatty acid response to electroconvulsive shock. *Brain Res. 339*, 315-322. DOI: 10.1016/0006-8993(85)90097-6
160. Ginóbili de Martínez, M.S., Rodríguez de Turco, E.B., and Barrantes, F.J. (1986). Asymmetry of diacylglycerol metabolism in rat cerebral hemispheres. *J. Neurochem. 46*, 1382-1386.
161. Bonini de Romanelli, I.C., Roccamo de Fernández A.M. and Barrantes, F.J. (1986). Endogenous phosphorylation of protein and lipid components in nicotinic acetylcholine receptor membranes. I. Polyphosphoinositides, main substrates among postsynaptic membrane glycerophospholipids. *Comunic. Biol. 5*, 143-157.
162. Roccamo de Fernández, A.M., Bonini de Romanelli, I. and Barrantes, F.J. (1986). Endogenous phosphorylation of protein and lipid components in nicotinic acetylcholine receptor membranes. II. Modulation of phosphorylation in receptor and nonreceptor peripheral proteins. *Comunic. Biol. 5*, 159-168.
163. Arias, H. and Barrantes, F.J. (1987). *In vitro* turnover of oleate and arachidonate in lipids of Discopyge tschudii electrocyte membranes. *Comp. Biochem. Physiol. 86B*, 623-627. DOI: 10.1016/0305-0491(87)90458-5
164. Bonini de Romanelli, I., Roccamo de Fernández, A.M. and Barrantes, F.J. (1987). Extraction of peripheral proteins is accompanied by selective depletion of certain glycerophospholipid classes and changes in the phosphorylation pattern of acetylcholine receptor membrane proteins. *Biochem. J. 245*, 111-118.
165. Arias, H.R. & Barrantes, F.J. (1987). High levels of phosphorylation in minor phospholipids of *Discopyge tschudii* electrocyte membranes. *Neurochem. Int. 11*, 101-106. DOI: 10.1016/0197-0186(87)90155-0
166. Pediconi, M.F., Donoso, P., Hidalgo, C. & Barrantes, F.J. (1987). Lipid composition of purified transverse tubule membranes isolated from amphibian skeletal muscle. *Biochim. Biophys. Acta 921*, 398-404. DOI: 10.1016/0005-2760(87)90042-7
167. Rotstein, N.P., Arias, H.R., Barrantes, F.J. & Aveldaño, M.I. (1987). Composition of lipids in elasmobranch electric organ and acetylcholine receptor membranes. *J. Neurochem. 49*, 1333-1340.
168. Rotstein, N.P., Arias, H.R., Aveldaño, M.I. and Barrantes, F.J. (1987). Lipid metabolism in electroplax. *J. Neurochem. 49*, 1341-1347.
169. Alperin, D.M., Bouzat, C.B. and Barrantes, F.J. (1988). Distance between the propylbenzilylcholine mustard attachment site and carbohydrates and thiol groups in muscarinic acetylcholine receptor protein from rat cerebral cortex. *Biochem. J. 251*, 657-665.
170. Ginóbili de Martínez, M.S. and Barrantes, F.J. (1988). Ca^{2+} and phospholipid-dependent protein kinase activity in rat cerebral hemispheres. *Brain Res. 440*, 386-390. DOI: 10.1016/0006-8993(88)91013-X

171. Zanello, L.P., Curvetto, N.R. and Barrantes, F.J. (1988). A rapid method for isolation and purification of protoplasts from epidermal tissue of *Vicia faba L. MIRCEN J. Appl. Microbiol. Biotechnol. 4*, 275-283. DOI: 10.1007/BF01096133
172. Bouzat, C. B., Barrantes, F. J. and Alperin D.M. (1989). Muscarinic cholinergic receptor of rat cerebral cortex. Location and characterization of ligand binding site-carrying peptides in synaptosomal membranes and neuronal perikarya. *Biochem. J. 263*, 921-928.
173. Prado Figueroa, M. and Barrantes, F.J. (1989). Ultrastructure of the electric organ from *D. tschudii. Micr. Electr. Biol. Cel. 13*, 19-38.
174. Vidal, A., Prado Figueroa, M. and Barrantes, F.J. (1989). Polarization of different actin isoforms in Discopyge tschudii electrocytes. *Micr. Electr. Biol. Cel. 13*, 39-52.
175. Pediconi, M.F. and Barrantes, F.J. (1990). Brain asymmetry in phospholipid polar head group metabolism: parallel *in vivo* and *in vitro* studies. *Neurochem. Res. 15* , 25-32.
176. Bonini de Romanelli, I., Aveldaño, M.I. and Barrantes, F.J. (1990). Asymmetric distribution of phospholipids in acetylcholine receptor-rich membranes from *Torpedo marmorata* electric organ. *Int. J. Biochem. 22,* 785-789.
177. Horváth, L.I., Arias, H.R., Hankowszky, H.O., Hideg, K., Barrantes, F.J. and Marsh, D. (1990). Association of spin-labeled anesthetics at the hydrophobic surface of acetylcholine receptor in native membranes from *Torpedo marmorata. Biochemistry 29*, 8707-8713.
178. Arias, H.R., Sankaram, M.B., Marsh, D. and Barrantes, F.J. (1990). Effect of local anaesthetics on steroid-nicotinic acetylcholine receptor interactions in native membranes of *Torpedo marmorata* electric organ. *Biochim. Biophys. Acta 1027*, 287-294. DOI: 10.1016/0005-2736(90)90320-N
179. Arias, H.R. and Barrantes, F.J. (1990). Phosphoinositides and inositol phosphates in *Discopyge tschudii* electrocyte membranes. *Int. J. Biochem. 22*, 1387-1392. DOI: 10.1016/0020-711X(90)90227-T
180. Bouzat, C., Barrantes, F.J. and Sigworth, F.J. (1991). Changes in channel properties of acetylcholine receptors during the time course of thiol chemical modifications. *Pflügers Arch. 418*, 51-61.
181. Bouzat, C. and Barrantes, F.J. (1991). Acetylcholine receptor channel properties are modified by benzyl alcohol. *Neuroreport 2*, 681-684.
182. Vidal, A., Prado-Figueroa, M. and Barrantes, F.J. (1991). Distribution of actin-binding proteins, 43K protein and spectrin in *D. tschudii* electrocytes. *Microsc. Electr. Biol. Cel. 15*, 193-205.
183. Alonso, T.S., Bonini de Romanelli, I.C., Roccamo de Fernández, A.M. and Barrantes, F.J. (1992). Polyphosphoinositide synthesis and protein phosphorylation in the plasma membrane from full-grown *Bufo Arenarum* oocytes. *Comp. Biochem. Physiol. 102B*, 585-590.
184. Pediconi, M.F., Politi, L.E., Bouzat, C.B., de los Santos, E.B. and Barrantes, F.J. (1992). Myogenic differentiation of the muscle clonal cell line BC3H-1 is accompanied by changes in its lipid composition. *Lipids 27*, 669-672.
185. Zanello, L.P. and Barrantes, F.J. (1992). Blockade of the K^+-channel of *Chara contraria* by Cs^+ and tetraethylammonium resembles that of K^+ channels in animal cells. *Plant Science 86*, 49-58.
186. Pediconi, M.F. and Barrantes, F.J. (1993). Phospholipid metabolism under muscarinic cholinergic stimulation exhibits brain asymmetry. *Neurochem. Res. 18*, 559-563.

187. Pediconi, M.F., Roccamo de Fernández, A.M. and Barrantes, F.J. (1993). Asymmetric distribution and down-regulation of muscarinic acetylcholine receptor in rat cerebral cortex. *Neurochem. Res. 18*, 565-572.
188. Marcheselli, V. Daniotti, J.L., Vidal, A., Maccioni, H.J.F., Marsh, D. and Barrantes, F.J. (1993). Gangliosides in acetylcholine receptor-rich membranes from *Torpedo marmorata* and *Discopyge tschudii. Neurochem. Res. 18*, 599-603.
189. Bouzat, C.B. and Barrantes, F.J. (1993). Hydrocortisone and 11-desoxycortisone modify acetylcholine receptor channel gating. *NeuroReport 4*, 143-146.
190. Bouzat, C.B. and Barrantes, F.J. (1993) Acute exposure of nicotinic acetylcholine receptor to the synthetic glucocorticoid dexamethasone alters single-channel gating properties. *Molec. Neuropharm. 3*, 109-116.
191. Bouzat, C. B., Lacorazza, H.D., Biscoglio de Jiménez Bonino, M. and Barrantes, F.J. (1993). Effect of chemical modification of extracellular histidyl residues on the channel properties of the nicotinic acetylcholine receptor. *Pflügers Arch. (Eur. J. Physiol.) 423*, 365-371.
192. Bouzat, C.B. and Barrantes, F.J. (1993). Effects of long-chain fatty acids on the channel activity of the nicotinic acetylcholine receptor. *Receptors & Channels 1*, 251-258.
193. Arias, H.R., Alonso-Romanowski, S., Disalvo, E.A. and Barrantes, F.J. (1994). Interaction of merocyanine 540 with nicotinic acetylcholine receptor membranes from *Discopyge tschudii* electric organ. *Biochim. Biophys. Acta 1190*, 393-401.
194. Zanello, L.P. and Barrantes, F.J. (1994). Temperature sensitivity of the K^+ channel of *Chara.* A thermodynamic analysis. *Plant Cell Physiol. 35*, 243-255.
195. Gutiérrez-Merino, C., Bonini de Romanelli, I., Pietrasanta, L. and Barrantes, F.J. (1995). Preferential distribution of the fluorescent phospholipid probes NBD-phosphatidylcholine and rhodamine-phosphatidylethanolamine in the exofacial leaflet of acetylcholine receptor-rich membranes from *Torpedo marmorata*. *Biochemistry 34*, 4847-4855.
196. Prado Figueroa, M., Vidal, A.C. and Barrantes, F.J. (1995). Ultrastructure of *Psammobatis extenta* (Rajidae) electrocytes and cytochemical localization of acetylcholinesterase, acetylcholine receptor and F-actin. *Biocell 19,* 113-123.
197. Pediconi, M.F. and Barrantes, F.J. (1995). Down-regulation of brain muscarinic cholinergic receptor promoted by diacylglycerols and phorbol ester. *Neurochem. Res. 20*, 1225-1231.
198. Antollini, S.S., Soto, M.A., Bonini de Romanelli, I., Gutiérrez Merino, C., Sotomayor, P. and Barrantes, F.J. (1996). Physical state of bulk and protein-associated lipid in nicotinic acetylcholine receptor-rich membrane studied by Laurdan generalized polarization and fluorescence energy transfer. *Biophys. J. 70*, 1275-1284.
199. Politi, L.E., Bouzat, C., de los Santos, E.B. and Barrantes, F.J. (1996). Heterologous retinal cultured neurons and cell-attachment molecules induce clustering of acetylcholine receptors and polynucleation in the mouse muscle BC3H-1 cell line. *J. Neurosci. Res. 4*, 639-651.
200. Rotstein, N.P., Aveldaño, M.I., Barrantes, F.J. and Politi, L.E. (1996). Docosahexaenoic acid is required for the survival factor of rat retinal photoreceptors *in vitro*. *J. Neurochem. 66*, 1851-1859.
201. Zanello, L.P., Aztiria, E., Antollini, S. and Barrantes, F.J. (1996). Nicotinic acetylcholine receptor channels are influenced by the physical state of their membrane environment. *Biophys. J. 70*, 2155-2164.

202. Pietrasanta, L.I., Schaper, A., Fox, G.Q., Barrantes, F.J. and Jovin, T.M. (1998). Imaging the electrocyte of *Torpedo Marmorata* by scanning force microscopy. *Scanning Microsc. Internat. 10*, 963-974.
203. Bouzat, C. and Barrantes, F.J. (1996) Modulation of muscle nicotinic acetylcholine receptors by the glucocorticoid hydrocortisone. Possible allosteric mechanism of channel blockade. *J. Biol. Chem. 271*, 25835-25841.
204. Vidal, A., Prado Figueroa, M., Eberwein, M.E., Kreda, S. and Barrantes, F.J. (1997). Co-distribution of tropomyosin and α-actinin with actin *Psammobatis extenta* electrocytes brings out their similarity with muscle fiber cytoplasm. *Comp. Biochem. and Physiol. 116A*, 113-118.
205. Barrantes, G.E., Ortells, M.O. and Barrantes, F.J. (1997). Screening structural-functional relationships of neuropharmacologically active organic compounds. *Neuropharmacology 36*, 269-279.
206. Barrantes, F.J. (1997). The acetylcholine receptor ligand-gated channel as molecular target of disease and therapeutic agents. *Neurochem. Res. 22*, 391-400.
207. Bouzat, C.B. and Barrantes, F.J. (1997). Assigning functions to residues in the acetylcholine receptor channel region. *Mol. Memb. Biol. 14*, 167-177.
208. Ortells, M.O., Barrantes, G.E., Wood, C., Lunt, G.G. and Barrantes, F.J. (1997). Molecular modelling of the nicotinic acetylcholine receptor transmembrane region in the open state. *Protein Eng. 10*, 511-517.
209. Rotstein, N.P., Aveldaño, M.I., Barrantes, F.J., Roccamo, A.M. and Politi. L.E. (1997). Apoptosis of retinal photoreceptors during development *in vitro*: Protective effect of docosahexaenoic acid. *J. Neurochem. 69*, 504-513.
210. Bouzat, C., Roccamo, A.M., Garbus, I. and Barrantes, F.J. (1998). Mutations at lipid-exposed residues of the acetylcholine receptor affect its gating kinetics. *Molec. Pharmacol. 54*, 146-153.
211. Antollini, S.S. and Barrantes, F.J. (1998). Disclosure of discrete sites for different lipids at the protein-lipid interface in native acetylcholine receptor-rich membrane. *Biochem. 37*, 16653-1662.
212. Roccamo, A.M., Pediconi, M.F., Aztiria, E., Zanello, L., Wolstenholme, A. and Barrantes, F.J. (1999). Cells defective in sphingolipid biosynthesis express low amounts of muscle nicotinic acetylcholine receptor. *Eur. J. Neurosc. 11*, 1615-1623.
213. Bouzat, C. and Barrantes, F.J. (1999). Inherited and experimentally-induced changes in gating kinetics of muscle nicotinic acetylcholine receptor. *J. Mol. Neurosci. 13* 1-13.
214. Massol, R., Antollini, S.S. and Barrantes, F.J. (2000). Effect of organochlorine insecticides on nicotinic acetylcholine receptor membrane. *Neuropharmacology 39*, 1095-1106.
215. Aztiria, E.M., Armelin, M.C. and Barrantes, F.J. (2000). Expression of a neuronal nicotinic acetylcholine receptor in insect and mammalian host cell systems. *Neurochem. Res. 25* 171-180.
216. Bouzat, C., Barrantes, F.J. and Sine, S. (2000). Nicotinic receptor M4 domain: Hydrogen bonding by conserved threonine contributes to the channel gating kinetics. *J. Gen. Physiol. 115* 663-671.
217. Barrantes, F.J., Aztiria, E., Rauschemberger, M.B. and Vasconsuelo, A. (2000). The neuronal nicotinic acetylcholine receptor in some hereditary epilepsies. *Neurochem. Res. 25* 583-590.

218. Massol, R., Antollini, S.S. and Barrantes, F.J. (2000). Effect of organochlorine insecticides on nicotinic acetylcholine receptor membrane. *Neuropharmacol. 39* 1095-1106.
219. Barrantes, F.J., Antollini, S.S., Blanton, M.P. and Prieto, M. (2000). Topography of nicotinic acetylcholine receptor membrane-embedded domains. *J. Biol. Chem. 275*, 37333-37339. [***"key paper" en Biochemistry, Stryer L. 5ta Ed., The Molecular Design of Life 13. Membrane Channels and Pumps. Ligand-gated ion channels***].
220. Garbus, I., Bouzat, C. and Barrantes, F.J. (2001). Steroids differentially inhibit the nicotinic acetylcholine receptor. *Neuroreport 12*, 227-231.
221. Garbus, I., Roccamo, A.M. and Barrantes, F.J. (2002). Identification of threonine422 in transmembrane domain alphaM4 of the nicotinic acetylcholine receptor as a possible site of interaction with hydrocortisone. *Neuropharmacol. 43*, 65-73.
222. Bonini, I.C., Antollini, S.S., Gutiérrez-Merino, C. and Barrantes, F.J. (2002). Sphingomyelin composition and physical asymmetries in native acetylcholine receptor-rich membranes. *Eur. Biophys. J. 31*, 417-427.
223. Rauschemberger, M.B., Vecchi, C. and Barrantes, F.J. (2002). Search for α4 and α7 nicotinic acetylcholine receptor markers in a pedigree of benign familial infantile convulsions (BFIC). *Neurochem. Res. 27*, 1555-1560.
224. Antollini, S.S. and Barrantes, F.J. (2002). Unique effects of different fatty acid species on the physical properties of the *Torpedo* acetylcholine receptor membrane. *J. Biol. Chem. 227*, 1249-1254.
225. Mantipragada, S.B., Horváth, L.I., Arias, H.R., Schwarzmann, G, Sandhoff, K., Barrantes, F.J. and Marsh, D. (2003). Lipid-protein interactions and effect of local anesthetics in acetylcholine receptor-rich membranes from *Torpedo marmorata* electric organ. *Biochemistry 42*, 9167-9175.
226. Wenz, J. and Barrantes, F.J. (2003). Steroid structural requirements for stabilizing or disrupting lipid domains. *Biochemistry 42*, 14267-14276.
227. de Almeida, R.F.M., Loura, L.M.S., Prieto, M., Watts, A. Fedorov, A. and Barrantes, F.J. (2004). Cholesterol modulates the organization of the γM4 transmembrane domain of the muscle nicotinic acetylcholine receptor. *Biophys. J. 86*, 2261-2272.
228. Pediconi, M.F., Gallegos, C.E., De los Santos, E.B. and Barrantes, F.J. (2004). Metabolic cholesterol depletion hinders cell-surface trafficking of the nicotinic acetylcholine receptor. *Neuroscience 128*, 239-249.
229. Wenz, J. and Barrantes, F.J. (2005). Nicotinic acetylcholine receptor induces lateral segregation of phosphatidic acid and phosphatidylcholine in reconstituted membranes. *Biochemistry 44*, 398-410.
230. Xu, Y., Barrantes, F.J., Luo, X., Chen, K., Shen, J. and Jiang, H. (2005). Conformation dynamic of the nicotinic acetylcholine receptor channel: A 35-ns molecular dynamics simulation study. *J. Am. Chem. Soc.* (JACS) *127*, 1291-1299.
231. Williamson, P.T.F., Zandomeneghi, G., Barrantes, F.J., Watts, A. and Meier, B.H. (2005). Structural and dynamic studies of the γ-M4 transmembrane domain of the nicotinic acetylcholine receptor. *Mol. Membr. Biol. 22*, 485-496.
232. Antollini, S.S., Xu, Y., Jiang, H. and Barrantes, F.J. (2005). Fluorescence and molecular dynamics studies of the acetylcholine receptor γM4 transmembrane peptide in reconstituted systems. *Mol. Membr. Biol. 22,* 471-483. ***[tapa de revista]***



233. de Almeida, R. F. M., Loura, M. S., Prieto, M., Watts, A., Fedorov, A. and Barrantes, F.J. (2006). Structure and dynamics of the γM4 transmembrane domain of the acetylcholine receptor in lipid bilayers: insights into receptor assembly and function. *Mol. Membr. Biol. 23*(4), 305-315.
234. Xu, Y., Barrantes, F.J., Shen, J., Luo, X., Zhu, W., Chen, K. and Jiang, H. (2006). Blocking of the nicotinic acetylcholine receptor ion channel by chlorpromazine, a noncompetitive inhibitor: A molecular dynamics simulation study. *J. Phys. Chem. B 110*, 20640-20648. doi: 10.1021/jp0604591 (J. Phys. Chem. B Condens Matter Mater Surf Interfaces Biophys.).
235. Kellner, R. Baier, J., Willig, K.I., Hell, S.W. and Barrantes, F.J. (2007). Nanoscale organization of nicotinic acetylcholine receptors revealed by STED microscopy. *Neuroscience 144*, 135–143. doi: 10.1016/neuroscience.2006.08.071/
236. Roccamo, A.M. and Barrantes, F.J. (2007). Charged amino acid motif flanking each extreme of the αM4 transmembrane domain are involved in assembly and cell-surface targeting of the muscle nicotinic acetylcholine receptor. *J. Neurosci Res. 85*, 285-293. doi: 10.1002/jnr.21123
237. Valles, A.S., Garbus I. and Barrantes F.J. (2007). Lamotrigine is an open-channel blocker of the nicotinic acetylcholine receptor. *Neuroreport 18*, 45-50.
238. Fernández Nievas, G.A., Barrantes, F.J. and Antollini, S.S. (2007). Conformation-sensitive steroid and fatty acid sites in the transmembrane domain of the nicotinic acetylcholine receptor. *Biochemistry 46*, 3503-3512. doi.org/10.1021/bi061388z
239. Borroni, V. Baier, C.J., Lang, T., Bonini, I. White, M.W., Garbus, I., and Barrantes, F.J. (2007). Cholesterol depletion activates rapid internalization of diffraction-limited acetylcholine receptor domains at the cell membrane. *Molec. Membr. Biol. 24*, 1-15. **doi:** 10.1080/09687860600903387
240. Baier, C.J. and Barrantes, F.J. (2007). Sphingolipids are necessary for nicotinic acetylcholine receptor export in the early secretory pathway. *J. Neurochem. 101*, 1072-1084. doi:10.1111/j.1471-4159.2007.04561.x
241. Farías, G.G., Vallés, A.S, Colombres, M., Godoy, J.A., Toledo, E.M., Lukas, R., Barrantes, F.J. e Inestrosa, N.C. (2007). Wnt-7a induces presynaptic colocalization of α7-nicotinic acetylcholine receptors and adenomatous polyposis coli in hippocampal neurons. *J. Neurosci. 27*, 5313-5325.
242. Gallegos, C.E., Pediconi, M.F. and Barrantes, F.J. (2008). Ceramides modulate cell-surface acetylcholine receptor levels. *Biochim. Biophys. Acta Biomembr.* 1778: 917-930.

243. Liu, X., Xu, Y., Li, H., Wang, X., Jiang, H. and Barrantes, F. J. (2008). Mechanics of channel gating of the nicotinic acetylcholine receptor. *PLoS Computat. Biol.* 4:100-110. ***[journal cover]***
244. Liu, X., Xu, Y., Wang, X., Barrantes, F.J. and Jiang, H. (2008). Unbinding of nicotine from the acetylcholine binding protein: Steered molecular dynamics simulations *J. Phys. Chem. B 112,* 4087-4093. DOI: 10.1021/jpc0716738
245. Kumari, S., Borroni, V., Chaudhry, A., Chanda, B., Massol, R., Mayor, S. and Barrantes, F.J. (2008). Nicotinic acetylcholine receptor is internalized via a Rac-dependent dynamin-independent endocytic pathway. *J. Cell Biol. 181,* 1179-1193.

246. Fernandez Nievas, G.A., Barrantes, F.J. and Antollini, S.S. (2008). Modulation of nicotinic acetylcholine receptor conformational state by free fatty acids and steroids. *J. Biol. Chem. 283*, 21478-21486.
247. Vallés, A.S., Garbus, I., Antollini, S.S. and Barrantes, F.J. (2008). A novel agonist effect on the nicotinic acetylcholine receptor exerted by the anticonvulsive drug Lamotrigine. *Biochim. Biophys. Acta Biomembr. 1778*, 2395-2404.
248. Wenz, J. and Barrantes, F.J. (2008). Resolution of complex fluorescence spectra of lipids and nicotinic acetylcholine receptor by multivariate analysis reveals protein-mediated effects on the receptor´s immediate lipid microenvironment. *PMC Biophysics 1*:*6*, 1-17. http://www.physmathcentral.com/1757-5036/1/6.
249. Vallés, A.S., Roccamo, A.M. and Barrantes, F.J. (2009). Ric-3 chaperone-mediated stable cell-surface expressión of the neuronal α7 nicotinic acetylcholine receptor in mammalian cells. *Acta Pharmacol. Sin. 30*, 818-827.
250. Baier, C.J., Gallegos, C.E., Levi, V. and Barrantes, F.J. (2010). Cholesterol modulation of nicotinic acetylcholine receptor surface mobility. *Eur. Biophys. J. 39*, 213–227.
251. Roccamo, A.M., Cervellini, P.M., Piccolo, M.C. and Barrantes, F.J. (2010), Optimización de una técnica para la detección de patologías virales en *Pleoticus muelleri* (Bate, 1988) en el estuario de Bahía Blanca, Argentina. *Geoacta 35*, 40-47.
252. Wenz, J.J., Borroni, V. and Barrantes, F.J. (2010). Statistical analysis of high-resolution light microscope images reveals effects of cytoskeleton-disrupting drugs on the membrane organization of the nicotinic acetylcholine receptor. *J. Membr. Biol*. *235*,163-175.
253. Bermúdez, V., Antollini, S.S., Fernández Nievas, G.A., Aveldaño, M.I. and Barrantes, F.J. (2010). Partition profile of the nicotinic acetylcholine receptor in lipid domains upon reconstitution. *J. Lipid Res. 51*, 2629-2641.
254. Zheng, C., Yang, K., Wang M.-Y., Vallés, S., Lukas, R.J., Barrantes, F.J. and Wu, J. (2010). The anticonvulsive drug lamotrigine blocks neuronal α4β2-nicotinic acetylcholine receptors. *J. Pharmacol. & Exptl. Therapeut. 335*, 401–408.
255. Borroni, V. and Barrantes, F.J. (2011). Cholesterol modulates the rate and mechanism of acetylcholine receptor internalization. *J. Biol. Chem. 286*, 17122-17132.
256. Baier, C. J., Fantini, J. and Barrantes, F.J. (2011). Disclosure of cholesterol recognition motifs in transmembrane domains of the human nicotinic acetylcholine receptor. *Sci. Reports* 1:0069.
257. Ayala Peña, V.B. Bonini, I.C., Antollini., S.S., Kobayashi, T. and Barrantes, F.J. (2011). α7-type acetylcholine receptor localization and its modulation by nicotine and cholesterol in vascular endothelial cells. *J. Cell. Biochem.* 112:3276–3288.
258. Perillo, V.L., G.A. Fernández-Nievas, A.S. Vallés, F.J. Barrantes, and S.S. Antollini (2012). The position of the double bond in monounsaturated free fatty acids is essential for the inhibition of the nicotinic acetylcholine receptor. *Biochimica et biophysica acta. Biomembranes* 1818(11):2511-20.
259. Kamerbeek, C., Borroni, V., Pediconi, M.F., Sato, S.B., Kobayashi, T. and Barrantes, F.J. (2013). Antibody-induced acetylcholine receptor clusters inhabit liquid-ordered and liquid-disordered domains. *Biophys. J.* 105:1601-1611. *http://dx.doi.org/10.1016/j.bpj.2013.08.039.*
260. Baier, C. J., Franco, D. L., Gallegos, C. E., Mongiat, L. A., Dionisio, L., Bouzat, C., Caviedes, P., and Barrantes, F.J. (2014). Corticosterone affects the differentiation of a

neuronal cerebral cortex-derived cell line through modulation of the nicotinic acetylcholine receptor. *Neuroscience* 274:369–382. doi:10.1016/j.neuroscience.2014.05. 049.

261. Almarza, G., Sánchez, F. and Barrantes, F.J. (2014). Transient cholesterol effects on nicotinic acetylcholine receptor surface mobility. *PloS One* 9:e100346. doi: 10.1371/journal.pone.0100346
262. Posada, I.M.D., Fantini, J., Contreras, F.X., Barrantes, F.J., Alonso, A. and Goñi, F.M. (2014). A cholesterol recognition motif in human phospholipid scramblase 1. *Biophys. J.* 107: 1383-1392. doi: 10.1016/j.bpj.2014.07.039.
263. Baier C.J., Pallarés M.E., Adrover E., Monteleone M. C., Brocco M.A., Barrantes F.J. and Antonelli M.C. (2015). Prenatal restraint stress decreases the expression of alpha-7 nicotinic receptor in the brain of adult rat. *Stress* 18(4):435-445. doi: 10.3109/10253890.2015.1022148
264. Xu Y, Barrantes FJ, Luo X, Chen K, Shen J, Jiang H. (2015). Correction to Conformational dynamics of the nicotinic acetylcholine receptor channel: a 35-ns molecular dynamics simulation study. J Am. Chem. Soc. 137(11):3992. doi: 10.1021/jacs.5b02329.
265. Mulcahy, M.J., Blattman, S.B., Barrantes, F.J., Lukas, R.J. and Hawrot, E. (2015). Resistance to inhibitors of cholinesterase 3 (Ric-3) expression promotes selective protein associations with the human α7-nicotinic acetylcholine receptor interactome. PLoS One. 10(8):e0134409. DOI:10.1371/journal.pone.0134409
266. García, A.P., Aitta-aho, T., Schaaf, L., Heeley, N., Heuschmid, L., Bai, Y., Barrantes, F.J. & Apergis-Schoute, J. (2015). The cholinergic regulation of feeding-related hypothalamic networks. Distribution of the nicotinic acetylcholine receptor α4 subunit and α4-mediated influences on food intake and activity patterns in neurochemically-distinct hypothalamic circuits. PloS One 10(8):e0133327. doi: 10.1371/journal.pone.0133327
267. Pissinis, D.E., Díaz, C., Maza, E., Bonini, I.C., Barrantes, F.J., Salvarezza, R.C. and Schilardi, P.L. (2015). Functional nicotinic acetylcholine receptor reconstitution in Au(111)-supported thiolipid monolayers. *Nanoscale* 7: 15789-15797. DOI: 10.1039/c5nr04109k.
268. Perillo, V.L., Peñalva, D.A., Vitale, A.J., Barrantes, F.J. and Antollini, S.S. (2016). Transbilayer asymmetry and sphingomyelin composition modulate the preferential membrane partitioning of the nicotinic acetylcholine receptor in Lo domains. *Arch. Biochem. Biophys.* 591: 76-86. doi: 10.1016/j.abb.2015.12.003.
269. Fantini, J., Di Scala, C., Evans, L.S., Williamson, P.T.S. & Barrantes, F.J. (2016). A mirror code for protein-cholesterol interactions in the two leaflets of biological membranes. *Sci. Reports* 6:21907. doi: 10.1038/srep21907.
270. Kamerbeek, C.B., Mateos, M.A., Vallés, A.S., Pediconi, M.F., Barrantes, F.J. and Borroni, M.V. (2016). Diacylglycerol levels modulate the cellular distribution of the nicotinic acetylcholine receptor. *Int J Biochem Cell Biol.* 74:1-11. http://dx.doi.org/10.1016/j.biocel.2016.02.010.
271. Fantini, J., Di Scala, C., Baier, C.J., Barrantes, F.J. (2016). Molecular mechanisms of protein-cholesterol interactions in plasma membranes: Functional distinction between topological (tilted) and consensus (CARC/CRAC) domains. *Chem Phys Lipids* 199: 52-60. doi: 10.1016/j.chemphyslip.2016.02.009.
272. Barrantes, F.J. (2016). Single-molecule localization superresolution microscopy of synaptic proteins. A.K. Shukla (ed.), Membrane Proteins: Chemical and Synthetic Approaches, Springer Protocols Handbooks, DOI 10.1007/8623_2016_10, © Springer Science+Business Media, pp. 1-42.

273. Antollini, S.S. and Barrantes, F.J. (2016). Fatty acid effects on ion channels. *Frontiers in Physiol*. 7:1-17. *doi:10.3389/fphys.2016.00573*
274. Perez-Lloret, S., Peralta, M.C. & Barrantes, F.J. (2016). Pharmacotherapies for Parkinson's disease symptoms related to cholinergic degeneration. *Expert Opinion on Pharmacotherapy*. 17:2405-2415. *http://dx.doi.org/10.1080/14656566.2016.1254189.*
275. Barrantes, F.J. (2016). Cholesterol and nicotinic acetylcholine receptor: An intimate nanometer-scale spatial relationship spanning the billion year time-scale. *Biomed. Spectroscopy and Imaging 5*, S67–S86.
276. Pasquini, J.M., Barrantes, F.J. and Quintá, H.R. (2017). Normal development of spinal axons in early embryo stages and posterior locomotor function is independent of GAL-1. *J Comp. Neurol*. 525:1–15. *https://doi.org/10.1002/cne.24243*.
277. Barrantes, F. J. (2017). Reingeniería en Investigación y Desarrollo. En: 100 Políticas para la Argentina 2030. Carlos Abeledo ... [et al.]; compilado por Eduardo Levy Yeyati. - 1a ed. Ciudad Autónoma de Buenos Aires: Ciudad de Lectores, 2017. ISBN 978-987-3883-05-7. pp. 378-381.

278. Barrantes, F.J., Grasso, L. & Sanz, P.G. (2017). Estrategias para mejorar la calidad de vida del adulto mayor con enfermedad de Alzheimer (EA) mediante asistencia transdisciplinaria e investigación traslacional. En: Vivir mejor en medio de los límites. Aportes transdiciplinarios. V.M. Fernández & M.C. Zamora, Eds., Editorial Univ. Católica Argentina, p. 13-41.
279. Fantini, J. & Barrantes, F.J. (2018). How membrane lipids control the 3D structure and function of receptors. *AIMS Biophysics* 5: 22-35. *doi: 10.3934/biophy.2018.1.22.*
280. Paz, M.L., Manuelli, P.N., González Maglio, D.H., Aguirre, F., Villa, A., Leoni, J. and Barrantes, F.J. (2018). Nueva prueba diagnóstica para autoanticuerpos en miastenia gravis basado en un sistema de micropartículas fluorescentes libre de células". *Rev. Bioquím. & Patol. Clínica* 82(3): 12-17.
281. Mosqueira, A., Camino, P.A. & Barrantes, F.J. (2018). Cholesterol modulates acetylcholine receptor diffusion by tuning confinement sojourns and nanocluster stability. *Sci. Reports 8, 11974*. *https://doi.org/10.1038/s41598-018-30384-y.*
282. Mosqueira, A., Camino P.A. and Barrantes, F.J. (2020) Antibody-induced crosslinking and cholesterol-sensitive, anomalous diffusion of nicotinic acetylcholine receptors. *J. Neurochem. 152, 663-674. doi: 10.1111/jnc.14905*.
283. Barrantes, F.J. (2020). Nanoscopy in the Neurosciences. *Microscopy & Microanal. 26*, S1, 127-128. *DOI: https://doi.org/10.1017/S1431927620000859.*
284. Delmont, I., Buena-Maizon, H., Mosqueira, A. and Barrantes, F.J. (2020). Application of Artificial Intelligence Strategies to the Analysis of Neurotransmitter Receptor Dynamics in Living Cells. *Microscopy & Microanal. 26,* S1, 17-18. *DOI: https://doi.org/10.1017/S143192762000032X*.
285. Borroni, V., Kamerbeek, C., Pediconi, M.F. and Barrantes, F.J. (2020). Lovastatin Differentially Regulates α7 and α4 Neuronal Nicotinic Acetylcholine Receptor Levels in Rat Hippocampal Neurons. *Molecules 25, 4838; 1-16. doi:10.3390/molecules25204838.*
286. Corrêa Leite, P.E., de Araujo Portes, J., Rodrigues Pereira, M., Baldino Russo, F., Martins-Duarte, E.S., Almeida dos Santos, N., Attias, M., Barrantes, F.J., Baleeiro Beltrão-Braga, P.C., & de Souza, W. (2021). Morphological and biochemical repercussions of *Toxoplasma gondii* infection in a 3D human brain neurospheres model. *Brain, Behavior, & Immunity-Health 11: 100190. doi:/10.1016/j.bbih.2020.100190.*

287. Zelada, D., Barrantes, F.J. & Henríquez, J.P. (2021). Lithium causes differential effects on postsynaptic stability in normal and denervated neuromuscular synapses. *Sci. Reports 11:17285*. doi.org/10.1038/s41598-021-96708-7.
288. Buena Maizón, H. & Barrantes, F.J. (2021). A deep learning-based approach to model anomalous diffusion of membrane proteins: the case of the nicotinic acetylcholine receptor. *Briefings in Bioinformatics* 23, bbab435. doi: 10.1093/bib/bbab435.
289. Vallés, A.S. & Barrantes, F.J. (2021) Dysregulation of neuronal nicotinic acetylcholine receptor-cholesterol crosstalk in autism spectrum disorder. *Frontiers Molec. Neuroscience* 14:744597. doi: 10.3389/fnmol.2021.744597
290. García Menéndez, S., Martin Gimenez, V.M., Holick, M.F., Barrantes, F.J. & Manucha, W. (2022). COVID-19 and neurological sequelae: Vitamin D as a possible neuroprotective and/or neuroreparative agent. *Life Sci. 297*, 120464. doi.org/10.1016/j.lfs.2022.120464.
291. Saavedra, L.A., Buena-Maizón, H. & Barrantes, F.J. (2022). Mapping the nicotinic acetylcholine receptor nanocluster topography at the cell membrane with STED and STORM nanoscopies. *Int. J. Mol. Sci 23*,10423. doi.org/10.3390/ijms231810435.
292. Baier, C.J. & Barrantes, F.J. (2023). Role of cholesterol-recognition motifs in the infectivity of SARS-CoV-2 variants. *Colloids and Surfaces B: Biointerfaces* 222, 113090. doi.org/10.1016/j.colsurfb.2022.113090.
293. Serrano, E., Barrantes, F.J. & Valdivieso, A.G. (2023). Apolipoprotein E4 heterologous expression, purification under non-denaturing conditions, and effects on neuronal clonal cell lines. *Protein Expression and Purification 210*, 106312. https://doi.org/10.1016/j.pep.2023.106312.
294. García, A.P., Pérez, E., & Barrantes, F.J. (2023). Insulin resistance induced by long-term hyperinsulinemia abolishes the effects of acute insulin exposure on cell-surface nicotinic acetylcholine receptor levels and actin cytoskeleton morphology. Biochem. Biophys. Res. Commun. 685, 149165.
295. Saavedra, L. A, Mosqueira, A. & Barrantes, F.J. (2024). A supervised graph-based deep learning algorithm to detect and quantify clustered particles. *Nanoscale*, 2024, **16**, 15308 – 15318. DOI: 10.1039/d4nr01944j.
296. Saavedra, L. A. & Barrantes, F.J. (2025). Temporal convolutional networks work as general feature extractors for single-particle diffusion analysis. *J. Physics Photonics 7*(2), 025017. DOI 10.1088/2515-7647/adbec8
297. Reina, F., Saavedra, L.A., Eggeling, C & Barrantes, F.J. (2025). Concurrent diffusion of nicotinic acetylcholine receptors and fluorescent cholesterol disclosed by two-colour sub-millisecond MINFLUX-based single-molecule tracking. *Nature Commun.* (2025) **16** (1) 6336. https://doi.org/10.1038/s41467-025-61489-4.
298. Barrantes, F.J. (2025). The pleomorphic cholesterol sensing motifs of transmembrane proteins. Chem. Phys. Lipids ***266***, 105460. https://doi.org/10.1016/j.chemphyslip.2024.105460.
299. Muñoz-Gil, G., Bachimanchi, H., Pineda, J., Midtvedt, B., Lewenstein, M., Metzler, R., Krapf, D., Manzo, C., Fernández-Fernández, G., Requena, B., Ahsini, Y., Conejero, A.J., Volpe, G., Bae, J., Jeong, H., Barrantes, F.J., Saavedra, L.A., Bender, S., Hatzakis, N., Kæstel-Hansen, J., Cabriel, C., Izeddin, I., Escoto, M. Feng, X., Haidari, R., Huang, Z., Jiang, Y., Miné-Hattab, J., Park, J., Sokolovska, N., Ni, R., Qu, X., Asghar, S., Sha, H and Zhang, Y. (2025). Quantitative evaluation of methods to analyze motion changes in single-particle experiments. *Nature Commun.* **16,** 6749. https://doi.org/10.1038/s41467-025-61949-x.

300. Infante Cruz, A., Saibene Vélez, P.M., Rosato, M., Remes Lenicov, F., Iturrizaga, J., Abelleyro, M., Candolfi, M., Regueira, E., Gladys, G., Vermeulen, M., Berner, S., Barrantes, F.J., Jancic, C., Villaverde, M., Salamone, G.V. (2026). Influence of the cholinergic system on the pathogenesis of glioblastoma: Impact of the neutrophil granulocytes. *Int. J. Molec. Sci.* **27***(1), 321.* https://doi.org/10.3390/ijms27010321.
301. Saavedra, L.A. & Barrantes, F.J. (2026). Machine Learning in Single-Molecule Tracking Analysis of Superresolution Optical Microscopy Data. *Cells*, 15, 686. https://doi.org/10.3390/cells15080686.
302. Barrantes, F.J. (2026). Synapse-Associated Neuropathological Markers in Alzheimer Disease. *Brain*, awag117, https://doi.org/10.1093/brain/awag117

iv) **General Articles on Science for the general public or editorial articles**

Barrantes, F.J. (1988). ¿Transplantes de cerebro en ciernes? Neuronas and Estrellitas. El universo en que vivimos. *La Nueva Provincia*, Bahía Blanca, 29 August.

Barrantes, F.J. Editor (1997). Report on the visit to the Department of Entomology and Neuroscience, University of California, USA, of Dr. Laura Zanello. *ISN Newsletter* **1**.

Barrantes, F.J. Editor (1997). Report on an ISN-supported research project in Moscow, Russia. *ISN Newsletter* **1**.

Barrantes, F.J. Editor (1998). Report on the visit to Buenos Aires and Córdoba, Argentina, of Dr. Araceli Espinosa De Los Monteros. *ISN Newsletter* **1**.

Barrantes, F.J. Institute for Biochemical Research, Bahía Blanca, Argentina. *ISN Newsletter* **2**, 1998.

Barrantes, F.J. Editor (1999). Report on the ISN-supported workshop on "Moving frontiers in brain research". *ISN Newsletter* **1**.

Barrantes, F.J. (2001). Foreword. XVth National Meeting of the Argentine Society for Neurochemistry. *Cell Molec. Neurobiol.* **21**, 109-110.

Barrantes, F.J. (2001). UNESCO Chair of Biophysics and Molecular Neurobiology. *J. Biomedicine & Biotechnology* 1, 97-98.

Barrantes, F.J. (2009). Editorial. Digital Bulletin of the Scientific & Technological Center of the Argentine Research Council (CONICET)-Bahia Blanca. *Bol. No. 1.*

Barrantes, F.J. (2013) Synapses and dendritic spines in health and disease. J. Neurochem. 122 (Suppl. 1) iv (2012) *doi: 10.1111/j.1471-4159.2012.07878.x*

Barrantes, F.J. (2014). Gambeteando la barrera de difracción (*Bypassing the diffraction barrier*). Ciencia Propia. CONICET.

Barrantes, F.J. (2015). The world´s most complex puzzle. TWAS Newslett. 27:19.

Barrantes, F.J. (2016). Esquizofrenia: ¿Poda excesiva en el jardín cerebral? (*Schizophrenia: Excessive trimming in the cerebral garden?*). Ciencia Propia. CONICET.

Recent lectures

2019

- "Microscopía de Superresolución en Neurociencias". Instituto de Biología Celular y Neurociencias E. De Robertis, Fac. Medicina, Universidad Nacional de Buenos Aires. 21 Apr.
- "Brain Matters" Plenary Lecture. Alexander von Humboldt Kolleg, Pontifical Catholic

University of Porto Alegre, Brasil. 16 May.
- “Explorando el Cerebro en la Nanoescala, en Salud y Enfermedad” en Instituto de Medicina Traslacional, Universidad Austral, Pilar, Pcia. de Buenos Aires. 5 June.
- “Cholesterol modulation of nicotinic acetylcholine receptor single molecule and nanocluster trajectories”. Soc. Europea de Biofísica (EBSA)-International Union of Biophysical Societies (IUPAB), Madrid, Spain, 23 July.
- “Cholesterol modulation of topology and dynamics of an ionic ligand-gated channel.” Montevideo, Uruguay, 7 Sept.
- “Introduction to superresolution microscopy”, en el Curso Internacional de la International Brain Organization (IBRO), la Sociedad de Neurociencias (SfN) y la Universidad Autónoma de Mexico, Mexico, 12-14 Sept.
- “Exploring the brain at the nanoscale, in health and disease” “Enlightening the brain: light as a tool for understanding the function of the nervous system”, en el Instituto de Fisiologia, Universidad Autonoma de Mexico, Mexico, 13 Sept.
- “Nanoscopy in Neurosciences”. CIASEM Latin American Congress of Microscopy Societies. Buenos Aires, 4 Oct.
- “Sinapsis: ¿Donde están. Cómo las vemos, para qué verlas?” 27th. Neurophtalmology Congress Buenos Aires, 5 Oct.
- “Alexander von Humboldt y sus vínculos con la medicina argentina, a través de la farmacobotánica”. Barrantes, in: “250 Años del nacimiento de Alexander von Humboldt. Centro Cultural de la Ciencia, Buenos Aires, 24 Oct.
- “4 Billion year-old nanoscale intimacy between ion channels and sterol-like molecules: An evolutionary dialogue”. XIV Congress de la Pan-American Association of Biochemistry and Molecular Biology, Salta, Nov.
- “Optical superresolution microscopy”. International Workshop on Advanced Microscopies, Facultad de Ingeniería, Universidad Nacional de Entre Ríos, Oro Verde, Entre Ríos. 27 Nov.

2020
- “Recent advances in COVID-19” Conferencia virtual. En: Instituto de Biomedicina de Buenos Aires (InBioBA)-Max-Planck Partner Institute. 3 Aug.
- “Aportes de la microscopía electrónica al conocimiento del virus de la pandemia COVID-19”.
- Online lecture at Workshop "Capacidades Tecnológicas e Investigaciones de Microscopía Electrónica en Argentina”, 9 Sept.
- “Fisiopatología del receptor de acetilcolina y otros actores moleculares en la miastenia gravis” In: Ateneo de Neurologia Htal. Ramos Mejia: Centro Universitario Neuroinmunología (CADENI) de la Facultad de Medicina de la UBA, 7 Sept.
“Qué ha hecho y qué puede hacer la ciencia en la pandemia”, La Ciencia como Motor del Desarrollo. Escuela de Universidad Di Tella, 24 Sept. “Aportes de la Biologia Molecular Estructural a la COVID-19” BIOMED, UCA-CONICET, 20 Oct.
- “Recent advances in COVID-19” Teleconference: Instituto de Biomedicina Partner de laSoc. Max Planck (INBIOBA).

2021
- “La microscopía de superresolución como herramienta para interrogar la dinámica receptor de acetilcolina-colesterol” Teleconferencia en Instituto de Biología y Medicina Experimental (IBYME) (16/06/21).

- “El receptor de acetilcolina y el 51° aniversario del INIBIBB” Teleconferencia invitada en celebración del 51°aniversario del Instituto de Invest. Bioquímicas de Bahía Blanca (08/21).
- “El impacto de la Biología Molecular Estructural del SARS-CoV-2 en los avances sobre la fisiopatología de la COVID-19” Teleconference. Reunión Anual de la Sociedad Argentina de Fisiología (SAFI): (22 Oct).
- “Solving SARS-CoV-2 Structure and its Biomedical Impact”. Teleconferencia por invitación en la XVI Annual Meeting, Arg. Soc. Crystallography. (22-Oct).
- “Acetylcholine receptor anomalous diffusion: possible causes and biological implications”. Teleconference 3rd Annual Workshop in Advanced Microscopy and Biophotonics, Montevideo, Uruguay. (25 Nov.).

2023
- “The individual molecule and its tribe, the nanocluster: the case of the nicotinic acetylcholine receptor”. Weber Symposium of Quantitative Fluorescence and Biological Applications, Punta del Este, Uruguay, 9 Jan.
Current and Future Impacts of Superresolution Microscopy in Medicine” Institute of Experimental Medicine, Natl. Academy of Medicine, Buenos Aires, 30 June.
- “Impact of Superresolution Microscopy in Biomedicine” BIOMED, Fac. Medicine, 6 July.
- “Superresolution microscopies and their Applications in Neurobiology” International Society for Neurochemistry (ISN) Advanced School on Neurosciences, Caminha, Portugal, 4 Aug.
- “Cholesterol modulation of nicotinic acetylcholine receptor topography, single molecule trajectories and nanocluster assembly”. Lecture at Symposium on “Interrogation of the nervous system with fluorescence spectroscopy and optical superresolution microscopy” International Society for Neurochemistry, Porto, Portugal, 11 Aug.
- “Cholesterol modulation of nicotinic acetylcholine receptors”. Lecture at Symposium in Honor of Luis Bagatolli, Santiago del Estero, Argentina, 27 Sept.
- “The nicotinic acetylcholine receptor and its modulation by the membrane environment” Lecture at Sociedad Argentina de Neurociencias (SAN), San Luis, 6 Oct.
- “Visualización de moléculas receptoras de neurotransmisores usand ultraresolución” En ciclo “Las Neurociencias en México y el Mundo. Y se hizo la luz: desde receptores hasta circuitos neuronales. Colegio de Mexico, Mexico Distrito Fed. (conf. virtual) 23 Oct.

2024
- “ Nicotinic acetylcholine receptor and its interaction with the membrane” Instituto de Nanosistemas, Universidad Nacional de San Martín (UNSAM), 16 May.
- “Molecular cartography and dynamics of the acetylcholine rceptor rendered by optical superresolution microscopies”. 8th Argentine Congress of Microscopy, Argentine Society for Microscopy (SAMIC). Tafí Viejo, Tucumán, 30 May.
- “Single-molecule localization: STORM, PALM & DNA-PAINT. Expanding global access to bioimaging fluorescence nanoscopy. Charles Zuckerberg Foundation. IBYME, 8 Aug 2024.
- “Mapping the nicotinic acetylcholine receptor topography, single-molecule trajectories and nanocluster assembly” "Fluorescence Nanoscopy in Bioimaging Congress 2024" (SUPERRES), International Congress, Charles Zuckerberg Foundation, Rio de Janeiro, Brasil, 22 Aug 2024.
- “Superresolution approaches to study topography and dynamics of a neurotransmitter receptor in the membrane” at Workshop on Superresolution microscopies FOMISUR, at the Center for Optics (CIBION). 11 Dec 2024.

2025

- Cognitive synaptopathies" National Academy of Medicine, Buenos Aires, March 20, 2025.
"Cognitive synaptopathies: The synapse as early target of cognitive deterioration". Instituto de Investigaciones Médicas Translacionales, Austral University, Pilar, Argentina. May 2025.
- "Dynamics of the nicotinic acetylcholine receptor studied with MINFLUX microscopy" Internationational Weber Symposium on Innovative Fluorescence Methodologies in Biochemistry and Medicine. Genova, Italy, June 18 2025.
- "Aeons of togetherness: Interactions between a membrane-bound neurotransmitter receptor and cholesterol". Italian Institute of Technology, Genova, Italy, July 16 2025.
- "Acetylcholine receptor-cholesterol crosstalk: Structure meets dynamics at the protein-lipid interface" at the Max-Planck-Institute for Multidisciplinary Studies, Göttingen, Germany, October 14, 2025.
- "Structure and dynamics meet at the nicotinic receptor-lipid interface: A multidisciplinary approach" at Workshop on Superresolution microscopies FOMISUR, at the Center for Optics (CIBION), November 6, 2025.