## **CURRICULUM VITAE**

## **Claudio Grosman**

### Department of Molecular and Integrative Physiology

Center for Biophysics and Quantitative Biology

Program in Neuroscience

### University of Illinois at Urbana-Champaign

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# EDUCATION

1985–1989 University of Buenos Aires, Argentina

B.S. in Biochemistry, School of Pharmacy and Biochemistry.

1990–1991 University of Buenos Aires, Argentina

M.S. in Biochemistry School of Pharmacy and Biochemistry.

1992–1996 University of Buenos Aires, Argentina

Ph.D., Department of Analytical and Physical Chemistry, School of Pharmacy and Biochemistry. Dissertation title: Characterization of ion channels from syncytial epithelia at the single-molecule level Advisor: Dr. Ignacio L. Reisin.

# PROFESSIONAL EXPERIENCE

# 1997–1999 Postdoctoral Associate; Dept. Physiology & Biophysics; SUNY at Buffalo (Mentor: Dr. Anthony Auerbach)

# 01/2000–07/2002 Research Assistant Professor; Dept. Physiology & Biophysics; SUNY at Buffalo

# 08/2002–07/2008 Assistant Professor, Dept. Molecular & Integrative Physiology; University of Illinois at Urbana-Champaign

# 08/2008–07/2013 Associate Professor, Dept. Molecular & Integrative Physiology; University of Illinois at Urbana-Champaign

2009–2014 Director of the NIH Molecular Biophysics Training Grant

# 08/2013–present Professor, Dept. Molecular & Integrative Physiology; University of Illinois at Urbana-Champaign

2014–present Member of the Editorial Advisory Board of the *Journal of General Physiology*

2014–2017 Richard and Margaret Romano Professorial Scholar

# 2015–present Affiliated faculty of the Computational Science and Engineering Group; College of Engineering, University of Illinois at Urbana-Champaign

# 2017–present Head, Dept. Molecular & Integrative Physiology; University of Illinois at Urbana-Champaign

**RESEARCH INTERESTS**

* Quantitative biology of ion channels at the single-molecule level
* Structure-function relationships of synaptic ionotropic receptors
* Ionizable residues as a probe of structure and electrostatics in ion channels
* Elucidation of the molecular mechanisms of allosteric transitions in ion channels through transition-state mapping; linear free-energy relationships
* Ligand-affinity changes during allosteric transitions
* Quantitative description of the factors that contribute to the shape of synaptic currents in normal and disease conditions

#### GRANTS

* Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH 04/01/18–03/31/23 (R01 Award) **$1,326,584** (direct costs)
* Supplement for Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH 06/30/17–11/30/17 **$66,872** (direct costs)
* Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH 06/01/12–05/31/18 (R01 Award) **$1,134,375** (direct costs)
* Supplement for Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH 09/01/09–08/31/11 **$150,000** (direct costs)
* Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH 06/01/08–05/31/12 (R01 Award) **$875,000** (direct costs)
* Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH 06/01/07–05/31/08 (R56 Award). **$250,000** (direct costs)
* Mechanisms of Neurotransmitter-gated Ion Channels, NINDS/NIH: 04/01/03–03/31/07 (R01 Award). **$760,000** (direct costs)
* Linear Free-Energy Relationships and Acetylcholine Receptor Channels, American Heart Association (USA): 07/01/02–06/30/03 (postdoctoral). **$35,000**
* Single-Channel Characterization of Recombinant Ganglionic Nicotinic Acetylcholine Receptors, American Heart Association (USA): 07/01/99–06/30/02 (postdoctoral). **$105,000**
* Binding, Gating and Desensitization of Acetylcholine Receptor Channels, Myasthenia Gravis Foundation of America (USA): 04/01/98–03/31/99 (postdoctoral). **$30,000**

**INVITED TALKS**

1996 Characterization of ion channels from the parasite *Echinococcus granulosus* at the single-molecule level. Putative interaction between neighboring channels. **Department of Anesthesiology, Washington University in Saint Louis.** Host: Dr. Joe Henry Steinbach.

1996 Characterization of ion channels from the parasite *Echinococcus granulosus* at the single-molecule level. Putative interaction between neighboring channels. **Department of Biomedical Engineering, The Johns Hopkins University.** Host: Dr. David Yue.

2000 Linear free-energy relationships and the gating of acetylcholine receptor channels. **Department of Biological Sciences, SUNY at Buffalo.** Host: Dr. Bruce Nicholson.

2001 Allosteric mechanisms in neurotransmitter-gated ion channels. A quantitative study at the single-channel level. **Department of Membrane Biochemistry and Biophysics, Merck & Co. Research Laboratories.** Host: Dr. Doris Cully.

2001 Allosteric mechanisms in neurotransmitter-gated ion channels. A quantitative study at the single-molecule level. **Department of Molecular and Integrative Physiology, University of Illinois at Urbana-Champaign.** Host: Dr. Mark Nelson.

2001 Allosteric mechanisms in neurotransmitter-gated ion channels. A quantitative study at the single-molecule level. **Department of Pharmacology, University of Virginia Health System. Host:** Dr. Patrice Guyenet.

2001 Allosteric mechanisms in neurotransmitter-gated ion channels. A quantitative study at the single-channel level. **Department of Pharmacology, Yale University.** Host: Dr. William Sessa.

1. Linear free-energy relationships and the dynamics of gating in the acetylcholine receptor channel. **4th International Conference on Biological Physics, Kyoto, Japan.** Chairperson: Dr. Nobuhiro Go.

2001 Allosteric mechanisms in neurotransmitter-gated ion channels. A quantitative study at the single-channel level. **Department of Physiology, Nagoya University School of Medicine, Japan.** Host: Dr. Masahiro Sokabe.

2002 The dissociation of acetylcholine from open nicotinic receptor channels. **Neuroscience Program, SUNY at Buffalo**. Host: Dr. Malcolm Slaughter.

2002 Molecular mechanisms of neurotransmitter-gated ion channels. A quantitative study of the muscle nicotinic receptor at the single-molecule level. **Theoretical Biophysics Group, Department of Physics, University of Illinois at Urbana-Champaign.** Host: Dr. Klaus Schulten.

2002 Molecular mechanisms of neurotransmitter-gated ion channels. A quantitative study of the muscle nicotinic receptor at the single-molecule level. **National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign.** Host: Dr. Eric Jakobsson.

2002 Molecular mechanisms of neurotransmitter-gated ion channels. A quantitative study of the muscle nicotinic receptor at the single-molecule level. **Department of Chemistry, University of Illinois at Urbana-Champaign.** Host: Dr. Martin Gruebele.

2003 Molecular mechanisms of neurotransmitter-gated ion channels. A quantitative study of the muscle nicotinic receptor at the single-molecule level. **Neuroscience Graduate Program, University of Illinois at Urbana-Champaign.** Host: Dr. Tzumin Lee.

2003 A few new ideas on how acetylcholine receptor channels might work: insight from kinetic studies at the single-channel level **Department of Pharmacology, University College London, London, UK.** Host: Prof. David Colquhoun.

2004 Linear free-energy relationships and the dynamics of gating in the acetylcholine receptor channel. A -value analysis of an allosteric transition at the single-molecule level **Department of Medicine, University of Chicago.** Host: Dr. Dorothy Hanck.

2004 How malleable are free-energy landscapes of ion-channel gating? A -value analysis, at the single-channel level, of the gating allosteric transition in nicotinic receptors **FASEB Summer Research Conferences (invited speaker).**

2005 Probing the structure and electrostatics of ion-channel pores using engineered ionizable residues. **Department of Medicine, University of Chicago.** Host: Dr. Harry Fozzard.

2006 Probing the structure and electrostatics of ion-channel pores one proton at a time. **Gordon Research Conference on Ion Channels (invited speaker).**

2006 Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **Department of Biological Chemistry, School of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.** Host: Dr. Luis González-Flecha.

1. Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **Institute for Biophysical Dynamics, University of Chicago.** Host: Dr. Eduardo Perozo.

2007 Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **Membrane Transport Biophysics Unit, NINDS/National Institutes of Health.** Host: Dr. Joseph Mindell.

1. Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **Department of Pharmacology, Yale University Medical School.** Host: Dr. James Howe.

2007 Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **Department of Pharmacology, Southern Illinois University School of Medicine.** Host: Dr. Julio Copello.

2007 Individual proton-transfer events as a probe of the structure and electrostatics of the nicotinic acetylcholine receptor pore. **Workshop on** **Proton Transfer and Solvation in Biology and Model Systems, Telluride Science Research Center (invited speaker).**

2007 Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **234th American Chemical Society National Meeting (invited speaker).**

2007 Individual proton-transfer events as a probe of the structure and electrostatics of the nicotinic acetylcholine receptor pore. **Department of Physiology, University of Wisconsin School of Medicine.**  Host: Dr. Meyer Jackson.

1. Individual proton-transfer events as a probe of the structure and electrostatics of the nicotinic acetylcholine receptor pore. **Department of Chemistry, Technical University of Munich, Munich, Germany.** Host: Dr. Thomas Kiefhaber.

2008 Individual proton-transfer events as a probe of the structure and electrostatics of the nicotinic acetylcholine receptor pore. **Gordon Research Conference on Ligand Recognition and Molecular Gating (invited speaker).**

2008 Systematic Engineering of Ionizable Residues in Ion Channels: p*K*a values and effect of introduced charges on the passing currents as a means to probe structure on well-defined functional states.**Workshop on Protein Electrostatics, Telluride Science Research Center (Invited speaker).**

2008 Individual proton-transfer events as a probe of the structure and electrostatics of the nicotinic acetylcholine receptor pore. **Leloir Institute Foundation, University of Buenos Aires, Argentina.**

2008 Acid-base chemistry, and the structure and electrostatics of the nicotinic-receptor pore. **XIII International Symposium on Cholinergic Mechanisms, Foz do Iguaçu, Brazil (invited speaker).**

2009 Probing structure on well-defined functional states of ion channels using systematically-engineered ionizable residues and proton-transfer events. **53rd Annual Meeting of the Biophysical Society (invited symposium speaker).**

2009 Individual proton-transfer events as a probe of the structure and electrostatics of the nicotinic acetylcholine receptor pore. **Department of Physiology, University of Pennsylvania.** Host: Dr. Toshinori Hoshi.

2009 Probing structure on well-defined functional states of ion channels using systematically-engineered ionizable residues and proton-transfer events. **Department of Biochemistry, University of Illinois at Urbana-Champaign.** Host: Dr. Maria Spies.

2009 Probing structure on well-defined functional states of ion channels using systematically-engineered ionizable residues and proton-transfer events. **Department of Anesthesiology, Washington University at Saint Louis.** Host: Dr. Chris Lingle.

2009 Probing structure on well-defined functional states of ion channels using systematically-engineered ionizable residues and proton-transfer events. **Department of Biophysics, Johns Hopkins University.** Host: Dr. Bertrand Garcia Moreno.

2009 Single-channel electrophysiology: an unheralded tool in membrane-protein structural biology. **MRC Laboratory of Molecular Biology, Cambridge, UK.** Host: Dr. Nigel Unwin.

2010 Tunable p*K*a values and the elusive basis of opposite charge selectivities in the nicotinic-receptor superfamily. **Department of Physiology and Biophysics, Albert Einstein College of Medicine, Yeshiva University.** Host: Dr. Myles Akabas.

2011 Tunable p*K*a values and the elusive basis of opposite charge selectivities in the nicotinic-receptor superfamily. **Department of Physiology, The University of Texas Health Science Center at San Antonio.** Host: Dr. David Weiss.

2011 Tunable p*K*a values and the elusive basis of opposite charge selectivities in the nicotinic-receptor superfamily. **Department of Physiology, Texas Tech University.** Host: Dr. Luis Cuello.

2011 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Workshop on Protein Electrostatics, Telluride Science Research Center (invited speaker).**

2012 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Gordon Research Conference on Protons and Membrane Reactions (invited speaker).**

2012 The ring of glutamates in the charge-selectivity filter region of the nicotinic receptor forms a system of unanticipated complexity. Minisymposium on Ligand-gated Ion Channels, **56th Annual Meeting of the Biophysical Society (invited symposium speaker).**

2012 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Biochemistry and Molecular Biology, The University of Texas Health Sciences Center at Houston.** Host: Dr. Vasanthi Jayaraman.

2012 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Theoretical and Computational Biophysics Group, University of Illinois at Urbana-Champaign.** Host: Dr. Emad Tajkhorshid.

2012 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Anesthesiology, Texas Tech University.** Host: Dr. Luis Reuss.

1. The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Physiology and Biophysics, Rush University.** Host: Dr. Robert Eisenberg.

2012 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Life Sciences Institute, The University of British Columbia.** Host: Dr. Harley Kurata.

2012 Anesthesiology and ion-channel research. **Department of Anesthesiology, Texas Tech University.** Host: Dr. John Wasnick.

2012 Dissecting the mechanism of cation-transport catalysis by glutamate side chains in nicotinic receptors. **Workshop on** **Proton Transfer in Biology, Telluride Science Research Center (invited speaker).**

2012 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Molecular and Integrative Physiology, University of Illinois at Urbana-Champaign.** Host: Dr. Milan Bagchi.

2013 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Physiology and Pharmacology, Oregon Health and Sciences University.** Host: Dr. David Dawson.

2013 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Biochemistry & Molecular Biology, University of Chicago.** Host: Dr. Eduardo Perozo.

2013 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Institute of Chemical and Physico-chemical Biology, School of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.** Host: Dr. Sergio Kaufman.

2013 The unanticipated complexity of the ring of glutamates in the charge selectivity filter of the nicotinic acetylcholine receptor. Protonation–deprotonation or side-chain dynamics? **Department of Biological Chemistry, School of Exact and Natural Sciences, University of Buenos Aires, Argentina.** Host: Dr. Diego Ferreiro.

2013 Single-channel electrophysiology as a tool in ion-channel structural biology. **Department of Biochemistry, Stockholm University, Stockholm, Sweden.** Host: Dr. Peter Brzezynski.

2014 Side-chain conformational flexibility and its impact on ion conduction through channels. **Department of Neuroscience, University of Texas Southwestern Medical Center at Dallas.** Host: Dr. Ryan Hibbs.

2014 Searching for the structures that underlie the physiological states of pentameric ligand-gated ion channels: an attempt using X-ray crystallography. **Frontiers in Membrane Protein Structural Dynamics, Chicago (invited speaker).**

2015 Cation conduction and selectivity in nicotinic receptors: functional simplicity belies chemical complexity. **GEPROM–University of Montreal, Canada.** Host: Dr. Derek Bowie.

2015 Using single-molecule electrophysiology and computer simulations to understand the molecular basis of cation conduction and charge selectivity in acetylcholine-receptor channels. **Center for the Physics of Living Cells, University of Illinois at Urbana-Champaign.** Host: Dr. Taekjip Ha.

2015 Single-molecule electrophysiology: multiple conformations inferred from dwell-time and current-amplitude measurements. **Membrane Protein Structural Dynamics Consortium, Chicago (invited speaker).**

2015 Conformational dynamics in pentameric ligand-gated ion channels. **Membrane Protein Structural Dynamics Consortium, Chicago (invited speaker).**

2016 Charge selectivity in pLGICs: an aspect of channel function that remains elusive even when multiple structures are known. Symposium on Pentameric Ligand-gated Ion Channels, **60th Annual Meeting of the Biophysical Society (invited symposium speaker).**

2017 Identifying the elusive link between amino-acid sequence and charge selectivity in the nicotinic-receptor superfamily. **Department of Pharmacology, Physiology and Neuroscience, Rutgers University New Jersey Medical School.** Host: Dr. Jorge Contreras.

2018 Identifying the elusive link between amino-acid sequence and charge selectivity in the nicotinic-receptor superfamily. **Department of Biological Sciences, University of Missouri, Columbia.** Host: Dr. Lorin Milescu.

**MEMBERSHIPS**

* Member of the Biophysical Society
* Member of the Society of General Physiologists
* Member of the American Physiological Society
* Member of the Society of Latin American Biophysicists

**PERSONNEL TRAINED**

##### Graduate students

##### 08/2002–12/2006: Dr. Yamini Purohit, now in the Biotechnology sector in Toronto, Ontario (Canada)

05/2008–09/2012: Dr. David Papke, now a Medical Resident in the Pathology Department of Brigham and Women Hospital, Boston, MA.

10/2012–05/2016: Mr. Tyler Harpole, now a Data Scientist at Polaris.

##### Visiting graduate students

08/2013–04/2014: Ms. Irene Heredero-Bermejo, University of Alcala de Henares, Spain.

01/2015–06/2015: Ms. Marlene Lindner, Humboldt University of Berlin.

###### Postdoctoral associates

08/2002–present: Dr. Gisela D. Cymes.

06/2004–11/2004: Dr. Sergio Elenes, now an Assistant Professor at the Center for Biomedical Research, University of Colima (Colima, Mexico).

01/2006–08/2007: Dr. Pratip Mitra, now an Assistant Professor at the Department of Immunotherapeutics and Biotechnology, School of Pharmacy, TexasTech University

06/2008–08/2016: Dr. Giovanni Gonzalez-Gutierrez, now a Staff Scientist at Indiana University.

08/2017–present: Dr. Pramod Kumar.

Technicians

08/2003–08/2005: Dr. Ying Ni, now a postdoctoral researcher at Case Western Reserve University, Cleveland, OH.

09/2005–09/2007: Mr. Glenn Westfield.

10/2007–08/2008: Dr. Michael Decker, now a Medical resident at the University of New Mexico Hospital.

8/2014–5/2016: Mr. Nicholas Kowalczyk, now a Medical student at the University of Arkansas.

**Undergraduate students**

Jagoda Jasielec: Now a practicing physician in Evanston, Illinois

Jessica Gasser: Now a staff scientist at the Broad Institute

Gina Papke: Now a Medical resident at Wayne State University Hospital

Scott Czarnik: Now a practicing dentist

John Pizarek Now a practicing dentist

Marc Maybaum Now a data analyst at VML

Christopher Staehlin: Now a practicing pharmacist

Marissa Pasquini: Now a practicing pharmacist

Amy Holmstrom: Now a medical resident at Northwestern University

Marni Gonnering: Now a student at UIUC School of Veterinary Medicine

Michael Rigby: Now an MD/PhD student at University of Wisconsin Medical School

Shyam Saladi: Now a PhD student at Caltech

Caroline Johnson: Now a PhD student at Loyola University

Joseph Leasure:

Yocelin Bello: Now a Lab Assistant at Loyola University

Gloria Wang:

Eric Shin: Now a PhD student at UIUC

Jialing Jiang: Now a medical student

Samuel Romo: Now a Lab Assistant at Loyola University

Ishan Taneja: Currently in the lab

Sophie Gough: Now a medical student at UIC

Alexis Susralski: Now a Masters student at the University of Colorado, Boulder

Nicole Godellas: Currently in the lab

Nicholas Lombardo: Now a Pharmacy student at UIC

Minwoo Choi: Currently in the lab

Anastasia Metropulos: Currently in the lab

**High School students**

Lindsay Huang

Mehul Putnam

##### GRADUATE COMMITTEES

##### (Committees at institutions other than the University of Illinois are underlined)

2002: Qing Zhao: Qualifying Examination Committee, Department of Molecular and Integrative Physiology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best.**

2002: Ren-Shiang Chen: Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best.**

2003: Jeremy Van Buren: Ad-hoc member of the PhD-Thesis Dissertation Committee, Department of Pharmacology, **Southern Illinois University School of Medicine. Mentor: Dr. Louis Premkumar.**

2003: Sameer Varma: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2003: Ashok Palaniappan: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2003: Xinguo Xiang: Qualifying Examination Committee, Department of Molecular and Integrative Physiology, **University of Illinois at Urbana-Champaign. Mentor: Dr. David Shapiro.**

2004: Asba Tasneem: Preliminary Examination Committee, Department of Molecular and Integrative Physiology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2005: Sameer Varma: Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2005: Brian Wilson: Qualifying Examination Committee, Department of Molecular and Integrative Physiology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Charles L. Cox.**

2005: Nyla Ismail: Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Gene Robinson.**

2005: Asba Tasneem: Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2005: Ren-Shiang Chen: Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best.**

2005: Yi Wang: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2006: Feng Liu: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Martin Gruebele.**

2006: Ren-Shiang Chen: Ph.D.-Thesis Dissertation Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best.**

2007: Mao-Feng Ger: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2007: Thomas García: Preliminary Examination Committee, Molecular and Integrative Physiology Department, **University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best.**

2007: Zachary Sellers: Qualifying Examination Committee, Department of Molecular and Integrative Physiology**, University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best.**

2007: Kyuri Kim: Qualifying Examination Committee, Department of Molecular and Integrative Physiology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Benita Katzenellenbogen.**

2007: Katie Bittner: Preliminary Examination Committee, Department of Medicine**, The University of Chicago. Mentor: Dr. Dorothy Hanck.**

2009: Yi Wang: Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2009: Feng Liu: Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Martin Gruebele.**

2009: Thomas Garcia: Ph.D.-Thesis Dissertation Committee, Department of Molecular and Integrative Physiology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Phil Best**.

2009: Katie Bittner: Ph.D.-Thesis Dissertation Committee, Department of Medicine, **The University of Chicago. Mentor: Dr. Dorothy Hanck.**

2010: Taejin Kim: Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Peter Wang.**

2010: Po-Chao Wen: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2010: Kieran Normoyle: Qualifying Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. William Brieher.**

2010: Dylan Reid: Qualifying Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Paul Selvin.**

2010: Ramya Gamini. Preliminary Examination Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2010: David Tanner. Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2010: Shane Crandall. Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Lee Cox.**

2010: Rishi Parikh: Ph.D.-Thesis Dissertation Committee, **Yeshiva University Albert Einstein College of Medicine. Mentor. Dr. Myles Akabas.**

2010: Rebecca Mongeon: Ph.D.-Thesis Dissertation Committee, **Oregon Health and Science University. Mentor: Drs. Paul Brehm and Gail Mandel.**

2011: Anthony Becker. Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2011: Hui-Chia Yu. Qualifying Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. William Brieher.**

2011: Daniel Ryerson. Qualifying Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Jongsook Kim Kemper.**

2011: Carleigh Hebbard: Qualifying Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Peter Orlean.**

2011: Mao-Feng Ger: Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2011: Anthony Becker. Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Jakobsson.**

2012: Jing Li: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2012: Congcong Chen: Qualifying Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Eric Bolton.**

2012: Hui-Chia Yu. Preliminary Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. William Brieher.**

2012: David Tanner. Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2012: Shane Crandall. Ph.D.-Thesis Dissertation Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Lee Cox.**

2012: Carleigh Hebbard: Preliminary Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Peter Orlean.**

2012: Hang Yu: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2013: Jacqueline Fenn: Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Lee Cox.**

2013: Po-Chao Wen. Ph.D.-Thesis Dissertation Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2013: Ramya Gamini: PhD-Thesis Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2014: Jing Li: PhD-Thesis Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2014:Kieran Normoyle: Preliminary Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. William Brieher.**

2014: Katrina Diaz: Preliminary Examination Committee, School of Molecular and Cellular Biology, University of **Illinois at Urbana-Champaign. Mentor: Dr. Martin Burke.**

2014: Carleigh Hebbard: Preliminary Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. James Morrissey.**

2014: Daniel McDougle: Preliminary Examination Committee, School of Veterinary Medicine, **University of Illinois at Urbana-Champaign. Mentor: Dr. Aditi Das.**

2014: Tao Jiang: Preliminary Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2015: Carleigh Hebbard: PhD-Thesis Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. James Morrissey.**

2015: Yuhang Wang: Preliminary Examination Committee, Center for Biophysics and Quantitative Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2015: Hang Yu: PhD-Thesis Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Klaus Schulten.**

2015: David Park: PhD-Thesis Examination Committee, Center for Biophysics and Computational Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Satish Nair.**

2016 Sung-Soo Jang: Qualifying Examination Committee, Neuroscience Program **University of Illinois at Urbana-Champaign. Mentor: Dr. Hee-Jung Chung.**

2016: Paween Mahinthichaichan: Preliminary Examination Committee, Center for Biophysics and Quantitative Biology, **University of Illinois at Urbana-Champaign. Mentors: Dr. Emad Tajkhorshid/Dr. Robert Gennis.**

2016: Hui-Chia Yu. PhD-Thesis Examination Committee, School of Molecular and Cellular Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. William Brieher.**

2016: Daniel McDougle: PhD-Thesis Examination Committee, School of Veterinary Medicine, **University of Illinois at Urbana-Champaign. Mentor: Dr. Aditi Das.**

2016: Paween Mahinthichaichan: PhD-Thesis Examination Committee, Center for Biophysics and Quantitative Biology, **University of Illinois at Urbana-Champaign. Mentors: Dr. Emad Tajkhorshid/Dr. Robert Gennis.**

2016: Ian Traniello: Qualifying Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Gene Robinson.**

2017: Mrinal Shekar: Preliminary Examination Committee, Center for Biophysics and Quantitative Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2017: Chaoyi Jin: Preliminary Examination Committee, Center for Biophysics and Quantitative Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Paul Selvin.**

2017: Rajeev Chorghade: Preliminary Examination Committee, School of Chemical Sciences, University of **Illinois at Urbana-Champaign. Mentor: Dr. Martin Burke.**

2017: Yuhang Wang: PhD-Thesis Examination Committee, Center for Biophysics and Quantitative Biology, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2017: Kin Lam: Preliminary Examination Committee, Physics Department, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2017: Katrina Diaz: Preliminary Examination Committee, School of Molecular and Cellular Biology, University of **Illinois at Urbana-Champaign. Mentor: Dr. Martin Burke.**

2018: Rezvan Shahoei: Preliminary Examination Committee, Physics Department, **University of Illinois at Urbana-Champaign. Mentor: Dr. Emad Tajkhorshid.**

2018: Monika Makurath: Preliminary Examination Committee, Molecular and Integrative Physiology Department, **University of Illinois at Urbana-Champaign. Mentor: Dr. Yann Chemla.**

2018: Sung-Soo Jang: Preliminary Examination Committee, Neuroscience Program **University of Illinois at Urbana-Champaign. Mentor: Dr. Hee-Jung Chung.**

2018: Ian Traniello: Preliminary Examination Committee, Neuroscience Program, **University of Illinois at Urbana-Champaign. Mentor: Dr. Gene Robinson.**

#### TEACHING

1988–1989 Teaching Assistant; *Physical Chemistry* for undergraduate students. Dept. Analytical and Physical Chemistry; University of Buenos Aires; Argentina.

1992–1996 Lecturer; *General and Inorganic Chemistry* for undergraduate students. Dept. of Analytical and Physical Chemistry; University of Buenos Aires; Argentina.

1993–1996 Lecturer; *Ion Channels of Excitable and Non-Excitable Cells* for graduate students. Dept. of Analytical and Physical Chemistry; University of Buenos Aires; Argentina.

1998–1999 Lecturer; *Neurophysiology: Physicochemical Basis of Synaptic Transmission* for graduatestudents. Dept. of Physiology and Biophysics; SUNY at Buffalo.

1998–2001 Lecturer; *Practical Ion-Channel Kinetics* for graduate and undergraduate students. Dept. of Physiology and Biophysics, SUNY at Buffalo.

2000–2001 Lecturer; *Introductory Quantitative Biology: Ordinary Differential Equations in Chemical Kinetics* for graduate students. Dept. of Physiology and Biophysics, SUNY at Buffalo.

2001–2002 Lecturer; *Biophysics: Ion-Channel Basics* for graduate students. Dept. of Physiology and Biophysics, SUNY at Buffalo.

2003–2017 Assistant/Associate/Full Professor; *Cell and Membrane Physiology* (MCB 401), School of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign.

**AWARDS**

2012 James E. Heath Award for Excellence in Teaching Physiology, University of Illinois at Urbana-Champaign

1. Outstanding Advisor, College of Medicine, University of Illinois at Urbana-Champaign

2014–present Richard and Margaret Romano Professor Scholar

2015 Faculty Excellence Award, School of Molecular & Cellular Biology, University of Illinois at Urbana-Champaign

##### EDITORIAL REVIEW

2002–present *Nature*, *Nature Chemical Biology, Nature Communications, PNAS*, *eLife*, *Journal of General Physiology, Journal of Physiology*, *Journal of the American Chemical Society*, *Biophysical Journal*, *Biochemistry, Journal of Physical Chemistry, Plos Biology*, *Plos Computational Biology*, *Journal of Neuroscience, Journal of Molecular Biology*, *Journal of Membrane Biology*, *Proteins*, *FEBS Letters*, *European Journal of Neuroscience*, *Journal of Neurochemistry*, *Biochimica et Biophysica Acta*, *Protein Expression and Purification*, *Brain*, and *Journal of Inorganic Biochemistry*.

**NATIONAL REVIEW COMMITTEES**

2006 Temporary (Ad-Hoc) member of the NIH Scientific Review Group (Study Section) Biophysics and Biochemistry of Membranes (BBM).

2008 Temporary (Ad-Hoc) member of the NIH Scientific Review Group (Study Section) Biophysics of Neural Systems (BPNS).

2011–2017 Member of the NIH Scientific Review Group (Study Section) Biophysics of Neural Systems (BPNS).

2015 Temporary (Ad-Hoc) reviewer of grant proposals submitted to the National Science Centre of Poland.

2017 Temporary (Ad-Hoc) member of the NIH Scientific Review Group (Study Section) Special Emphasis Panel/Scientific Review Group ZRG1 BCMB-A.

2018 Temporary (Ad-Hoc) member of the NIH NIDCR Special Grants Review Committee

##### ACADEMIC COMMITTEES

2004–2010 Core Course and Curriculum Committee, UIUC MCB School

2004–2005 Graduate-Student Admissions, UIUC Center for Biophysics and Computational Biology

2004–2005 Graduate-Student Admissions, UIUC Program in Neuroscience

2005–2006 Faculty search, UIUC Pharmacology Department

2005–2006 Executive Committee, UIUC Program in Neuroscience

2006–2007 Executive Committee, UIUC Center for Biophysics and Computational Biology

2009–2011 Advisory Committee, UIUC Molecular and Integrative Physiology

2010–2012 Promotion and Tenure Committee, UIUC MCB School

2010–present Affirmative Action Officer, UIUC Molecular and Integrative Physiology

2011–2012 Promotions and Tenure Committee, UIUC College of Medicine

2011–2015 Biology Coordinating Committee, UIUC

2012–2015 Executive Committee, UIUC Center for Biophysics and Computational Biology

2012–2015 Executive Committee, UIUC School of Cell and Molecular Biology

2013–present Advisory Committee, UIUC Molecular and Integrative Physiology

#### PUBLICATIONS

1. Bari, S., Frydman, R. B., **Grosman, C.**, and Frydman, B. 1992. The interplay between basicity, conformation and the enzymatic reduction in biliverdins. *Biochemical and Biophysical Research Communications* 188:48‑56.
2. **Grosman, C.**, and Reisin, I.L. 1995. *Echinococcus granulosus:* partial characterization of the conductive properties of two cationic channels from protoscoleces of the ovine strain, reconstituted on planar lipid bilayers. *Experimental Parasitology* 81:546–555.
3. Cymes, G. D., **Grosman, C.**, Delfino, J. M., and Wolfenstein-Todel, C. 1996. Detection of a stable intermediate in the urea-induced unfolding of ovine placental lactogen. *Protein Science* 5:2074–2079.
4. **Grosman, C.**, Mariano, M. I., Bozzini, J. P., and Reisin, I. L. 1997. Properties of two multisubstate Cl– channels from human syncytiotrophoblast reconstituted on planar lipid bilayers. Journal of Membrane Biology 157:83–95.
5. **Grosman, C.**, and Reisin, I. L. 1997. Interconverting gating modes of a non-selective cation channel from the tapeworm *Echinococcus granulosus* reconstituted on planar lipid bilayers. *Journal of Membrane Biology* 158:87–94.
6. Cantiello, H. F., Jackson Jr., G. R., **Grosman, C. F.,** Prat, A. G., Borkan, S. C., Wang, Y., Reisin, I. L., O’Riordan, C. R., and Ausiello, D. A. 1998. Electrodiffusional ATP movement through the cystic fibrosis transmembrane conductance regulator. *American Journal of Physiology* 274 (*Cell Physiol.* 37): C799–C809.
7. **Grosman, C.,** and Reisin, I. L. 2000. Single-channel characterization of a non-selective cation channel from human placental microvillous membranes. Large conductance, multiplicity of conductance states, and inhibition by lanthanides. *Journal of Membrane Biology* 174:59–708
8. **Grosman, C.,** Zhou, M., and Auerbach, A. 2000. Mapping the conformational wave of acetylcholine receptor channel gating. *Nature* 403:773–776.
9. **Grosman, C.,** and Auerbach, A. 2000. Kinetic, mechanistic and structural aspects of unliganded gating of acetylcholine receptor channels. A single-channel study of M2 12’ mutants. *Journal of General Physiology* 115:621–635.
10. **Grosman, C.,** and Auerbach, A. 2000. Asymmetric and independent contribution of M2 12’ residues to diliganded gating of acetylcholine receptor channels. A single-channel study with choline as the agonist. *Journal of General Physiology* 115:637–651.
11. **Grosman, C.,** Salamone, F. N., Sine, S. M, and Auerbach, A. 2000. The extracellular linker of muscle acetylcholine receptor channels is a gating control element. *Journal of General Physiology* 116:327–339.
12. Pérez-Serrano, J., **Grosman, C.,** Urrea-París, M. A., Denegri, G., Casado, and N., Rodríguez-Caabeiro, F. 2001. Depolarization of the tegument precedes morphological alterations in *Echinococcus granulosus* protoscoleces incubated with ivermectin. *Parasitology Research* 87:804–807.
13. **Grosman, C.** and Auerbach, A. 2001. The dissociation of acetylcholine from open nicotinic receptor channels. *Proceedings of the National Academy of Sciences* 98:14102–14107.
14. Cymes, G. D., **Grosman, C.,** and Auerbach, A. 2002. Structure of the transition state of gating in the acetylcholine-receptor channel pore. A -value analysis. *Biochemistry* 41:5548–5555.
15. **Grosman, C.** 2002. Linear free-energy relationships and the dynamics of gating in the acetylcholine receptor channel. A -value analysis of an allosteric transition at the single-molecule level. *Journal of Biological Physics* 28:267–277.
16. **Grosman, C.** 2003. Free-energy landscapes of ion-channel gating are malleable: changes in the number of bound ligands are accompanied by changes in the location of the transition state in acetylcholine-receptor channels. *Biochemistry* 42:14977–14987.
17. Cymes, G. D., Ni, Y., and **Grosman, C.** 2005. Probing ion-channel pores one proton at a time. *Nature* 438:975–980.
18. Purohit, Y., and **Grosman, C.** 2006. Estimating binding affinities of the nicotinic receptor for low-efficacy ligands using mixtures of agonists and two-dimensional concentration-response relationships. *Journal of General Physiology* 127:719–735.
19. Purohit, Y., and **Grosman, C.** 2006. Block of muscle nicotinic receptors by choline suggests that the activation and desensitization gates act as distinct molecular entities. *Journal of General Physiology* 127:703–717.
20. Elenes, S., Ni, Y., Cymes, G. D., and **Grosman, C.** 2006. Desensitization contributes to the synaptic response of ‘gain-of-function’ mutants of the muscle nicotinic receptor. *Journal of General Physiology* 128:615–627.
21. Cymes, G. D., and **Grosman, C.** 2008. Pore-opening mechanism of the nicotinic acetylcholine receptor evinced by proton transfer. *Nature Structural & Molecular Biology* 15:389–396.
22. Elenes, S., Decker, M., Cymes, G. D., and **Grosman, C.** 2009. Decremental response to high-frequency trains of acetylcholine pulses but unaltered fractional Ca2+ currents in a panel of ‘slow-channel syndrome’ nicotinic-receptor mutants. *Journal of General Physiology* 133:151–169.
23. Gonzalez-Gutierrez, G., and **Grosman, C.** 2010. Bridging the gap between structural models of nicotinic-receptor superfamily ion channels and their corresponding functional states. *Journal of Molecular Biology* 403:693–705.
24. Papke, D., Gonzalez-Gutierrez, G., and **Grosman, C.** 2011. Desensitization of neurotransmitter-gated ion channels during high-frequency stimulation: A comparative study of Cys-loop, AMPA and purinergic receptors. *Journal of Physiology* 589:1571–1585.
25. Cymes, G. D., and **Grosman, C.** 2011. Tunable p*K*a values and the basis of opposite charge selectivities in nicotinic-type receptors. *Nature* 474:526–530.
26. Cymes, G. D., and **Grosman, C.** 2011. Estimating the p*K*a values of basic and acidic side chains in ion channels using electrophysiological recordings: a robust approach to an elusive problem. *Proteins* 79:3485–3493.
27. Gonzalez-Gutierrez, G., Lukk, T., Agarwal, V., Papke, D., Nair, S. K., and **Grosman, C.** 2012. Mutations that stabilize the open state of the *Erwinia chrisanthemi* ligand-gated ion channel fail to change the conformation of the pore domain in crystals. *Proceedings of the National Academy of Sciences* 109:6331–6336.
28. Cymes, G. D., and **Grosman, C.** 2012. The unanticipated complexity of selectivity-filter glutamates of nicotinic receptors. *Nature Chemical Biology* 8:975–981.
29. Gonzalez-Gutierrez, G., Cuello, L. G., Nair, S. K., and **Grosman, C.** 2013. Gating of the proton-gated ion channel from *Gloeobacter violaceus* at pH 4 as revealed by X-ray crystallography. *Proceedings of the National Academy of Sciences* 110:18716–18721.
30. Papke, D., and **Grosman, C.** 2014. The role of intracellular linkers in gating and desensitization of human pentameric ligand-gated ion channels. *Journal of Neuroscience* 34:7238–7252.
31. Harpole, T. J., and **Grosman, C.** 2014. Side-chain conformation at the selectivity filter shapes the permeation free-energy landscape of an ion channel. *Proceedings of the National Academy of Sciences* 111:E3196–E3205.

32. Gonzalez-Gutierrez, G., and **Grosman, C.** 2015. The atypical conduction and gating properties of ELIC underscore the marked functional versatility of the pentameric ligand-gated ion-channel fold. *Journal of General Physiology* 146:15–36.

33. Cymes, G. D., and **Grosman, C.** 2015. *Engineered Ionizable Side Chains*. In Novel Chemical Tools to Study Ion Channel Biology. *Advances in Experimental Medicine and Biology* 869:5–23.

34. Cymes, G. D., and **Grosman, C.** 2016. Identifying the elusive link between amino-acid sequence and charge selectivity in pentameric ligand-gated ion channels. *Proceedings of the National Academy of Sciences* 113:E7106–7115.

35. Gonzalez-Gutierrez, G., Wang, Y., Cymes, G. D., Tajkhorshid, E., and **Grosman, C.** 2017. Chasing the open-state structure of pentameric ligand-gated ion channels. *Journal of General Physiology* 149:1119–1138.

36. Harpole, T. J., and **Grosman, C.** A crucial role for side-chain conformation in the versatile charge selectivity of Cys-loop receptors. *Biophysical Journal* *In Press*.

**PUBLISHED ABSTRACTS**

**(POSTER PRESENTATIONS ONLY)**

1. **Grosman, C.**, and Reisin, I. L. 1995. Cationic channel from the membranes of larval Echinococcus granulosus studied by reconstitution on planar lipid bilayers. *Biophysical Society Meeting*.

2. **Grosman, C.**, and Reisin, I. L. 1996. Non selective cation channels from apical plasma membranes of human term placenta reconstituted on planar lipid bilayers. *Biophysical Society Meeting*.

3. Cymes, G.D., **Grosman, C.**, Delfino, J. M., and Wolfenstein-Todel, C. 1996. Detection of a stable intermediate in the urea-induced unfolding of ovine placental lactogen. *Biophysical Society Meeting*.

4. **Grosman, C.**, and Reisin, I. L. 1997. Properties of two multisubstate Cl- channels from human apical syncytiotrophoblast reconstituted on planar lipid bilayers. *Biophysical Society Meeting*.

5. **Grosman, C.**, and Auerbach, A. 1999. Kinetics, structural determinants, and mechanism of unliganded gating in muscle nicotinic acetylcholine receptors. *Biophysical Society Meeting*.

1. Zhou, M., **Grosman, C.,** and Auerbach, A. 1999. Single-channel properties of the -less acetylcholine receptor channel. *Biophysical Society Meeting*.
2. **Grosman, C.,** Zhou, M., and Auerbach, A. 2000. The dynamics of acetylcholine receptor channel gating probed with linear free-energy relationships. *Biophysical Society Meeting*.
3. **Grosman, C.**, and Auerbach, A. 2000. Independent and asymmetric contribution of M2 12’ residues to diliganded gating of acetylcholine receptor channels. *Biophysical Society Meeting*.
4. Tascione, R., **Grosman, C.**, and Auerbach, A. 2000. Clusters of spontaneous openings of the acetylcholine receptor channel. *Biophysical Society Meeting*.
5. **Grosman, C.,** Cymes, G.D., and Auerbach, A. 2000. Gating of acetylcholine receptor channels is a wave of conformational change. *Protein Science Society Meeting.*
6. Salamone, F.N., **Grosman, C.,** Sine, S.M., and Auerbach, A. 2000. The role of the M2-M3 linker in muscle acetylcholine receptor channel gating. *Society for Neuroscience Meeting*.
7. Cymes, G.D., **Grosman, C.,** Lima, R., and Auerbach, A. 2001. A high-resolution map of the gating transition state in M2 of muscle acetylcholine receptor channels. *Biophysical Society Meeting*.
8. **Grosman, C.**, and Auerbach, A. 2001. The dissociation rate constant of acetylcholine from open nicotinic receptor channels. *Biophysical Society Meeting*.
9. Grosman, C. 2004. Free-energy landscapes of ion-channel gating are malleable: changes in the location of the transition state upon the diliganded-to-unliganded perturbation in muscle nicotinic receptors. *Biophysical Society Meeting*.
10. Purohit, Y., and **Grosman, C.** 2005. Estimating the affinity of low-efficacy agonists of the nicotinic acetylcholine receptor using mixtures of ligands and single-channel two-dimensional concentration-response relationships. *Biophysical Society Meeting*.
11. Purohit, Y., and **Grosman, C.** 2006. Choline-block of muscle nicotinic receptors suggests that the activation and desensitization gates are distinct molecular entities. *Biophysical Society Meeting*.
12. Elenes, S., Ni, Y., Cymes, G. D., and **Grosman, C.** 2007. The contribution of desensitization to the synaptic response of gain-of-function mutants of the muscle nicotinic receptor. *Biophysical Society Meeting*.
13. Gonzalez-Gutierrez, G., and **Grosman, C.** 2010. A deep nonconductive state in the nicotinic acetylcholine receptor. *Biophysical Society Meeting*.
14. Papke, D., Gonzalez-Gutierrez, G., and **Grosman, C.** 2010. Desensitization contributes to the postsynaptic response of ligand-gated ionotropic receptors: a comparative study of Cys-loop, AMPA, and purinergic receptor channels. *Biophysical Society Meeting*.
15. Gonzalez-Gutierrez, G., and **Grosman, C.** 2011. Assigning functional states to structural models in the nicotinic-receptor superfamily. *Biophysical Society Meeting*.
16. Papke, D., and **Grosman, C.** 2011. On the mechanism underlying the irreversible desensitization of human ganglionic nicotinic receptors in excised patches of membrane. *Biophysical Society Meeting*.
17. Papke, D., and **Grosman, C.** 2011. Examining the role of the M1-M2 loop in gating and desensitization. *International Meeting on Nicotinic Acetylcholine Receptors*, Cambridge, England.
18. Papke, D., and **Grosman, C.** 2012. Examining the role of the M1-M2 loop in gating and desensitization. *Biophysical Society Meeting*.
19. Gonzalez-Gutierrez, G., and **Grosman, C.** 2013. Probing the pore dimensions of bacterial nicotinic receptor-like channels with open-channel blockers. *Biophysical Society Meeting*.
20. Gonzalez-Gutierrez, G., Cuello, L.G., Nair, S.K., and **Grosman, C.** 2013. Gating of the fully liganded proton-gated ion channel from *Gloeobacter violaceus* as revealed by X-ray crystallography. *International Meeting of Latin-American Biophysicists*.
21. Harpole, T. and **Grosman, C.** 2014. Acidic side-chain rotamers and their impact on ion conduction through the nicotinic acetylcholine receptor. *Biophysical Society Meeting*.
22. Gonzalez-Gutierrez, G. and Grosman, C. 2016. On the atypical cation-conduction and gating properties of ELIC. *Biophysical Society Meeting*.
23. Harpole, T. and **Grosman, C.** 2016. Molecular modeling of charge selectivity in pentameric ligand-gated ion channels. *Biophysical Society Meeting*.