

CURRICULUM VITAE

September 2019

Santiago Schnell, DPhil (Oxon), FRSC

John A. Jacquez Collegiate Professor of Physiology
Professor, Molecular and Integrative Physiology
Professor, Computational Medicine and Bioinformatics
William K. Brehm Investigator, Brehm Center for Diabetes Research

Interim Chair, Department of Molecular & Integrative Physiology

The University of Michigan Medical School	Enquires:	+1-734-763-5727
Department of Molecular & Integrative Physiology	Assistant:	+1-734-764-4376
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USA	Web:	www.med.umich.edu/schnell-lab/

Education

- 10/1991-12/1996 License, Universidad Simón Bolívar, Venezuela
Biology (special emphasis in biochemistry and molecular biology)
Dissertation title: *Descripción Teórica de la Reacción en Cadena de la Polimerasa*
Advisor: Prof. Claudio Mendoza
- 10/1998-07/2002 Doctor of Philosophy, University of Oxford, UK (awarded 11/03)
Mathematical Biology
Dissertation title: *On the Quasi-Steady-State Approximation: Enzyme-substrate reactions as a case study*
Advisor: Prof. Philip K. Maini, FMedSci, FRS

Postdoctoral Training

- 10/2001-07/2004 Junior Research Fellow
Christ Church (a college of the University of Oxford)
University of Oxford, UK
Mentor: Prof. Philip K. Maini, FMedSci, FRS
- 08/2002-12/2002 Medical Research Council Postdoctoral Research Fellow
Genome Analysis & Bioinformatics Group, Department of Statistics
University of Oxford, UK
Mentor: Prof. Jotun Hein
- 12/2002-07/2004 Ordinary Research Fellow of the Wellcome Trust
Centre for Mathematical Biology, Mathematical Institute

Santiago Schnell, DPhil (Oxon), FRSC

University of Oxford, UK

Mentors: Prof. Philip K. Maini, FRS and Prof. Claudio Stern, FRS

Academic Appointments

University of Oxford, Oxford, England, UK

- 10/2000-07/2001 *Retained Lecturer in Mathematics*
Pembroke College, University of Oxford, UK
- 10/2001-12/2001 *College Lecturer in Applied Mathematics*
Brasenose College, University of Oxford, UK
- 10/2001-07/2004 *Junior Research Fellow in Mathematical Biology*
Christ Church, University of Oxford, UK
- 12/2002-07/2004 *Research Fellow in Mathematical Biology*
Mathematical Institute, University of Oxford, UK

Indiana University, Bloomington, Indiana, USA

- 06/2004-07/2004 *Visiting Assistant Professorship of Informatics*
Indiana University School of Informatics (Bloomington)
- 08/2004-05/2008 *Assistant Professor of Informatics*
Indiana University School of Informatics (Bloomington)
- 01/2005-05/2008 *Adjunct Assistant Professor of Physics*
Department of Physics, Indiana University (Bloomington)
- 08/2006-05/2008 *Affiliated Faculty, Latino Studies*
Latino Studies Program, Indiana University (Bloomington)

University of Michigan, Ann Arbor, Michigan, USA

- 05/2008-08/2015 *Associate Professor of Molecular & Integrative Physiology*
Department of Molecular & Integrative Physiology
University of Michigan Medical School
- 05/2008-present *Faculty, Center for Computational Medicine & Biology*
Center of Computational Medicine & Bioinformatics
University of Michigan Medical School
- 05/2008-present *William K. Brehm Investigator*
Michigan Comprehensive Diabetes Center
University of Michigan Health System

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- 09/2008-present *Faculty, Center for Organogenesis*
University of Michigan Medical School
- 01/2012-present *Faculty, Cellular & Molecular Biology Program*
University of Michigan Medical School
- 11/2012-present *Faculty, Center for Systems Biology*
University of Michigan Medical School
- 09/2013-08/2015 *Associate Professor of Computational Medicine & Biology*
Department of Computational Medicine & Bioinformatics
University of Michigan Medical School
- 09/2013-present *Faculty, Center for Integrative Research in Critical Care*
University of Michigan Medical School
- 09/2015-present *Professor of Molecular & Integrative Physiology*
Department of Molecular & Integrative Physiology
University of Michigan Medical School
- Professor of Computational Medicine & Bioinformatics*
Department of Computational Medicine & Bioinformatics
University of Michigan Medical School
- Faculty, Michigan Institute for Computational Discovery and*
Engineering
University of Michigan
- Faculty, Michigan Institute for Data Science*
University of Michigan
- 06/2017-present John A. Jacquez Collegiate Professor of Physiology
University of Michigan Medical School

Invited research visits and professorships

- 07/1996-08/1996 Academic visitor, Centre for Mathematical Biology, Mathematical
Institute, Oxford, UK
- 07/2003 Academic visitor, Bioengineering Institute, University of
Auckland, Auckland, New Zealand
- 09/2003 Visiting scientist, Stowers Institute for Medical Research, Kansas
City, MO, USA
- 01/2005-12/2006 Academic visitor (non-resident), Centre for Mathematical Biology,
Mathematical Institute, Oxford, UK

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04/2006	Research Professor, Computational Biology Collaboratorium, Instituto Gulbenkian de Ciencia, Oeiras, Portugal
11/2008	Academic visitor, Centre for Mathematical Biology, Mathematical Institute, Oxford, UK
07/2009	Research Professor, Computational Biology Collaboratorium, Instituto Gulbenkian de Ciencia, Oeiras, Portugal
12/2009	Visiting scholar, Catalanian Reference Network on Theoretical and Computational Chemistry, University of Barcelona and Autonomous University of Barcelona, Barcelona, Spain
02/2012-03/2012	Academic Visitor, Centre for Synthetic & Systems Biology, University of Edinburgh, Scotland, UK
04/2013-05/2013	Academic Visitor, Centre for Mathematical Biology, Mathematical Institute, Oxford, UK
11/2013	Visiting Professor of Excellence, Department of Chemistry, University of Barcelona, Barcelona, Spain
10/2018	Academic visitor, Institut Mittag-Leffler, Swedish Academy of Sciences, Djursholm, Sweden

Academic Administrative Appointments

08/2004-05/2008	Associate Director, Biocomplexity Institute Department of Physics, Indiana University (Bloomington)
06/2009-present	Co-Director, Summer Undergraduate Research Fellowship Program Department of Molecular & Integrative Physiology, University of Michigan Medical School
07/2010-present	Director, Interfacing Computation and Engineering with Digestive and Metabolic Physiology Program Department of Molecular & Integrative Physiology, University of Michigan Medical School
06/2012-present	Co- Director, Systems and Integrative Biology Training Program University of Michigan Medical School
09/2014-present	Associate Director, Multidisciplinary Training Program in Basic Diabetes Research University of Michigan Medical School
10/2013-present	Director, In Silico Protein Analysis Module, Protein Folding Diseases Center University of Michigan Medical School
10/2016-07/2017	Basic Science and Faculty Research Lead, Office for Health Equity and Inclusion

Santiago Schnell, DPhil (Oxon), FRSC

University of Michigan Medical School

08/2017-present Interim Chair, Department of Molecular & Integrative Physiology
University of Michigan Medical School

Grants

Current support

- 01/2010-11/2021 NIH/NIDDK
R25 DK088752 (competitive renewal)
“Interfacing computation and engineering with digestive and metabolic physiology”
Role: Principal Investigator/Program Director (10% effort)
Total funds (current 5-year cycle): \$540,000
- 09/2011-08/2020 NIH/NIDDK
R01 DK089933 (competitive renewal)
“Morphogenesis of fetal intestinal epithelium”
Principal Investigator: Deborah Gumucio
Role: Co-Investigator (5% effort)
Total funds (current 4-year cycle): \$1,590,952
- 07/2012-06/2021 NIH/NIGMS
T32 GM008322 (competitive renewal)
“Systems and Integrative Biology Training Grant”
Principal Investigator/Program Director: Malcolm Low
Role: Co-Director (5% effort)
Total funds (current 5-year cycle): \$1,335,912
- 09/2014-08/2019 NIH/NIDDK
T32 DK101357
“Multidisciplinary Training Program in Basic Diabetes Research”
Principal Investigator/Program Director: Ormond MacDougald
Role: Associate Director (1% effort)
Total funds (current 5-year cycle): \$1,814,424
- 07/2016-06/2021 Juvenile Diabetes Research Foundation
5-CDA-2016-189-A-N
“Targeting mitophagy to prevent beta cell failure in the pathogenesis of T1D (Career Development)”
Principal Investigator: Scott A. Soleimanpour
Role: Co-Investigator (5% effort)
Total funds (5 years): \$750,000
- 09/2016-08/2021 NIH/NIDDK

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- R01 DK108921
“Mediators of mitophagy in the regulation of beta cell function”
Principal Investigator: Scott A. Soleimanpour
Role: Co-Investigator (5% effort)
Total funds (5 years): \$1,937,500
- 09/2017-05/2022 NIH/NICHD
R37 HD034860
“Cellular and molecular bases for rhythmic GnRH release”
Principal Investigator: Suzanne Moenter
Role: Co- Investigator (3% effort)
Total funds (5 years): \$2,578,598
- 12/2017-11/2020 NIH/NINDS
R21 NS101030
“Small molecule stabilizers of Hsp70 for treatment of spinal and bulbar muscular atrophy”
Principal Investigator: Andrew Lieberman and Yoichi Osawa
Role: Co-Investigator (3% effort)
Total funds (3 years): \$1,162,500
- 04/2018-03/2020 NIH/NIDDK
F31 DK117610
“Defining the Sestrin2-AKT signaling pathway, a novel mechanism in the insulin signaling network “
Principal Investigator: Allison Ho
Role: Mentor (0% effort)
Total funds (2 years): \$82,334
- 09/2018-08/2023 NIH/NICHD
R01 HD41469
“Central Actions of Estrogens: Effects on GnRH Neurons”
Principal Investigator: Suzanne Moenter
Role: Co-Investigator (5% effort)
Total funds (5 years): \$2,260,873
- 02/2019-01/2024 NIH/NIGMS
R01 GM126028
“Mouse oocyte fate determination via polarized cytoplasmic transport within germline cysts”
Principal Investigator: Lei Lei
Role: Collaborator (18% effort for postdoctoral fellow in lab)
Total funds (5 years): \$1,912,841

Past Support

Santiago Schnell, DPhil (Oxon), FRSC

- 12/2002-11/2005 The Wellcome Trust, London
Ordinary Research Fellowship, the Advanced Training Programme in
Mathematical Biology (Grant No. 069155/Z/02/Z)
“Models for pattern formation in somitogenesis: incorporating the effects of
Fibroblast Growth Factor-8, Cell Adhesion Molecules and *Hox* genes”
Principal Investigator: Santiago Schnell (100% effort) with the sponsorship
of P. K. Maini and C. D. Stern
Total funds (3 years): GBP116,465
- 05/2005-04/2006 NIH/NIGMS
R13 GM75730
“Workshop: Biocomplexity VII - Unravelling the Function and Kinetics of
Biochemical Networks”
Principal Investigator: Santiago Schnell (0.5 calendar month effort)
Total funds (1 year): \$12,749
- 05/2005-04/2006 NSF
MCB-0513693
“Workshop: Biocomplexity VII - Unravelling the Function and Kinetics of
Biochemical Networks”
Principal Investigator: Santiago Schnell (0.5 calendar month effort)
Total funds (1 year): \$15,000
- 05/2005-04/2006 Indiana University, Office of the Vice President for Research
Faculty Research Support Program
“Modeling the Formation of Vertebral Precursors”
Principal Investigator: Santiago Schnell (1 calendar month effort)
Total funds (1 year): \$66,999
- 03/2006-06/2006 Indiana University, Office of the Vice Chancellor for Academic Affairs and
Dean of Faculties
Multidisciplinary Ventures and Seminars Fund Application
“Multiscale modeling of multicellular systems: An interdisciplinary
workshop”
Principal Investigator: Santiago Schnell
Total funds (1 year): \$5,000
- 05/2006-04/2007 NSF
Division of Integrative Organismal Biology
“Biocomplexity 9: Multiscale modeling of multicellular systems: An
interdisciplinary workshop”
Principal Investigator: Santiago Schnell
Total funds (1 year): \$10,000
Supplement to grant “Biocomplexity – Multiscale simulation of avian limb
development”, James Glazier (Principal Investigator)

Santiago Schnell, DPhil (Oxon), FRSC

09/2005-08/2008 NIH/NIGMS
R01 GM076692
“MSM - Multiscale Studies of Segmentation in Vertebrate Embryos”
Principal Investigator: James A Glazier
Role: Co-Principal Investigator (1 calendar month effort)
Total funds (3 years): \$884,647

08/2005-08/2009 NSF
IIS-0513650
“SEI: NetWorkBench - A Large-Scale Network Analysis, Modeling, and
Visualization Toolkit for Biomedical, Social Science and Physics Research”
Principal Investigator: Katy Börner
Role: Co-Principal Investigator (1 calendar month effort)
Total funds (4 years): \$1,120,924

08/2005-01/2010 NSF
IIS-0513701 and 0852743
“SEI: Unraveling the structure and kinetics of biochemical pathways from
time-series data”
Principal Investigator: Santiago Schnell (2 calendar months effort)
Total funds (4 years): \$473,541

09/2008-08/2012 NIH/NIGMS
R01 GM076692
“IBCSTR – Competitive Renewal of MSM Multiscale Studies of
Segmentation in Vertebrate Embryos”
Principal Investigator: James A Glazier
Role: Co-Investigator (1 calendar month effort)
Total funds (4 years): \$2,676,117

05/2009-01/2010 NSF
REU Supplement for Grant No. IIS-0852743
“SEI: Unraveling the structure and kinetics of biochemical pathways from
time-series data”
Principal Investigator: Santiago Schnell
Total funds (1 year): \$8,640

02/2011-06/2011 Amgen Inc.
Independent Medical Education Support MED#-24867
“Systems Biology Symposium”
Principal Investigator: Santiago Schnell
Total funds (1 year): \$5,000

06/2011-05/2012 NSF
DMS-1135663

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- “Travel Conference Grant Program for Transatlantic Joint Conference of the Society for Mathematical Biology and the European Society for Mathematical and Theoretical Biology”
Role: Principal Investigator (0% effort)
Total funds (1 year): \$ 30,000
- 01/2011-6/2012 NIH/NIGMS
F31GM0967728
“Defining reaction mechanisms of threshold phenomena in conformational diseases”
Principal Investigator: Conner I. Sandefur
Role: Mentor (0% effort)
Total funds (2 years): \$77,150
- 09/2008-08/2012 NIH/NIGMS
R01 GM076692
“IBCST - Competitive Renewal of MSM: Multiscale Studies of Segmentation in Vertebrates”
Principal Investigator: James A Glazier
Role: Co-Investigator (20% effort)
Total funds (4 years): \$2,715,875
- 02/2011-12/2012 University of Michigan
Gilbert Whitaker Fund for the Improvement of Teaching
“Portable Physiology Computer Lab: Enhancing Student Learning of Physiology and Computational Modeling”
Principal Investigator: Santiago Schnell (0% effort)
Co-Principal Investigator: Elizabeth Rust.
Total funds (2 years): \$10,000
- 06/2011-12/2012 University of Michigan
CCMB Pilot Grants 2010
“Constructing regulatory networks that drive malignant metabolism and proliferation”
Principal Investigator: Santiago Schnell (3.5% effort)
Co-Principal Investigator: Sofia Merajver
Total funds (1 year): \$50,000
- 12/2012-06/2014 University of Michigan
MCubed Program
“Manipulating CXCL12-CXCR4 signaling pathway in breast cancer with an experimental and computational approach”
Principal Investigator: Jennifer Linderman
Co-Principal Investigator: Santiago Schnell (0% effort)
Total funds (2 years): \$50,000

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- 09/2010-08/2014 James S. McDonnell Foundation
Grant No. 220020223
“Identification of bistable network topologies associated with toxic aggregation thresholds found in conformational diseases”
Role: Principal Investigator (35% effort)
Total funds (4 years): \$413,488
- 01/2013-07/2015 James D. McDonnell Foundation
2012 Postdoctoral Fellowship Award Program
“Using complex systems approaches to facilitate the discovery of next generation anti-cancer strategies”
Principal Investigator: Michelle L. Wynn
Role: Mentor (0% effort)
Total funds (2 years): \$200,000
- 09/2012-09/2015 NIH/NIDDK
F30 DK095517
“Notch Signaling Regulates Generation of Progenitors from Intestinal Stem Cells”
Fellow: Alexis Carulli
Role: Co-Mentor (0% effort)
Total funds (3 years): \$99,909
- 05/2013-09/2015 University of Michigan
Rackham Faculty Allies for Diversity in Graduate Education
“Enhancing diversity in physiology graduate education”
Principal Investigator: Santiago Schnell (0% effort)
Co-Principal Investigator: Jimo Borjigin
Total funds (2 years): \$52,618
- 07/2010-11/2015 NIH/NIDDK
R25 DK088752
“Interfacing Computational and Engineering with Digestive and Metabolic Physiology”
Role: Principal Investigator/Program Director (15% effort)
Total funds (5 years): \$540,000
- 11/2010-12/2015 NIH/NIDDK
R01 DK053456
“Enhancement of Biomarkers for Type 1 Diabetes”
Principal Investigator: Massimo Pietropaolo
Role: Co-Investigator (10% effort)
Total funds (5 years): \$3,747,970
- 01/2015-12/2015 University of Michigan Medical School
Becky Babcox Research Fund - Department of Neurology

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- “Experimental and computational dissection of α -synuclein fibrillation mechanism of inhibition”
Principal Investigators: Magdalena Ivanova and Santiago Schnell
Total funds (1 year): \$30,000
- 07/2011-06/2016 NIH/NIGMS
T32 GM008322
“Systems and Integrative Biology Training Grant”
Principal Investigator/Program Director: Malcolm Low
Role: Co-Director
Total funds (4 years): \$1,048,020
- 08/2010-06/2016 NIH/NIDDK
R01 DK089933
“Morphogenesis of fetal intestinal epithelium”
Principal Investigator: Deborah Gumucio
Role: Co-Investigator (10% effort)
Total funds (5 years): \$2,501,805
- 08/2011-06/2016 NIH/ NHLBI
K23HL109149
“Mesenchymal stromal cell matricellular protein expression and bronchopulmonary dysplasia”
Fellow: Antonia Popova
Role: Co-Mentor (0% effort)
Total funds (5 years): \$712,814
- 09/2013-08/2016 NIH/NIDDK
DP3 DK101083
“A Novel Approach Applying CFM Metrics to Identify a Prediabetic State”
Principal Investigator: Massimo Pietropaolo
Role: Co-Investigator (5% effort)
Total funds (3 years): \$1,452,951
- 09/2012-08/2017 NIH/NIDDK
U24 DK097153
“Michigan Regional Comprehensive Metabolomics Resource Core (MRC2)”
Principal Investigator: Charles Burant
Role: Co-Investigator (5% effort from 2012-2016)
Total funds (5 years): \$9,170,679
- 04/2016-03/2017 NIH/NIDDK
R56 DK108921
“Mediators of mitophagy in the regulation of beta cell function”

Santiago Schnell, DPhil (Oxon), FRSC

Principal Investigator: Scott A. Soleimanpour
Role: Co-Investigator (5% effort)
Total funds (5 years): \$115,250

09/2013-08/2017 NIH/NIDDK
R01 DK096972
“Notch Pathway Regulation of Intestinal Epithelial Cell Homeostasis”
Principal Investigator: Linda Samuelson
Role: Co-investigator (5% effort)
Total funds (5 years): \$1,319,300

06/2015-05/2017 University of Michigan Medical School
Discovery Fund
“The role of intrinsically disordered protein regions of the diabetes gene CLEC16A in pancreatic β -cell mitophagy”
Principal Investigators: Scott A. Soleimanpour and Santiago Schnell (5% effort)
Total funds (2 years): \$185,478

09/2015-06/2018 NIH/NICHD
F30 HD085721
“Integrating network and intrinsic changes in the GnRH neuron control of ovulation”
Fellow: Caroline Adams
Role: Co-Mentor (0% effort)
Total funds (3 years): \$74,914

07/2017-06/2018 University of Michigan
Israel Partnership for Research and Education
“Gaining new insights into molecular mechanisms for the yeast Ire1 stress sensor activation using microfluidic pulsatile inputs and mathematical modeling”
Principal Investigator: Santiago Schnell and Yonatan Savir
Total funds (1 year): \$50,000

10/2013-09/2018 University of Michigan Medical School
FastForward to tomorrow’s cure
“Center for Protein Folding Diseases”
Principal Investigators: Henry L. Paulson and Andrew Lieberman
Role: Core Director (3% effort)
Total funds (5 years): \$9,345,598

Submitted grants

01/2020-12/2024 NSF/NIGMS

Santiago Schnell, DPhil (Oxon), FRSC

Joint Initiative to Support Research at the Interface of the
Biological and Mathematical Sciences
“Regulatory control of the ER stress-monitoring network”
Role: Principal Investigator (10% effort)
Total funds (4 years): \$754.102

01/2020-12/2025 NIH/NINDS
U54 Centers Without Walls for Collaborative Research in the
Epilepsies: Functional Evaluation of Human Genetic Variants
“Multiplatform Variant Prediction in Epilepsy (EpiMVP)”
Principal Investigators: Lori Isom, Gemma Carvill, Michael Uhler,
Margaret E. Ross, Jack Parent, and Yu Wang
Role: Co-Investigator (5% effort)
Total funds (5 years): \$11,935,759

01/2020-12/2024 Binational Science Foundation (US-Israel)
Regular Grant
“Determining the effect of replicative and chronological aging on
the unfolded protein response at the single cell level”
Principal Investigators: Yonatan Savir and Santiago Schnell
Total funds (4 years): \$230,000

01/2020-12/2023 NIH/NIDDK
“Structure-function relationship of intrinsically disordered regions
in diabetes-associated proteins”
Principal Investigator: Morgan Gingerich
Role: Mentor (0% effort)

05/2020-04/2023 Human Frontiers Science Program
“Regulation of Proteostasis through a Folded Protein Response”
Principal Investigators: Hesso Farhan, Santiago Schnell and
Thibault Major
Total Funds (3 years): \$1,050,000

Honors and Awards

01/1990-12/1996 IDEA Scholarship
Fundación IDEA, Instituto de Estudios Avanzados (IDEA)
Valle de Sartenejas, Venezuela

12/1996 Honorable Mention in Biology (for outstanding research thesis)
Universidad Simón Bolívar, Valle de Sartenejas, Venezuela

10/1998-07/2001 José Gregorio Hernández Award
Academia Nacional de Medicina de Venezuela
Pembroke College, Oxford, UK

Santiago Schnell, DPhil (Oxon), FRSC

- 10/1998-07/2001 ORS Award
Committee of Vice-Chancellors and Principals of the
Universities of the United Kingdom, London, UK
- 10/1998-07/2001 CONICIT Scholarship
Consejo Nacional de Investigaciones Científicas y Tecnológicas
Venezuela
- 10/1999-07/2001 Lord Miles Senior Scholar in Science
Pembroke College, Oxford, UK
- 10/2001-07/2005 Junior Research Fellow
Christ Church (a college of the University of Oxford)
University of Oxford, UK
- 12/2002-11/2005 Ordinary Fellow of the Wellcome Trust
Advanced Training Programme in Mathematical Biology
The Wellcome Trust, London, UK
- 05/2006 Faculty Award for Teaching Excellence
Indiana University School of Informatics (Bloomington)
- 09/2010-08/2014 21st Century Scientist Scholar
James S. McDonnell Foundation, USA
- 11/2011 Fellow of the Royal Society of Chemistry
The Royal Society of Chemistry, London, UK
- 01/2013 League of Educational Excellence (inaugural member)
University of Michigan Medical School
- 10/2013 Endowment for Basic Science Teaching Award in Molecular &
Integrative Physiology, University of Michigan Medical School
- 11/2013 Visiting Professor of Excellence, Department of Chemistry,
University of Barcelona, Barcelona, Spain
- 11/2016 Fellow of the American Association for the Advancement of
Science
The American Association for the Advancement of Science,
Washington DC, USA
- 11/2016 Fellow of the Society for Mathematical Biology (inaugural class of
2017)
The Society for Mathematical Biology, USA

Santiago Schnell, DPhil (Oxon), FRSC

- 06/2017 John A. Jacquez Collegiate Professor of Physiology
University of Michigan Medical School
- 04/2018 Fellow of the Academia de Ciencias de América Latina
Academia de Ciencias de América Latina (ACAL), Caracas,
Venezuela
- 04/2019 Emerging Leader in Health and Medicine, National Academy of
Medicine

Memberships in Professional Societies (current)

- 01/1996-present Society for Mathematical Biology (SMB)
2008-2012 Member, Board of Directors
2010 Member, Nomination Committee
2011-2014 Member, Newsletter Editorial Board
2012-2015 Chair, Finance Committee
2014-2015 President-elect
2015-2017 President
2017-2018 Past-president
2014-2018 Chair, Publications Committee
2018- Chair, Finance Committee
2018- Chair, Past-Presidents Advisory Board
- 01/1996-present Society for Industrial and Applied Mathematics (SIAM)
- 01/1999-present European Society for Mathematical and Theoretical Biology (ESMTB)
- 01/2008-present The American Physiological Society (APS)
2017- Member, Association of Chairs of Dept. of Physiology
2018- Council Member
2018- Representative to Council of Faculties and Academic
Societies, Association of American Medical Colleges
- 01/2008-present Society for the Advancement of Chicanos/Latinos and Native Americans in
Science (SACNAS), *Life member*
2015 Faculty founder, University of Michigan SACNAS Chapter
2015- Faculty mentor for SACNAS Chapter
 - Best Chapter Award (2016)
 - Outstanding Recruitment/Membership Award (2017)
- 01/2009-present The Biophysical Society (BS)
2012-2019 Member, Minority Affairs Committee

Santiago Schnell, DPhil (Oxon), FRSC

- Founder of Alliance of Scientific Societies (2015)¹

10/2011-present	Royal Society of Chemistry (RSC)
12/2012-present	American Society for Biochemistry and Molecular Biology (ASBMB)
12/2012-present	American Association for the Advancement of Science (AAAS)
01/2014-present	American Chemical Society

Editorial positions, boards and peer-review service

Editorial positions

11/2002-09/2004	Guest Editor, <i>Progress in Biophysics and Molecular Biology</i> Special focused issue on “New approaches to modelling and analysis of biochemical reactions, pathways and networks” (Volume 86, Number 1), with E J Crampin
01/2005-07/2006	Associate Editor, <i>IEE Proceedings in Systems Biology</i> Special focused issue on “Unravelling the function and kinetics of biochemical networks: From experiments to systems biology”
10/2006-12/2007	Guest Editor, <i>Current Topics in Developmental Biology</i> Volume focused on “Multiscale Modeling of Multicellular Systems” (Volume 81)
10/2016-present	Guest Editor, <i>PLoS Computational Biology</i>
01/2019-present	Editor-in-Chief, <i>Mathematical Biosciences</i>

Editorial Boards

01/2006-12/2014	Editorial Board, <i>Computational Biology & Chemistry</i>
08/2006-07/2014	Editorial Board, <i>IET Systems Biology</i>
04/2009-12/2018	Editorial Board, <i>Mathematical Biosciences</i>
01/2010-12/2010	Editorial Board, <i>Computational & Mathematical Methods in Medicine</i>
09/2012-present	Editorial Board, <i>Biomath</i>

¹ In 2017, this program was funded by an NSF/MCB Eager Grant: MCB-1744098 entitled "Alliance of Scientific Societies for the Development of the Next Generation of Scientists" (PI: Marina Ramirez-Alvarado)

Santiago Schnell, DPhil (Oxon), FRSC

01/2016-present	Editorial Board, <i>Current Opinion in Systems Biology</i>
02/2016-present	Editorial Board, <i>Cancer Research</i>
10/2016-present	Editorial Board, <i>Biophysical Chemistry</i>
07/2019-present	Editorial Advisory Board, <i>Biomolecular Concepts</i>

Grant review panels, study sections and site visits

2006-present	Member, NSF Grant Panel Review Committee 2006-2009 Information & Intelligent Systems 2008-2009 Postdoctoral Research Fellowships in Biological Informatics 2010 Faculty Early Career Development (CAREER) Program 2015-2016 Postdoctoral Research Fellowships in Biological Informatics National Science Foundation Washington DC
2008	Site Visit Committee Member, SFI CSET in Systems Biology Science Foundation of Ireland
2010-present	Modeling & Analysis of Biological System (MABS) Study Section Center for Scientific Review, National Institutes of Health ad hoc Member (10/2010; 09/2011; 02/2012; 06/2012) 07/2012-06/2016 Permanent Member, Alternate Chair
2015-2017	National Cancer Institute (NCI), National Institutes of Health Cancer Systems Biology Consortium (CSBC)
2017	National Institutes of Health, Biomedical Technology Research Resource, Site Visit and Special Emphasis Panel/Scientific Review Group 2017/01 ZRG1 BST-X (40) P meeting

Peer-review service (mail reviewer)

Journals	ACS Catalysis; Acta Biotheoretica; American Journal of Physiology – Endocrinology and Metabolism; American Journal of Physiology – Gastrointestinal and Liver Physiology; Applied Bioinformatics; Archives of Biochemistry and Biophysics; Artificial Life; Biochemical Society Transactions; Biochimia and Biophysica Acta – General Subjects; Biochimia and Biophysica Acta – Reviews on Cancer; Biochemical Journal; Biochimie; Bioinformatics; Biofilms; Biophysical Journal; Biophysical Chemistry; Biotechniques; Biotechnology and Bioengineering; Biotechnology Journal;
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Santiago Schnell, DPhil (Oxon), FRSC

British Journal of Clinical Pharmacology; BMC Systems Biology; Bulletin of Mathematical Biology; Cancer Research; Ciencia; Chemical Reviews; Chemical Communications; Comptes Rendus Biologies; Computational Biology & Chemistry; Developmental Biology; Electrophoresis; European Journal of Organic Chemistry; FEBS Journal; FEBS Letter; FEBS Open Bio; Frontiers in Genetics (section Genomic Endocrinology); Frontiers in Physiology (section Systems Biology); IEE Proceedings Systems Biology; IEE Transactions on Biomedical Engineering; IET Systems Biology; Immunology and Cell Biology; Integrative Biology; International Journal of Chemical Kinetics; International Journal of Developmental Biology; Journal of Biological Physics; Journal of Chemical Physics; Journal of Chemometrics; Journal of Computational Biology; Journal of Enzyme Inhibition and Medicinal Chemistry; Journal of Mathematical Biology; Journal of Mathematical Chemistry; Journal of Molecular Graphics & Modelling; Journal of Physical Chemistry; Journal of the Science of Food and Agriculture; Journal of Theoretical Biology; Journal of the Royal Society Interface; Mathematical Biosciences; Mathematical Medicine and Biology: A Journal of the IMA; Mathematical Methods in the Applied Sciences; Mechanisms of Development; Molecular BioSystems; Molecular and Cellular Biology; Nonlinearity; Nature; Nature Communications; Naturwissenschaften; Open Biology; Pacific Symposium of Biocomputing; Philosophical Transactions of the Royal Society B: Biological Sciences; Physica A; Physical Letters A, Physical Chemistry Chemical Physics; PLoS Biology; PLoS Computational Biology; PLoS ONE; Proceeding of the Royal Society (London): Series A; Proceeding of the National Academy of Sciences of the United States of America; Proteomics, RSC Advances, Scientific Reports, SIAM Journal of Applied Mathematics.

Book projects Cambridge University Press; Elsevier Science; Family Publications; Garland Science; Oxford University Press, Springer-Verlag

Grant proposals Agence Nationale de la Recherche (ANR); Banff International Research Station (BIRS); Canadian Institutes of Health Research (CIHR); Center for Scientific Review, National Institutes of Health (NIH, USA); Engineering and Physical Science Council (EPSRC – UK); French National Cancer Institute (INCa, France); Human Frontier Science Program (HFSP); National Science Foundation (USA); Keck Foundation (USA); Netherlands Organisation for Scientific Research – DWO, The Dutch Research Council (Utrecht, Netherlands); Royal Society of New Zealand; Science Foundation of Ireland (Dublin, Ireland); Swiss National Science Foundation; US Army Medical Research and Materiel Command (USAMRMC); Wellcome Trust (London, UK).

Tenure & Promotion College of William and Mary (USA), Kansas State University (USA), Moffitt Cancer Center (USA), Stellenbosch University (South Africa), Purdue University (USA), University of Baltimore (Baltimore County and

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College Park, USA), University of California (Irvine, USA), University of Pretoria (South Africa), University of South Florida (USA), University of Warwick (UK), University of Waterloo (Canada), Vrije Universiteit (Netherlands).

Teaching and Mentoring

1. Students, postdoctoral fellows, research and clinical faculty

University of Oxford

Undergraduate

2002

Wilhelm A. Steinmetz (Mathematics, Pembroke College)
Summer research project on fractal kinetics (joint supervision with J. Hein)
(2009 Doctor in Mathematics, Université Paris Sud -Paris XI;
Currently Assistant Professor at Federal University of Amazonas in Manaus, Brazil)

Master

10/2002-07/2003

Thomas E. Turner (M Res in applied mathematics)
Stochastic and deterministic approaches to modelling *in vivo* biochemical kinetics
(Currently Data Scientist at Aire Labs)

Doctorate

10/2002-07/2005

Ruth E. Baker (D Phil in mathematical biology)
Periodic pattern formation in developmental biology: A study of the mechanisms underlying somitogenesis (joint supervision with P. K. Maini)
(Currently Associate Professor of Mathematical Biology, University of Oxford)

10/2005-12/2008

Edward H. Flach (D Phil in mathematical biology).
Reactions in open systems: pattern formation with convection, and open biochemical pathways (joint supervision with J. Norbury)
(Currently Fellow at the Ronin Institute)

Indiana University

Undergraduate

2006 - 2007

Sonya M. Hanson (Biophysics, University of Southern California)
Summer undergraduate student
2006: A test for measuring the effects of enzyme inactivation
2007: The reactant stationary approximation in enzyme kinetics

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*(2013 Doctor in Biophysics/Biochemistry, University of Oxford;
Currently Senior Postdoctoral Fellow at Columbia University)*

Master

08/2004-07/2006 James Thurmond (Bioinformatics)
BioFitWeb: A comprehensive on-line resource for enzyme kinetics researchers
(Currently Research Associate, Fly Base, Department of Biology, Indiana University, Bloomington, Indiana)

08/2005-07/2006 Sourav Roy (Bioinformatics)
Prediction of structural and functional properties of the Notch-Delta pathway during somitogenesis
*(2011 PhD in Genetic, University of California – Riverside;
Currently Assistant Professor of Biological Sciences at St. Mary's University, San Antonio, Texas)*

08/2007-05/2008 Michelle L. Wynn (Master in Bioinformatics)
Modelling neural ganglia cell chain migration
*(2013 PhD in Bioinformatics, University of Michigan;
Currently Scientist at Zymergen, Inc)*

Doctorate

08/2006-04/2011 Márcio Duarte Albasini Mourão (Complex Systems)
Reverse engineering the mechanisms and the dynamical behavior of complex biochemical pathways
(Faculty, Center for Statistics, Computing & Analytics Research, University of Michigan)

Postdoctoral Fellows

05/2005-09/2006 Ramon Grima
(Currently Associate Professor in Biology, University of Edinburgh)

08/2005-07/2007 Santo Fortunato (in co-supervision with Alessandro Vespignani)
(Currently Professor of Informatics at the Indiana University School of Informatics, Computing and Engineering)

11/2005-05/2008 J. Srividhya
(Currently Research Fellow at the Biocomplexity Institute, Indiana University - Bloomington)

08/2007-05/2008 Duygu Balcan (in co-supervision with Alessandro Vespignani)
(Passed away in 2013 holding an Assistant Professorship of Physical Engineering at the Istanbul Technical University, Maslak, Turkey)

University of Michigan

Undergraduate

- 2009-2010 Yue Ding (Biochemistry, University of Michigan)
Molecular & Integrative Physiology Summer Research Fellow
(*MD University of Iowa Carver College of Medicine and
Rheumatology Fellow at Ohio State University*)
- 2010-2011 Samantha M. Thomas (Interdisciplinary Physics, University of Michigan)
Molecular & Integrative Physiology Summer Research Fellow
(Currently *MSTP student at the University of Chicago*)
- 2011-2013 Nikita Consul (Chemical Engineering, Massachusetts Institute of Technology)
Molecular & Integrative Physiology Summer Research Fellow
(*MD Medical student at Columbia College of Physicians and Surgeons and Resident at Baylor College of Medicine*)
- 2011-2014 Doree R. Kreitman (Mathematics, University of Michigan)
Undergraduate Research Opportunity Program Fellow
- 2011-2014 Megan Egbert (Chemical Engineering, University of Michigan)
Undergraduate Research Opportunity Program Fellow
(Currently, *PhD Student at Boston University*)
- 2012 Paul Ponmattam (Mathematics, Vanderbilt University)
Molecular & Integrative Physiology Summer Research Fellow
(*MSc in Financial Engineering, University of California Berkeley
Currently Quantitative Portfolio Analyst at Wells Capital Management*)
- 2012 Eric Yu (Computer Science and Chemistry, Calvin College)
Molecular & Integrative Physiology Summer Research Fellow
(Currently *MD student in Medical College of Wisconsin*)
- 2013-2017 Samuel Christensen (Mathematics, University of Michigan)
Undergraduate Research Opportunity Program Fellow
(Currently *PhD student in the University of California Los Angeles*)
- 2013-2015 Joe Hakim (Bioengineering, John Hopkins University)
Molecular & Integrative Physiology Summer Research Fellow
(Currently *Research Associate at John Hopkins University*)

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- 2015-2016 Alexis Grebenok (Mathematics, Canisius College)
Molecular & Integrative Physiology Summer Research Fellow
- 2015 Harnel Alezi (Biomedical Engineering, Georgia Tech)
Molecular & Integrative Physiology Summer Research Fellow
- 2017 Zenny Chu (Biomedical Engineering, Johns Hopkins University)
Molecular & Integrative Physiology Summer Research Fellow
- 2018 Aleesa Monaco (Biochemistry and Mathematics, Arizona State University)
Molecular & Integrative Physiology Summer Research Fellow
- 2019 Sofia Medina (Mathematics, Florida State University)
Molecular & Integrative Physiology Summer Research Fellow
- 2019 Joseph Cavataio (Biomedical Engineering, University of Michigan)
Molecular & Integrative Physiology Summer Research Fellow

Master

- 2011-2012 Firas Midani (Biomedical Engineering, University of Michigan)
(Currently *PhD student at Duke University*)
- 2013-2014 Allison Ho (Molecular & Integrative Physiology, University of Michigan)
(Currently *PhD student at University of Michigan Medical School*)
- 2013-2015 Michael Vincent (Molecular, Cellular, and Developmental Biology, University of Michigan)
(Currently *PhD student at Northwestern University*)

Doctorate

- 06/2008-06/2012 Conner I. Sandefur (PhD in Bioinformatics)
Defining chemical reaction mechanisms associated with threshold phenomena in conformation diseases
(Currently *Assistant Professor at University of North Carolina Pembroke*)
- 01/2011-11/2012 Yan Zhang (PhD in Bioinformatics)
Network Discovery in Equilibrium-state and Dynamic Data: Applications to Phosphoproteomics and Kinetics (co-mentored with Philip Andrews)
(Currently *Assistant Professor of Biomedical Informatics at the Ohio State University*)

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- 06/2008-01/2013 Michelle L. Wynn (PhD in Bioinformatics)
Unraveling the complex regulatory relationships between metabolism and signal transduction in breast cancer (joint supervisor with Sofia Merajver)
(Currently *Scientist at Zymergen, Inc*)
- 04/2009-11/2012 Erin Shellman (PhD in Bioinformatics)
Network Motifs Provide Signatures that Characterize Metabolism (joint supervisor with Charles Burant)
(Currently *Scientist at Zymergen*)
- 08/2011-07/2014 Alexis Carulli (MD/PhD in Molecular & Integrative Physiology)
The Dynamic Regulation of Intestinal Stem Cells by Notch Signaling (co-mentored with Linda Samuelson)
(Currently resident at *University of Pittsburgh Medical School*)
- 06/2012-05/2015 Daniel DeWoskin (PhD in Mathematics)
Multiscale Modeling of Coupled Oscillators with Applications to the Mammalian Circadian Clock (co-mentored with Daniel Forger)
(Currently *Quantitative Research Analyst at Graham Capital Management*)
- 05/2013-04/2018 Caroline Adams (MD/PhD in Molecular & Integrative Physiology)
Integrating network and intrinsic changes in GnRH neuron control of ovulation (co-mentor with Suzanne Moenter)
(Currently MD student at *University of Michigan Medical School*)
- 09/2014-present Allison Ho (co-mentor with Jun Hee Lee)
- 01/2015-present Maxwell DeNies (co-mentor with Allen Liu)
- Postdoctoral Fellows***
- 10/2008-12/2010 Miguel Rodriguez Marquez
(Currently *Assistant Professor of Physics, Mount Royal University, Calgary, Canada*)
- 07/2011-07/2013 Márcio Duarte Albasini Mourão
(Currently *Faculty, Center for Statistics, Computing & Analytics Research, University of Michigan*)
- 01/2013-04/2016 Michelle L. Wynn (co-mentored with Sofia D. Merajver)
(Currently *Scientist at Zymergen, Inc*)
- 08/2013-07/2015 Mark Whidden
(Currently *Data Scientist, Atreca, Inc.*)

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01/2016-present T. Wylie Stroberg
(Assistant Professor of Mechanical Engineering, University of Alberta from July 2020)

07/2017-present Justin Eilertsen

Research Associates/Technicians

06/2012-05/2013 Firas Midani
(Currently PhD student at Duke University)

05/2013-present Mariana Rodriguez Ortiz

05/2015-07/2016 Michael Vincent
(Currently PhD student at Northwestern University)

06/2015-06/2017 Suzanne Shoffner
(Currently MSTP student at the University of Michigan)

06/2018-present Malgorzata Tyczynska

Research Faculty

05/2008-08/2012 Patrick Nelson
Research Assistant Professor
Department of Computational Medicine and Bioinformatics
(Currently Department Chair and Associate Professor of Mathematics and Computer Science, Lawrence Technical University, Southfield, Michigan)

Clinical Scientists

03/2011-06/2016 Antonia Popova (co-mentor with Marc Hershenson)
Assistant Professor of Pediatrics Pulmonary Medicine
University of Michigan Medical School

Intramural mentoring of faculty

09/2014-present Peter Freddolino
Assistant Professor of Biological Chemistry
University of Michigan Medical School

Extramural mentoring of faculty

05/2016-present Daniel Lobo
Assistant Professor of Biological Sciences
University of Maryland Baltimore County
Sponsored through
University of Maryland Eminent Scholar Mentoring Program

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09/2017-present Tatiana Marquez Lago
Associate Professor of Genetics
Associate Professor of Cell, Developmental and Integrative
Biology
University of Alabama at Birmingham School of Medicine

2. Doctoral dissertation and research committees

- 07/2004 Frido Erler (Dr. rer. nat. in Mathematics), “Spatiotemporal calcium-dynamics in presynaptic terminals”, Faculty of Mathematics and Natural Sciences of Dresden University of Technology, Dresden, Germany (**External Examiner**)
- 07/2005 Cheng Cui (PhD in Biophysics), “Dynamics of cell movement and tissue motion in gastrulation and micromass cell culture”, Department of Physics, Indiana University, Bloomington, USA (**Committee Member**)
- 08/2007 Ying Zhang (PhD in Biophysics), “Multiscale Simulation of Avian Limb Development”, Department of Physics, Indiana University, Bloomington, USA (**Committee Member**)
- 11/2008 Dan V. Nicolau, Jr. (D. Phil. Oxon), “Spatial modelling of chemotaxis and its evolution”, Mathematical Institute and Balliol College, University of Oxford, Oxford, UK (**External Examiner**)
- 07/2009-04/2011 Márcio Mourão (PhD in Informatics), “Unraveling the mechanisms and the dynamical behavior of complex biochemical pathways”, Indiana University School of Informatics and Computing, Bloomington, IN, USA (**Chair**)
- 01/2010-11/2012 Erin Shelman (PhD in Bioinformatics), “Network motifs provide signatures that characterize metabolism”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**co-Chair**)
- 06/2010-05/2012 Conner Sandefur (PhD in Bioinformatics), “Defining chemical reaction mechanisms associated with threshold phenomena in conformational diseases”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 06/2010-01/2013 Michelle Wynn (PhD in Bioinformatics), “Unraveling the complex regulatory relationships between metabolism and signal transduction in breast cancer”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**co-Chair**)
- 10/2010-11/2012 Yan Zhang (PhD in Bioinformatics), “Network discovery in equilibrium-state and dynamic data: Applications to phosphoproteomics and kinetics”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)

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- 11/2010-01/2013 Chunchao Zhang (PhD in Bioinformatics), “Analysis of post-translational modification of histone proteins: cross-talk and beyond”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 11/2010 Terry Tang (PhD in Theoretical and Computational Science), “Mathematical modeling of eukaryotic gene expression”, University of Lethbridge, Alberta, Canada (**External Examiner**)
- 01/2011-06/2014 Ryan O'Connell (PhD in Molecular & Integrative Physiology), “Mechanisms of excitation and remodeling of the cardiac action potential in two model systems”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 08/2011-06/2013 Alexis Carulli (MSTP program, PhD in Molecular & Integrative Physiology under the Medical Scientist Training Program), “The Dynamic Regulation of Intestinal Stem Cells by Notch Signaling”, University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 02/2012 Tanya Salyers (PhD in Applied and Computational Mathematics), “Modeling how social and biological network form”, University of Notre Dame, Indiana, US (**External Examiner**)
- 06/2012-05/2015 Daniel DeWoskin (PhD in Applied and Interdisciplinary Mathematics), University of Michigan, Ann Arbor, Michigan, USA (**Partner Discipline Advisor**)
- 05/2013-06/2015 Chang Gong (PhD in Bioinformatics), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee member**)
- 08/2013-02/2015 Zach Harvanek (MSTP program, PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee member**)
- 01/2014-07/2019 Surojit Sural (MSTP program, PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee member**)
- 05/2014-04/2018 Caroline Adams (MSTP and PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**co-Chair**)

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- 09/2015-07/2019 Zhengda Li (PhD in Bioinformatics), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee member**)
- 06/2016-present Allison Ho (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**co-Chair**)
- 06/2016-present Maxwell DeNies Wynn (PhD in Cell & Molecular Biology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**co-Chair**)
- 10/2017-present Dana Felker (PhD in Toxicology), Department of Environmental Health Sciences, University of Michigan School of Public Health, Ann Arbor, Michigan, USA (**Committee Member**)
- 03/2018-present Edith Jones (PhD in Molecular & Integrative Physiology) University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee member**)
- 07/2018-present Morgan Gingerich (PhD in Cellular & Molecular Biology) University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee member**)
- 08/2018-present Melissa Lemke (PhD in Biomedical Engineering), University of Michigan, Ann Arbor, Michigan, USA (**Committee Member**)

3. Preliminary examination committees

- 05/2010 Anuli Anyanuw (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 01/2011 Katherine Gurdziel (PhD in Bioinformatics), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 04/2012 Mark Bolinger (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 05/2012 Brandon Govindarajoo (PhD in Bioinformatics), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)

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- 05/2012 Jacob Mertens (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 05/2012 Chang Gong (PhD in Bioinformatics), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 06/2012 Daniel DeWoskin (PhD in Applied and Interdisciplinary Mathematics), University of Michigan, Ann Arbor, Michigan, USA (**Partner Discipline Advisor**)
- 02/2013 Jonathan Gumucio (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 03/2013 Zachary Harvanek (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 05/2013 Joanne Garbincius (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 07/2013 Xi Chen (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 05/2014 Amelia Glazier (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 06/2014 Chanisa Thonusin (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Committee Member**)
- 04/2017 Judy Baek (MSTP/ PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 08/2017 Joseph Starrett (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)

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- 08/2017 Andrew Marquis (PhD in Molecular & Integrative Physiology), University of Michigan Medical School, Ann Arbor, Michigan, USA (**Chair**)
- 09/2017 Dana Felker (PhD in Toxicology), Department of Environmental Health Sciences, University of Michigan School of Public Health, Ann Arbor, Michigan, USA (**Committee Member**)
- 08/2018 Melissa Lemke (PhD in Biomedical Engineering), University of Michigan, Ann Arbor, Michigan, USA (**Committee Member**)

4. Lectures, courses and seminars

University of Oxford

Undergraduate lectures

2003 Mathematical ecology and biology (3 lectures)

Graduate lectures

2002 Mathematical biology and medicine (2 lectures)

2003 Computational biology and bioinformatics (4 lectures)

Undergraduate classes and tutorials

1999-2003 Mathematical ecology and biology

2000-2004 Calculus of one variable and discrete mathematics

2000-2004 Calculus of two or more variables

2000-2004 Fourier series and two variable calculus

2000-2004 Partial differential equations in two dimensions and applications

2000-2004 Dynamics

2002-2004 Complex Analysis

2000-2004 Probability

2000-2004 Statistics

Graduate classes

2001-2004 Mathematical modelling

2001-2004 Special topics in computational and mathematical modelling

Seminars

2002-2004 Convenor for mathematical ecology and biology graduate seminars

Indiana University

Undergraduate lectures/classes

2004-2006 Introduction to informatics

2007 Topics in informatics: Systems biology

Graduate lectures/classes

2004-2006 Introduction to informatics

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2005 Mathematical methods for biologists
2006-2008 Mathematical methods in informatics
2007 Systems biology: An user's guide

Seminars

2005 Convenor for the informatics graduate seminars
2005-2008 Convenor for the honors undergraduate seminars in computer science and informatics

University of Michigan

Graduate lectures/classes

2009-2010 Cellular Physiology (4 lectures per semester)
2009-present Aspects of Physiological Research (1 lecture per semester)
2009-2013 Organogenesis of Complex Tissues (2 lectures per semester)
2010-present Computational Systems Biology in Physiology (28 lectures per semester)
2014-2015 Biophysical Methods II (2 lectures per semester)

Seminars

2009-present Molecular & Integrative Physiology Student Seminar, Co-convenor and faculty evaluator
2010-present Co-convenor for Systems Biology Journal Club/Workshop, Department of Molecular & Integrative Physiology

Committee, Organizational and Volunteer Service

Indiana University

08/2004-05/2008 Member, Executive Committee
Biocomplexity Institute, Department of Physics
08/2004-05/2006 PhD Development and Implementation Committee
Indiana University School of Informatics
08/2004-05/2008 Member, Graduate Program Committee
Indiana University School of Informatics
08/2005-12/2005 Member, Diversity Plan Committee
Indiana University School of Informatics
01/2006-05/2008 Member, Diversity Committee
Indiana University School of Informatics
08/2005-07/2006 Member, Systems Biology Search Committee
Department of Biology
08/2005-07/2006 Member, Publication Initiative Committee
Indiana University School of Informatics
08/2006-07/2007 Member, Biocomplexity Faculty Search Committee
Department of Physics
08/2006-05/2008 Member, Graduate Admission Committee
Indiana University School of Informatics

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University of Michigan

06-2008-present	Instructor (one lecture per year) Michigan Math and Science Scholars Program
08/2008-07/2010	Member, Curriculum Committee Bioinformatics Program
08/2008-07/2010	Member, Graduate Affairs Committee Bioinformatics Program
08/2009-present	Member, Bioartography Committee Center for Organogenesis
08/2009-09/2013	Member, Graduate Program Committee Department of Molecular & Integrative Physiology
02/2010-08/2017	Physiology Representative, Faculty Ally for Diversity in Education Rackham Graduate School
01/2010-02/2011	Master Program Development Committee Department of Molecular & Integrative Physiology
01/2010-03/2011	Lecturer Search Committee Department of Molecular & Integrative Physiology
01/2010-07/2010	Tuition Return Committee Department of Molecular & Integrative Physiology
03/2011-06/2016	Operating Committee, Master Program Department of Molecular & Integrative Physiology
08/2011-07/2013	Seminar Committee Center for Computational Medicine & Bioinformatics
10/2011-07/2017	Operating Committee Medical Scientists Training Program
09/2013-08/2017	Faculty Advisor, Association of Multicultural Scientists Program in Biomedical Sciences
12/2013-present	Academy for Educational Excellence and Scholarship University of Michigan Medical School
05/2014-07/2017	Faculty Mentor, Michigan Biological Software and iGEM Team University of Michigan ²
06/2014-07/2017	Cellular & Molecular Biology Representative, Faculty Ally for Diversity in Education Rackham Graduate School
09/2014-07/2017	Cellular & Molecular Biology Program Operating Committee, Cellular & Molecular Biology Program
05/2015-present	Faculty Founder and Mentor, University of Michigan SACNAS Chapter
01/2016-07/2017	Diversity, Equity & Inclusion Planning, Basic Science Diversity Working Group University of Michigan Health System
02/2016	ad hoc Authorship Dispute Committee

² Team won Bronze Medal and Honorable Mention for Best Software Project in the 2014 iGEM International Competition, Silver Medal and Honorable Mention for Best Software Project in the 2015, iGEM International Competition, and Gold Medal and First Prize for Best Software Project in the 2016 iGEM International Competition.

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08/2006-07/2017 University of Michigan Medical School
Member, Graduate Program Committee
Department of Molecular & Integrative Physiology

03/2017-07/2017 Chair Advisory Committee
Department of Molecular & Integrative Physiology
University of Michigan Medical School

08/2017-present Member, Michigan Medicine Leadership Group
University of Michigan Medical School

08/2017-present Member, Operating Committee Endowment of Basic Sciences
University of Michigan Medical School

08/2017-present Member, Dean's Advisory Council of Chairs
University of Michigan Medical School

08/2017-present Member, Michigan Medicine Leadership and Administrators
University of Michigan Medical School

08/2017-present Member, Research Board of Directors
University of Michigan Medical School

08/2017-present Member, Internal Advisory Board
University of Michigan Comprehensive Cancer Center
University of Michigan Medical School

09/2017-08/2019 ARC-Technology Services Steering Committee
University of Michigan

National

1996-1997 Founding Member, Bioethical Committee
Consejo Nacional de Investigaciones Científicas y Tecnológicas
Caracas, Venezuela

2005-2007 *ad hoc* Member, Scientific Advisory Panel
Office of Chemical Safety and Pollution Prevention Science
Advisory Pane
Environmental Protection Agency
Washington DC

2009-2010 Member, Board of Scientific Counselors
Computational Toxicology Subcommittee
Environmental Protection Agency
Washington DC

2017 Member, Board of Scientific Counselors
Division of Intramural Research
National Heart, Lung and Blood Institute
Bethesda, Maryland

International

2006-2007 Member, Bellman Prize Committee
Mathematical Biosciences, Elsevier Science

2008-present Member, Steering Committee
Centre for Mathematical Medicine
Fields Institute, Toronto, Canada

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2009	Member, External review panel, Quality Research Outputs South Africa's National Research Foundation (NRF)
2010-2011	Member, Bellman Prize Committee Mathematical Biosciences, Elsevier Science
2014-2017	Member, Scientific Advisory Committee Mathematical Bioscience Institute Ohio State University, Columbus, Ohio, USA
2016-present	Member, Standards for Reporting Enzymology Data (STRENDA) Commission Beilstein Institut, Frankfurt am Main, Germany

Conference organized

1. "Latinovation: Making Connections", R&D Procter & Gamble, Latin American Division, Caracas, Venezuela, September 18th, 1998 (**Organizing Committee**).
2. "III Genomics Informatics day: Bioinformatics, computational biology, systems biology, and mathematical biology - Their relationship" (international conference), University of Oxford, January 22nd, 2005 (**Co-organizer**)
3. "Biocomplexity 7: Unravelling the function and kinetics of biochemical networks - From Experiments to Systems Biology" (international conference), Indiana Memorial Union, Indiana University, Bloomington, May 9-11th, 2005 (**Organizer**)
4. "Biocomplexity 9: Multiscale modeling of multicellular systems" (*international conference*), Indiana Memorial Union, Indiana University, Bloomington, May 8-10th, 2006 (**Organizer** in collaboration with Philip K. Maini, Timothy Newman and James Glazier)
5. "ALifeX: Tenth International Conference on the Simulation and Synthesis of Living Systems" (international conference), Indiana University, Bloomington, June 3-7th, 2006 (**Program Committee**)
6. "Minisymposium: Identifiability and Inference of Biochemical Pathways", Joint Annual Meeting of The Society of Mathematical Biology and SIAM Conference on the Life Sciences, North Carolina State University, Raleigh, North Carolina, USA, July 31-August 4th, 2006 (**Organizer** in collaboration with Rami Tzafrini)
7. "Workshop in Computational Methods for Bioinformatics and Systems Biology: Portuguese Conference on Artificial Intelligence", Guimarães, Portugal, December 3-7th, 2006 (**Program Committee**)
8. "Special Section: Some Mathematical Problems in Biology: From Macromolecules to Ecosystems", American Mathematical Society Central Section Meeting, Indiana University, Bloomington, Indiana, April 5-6th, 2007 (**Organizer** in collaboration with Roger Teman)

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9. “Second International Workshop on Practical Applications of Computational Biology & Bioinformatics” (international conference), Salamanca, Spain, October 22-24th, 2008 (***Program Committee***)
10. “Systems Biology Symposium: Celebrating the Diversity of Contemporary Integrative Biology”, Ann Arbor, Michigan, December 1st, 2009 (***Organizer*** in collaboration with John A. Williams and Bishr Omary)
11. “Annual Meeting of Society for Mathematical Biology”, Rio de Janeiro, Brazil, July 26-29th, 2010 (***Scientific Committee***)
12. “Second Systems Biology Symposium: From molecules to organisms”, Ann Arbor, Michigan, April 4th, 2011 (***Organizer*** in collaboration with John A. Williams)
13. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2011)”, Sofia, Bulgaria, June 15-18, 2011 (***Program Committee***)
14. “Joint Meeting of European Society for Mathematical and Theoretical Biology and the Society for Mathematical Biology”, Cracow, Poland, June 28-July 2nd, 2011 (***Organizing and Scientific Committee***)
15. “Biomat 2011 – International Symposium on Mathematical and Computational Biology”, Santiago de Chile, November 5-10th, 2011 (***Scientific Advisory Committee***)
16. “12th International Conference on Experimental Chaos and Complexity”, Rackham Building, University of Michigan, Ann Arbor, Michigan, May 16-19 (***Scientific Advisory Committee***)
17. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2012)”, Sofia, Bulgaria, June 17-22, 2012 (***Program Committee***)
18. “6th Annual Midwest Islet Club Conference”, Ann Arbor, Michigan, April 22nd-23rd, 2013 (***Organizing Committee***)
19. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2013)”, Sofia, Bulgaria, June 16-21, 2013 (***Steering Committee***)
20. “From Cells to Ecosystems: Frontiers in Collaborative Quantitative Physics-Based Multiscale Modeling of Biological Processes”, Pan American Advance Studies Institute, Universidade federal do Rio Grande do Sul, Rio Grande, Porto Alegre, Brazil, July 8-26, 2013 (***Advisory Committee***)

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21. “Diabetes Systems Biology Workshop”, Center for Mathematical Medicine, Fields Institute, Toronto, Canada, March 24-26, 2014 (***Organizer*** in collaboration with Anmar Khandra and Siv Sivaloganathan)
22. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2014)”, Sofia, Bulgaria, June 22-27, 2014 (***Steering Committee***)
23. “Targeting Cancer Cell Proliferation and Metabolism Networks”, Mathematical Biosciences Institute, Ohio State University, Columbus, Ohio, USA, March, 23-25, 2015 (***Organizing Committee***)
24. “Nonlinear Dynamics in Biology Systems”, Joint CAMBAM-MBI-NIMBioS Summer School, Montreal, Canada, June 1st-12th, 2015 (***Organizer***)
25. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2015)”, Blagoevgrad, Bulgaria, June 14-19, 2015 (***Steering Committee***)
26. “Molecules and Machines”, Annual Symposium of the University of Michigan Protein Folding Diseases, Ann Arbor, Michigan, September 18, 2015 (***Organizing Committee***)
27. “Workshop on Mathematical Oncology VI”, Centre for Mathematical Medicine, Fields Institute, Toronto, Canada, April 11-13, 2016 (***Organizer*** in collaboration with M. Kohandel, Philip K. Maini and Siv Sivaloganathan)
28. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2016)”, Blagoevgrad, Bulgaria, June 19-25, 2016 (***Steering Committee***)
29. “The 2016 European Conference on Mathematical and Theoretical Biology jointly with the 2016 Society for Mathematical Biology Annual Conference”, Nottingham, UK, July 11-15, 2016 (***Scientific Committee***)
30. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2017)”, Skukuza Camp, Kruger Park, South Africa, June 25-30th, 2017 (***Steering Committee***)
31. “The 2017 Society for Mathematical Biology Annual Meeting”, University of Utah, July 17-20th, 2017 (***Scientific Committee***)
32. “6th Chinese Society for Mathematical Biology International Conference on Mathematical Biology”, University of Beijing, Beijing, China, June 15-18th, 2018 (***Scientific Committee***)
33. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2018)”, Bulgarian Academy of Sciences, Sofia, Bulgaria, June 24-29, 2018 (***Steering Committee***)

Santiago Schnell, DPhil (Oxon), FRSC

34. “2018 Annual Meeting of the Society for Mathematical Biology and the Japanese Society for Mathematical Biology”, The University of Sydney, Australia, July 8-12th, 2018 (*Steering Committee*)
35. “The Maths of Biology – Celebrating the day of mathematical biology 10/10”, The Royal Swedish Academy of Sciences, Institut Mittag-Leffler, Djursholm, Sweden, October 8-12th, 2018 (*Organizing Committee*)
36. 1st EnzymeML Workshop, University of Stuttgart, Stuttgart, Germany, November 19-20th, 2018 (*co-Organizer*)
37. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2019)”, Polish Academy of Science, Institute of Mathematics, Będlewo Conference Center, Poland, June 16-24, 2019 (*Steering Committee*)
38. “2019 Annual Meeting of the Society for Mathematical Biology”, Concordia University and McGill University, Montreal, July 22-26th, 2019 (*Steering Committee*)
39. “2019 Beilstein Enzymology Symposium”, Rüdeshheim, Germany, September 10-12th, 2019 (*Scientific Committee*)
40. “On growth and pattern formation”, Mathematical Institute, University of Oxford, September 18-19th, 2019 (*Organizing Committee*)
41. “International Conference on Mathematical Methods and Models in Biosciences (Biomath 2020)”, University of Pretoria, Salt Rock Resort in Balito, South Africa, June 21-26, 2020 (*Steering Committee*)

Industry

- | | |
|-----------|---|
| 1997-1998 | Member, Global Method Validation Team
R&D Procter & Gamble |
| 1997-1998 | Member, Global Sensory Expertise Group
R&D Procter & Gamble |
| 1997-1998 | Member, Global Protocol Standardization Committee
R&D Procter & Gamble |

Community Service

- | | |
|-----------------|--|
| 01/2005-01/2008 | Board Member
Tamarron Homeowner Association
Bloomington, Indiana |
| 03/2009-07/2009 | Member
Organizing Committee for Ann Arbor City Tennis Tournament
Ann Arbor Area Tennis Community Association |

Santiago Schnell, DPhil (Oxon), FRSC

- 09/2011- President
Huron Mills Association
Ann Arbor, Michigan
- 03/2015- Mentor and Instructor
MiRcore/GIDAS Network of High School Students
Ann Arbor, Michigan

Professional and Consulting Positions

- 11/1989-07/1991 Library Assistant (part time), English Literature
and Language Teaching Information Service (ELLTIS)
The British Council
Caracas, Venezuela
- 03/1997-08/1998 Senior Scientist, Latin American Division
R&D Procter & Gamble
Cincinnati, USA/Caracas, Venezuela

Occasional consultant for pharmaceutical and chemical industry (Organon, Procter & Gamble, GlaxoSmithKline, and Dow Chemical Company).

Visiting Lectureships, Seminars and Extramural Invited Presentations

Visiting and international lectureships

1. Instituto Gulbenkian de Ciência, Oeiras, Portugal, April 1st-8th, 2006. PhD in Computational Biology, “Enzyme kinetics and metabolic networks” (one week course).
2. Universidad de Monteávila, Caracas, Venezuela, June 17-24th, 2006. Graduate Certificate in Bioethics, “When does life begin? Conception and development of the human embryo” (one week course).
3. Cancer Systems Biology. Transatlantic Summer School, Rostock-Warnemünde , Germany, June 7th-10th, 2009, “Modelling reactions ‘the right way’ inside the cells”
4. University of Barcelona, Barcelona, Spain, November 11th-15th, 2013. Undergraduate in Biochemistry and Molecular Biology, “Modelling reactions inside cells” (one week course).

5. McGill University, Montreal, Canada, June 1st-12, 2015. Nonlinear dynamics in biology systems, “Deterministic models of reaction kinetics: Use and abuse of the steady-state approximation”

Invited presentations in scientific meetings

1. 1er. Simposium Nacional, El Humanismo en la Medicina, Caracas, Venezuela, October 28th, 1995, “Perspectivas: Una visión ética de la clínica”
2. One day dedicated to the mathematical and computational modelling in biology; Centro de Física, Instituto Venezolano de Investigaciones Científicas (IVIC), November 6, 1997, “On cellular stability”
3. Four studies in Mathematical Biology, University College London (UCL), March 10th, 2002, “On indistinguishable biochemical pathways. Deduction of the reaction mechanism for complex biochemical reactions”
4. Workshop on Theoretical Biophysics, Institute of Biology, Department of Theoretical Biophysics, Hiddensee, Germany, April 2-5th, 2003, “On indistinguishable biochemical pathways. Deduction of the reaction mechanism for complex biochemical reactions”
5. Mathematical Analysis of Metabolic Networks. Mathematical Interdisciplinary Research Day (MIR@W Day), Mathematics Institute, University of Warwick, June 2nd, 2003, “Transient kinetics consequences in the reduced description of biochemical networks: The application of the quasi-steady-state approximation to an open enzymatic reaction”
6. Modelling Cellular Function, Auckland, New Zealand, June 14th-18th, 2003, “Biochemical reaction kinetics in non-homogeneous media: Simulations and rate laws”
7. Annual Meeting of the Society for Mathematical Biology, University of Dundee, August 6-9th, 2003, “The best contender models for somitogenesis”
8. VIII Venezuelan Congress of Hematology, Venezuelan Society of Hematology, Radisson Eurobuilding Hotel, Caracas, Venezuela, June 23-26th, 2005, “Proyecto Genoma Humano: Clonación Terapéutica y Reproductiva”, “Factores de regulación de células hematopoyéticas progenitoras y sanguíneas” and “Uso de la genética en tratamiento de hemofilia” (**plenary speaker**)
9. Biocomplexity VIII: Application of methods of stochastic systems and statistical physics in biology, The Interdisciplinary Center for the Study of Biocomplexity, University of Notre Dame, October 28-30th, 2005, “Lesson from the computational modelling of reactions in intracellular environments”

10. Workshop (close door): The Intracellular Environment, Cold Spring Harbor Laboratory, Banbury Center, November 13th-16th, 2005, “Stochastic and deterministic kinetics for modelling of reactions in intracellular environments with macromolecular crowding”
11. Conference on the 10th Anniversary of the Bioethical Committee, Hospital Universitario de Caracas, Universidad Central de Venezuela, November 14-17th, 2005, “Es humano tu clon” (**plenary speaker**) and “Aspectos éticos normativos y éticos del uso de embriones pre-implantación”
12. 55th Annual Convention of the Venezuelan Association for the Advancement of Science, Universidad Central de Venezuela, Caracas, Venezuela, November 21-26th, 2005, “Unravelling the nature of the segmentation clock” (**plenary speaker**)
13. Join06, Jornadas de Informática, Universidad do Minho, Braga, Portugal April 5-7th, 2006, “How can a systems biologist build up a clock?” (**plenary speaker**)
14. Joint Annual Meeting of The Society of Mathematical Biology and SIAM Conference on the Life Sciences, North Carolina State University, Raleigh, North Carolina, USA, July 31-August 4th, 2006, “The apparent first-order kinetics of the substrate disappearance in enzyme digestion”
15. Joint Annual Meetings of the Society for Mathematical Biology and the Japanese Society for Mathematical Biology, San Jose, California, USA, July 31-August 4rd, 2007, “The dynamics of reaction pathways in intracellular conditions”
16. Biomedical Engineering Society Annual Fall Meeting, Los Angeles, California, USA, September 26-29th, 2007, “Multiscale models of vertebrate Segmentation” and “Reconstruction of biochemical reaction mechanisms and pathways from time series and steady state data”
17. Annual Meeting of the Society for Mathematical Biology, Toronto, Canada, July 30th-August 2nd, 2008, “A model of endoplasmic reticulum stress in pancreatic β -cells”
18. Dynamical Systems in physiological modeling, Purdue University, October 11th-13th, 2008, “A models of the unfolded protein response in β -cells”
19. Mathematical Challenges in Developmental Biology. Workshop 3: Morphogenesis, Limb Growth, Gastrulation, Somitogenesis and Neural Tube Development, Mathematical Bioscience Institute, Ohio State University, November 17th-21st, 2008, “Investigating two mechanisms of neural crest migration”

20. Transatlantic Strategic Workshop (closed-door): Cancer Systems Biology, Rostock-Warnemünde , Germany, June 8th-11th, 2009, “SWOT Analysis for Modelling Sub-cellular Processes”
21. International Conference on Mathematical Biology and Annual Meeting of the Society of Mathematical Biology, University of British Columbia, Vancouver, Canada, July 27th-30th, 2009, “How is protein load sensed in the endoplasmic reticulum?”
22. Systems Biology Symposium: Celebrating the Diversity of Contemporary Integrative Biology. University of Michigan, Ann Arbor, Michigan, USA, December 1st, 2009, “New insights into Protein Homeostasis Mechanism in the Endoplasmic Reticulum Lumen”
23. The Fifth Annual Symposium on Predictive Health: Human Health – Molecules to Man. The Emory/Georgia Tech Predictive Health Institute, Atlanta, Georgia, USA, December 14th-15th, 2009, “Metabolism and personalize medicine: Can computational systems biology make all the difference?”(**plenary speaker**)
24. 2010 Annual Meeting of the Society for Mathematical Biology and 10th International Symposium on Mathematical and Computational Biology (Biomat 2010), Rio de Janeiro, Brazil 24-29th July, 2010, “Stability of open pathways”
25. 11th International Conference On Systems Biology (ICSB 2010), Edinburgh, Scotland, UK, October 10-16th, 2010, “Identification of aggregation reaction conditions associated with toxic aggregation thresholds found in conformational diseases”
26. 8th European Conference on Mathematical and Theoretical Biology, and Annual Meeting of the Society for Mathematical Biology, Krakow, Poland, June 28th-July 2nd, 2011, “A model of threshold behavior reveals rescue mechanisms of bystander proteins in conformational diseases”
27. BIOMATH 2012 International Conference on Mathematical Methods and Models in Biosciences, Sofia, Bulgaria, June 17th-22nd, 2012, “A model of chaperone overload in aging organism” (**plenary speaker**)
28. The Teratology Society, 52nd Annual Meeting “Global Perspectives in Teratology”, Baltimore, Maryland, USA, June 23rd-27th, 2012, “How does computational modeling reveal mechanisms of cell chain migration?” (**Wiley Blackwell lecturer**)
29. Blackwell-Tapia Conference 2012, Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Providence, Rhode Island, USA, November 9-10, 2012, “How a dynamical model can predict phenotype from genotype?”

30. 13th International Symposium on Mathematical and Computational Biology, The Fields Institute, Toronto, Ontario, Canada, November, 4th-8th, 2013, “Modeling dominant protein interactions that influence the pathogenesis of protein folding diseases” (**plenary speaker**)
31. The Biophysical Society 58th Annual Meeting, Cellular Stress, Protein Folding, and Disease Symposium, February 15-19th, 2014, “Protein interactions and transition times that influence the pathogenesis of protein folding diseases”
32. Workshop on Diabetes Systems Biology, Fields Institute, Toronto, Canada, March 24-26th, 2014, “A comprehensive data analysis reveals that pancreatic β -cells net growth is population density-dependent throughout the lifespan of rats”
33. Current Topics Workshop: Molecular to Systems Physiology, Mathematical Bioscience Institute, Ohio State University, Ohio, USA, May 5-9th, 2014, “On the mechanism of sensing unfolded protein in the endoplasmic reticulum”
34. Emphasis Workshop: Targeting Cancer Cell Proliferation and Metabolism Networks, Mathematical Bioscience Institute, Ohio State University, Ohio, USA, March 23-27th, 2015, “Reverse engineering signaling pathway in cancer cells: Effects of honokiol on the notch signaling pathway as a case study”
35. Emphasis Workshop: Dynamics in Networks with Special Properties, Mathematical Bioscience Institute, Ohio State University, Ohio, USA, January 25-29th, 2016, “Network motifs provide signatures that characterize metabolism of cellular organelles”
36. 10th European Conference in Mathematical and Theoretical Biology, and Annual Meeting of the Society for Mathematical Biology, University of Nottingham, UK, July 11-15th, 2016, “Villification of the Turing reaction-diffusion model”
37. A3-NIMS Joint Workshop on Interdisciplinary Research Connecting Mathematics and Biology, Center for Applications of Mathematical Principles, National Institute for Mathematical Sciences, Daejeon, Korea, May 12-14th, 2017, “Challenges in measuring kinetic parameter of enzyme catalyzed reaction” (**plenary speaker**)
38. World Metrology Day Symposium, Joint Initiative for Metrology in Biology, National Institute of Standards and Technology and Stanford University, May 22nd, 2017, “Standards for Reporting Enzymology Data (STREND A)”
39. 2017 Annual Meeting of the Society for Mathematical Biology, University of Utah, Salt Lake City, Utah, USA, July 17-20th, 2016, “Education SubGroup Symposium: Teaching modeling and simulation using MATLAB: Case studies in systems biology and pharmacology”

40. 2017 Beilstein Enzymology Symposium “Enzymes in Transformation and Signalling”, Rüdesheim, Germany, September 19-21, 2017, “Designing Enzyme Assays for the Accurate Measurement of Enzyme Kinetic Parameters” (**plenary speaker**)
41. Centre Européen de Calcul Atomique et Moléculaire (CECAM) Workshop “Proteins in realistic environments: simulation meets experiment”, CECAM-DE-SMSM, University of Stuttgart, 23-25th, 2018, “Exploring standardized protocols to measure and estimate enzyme kinetic parameters” (**plenary speaker**)
42. 2018 Beilstein Bozen Symposium “Information and Noise: Chemistry, Biology and Evolution. Creating Complex Systems”, Rüdesheim, Germany, June 5-7th, 2018, “Macromolecular crowding is an important organizing principle for chemical catalysis inside biomolecular condensates” (**plenary speaker**)
43. 2018 Fall ACS Meeting, Symposia “Reporting & Reproducibility of Chemistry Research Data”, Boston, USA, August 19-25th, 2018, “Better reporting for better measurements: Enzyme kinetics as a case study”
44. Workshop 1010: The Maths of Biology, Institut Mittag-Leffler, Swedish Academy of Science, Djurshold, Sweden, October 8-12th, 2018, “How to design an optimal sensor network for the unfolded protein response”
45. 2019 Beilstein Enzymology Symposium “Molecular Functions, Catalysis and Regulation”, Rüdesheim, Germany, September 10-12th, 2019, “The uncertainty of the Michaelis constant, K_M , in experimental reproducible enzyme kinetic public data”
46. On growth and pattern formation: A celebration of Philip Maini’s 60th birthday, University of Oxford, UK, September 18-19th, 2019, “Better mathematical models for better measurements: Enzyme kinetics as a case study”

Extramural seminars

1. Instituto Venezolano de Investigaciones Científicas, Physics Center, Physics Seminars, November 6th, 1997, “Enzyme kinetics à la Leonahrd Euler”
2. University of Auckland, Auckland, New Zealand, Bioengineering Institute Colloquium, July 23th, 2003, “Transient kinetics consequences in the reduced description of biochemical networks: The application of the quasi-steady-state approximation to an open enzymatic reaction”
3. Indiana University, Biocomplexity Colloquium, Department of Physics, December 1st, 2003, “Reaction kinetics in intracellular environments with macromolecular crowding: simulations and rate laws”

4. Rutgers University, DIMACS/BIOMAPS Seminar Series on Quantitative Biology and Epidemiology, February 5th, 2004, “Reaction kinetics in intracellular environments with macromolecular crowding: simulations and rate laws”
5. Rutgers University, Mathematical Colloquium, Department of Mathematics, February 6th, 2004, “The quasi-steady-state approximation in enzyme kinetics”
6. University of Warwick, Warwick Systems Biology Center Seminars, May 18th, 2004, “What are the kinetic laws that describe intracellular reactions”
7. Purdue University, Weldon School of Biomedical Engineering, Biomedical Engineering Seminars, September 21st, 2005, “Formation of vertebral precursors”
8. Purdue University, Bioinformatics Seminars, Department of Statistics, October 18th, 2005, “Unraveling the nature of the segmentation clock”
9. Instituto Gulbenkian de Ciência, Oeiras, Portugal, IGC Seminars, April 10th, 2006, “A clock and wavefront mechanism for somite formation”
10. Purdue University, School of Chemical Engineering, Chemical Engineering Colloquium, November 14th, 2006, “Systems biology and biochemistry”
11. Kalamazoo College, Complex Systems Colloquium, December 6th, 2006, “Unraveling the nature of the segmentation clock” (**distinguish speaker**)
12. Northwestern University, Engineering Science and Applied Mathematics Department, ESAM Colloquium, January 16th, 2007, “Enzyme reactions within the cells”
13. Iowa State University, Mathematical Biology Seminars, February 7th, 2007, “Enzyme reactions within cells”
14. University of Michigan Medical School, Center for Computational Medicine & Biology, CCMB Seminars, April 25th, 2007, “Rate laws and mechanisms discovery within cells”
15. University of Michigan Medical School, Molecular & Integrative Physiology Colloquium, June 4th, 2007, “Modelling signaling gradients in development”
16. University of Michigan, Department of Mathematics, Applied and Interdisciplinary Mathematics Seminars, September 14th, 2007, “How do cells form rounded segments?”

17. Georgia Institute of Technology, Integrative Systems Biology Institute, Distinguish Seminar Series, April 8th, 2009, “Modeling reactions ‘the right way’ inside the cells” (**distinguish speaker**)
18. University of Connecticut Health Center, Center for Cell Analysis and Modeling, CCAM Seminars, May 13th, 2009, “How is protein load sensed in the endoplasmic reticulum?”
19. Instituto Gulbenkian de Ciência, Oeiras, Portugal, IGC Seminars, July 2nd, 2009, “How is protein load sensed in the endoplasmic reticulum?”
20. Universitat de Barcelona, The Catalanian Reference Network on Theoretical and Computational Chemistry, December 10th, 2009, “Modelling reactions inside the cells”
21. Univeridad Autónoma de Barcelona, The Catalanian Reference Network on Theoretical and Computational Chemistry, Spain, December 11th, 2009, “Modelando reacciones dentro de las células”
22. Centre for Mathematical Medicine Seminars, Centre for Mathematical Medicine, Fields Institute, Toronto, Canada, February 20th, 2010, “How is protein load sensed in the endoplasmic reticulum?”
23. Minority Access to Research Career Program, University of Arizona, Tucson, September 27th, 2010, “Modeling reactions inside the cell”
24. Department of Chemistry and Biochemistry, University of Lethbridge, Canada, November 30th, 2010, “How is protein load sensed in the endoplasmic reticulum?”
25. Department of Applied and Computational Mathematics and Statistics Colloquium, University of Notre Dame, USA, April 18th, 2011, “A model of threshold behavior reveals rescue mechanisms of bystander proteins in conformational diseases”
26. Department of Electric and Computing Engineering Seminars, University of Texas, San Antonio, Texas, USA, April 27th, 2012, “Computational modeling of cell chain migration reveals mechanisms that sustain follow-the-leader behavior”
27. Computer Science and Engineering Lecture Series 2011-2012, Michigan State University, East Lansing, Michigan, USA, October 26th, 2012, “A reactor model of endoplasmic reticulum to investigate protein folding diseases”
28. Department of Computer Science and Mathematical Institute, Computational Biology Seminars, Trinity Term 2013, University of Oxford, May 17th, 2013, “How a dynamical model can predict phenotype from genotype”.

29. Stowers Institute for Medical Research, Developmental Biology Seminars, Kansas City, Missouri, August 15th, 2013, “Investigating developmental mechanisms with agent-based models”
30. Department of Mathematics and Statistics, Mathematics Colloquium, Georgia State University, Atlanta, Georgia, September 23rd, 2013, “How a dynamical model can predict phenotype from genotype”.
31. Mathematical Bioscience Institute, Colloquium, Ohio State University, Columbus Ohio, January 27th, 2014, “Modeling dominant protein interactions that influence the pathogenesis of protein folding diseases”
32. Department of Physiology, McGill University, Montreal, Canada, March 21st, 2014, “How a dynamical model can predict phenotype from genotype: Mutant INS-gene Induced Diabetes of Youth as a case study.”
33. The New Mexico Center for the Spatiotemporal Modeling of Cell Signaling, University of New Mexico, Albuquerque, New Mexico, April 14th, 2014, “Investigating proinsulin cross dimerization to rescue insulin production in a model of diabetes of youth”
34. Center for Nonlinear Studies, q-Bio Seminar Series, Los Alamos National Laboratory, Los Alamos, New Mexico, April 15th, 2014, “Modeling protein processing in pathogenesis of protein folding diseases exhibiting threshold phenomenon”
35. Computational Biology Program Seminars, Sloan Kettering Cancer Center, New York City, New York, December 4th, 2014, “How to reverse engineer the intracellular signal transduction circuitry of cancer cells”
36. Mathematical Biology Seminars, Department of Mathematics, University of Utah, Salt Lake City, Utah, March 4th, 2015, “Investigating the modulation of *Drosophila* aging by linking sexual perception and reward”
37. Science at the Edge, Quantitative Biology, Gene Expression in Development & Disease Seminar, Michigan State University, East Lansing, Michigan, September 11th, 2015, “Sex, reward or death (in flies)”
38. Mathematics Colloquium, Department of Mathematics, University of Texas at Arlington, Arlington, Texas, October 2nd, 2015, “Modeling dominant protein interactions that influence the pathogenesis of protein folding diseases”
39. Mathematical Bioscience Institute Colloquium, The Ohio State University, Columbus, Ohio, USA, December 7th, 2015, “The long road to reproducibility in biomedical sciences also requires mathematical models”

40. Department of Chemistry & Biochemistry Seminars, The Ohio State University, Columbus, Ohio, USA, February 17th, 2016, “Chemical kinetics for reproducible research to combat protein aggregation diseases”
41. Department of Biochemistry & Molecular Biology Seminars, St. Louis University Medical School, St. Louis, Missouri, USA, October 10th, 2016, “Challenges in the reproducibility of kinetic parameter estimates for enzyme catalyzed reactions”
42. Centre for Mathematical Medicine Seminars, Fields Institute, Toronto, Canada, November 23rd, 2016, “The inverse problem is crucial for the design of quantitative experiments in drug development”
43. Department of Biological Sciences, University of Maryland Baltimore County, Baltimore, Maryland, USA, March 2nd, 2017, “Villification in the mouse: Coordination of signals and mechanical forces control intestinal villus patterning?” (**eminent speaker**)
44. Centre for Mathematical Medicine Seminars, Fields Institute, Toronto, Canada, February 28th, 2018, “Theory of the reactant-stationary kinetics for a coupled enzyme assay”
45. Department of Biomedical Engineering Seminars, Purdue University, West Lafayette, Indiana, USA, November 6th and 7th, 2018, “Is there a reliability crisis in systems biology?” and “Exploring treatments for conformational diseases using Ockham's razor” (**distinguished seminar speaker**).
46. Department of Biomedical Engineering and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA, March 18th, 2019, “Are we measuring biochemical systems with rigor?”
47. Department of Biomedical Informatics Seminar, Ohio State University College of Medicine, August 30th, 2019, “The uncertainty of the Michaelis constant, K_M , in experimental reproducible enzyme kinetic public data”
48. Department of Mathematics Colloquium, Florida State University, October 4th, 2019, “The mystery of rapid-equilibrium approximation in enzyme kinetics”

Intramural seminars

1. University of Oxford, Mathematical Institute, Mathematical Biology and Ecology Seminars, February 19th, 1999, “The new enzyme kinetics”
2. University of Oxford, CABDyN Complexity Centre, CABDyN Seminars, November 11th, 2003, “An agent-based model simulation to discover the kinetic properties of biochemical reactions in *in vivo* conditions”

3. Indiana University, Biocomplexity Institute, Biocomplexity Seminars, September 7th, 2004, “Uses and abuses of the pseudo-first order kinetics in single molecular enzymology”
4. Indiana University, School of Library and Informatics Science, Network and Complex Systems Seminars, November, 15th, 2004, “Unraveling the biochemical reaction kinetics from time-series data”.
5. Indiana University, Institute for Scientific Computing and Applied Mathematics, September 6th, 2006, “A century of enzyme kinetics: On how scaling has been used in chemical kinetics”
6. University of Michigan Medical School, Center for Computational Medicine & Biology, Tools & Technology Seminars, June 5th, 2008, “XPP/AUTO: A tool for solving differential equations in computational biology”
7. University of Michigan, Department of Mathematics, Mathematical Biology Seminars, January 19th, 2009, “Model of the Unfolded Protein Response - Pancreatic β - cell as a case study”
8. University of Michigan Medical School, Center for Computational Medicine & Bioinformatics, November 10th, 2010, “Models of beta-cell turnover during development”
9. University of Michigan, Quantitative Biology Seminars, March 12th, 2012, “Computational modeling of cell chain migration reveals mechanisms that sustain follow-the-leader behavior”
10. University of Michigan, Applied Mathematics Seminars, October 5th, 2012, “A model of chaperone overload capacity in protein folding diseases”
11. University of Michigan, Protein Folding Disease Seminars, January 9th, 2014, “Modeling protein processing and aggregation: Insulin as a case study”
12. University of Michigan, Computational Medicine & Bioinformatics Seminars, April 8th, 2015, “Investigating the effects of macromolecular crowding on reaction kinetics, protein aggregation and cell physiology”
13. Symposium on Computational Discovery in Complex Systems Biology, University of Michigan Center for Systems Biology, Center for the Study of Complex Systems, and Michigan Institute for Computational Discovery and Engineering, September 22nd, 2015, “On sex, reward or death (in flies)”
14. University of Michigan Medical School, Department of Internal Medicine, Metabolism, Endocrinology & Diabetes Division, Research Conference,

November 13th, 2015, “Using mathematical and computational models to explore hypotheses in the biomedical sciences”

15. University of Michigan Biophysics Symposium, April 18th, 2016, “The long road to reproducibility requires deriving good approximations”

16. University of Michigan Medical School, Department of Computational Medicine & Biology, Tools & Technology Seminars, November 7th, 2017, “Disorder Atlas: A tool for standardizing intrinsic disorder calculations”

Bibliography

Original peer-reviewed publications

1. R. Villegas, C. Castillo, M. E. Póo, **S. Schnell**, C. Piernavieja, D. Balbi and G. M. Villegas (1994). Expression of sodium channels with different saxitoxin affinity during rat forebrain development. *Developmental Brain Research* **81**, 26-40.
PMID: 7805284
DOI: 10.1016/0165-3806(94)90065-5
2. **S. Schnell** and C. Mendoza (1997). Enzymological considerations for a theoretical description of the Quantitative Competitive Polymerase Chain Reaction (QC-PCR). *Journal of theoretical Biology* **184**, 433-440.
PMID: 9082073
DOI: 10.1006/jtbi.1996.0283
3. **S. Schnell** and C. Mendoza (1997). A closed-form solution for time-dependent enzyme kinetic. *Journal of theoretical Biology* **187**, 207-212.
DOI: 10.1006/jtbi.1997.0425
4. **S. Schnell** and C. Mendoza (1997). Theoretical description for polymerase chain reaction. *Journal of theoretical Biology* **188**, 313-318.
PMID: 9344735
DOI: 10.1006/jtbi.1997.0473
5. **S. Schnell** and C. Mendoza (2000). A formula for integrating inverse functions. *The Mathematical Gazette* **84**, 103-104.
6. **S. Schnell** and C. Mendoza (2000). Time-dependent closed form solution for fully competitive enzyme kinetics. *Bulletin of Mathematical Biology* **62**, 321-336.
PMID: 10824432
DOI: 10.1006/bulm.1999.0156
7. **S. Schnell** and P. K. Maini (2000). Clock and induction model for somitogenesis. *Developmental Dynamics* **217**, 415-420.
PMID: 10767085

- DOI: 10.1002/(SICI)1097-0177(200004)217:4<415::AID-DVDY8>3.0.CO;2-3
8. **S. Schnell** and P. K. Maini (2000). Enzyme kinetics at high enzyme concentration. *Bulletin of Mathematical Biology* **62**, 483-499.
PMID: 10812718
DOI: 10.1006/bulm.1999.0163
 9. **S. Schnell** and C. Mendoza (2000). Enzyme kinetics of multiple alternative substrates. *Journal of Mathematical Chemistry* **27**, 155-170.
DOI: 10.1023/A:1019139423811
 10. J. R. Collier, D. McInerney, **S. Schnell**, P. K. Maini, D. J. Gavaghan, P. Houston and C. D. Stern (2000). A cell cycle model for somitogenesis: mathematical formulation and numerical simulation. *Journal of theoretical Biology* **207**, 305-316.
PMID: 11082301
DOI: 10.1006/jtbi.2000.2172
 11. **S. Schnell** and C. Mendoza (2001). A fast method to estimate kinetic constants for enzyme inhibitors. *Acta Biotheoretica* **49**, 109-113.
PMID: 11450805
DOI: 10.1023/A:1010219527831
 12. **S. Schnell** and P. K. Maini (2002). Enzyme kinetics far from quasi-steady-state and equilibrium approximations. *Mathematical and Computer Modelling* **35**, 137-144.
DOI: 10.1016/S0895-7177(01)00156-X
 13. **S. Schnell**, P. K. Maini, D. McInerney, D. J. Gavaghan and P. Houston (2002). Models for pattern formation in somitogenesis: a marriage of cellular and molecular biology. *Comptes Rendus Biologies* **325**, 179-189.
PMID: 12017765
DOI: 10.1016/S1631-0691(01)01418-4
 14. R. Baker, **S. Schnell** and P. K. Maini (2003). Formation of vertebral precursors: Past Models and Future Predictions. *Journal of Theoretical Medicine* **5**, 23-35.
DOI: 10.1080/10273660310001628365
 15. **S. Schnell** and C. Mendoza (2004). The condition for pseudo-first-order kinetics to be valid in transient-phase studies of enzymatic reactions is independent of the initial enzyme concentration. *Biophysical Chemistry* **107**, 165-174.
PMID: 14962597
DOI: 10.1016/j.bpc.2003.09.003
 16. D. McInerney, **S. Schnell**, R. E. Baker and P. K. Maini (2004). A mathematical formulation for the cell cycle model in somitogenesis: analysis, parameter constraints and numerical solutions. *Mathematical Medicine and Biology - A Journal of the IMA* **21**, 85-113.

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