Curriculum Vitae

1. Personal details and the date of the CV

- Last name: Kaja
  First name: Simon
  Researcher ID: ORCID 0000-0001-6878-521X
  Date: 1/1/2021

2. Degrees

- Date: 2/6/2007
  Degree title: Doctorate
  Major subject: Medicine
  Conferring institution: Leiden University, Leiden, the Netherlands

- Date: 6/27/2002
  Degree title: Bachelor of Science
  Major subject: Molecular Biology and Biochemistry with Industrial Placement
  Conferring institution: University of Durham, Durham, United Kingdom

3. Other education and expertise

- N/A

4. Language skills

- Native language: German

- Other language skills: English (C2), Danish (B2), Dutch (C1), French (B1), Spanish (A1), Russian (A1), Swedish (A2)

5. Current employment

- 7/1/2015 – present
  Dr. John P. and Therese E. Mulcahy Endowed Professor in Ophthalmology
  Loyola University Chicago
  Health Sciences Campus, Maywood, Illinois, USA
  (this is the primary fulltime academic appointment)

- 7/1/2015 – present
  Assistant Professor of Molecular Pharmacology and Neuroscience
  Loyola University Chicago
  Health Sciences Campus, Maywood, Illinois, USA
  (this is a fulltime adjunct academic appointment)

- 7/1/2015 – present
  Research Health Scientist (WOC)
  United States Department of Veterans Affairs
  Edward Hines Jr. Veterans Affairs Hospital, Hines, Illinois, USA
  (this a WOC-without compensation appointment)

- 7/1/2014 – present
  Chief Scientific Officer and Vice-President, Americas
  Experimentica Ltd.
  Kuopio, Finland
  (this is a part-time appointment)

- 3/28/2012 – present
  Chief Executive Officer, Member
  K&P Scientific LLC
  Forest Park, Illinois, USA
  (this is my consulting business)

- Career stage: IV (Professor)

6. Previous work experience

- 01/2009 – 07/2015
  Research Assistant Professor
  Department of Ophthalmology, School of Medicine
  University of Missouri – Kansas City
  Kansas City, Missouri, USA
  Additional roles: Associate Director Preclinical Research; Vision Research Center; Adjunct Doctoral Faculty, University of Missouri – Kansas City, School of Graduate Studies

- 10/2008 – 12/2008
  Research Scientist
  Department of Pharmacology and Neuroscience
  University of North Texas Health Science Center at Fort Worth
  Fort Worth, Texas, USA

- 07/2008 - 10/2008
  Research Scientist II
  Department of Behavioral Pharmacology II
  Neurosearch A/S
  Ballerup, Denmark

- 07/2006 – 06/2008
  Senior Research Associate
  Michael Smith Laboratories
  The University of British Columbia
  Vancouver, British Columbia, Canada

- 07/2006 – 06/2008
  Visiting Researcher
  Neuromed Pharmaceuticals
  Vancouver, British Columbia, Canada

- 07/2000 – 09/2001
  Research Assistant
  Department of Molecular Biology and Virology
  NovoNordisk A/S
  Søborg, Denmark
  (this was the industrial placement year as part of my Bachelor of Science degree)

- 07/1999 – 10/1999
  Volunteer/Intern
  Department of Molecular Biology and Virology
  Bayer AG
  Uerdingen, Germany

7. Career breaks

- None

8. Research funding and grants

- National Institutes of Health – NIH
  Project Number: EY032440-01
  Direct Costs: $6,941,080
  02/01/2021-01/01/2026
  Title: Immunotherapy for Ocular Surface Diseases
  Role: Subaward PI (PI: Jain, S)

- H2020-MSCA-ITN-2018, European Commission
  Project: 813440
  Direct Costs: 4,066,231.32 €
  9/1/2019 – 8/31/2023
  Title: Ocular Research By Integrated Training And Learning (ORBITAL)
  Role: Subaward PI (PI: Fitzhenry, L)

- Department of Veterans Affairs - BLR&D Merit Award
  Project: BX003938
  Direct Costs: $825,000
  10/01/2017 – 09/30/2021
  Title: Mitochondrial-Targeted Antioxidant-Encapsulating Nanoparticles as a Promising Therapeutic Strategy in Regulating Outflow Resistance
  Role: Co-Investigator (PI: Stubbs, EB)

- Illinois Society for the Prevention of Blindness
  Helen and Wesley E. Bass Jr AMD Award and Research Grant
  Direct Costs: $10,000
  7/1/2020 – 6/30/2021
  Title: Targeting the thioredoxin system in AMD
  Role: Faculty Mentor, PI: Ghosh AK

- The Glaucoma Foundation
  Research Grant
  Direct Costs: $60,000
  02/01/2018 – 01/31/2019
  Title: Lysyl Oxidase-Like 1 (Loxl1) Dysregulation Promotes Reactive Astrocytosis by Altering Calcium Signaling in Optic Nerve Head Astrocytes
  Role: Principal Investigator

- Kansas City Life Sciences Institute
  Patton Trust Research Grant
  Direct Costs: $50,000
  07/01/2011 – 06/30/2012
  Title: A Novel Canine Model for Early-Onset Cerebellar Ataxia
  Role: Co-Principal Investigator

- Fight for Sight
  Grant-in-Aid
  Direct Costs: $20,000
  08/01/2010 – 09/30/2011
  Title: Lacrimal gland dysfunction: A first step towards novel pharmacotherapy for dry eye disease.
  Role: Principal Investigator

- National Headache Foundation
  Research Grant
  Direct Costs: $10,000
  04/01/2009 – 03/31/2010
  Title: Novel mechanism underlying the visual impairments during migraine headaches.
  Role: Principal Investigator

- Michael Smith Foundation for Health Research
  MSFHR ST-PDF-140(05-1)BM
  Direct Costs: CA$40,000
  07/01/2006 – 06/30/2008
  Title: Functional characterization of low-voltage activated T-type calcium channels in cerebellar slices of wild-type and P/Q-type calcium channel mutant mice.
  Role: Principal Investigator

9. Research output

- Total number of peer-reviewed publications: 61

- Peer-reviewed publications - most impactful in the field of vision research

  - Ghosh AK, Rao VR, Wisniewski VJ, Zigrossi AD, Floss J, Koulen P, Stubbs EB, Jr., and Kaja S, Differential Activation of Glioprotective Intracellular Signaling Pathways in Primary Optic Nerve Head Astrocytes after Treatment with Different Classes of Antioxidants. Antioxidants (Basel). 2020; 9: 10.3390/antiox9040324

- Rao VR, Lautz JD, Kaja S, Foecking EM, Lukács E, and Stubbs EB, Jr., Mitochondrial-Targeted Antioxidants Attenuate TGF-β2 Signaling in Human Trabecular Meshwork Cells. Invest Ophthalmol Vis Sci. 2019; 60: 3613-3624. 10.1167/iovs.19-27542
- Žiniauskaitė A, Ragauskas S, Ghosh AK, Thapa R, Roessler AE, Koulen P, Kalesnykas G, Hakkarainen JJ, and Kaja S, Manganese(III) tetrakis(1-methyl-4-pyridyl) porphyrin, a superoxide dismutase mimetic, reduces disease severity in in vitro and in vivo models for dry-eye disease. Ocul Surf. 2019; 17: 257-264. 10.1016/j.jtos.2019.02.006
- Kaja S, Payne AJ, Patel KR, Naumchuk Y, and Koulen P, Differential subcellular Ca2+ signaling in a highly specialized subpopulation of astrocytes. Exp Neurol. 2015; 265: 59-68. 10.1016/j.expneurol.2014.12.014
- Kaja S, Hilgenberg JD, Rybalchenko V, Medina-Ortiz WE, Gregg EV, and Koulen P, Polycystin-2 expression and function in adult mouse lacrimal acinar cells. Invest Ophthalmol Vis Sci. 2011; 52: 5605-5611. 10.1167/iovs.10-7114
- Burroughs SL, Kaja S, and Koulen P, Quantification of deficits in spatial visual function of mouse models for glaucoma. Invest Ophthalmol Vis Sci. 2011; 52: 3654-3659. 10.1167/iovs.10-7106

- Peer-reviewed publications - most impactful in the field of migraine research
  - van den Maagdenberg AM*, Pizzorusso T*, Kaja S*, Terpolilli N*, Shapovalova M, Hoebeek FE, Barrett CF, Gherardini L, van de Ven RC, Todorov B, Broos LA, Tottene A, Gao Z, Fodor M, De Zeeuw CI, Frants RR, Plesnila N, Plomp JJ, Pietrobon D, and Ferrari MD, High cortical spreading depression susceptibility and migraine-associated symptoms in Ca(v)2.1 S218L mice. Ann Neurol. 2010; 67: 85-98. 10.1002/ana.21815
  - Kaja S, Todorov B, van de Ven RC, Ferrari MD, Frants RR, van den Maagdenberg AM, and Plomp JJ, Redundancy of Cav2.1 channel accessory subunits in transmitter release at the mouse neuromuscular junction. Brain Res. 2007; 1143: 92-101. 10.1016/j.brainres.2007.01.063
  - Kaja S, van de Ven RC, Broos LA, Veldman H, van Dijk JG, Verschuuren JJ, Frants RR, Ferrari MD, van den Maagdenberg AM, and Plomp JJ, Gene dosage-dependent transmitter release changes at neuromuscular synapses of CACNA1A R192Q knockin mice are non-progressive and do not lead to morphological changes or muscle weakness. Neuroscience. 2005; 135: 81-95. 10.1016/j.neuroscience.2005.04.069
  - van den Maagdenberg AM, Pietrobon D, Pizzorusso T, Kaja S, Broos LA, Cesetti T, van de Ven RC, Tottene A, van der Kaa J, Plomp JJ, Frants RR, and Ferrari MD, A Cacna1a knockin migraine mouse model with increased susceptibility to cortical spreading depression. Neuron. 2004; 41: 701-710. 10.1016/s0896-6273(04)00085-6
- Methods, software, infrastructures, materials, guides and tools developed
  - Kaja S, Payne AJ, Naumchuk Y, and Koulen P, Quantification of Lactate Dehydrogenase for Cell Viability Testing Using Cell Lines and Primary Cultured Astrocytes. Curr Protoc Toxicol. 2017; 72: 2.26.21-22.26.10. 10.1002/cptx.21
  - Kaja S, Payne AJ, Naumchuk Y, Levy D, Zaidi DH, Altman AM, Nawazish S, Ghuman JK, Gerdes BC, Moore MA, and Koulen P, Plate reader-based cell viability assays for glioprotection using primary rat optic nerve head astrocytes. Exp Eye Res. 2015; 138: 159-166. 10.1016/j.exer.2015.05.023
  - Burroughs SL, Duncan RS, Rayudu P, Kandula P, Payne AJ, Clark JL, Koulen P, and Kaja S, Plate reader-based assays for measuring cell viability, neuroprotection and calcium in primary neuronal cultures. J Neurosci Methods. 2012; 203: 141-145. 10.1016/j.jneumeth.2011.09.007
- Patents and inventions
  - Patent Application "LXR Agonist in Topical Ophthalmic Formulation for Treatment of Dry-Eye Disorder", Inventors: Kaja S, Ghosh AK, Jones WK, Filing Date: 12 Dec. 2019, Serial No. 16/711,646

10. Research supervision and leadership experience

- Loyola University Chicago
  - Supervisor: M.S. Students (2), Ph.D. students (1), M.S./M.B.A. students (5), Medical Students (3), Undergraduate students and Volunteers (9)
  - Co-Supervisor: M.S. Students (1), Ph.D. students (1)
  - Leadership: Postdoctoral trainees (2), Research Assistants (2)
- Experimentica Ltd.
  - Leadership: Scientific oversight of global operations for 40+ scientists in Europe, North America and Asia; Direct supervision: Scientists (2), Scientist-Veterinarian (1)
- Co-supervisor of Ph.D. students with other Institutions
  - University of Birmingham (1), Waterford Institute of Technology (1), National Technical University of Ukraine - Kiev Polytechnic Institute (1), Vilnius University (1)
- University of Missouri – Kansas City
  - Supervisor: Medical Students (37), Undergraduate students and Volunteers (4)
  - Co-Supervisor: Ph.D. students (1)
  - Leadership: Postdoctoral trainees (1), Research Assistants (4)

11. Teaching merits

- Pedagogical expertise:
  - Undergraduate (classroom and small group)
  - Graduate school (classroom and small group)
  - Medical school (classroom, small group, problem solving sessions, flipped classroom)
- Course development (Loyola University Chicago):
  - Development of PHAR415 (Fundamentals of Drug Discovery and Development) from a 2 credit hour to a 3 credit hour course
  - Development of a stand-alone professional development class in Pharmacovigilance
  - Development of the Pharmacovigilance Certificate Program (12 credit hour accredited graduate certificate program)
- Course development (ORBITAL network):
  - Development of a "journal club"-style course for ORBITAL (Ocular Research By Integrated Training And Learning network - an EU-funded Marie Sklodowska-Curie Innovation Training Network)
- Administrative positions (Loyola University Chicago):
  - Course Director: BMB501 (Biochemistry and Molecular Biology: Journal Club, 1 CH)
  - Course Co-Director: PHAR415 (Pharmacology: Current Topics in Pharmacology and Epidemiology of Disease, 2 CH), NRSC415 (Neuroscience: Neurochemistry, 3 CH), NRSC503 (Neuroscience: Journal Club, 1CH), PHAR407 (Pharmacology: Fundamentals of Drug Discovery and Development, 3CH)
  - Member, Steering Committee for the Pharmacovigilance Certificate Program (2019 – present)
  - Member, Development Committee, Department of Molecular Pharmacology and Neuroscience (2017 – present)
  - Member, Curriculum Review Committee, Stritch School of Medicine (2018)
- Administrative positions (University of Missouri – Kansas City, 2009 - 2015):

- Course Director: Medical School Elective #1895 Research in Ophthalmology, Medical School Elective #2160 – Basic Research in Neuroscience

- Pedagogical publications:
  - Haar L and Kaja S. Technological and Ethical Challenges of Online Education: Adapting medical education to digital platforms. In: Optimizing Medical Education With Instructional Technology. IGI Global. 2019. DOI: 10.4018/978-1-5225-6289-4.ch011
  - Naumchuk Y, Shah V, Kaja S. Mobile Technology in Tele-education. In: Teleophthalmology in Preventive Medicine, Springer, Berlin Heidelberg, Georg Michelson (Ed.) 2015, pp 105-113. ISBN 978-3-662-44974-5

- List of lectures:
  - NRSC410 – Neurobiology: Visual System, Optokinetics, Classical Neurotransmitters
  - NRSC 415 – Neurochemistry: Neurodegenerative Diseases, Neurological Diseases, Astrocytes & Glia
  - PIOL 417 – Medical Physiology: Receptor Pharmacology and Cell Communication I & II
  - PHAR 408 – Advanced Pharmacology: Quantitative Imaging Modalities, Intracellular Calcium Signaling
  - PHAR407 – Fundamentals of Drug Discovery and Development: High-throughput screening, Drug repurposing
  - PHAR415 - Current Topics in Pharmacology and Epidemiology of Disease: Groundbreaking Drug Approvals I & II
  - Physiology – Medical School: Cardiac Physiology, Motility and Secretion
  - Anatomy – Medical School: Visual System
  - Pathology – Medical School: Ophthalmic Pathologies
  - Pharmacology and Therapeutics – Medical School: Pharmacokinetics/Pharmacodynamics, Bench-to-Bedside

12. Awards and honours

- Awards during independent academic career
  - Innovative Research Award 2020; Loyola University Chicago, Department of Molecular Pharmacology & Neuroscience
  - "Graduate Faculty of the Year" 2019, Loyola University Chicago, Health Sciences Campus, Integrated Program in Biomedical Sciences
  - Innovative Research Award 2019; Loyola University Chicago, Department of Molecular Pharmacology & Neuroscience
  - Nominee, Faculty of the Year 2018, Stritch School of Medicine, Graduate Program in Molecular Pharmacology & Therapeutics
  - Innovative Research Award 2017; Loyola University Chicago, Department of Molecular Pharmacology & Therapeutics
  - Excellence in Mentoring Award 2013; UMKC School of Medicine

- Awards prior to an independent academic career
  - Michael Smith Foundation for Health Research postdoctoral trainee award (2006-2008)
  - European Molecular Biology Organization postdoctoral fellowship (2006-2008)
  - RUBICON award (Netherlands Organisation for Scientific Research)
  - Ph.D. scholar of the German National Merit Foundation (2003-2006)

- British Neuroscience Association Undergraduate Award 2002/2003 for outstanding achievement in Neuroscience;
- Neuroscience North East 2002, Sunderland, UK: Best oral presentation award
- Boulter Prize in Molecular Biology 2002, University of Durham; recognizes the top-of-class graduate
- Scholar of the e-fellows.net Foundation (2001 – 2006)
- Undergraduate scholar of the German National Merit Foundation (1999-2002)

13. Other key academic merits

- Service on thesis and dissertation committees
  - Chair of thesis committees: 5 (Morgan Lenz, Zachary Green, Kevin Burbidge, Trevor Nykamp, Arthur Segismundo)
  - Chair of dissertation committees: 5 (Jennifer Schreiber, Anh Phan, Kevin Burbidge, Gurpreet Sandhu, Christopher Himes)
  - Member of thesis committees: 2 (Harsh N. Hariani, Anita K. Ghosh)
  - Member of dissertation committees: 6 (Will Zang, Anita K. Ghosh, Michael Grillo, Azza Damrak, Inesa Lelyte, Sreeraj K. Manikandan)
  - Chair of Qualifying Exam committees: 1 (Michael Long)
- Peer review of funding applications
  - NIH Center for Scientific Review, Biology of the Visual System (BVS) Study Section (2020)
  - Eversight Research Review Committee (2020 – present)
  - Alzheimer's Association, Reviewer (2013 – present)
  - Alzheimer's Association, Member Peer-Review Committee (2019 - present)
  - Fight for Sight (2013 – 2018)
  - University of Missouri Research Board (2013 – 2015)
- Memberships and positions of trust in scientific communities
  - Memberships: Association for Research in Vision and Ophthalmology, Society for Neuroscience, International Society for Eye Research, Association for Ocular Pharmacology and Therapeutics, American Society for Pharmacology and Experimental Therapeutics
  - International Society for Eye Research: Member, Fundraising Committee (2017 – present)
  - Chicago Chapter Society for Neuroscience: Member, Executive Committee (2016 – 2019), Councilor (2016 – 2019), Member (2016 – 2019), Chair (2017 – 2019), Corporate Sponsorship Committee
  - EU-funded Marie Sklodowska-Curie Innovation Training Network (MSCA-ITN): ORBITAL (Ocular Research By Integrated Training And Learning) network : Member, Supervisory Committee (2019-present), Member, Doctoral Studies Committee (2019-present)
- Memberships in national or international expert, evaluation or steering groups and other expert roles (such as evaluation activities in the researcher's own scientific discipline)
  - Invited Member, 25th Annual International Think Tank on Glaucoma, The Glaucoma Foundation
- Memberships in editorial committees for scientific and professional publication series and journals or position as editor or editor-in-chief
  - Editorial Board: Asian Journal of Neuroscience (2012 – present), Webmed Central Plus (2012 – present), Austin Journal of Clinical Ophthalmology (2014 – present)

- Topical Editor: Pharmacology, Journal of Life Medicine (2014 – present)
- Editor in Chief: Journal of Biology and Medicine (2013 – resigned: 2016)

- Referee for scientific publications
  - Neurobiology of Aging, Neuroscience, PLoS One, Scientific Reports, Brain Research, Clinical Ophthalmology, Eye and Brain, Experimental Eye Research, Neuroscience Letters, International Journal of Developmental Neuroscience, Journal of Clinical Trials, Journal of Biology and Medicine, Ophthalmology Research, Austin Journal of Clinical Ophthalmology, BMC Ophthalmology, Biomarkers, Clinical Therapeutics, Journal of Receptor, Ligand and Channels, Behavioral and Brain Functions, Oncology, Nutritional Neuroscience, Investigative Ophthalmology and Visual Science, Scientific Reports, Journal of Neurochemistry, Journal of Neuroinflammation
- Administrative and working group positions (Loyola University Chicago)
  - Chair, Seminar Series Committee (Continuing Medical Education [CME] accredited), Department of Molecular Pharmacology & Neuroscience (2016 - present)
  - Director, Medical Student Research, Department of Ophthalmology (2015 - present)
  - Member, Curriculum Review Committee (2017-2018)
  - Member, Development Committee, Department of Molecular Pharmacology & Neuroscience (2016 - present)
  - Member, Steering Committee, Neuroscience Graduate Program (2016 - present)
  - Member, Pharmacovigilance Steering Committee (2019 – present)
  - Member, Research Committee, Department of Ophthalmology (2015 - present)
  - Member, Social Media Committee, Department of Molecular Pharmacology & Therapeutics (2017-2018)
  - Member: Interdisciplinary Ph.D. Program in Biomedical Sciences Admission Committee as Representative for Neuroscience Track (2017 – present)
- Administrative and working group positions (United States Department of Veterans Affairs, Station Hines)
  - Alternate Member, Research Safety Committee (2016 – present)
  - Ad Hoc Member, Institutional Animal Care and Use Committee (2019 – present)
- Administrative and working group positions (Experimentica Ltd.)
  - Animal Welfare Body (2015 – present)
  - Executive Council (2014 – present)
- Significant invited international lectures
  - 11/6/2020, Structure-function relationships in animal models for angiogenesis, University of North Texas – Health Science Center at Fort Worth, Department of Laboratory Animal Medicine, Fort Worth, TX, Host: Dr. Eegenee Daniels
  - 12/4/2019, Molecular Mechanisms Contributing to Reactive Astrocytosis in the Glaucomatous Optic Nerve Head , University of North Texas – Health Science Center at Fort Worth, North Texas Eye Research Institute, Fort Worth, TX, Host: Professor Thomas Yorio
  - 1/31/2019, Standardization of Cell Viability Assays in Primary Cells as a Prerequisite for Novel Bioprocessing Applications. SILK – Elsemay Björn Symposium, Tampere, Finland, Host: Professor Hannu Uusitalo
  - 8/20/2018, Targeting reactive astrocytosis in glaucoma – novel opportunities for drug discovery, LabRoots Bioprocessing 2019, Host: Tracy Salcido

- 1/23/2018, Novel signaling pathways in glaucomatous optic neuropathy, Loyola University Chicago, Neuroscience Program, Department of Biology, Host: Dr. Robert Morrison
- 11/6/2017, Astrocyte Signaling in Glaucoma National Technical University of Ukraine – Igor Sigorski Kiev Polytechnic Institute (NTUU KPI), Host: Chancellor Michael Zgurovsky
- 8/16/2016, Novel mechanism of pressure-mediated signal transduction in the optic nerve head. Elsemay Björn Symposium, Annual Meeting of the SILK - Research and Development Center for Ophthalmic Innovations, University of Tampere, Tampere, Finland, Host: Professor Hannu Uusitalo
- 5/12/2016, Novel anti-inflammatory strategies for neuroprotection and glioprotection. Burn/Shock Trauma Research Center Seminar Series, Loyola University, Maywood, IL, Host: Professor Mashkoor Choudhry
- 10/8/2014, Novel Avenues for Neuroprotection: Targeting Ca2+ Signaling Pathways in Aging and Disease. Departmental Seminar, Dept. of Molecular Pharmacology and Therapeutics, Loyola University, Maywood, IL, Host: Professor W. Keith Jones
- 7/23/2014, Novel targets for neuroprotection in glaucoma. Ophthalmology Grand Rounds Seminar, Department of Ophthalmology, Loyola University, Maywood, IL, Host: Professor Charles Bouchard
- 6/16/2014, Novel targets for neuroprotection in glaucoma. Departmental Seminar, Dept. of Ophthalmology, University of Tampere, Tampere, Finland, Host: Prfessor Hannu Uusitalo
- 6/13/2014, Novel Avenues for Neuroprotection: Targeting Calcium Signaling Pathways in Aging and Disease. Departmental Seminar, Dept. of Neurobiology, University of Eastern Finland, Kuopio, Finland, Host: Dr. Giedrius Kalesnykas
- 6/12/2014, The need for functional endpoints in drug discovery for ocular diseases. Seminar, Experimentica Ltd., Kuopio, Finland, Host: Dr. Giedrius Kalesnykas
- 1/16/2014, Calcium signaling in neurodegenerative and neurological disease, Departmental Seminar, Dept. of Cell Biology and Anatomy, Rosalind Franklin University of Medicine and Science, The Chicago Medical School, North Chicago, IL, Host: Professor William Frost
- 9/10/2013, Novel Neuroprotective Strategies for Neurodegenerative Diseases: Targeting Calcium Signaling Pathways, Departmental Seminar, Neuroscience Institute, Loyola University, Maywood, IL, Host: Professor Evan B. Stubbs Jr.
- 6/18/2013, Calcium signaling in preclinical disease models for migraine and glaucoma, Special Seminar, Department of Ophthalmology, Loyola University, Maywood, IL, Host: Dr. Shuchi Patel
- 6/13/2013, Functional imaging of calcium signaling pathways in neurodegenerative disease, Special Seminar, Creighton University, Omaha, NE, Host: Dr. Richard Hallworth
- 2/13/2012, Neuroprotective strategies targeting calcium signaling: new hope for neurodegenerative diseases Seminar Series, Ruhr University Bochum, Bochum, Germany, Host: Professor Dr. Stefan Herlitze
- 7/21/2011, qPCR: a user's perspective, Seminar Series, Shock/Trauma Research Center, University of Missouri- Kansas City, School of Medicine, Kansas City, MO, Host: Professor Charles Van Way III
- 12/09/2010, Novel neuroprotective strategies for neurodegenerative disease: targeting intracellular calcium signaling, Departmental Seminar, Institute of Physiology, University of Bern, Switzerland, Host: Dr. Nina Ullrich
- 2/6/2010, Novel neuroprotective strategies for neurodegenerative disease: using high-resolution and high-throughput imaging for targeting intracellular calcium signaling, Invited Lecture, Perkin Elmer Germany and Hamburg Screening Port, Hamburg, Germany, Host: Dr. Martin Daffertshofer
- 11/6/2010, Neuroprotection in Alzheimer's disease, Opening lecture, European Molecular Biology Organization US Fellows Meeting 2010, San Diego, CA, Host: EMBO

- 8/26/2010, Calcium signaling in neurological and neurodegenerative disease: novel avenues for neuroprotection, Departmental Seminar, School of Biological Sciences, University of Missouri Kansas City, Kansas City, MO, Host: Professor Lawrence Dreyfus
- 2/12/2010, Calcium signaling in neurodegenerative disease: novel avenues for neuroprotection, Departmental Seminar, School of Biological and Biomedical Sciences, University of Durham, UK, Host: Dr. Paul Chazot
- 5/8/2009, Migraine, epilepsy, cerebellar ataxia and trauma: one pathophysiological mechanism?, Seminar Series, McKnight Brain Institute, University of Florida, Gainesville, FL, Host: Professor Dennis Steindler
- 3/11/2009, Novel Insights into Familial Hemiplegic Migraine: Involvement of the Visual System Vision Research Seminar, Eye Foundation of Kansas City, UMKC School of Medicine, Department of Ophthalmology, Kansas City, MO, Host: Professor Nelson Sabates
- 10/7/2008, Novel therapeutic approaches for cerebellar ataxias, Scientific Seminar, Memory Disorders Research Unit, Copenhagen University Hospital, Copenhagen, Denmark, Host: Professor Joergen E. Nielsen
- 10/3/2008, Migraine: Insights from transgenic mouse models. Scientific Seminar, Glostrup Research Institute, Glostrup Hospital, Glostrup, Denmark, Host: Dr. Inger Jansen Olesen
- 6/22/2008, The role of Cav3.1 and GABA-A receptors in cerebellar ataxia. Expert Seminar, Neuromed Pharmaceuticals Ltd., Vancouver, B.C., Canada, Host: Professor Terrance P. Snutch
- 4/8/2008, Migraine: Insights from two novel transgenic mouse models, The Chris Thompson Memorial Symposium and Neuroscience North East, School of Biological and Biomedical Sciences, University of Durham, Durham, UK, Host: Dr. Paul Chazot
- 1/22/2008, Migraine: Insights from a novel transgenic mouse model, Departmental Seminar, Department of Pharmacology and Neuroscience, University of North Texas Health Science Center, Fort Worth, TX, Host: Professor Meharvan Singh
- 11/23/2007, Migraine: Insights from two novel transgenic mouse models. Departmental Seminar, School of Biological Sciences, University of Liverpool, Liverpool, UK, Professor Steve Edwards
- 5/11/2007, Calcium Channel Dysfunction in Mouse Models for Epilepsy and Migraine, Departmental Seminar, Department of Pharmacology, University of Innsbruck, Innsbruck, Austria, Host: Professor Dr. Joerg Striessnig
- 5/9/2007, Cacna1a S218L Knock-In Mice: A Model for Migraine, Trauma and Ataxia, Departmental Seminar, Institute for Surgical Research, Ludwig-Maximilians-University Munich, Munich, Germany, Host: Professor Dr. Nikolaus Plesnila
- 5/7/2007, The Role of Calcium Channel Dysfunction in Migraine, Departmental Seminar, Institute for Physiology II/Neurophysiology, University of Jena, Jena, Germany, Host: PD Dr. Frank Richter
- 10/3/2006, Synaptic effects of mutations in neuronal Cav2.1 calcium channels, Departmental Seminar, Department of Pharmacology and Neuroscience, University of North Texas Health Science Center, Fort Worth, TX, Host: Professor Peter Koulen
- 3/22/2006, Synaptic effects of neurological disease-associated mutations in Cav2.1 calcium channels, Departmental Seminar, Department of Neuropathology, Friedrich Alexander University Erlangen-Nuremberg, Erlangen, Germany, Professor Dr. Ingmar Blümcke
- 10/11/2005, Characterization of neuromuscular synaptic transmission in the novel Cacna1a knock-in mouse model for familial hemiplegic migraine, Departmental Seminar, Center for Molecular Neurobiology, University of Hamburg, Hamburg, Germany, Professor Dr. Thomas Jentsch

- 5/16/2005, Recent advances in the study of Ca2+ channel mutant mice, Laboratory Seminar, Michael Smith Laboratories, University of British Columbia, Vancouver, Canada, Host: Professor Terrance P. Snutch
- 7/20/2004 P/Q-Type Calcium Channels in Health and Disease, Departmental Seminar Molecular and Cell Biology Series, University of Durham, Durham, UK, Host: Dr. Christopher Thompson

- Organization of scientific conferences
  - Translational Research Lecture, "Age Related Macular Degeneration", Department of Ophthalmology, 2020
  - "Pharmacovigilance and Drug Safety in the Era of Precision Medicine" Symposium, AbbVie Inc. and Loyola University Chicago, Moderator and Member, Organization Committee
  - Chicago Society for Neuroscience Annual Meeting, 2019, Member, Executive Council
  - Chicago Society for Neuroscience Annual Meeting, 2018, Member, Executive Council
  - Translational Research Symposium, "Biomechanics", Department of Ophthalmology, Member, Organization Committee, 2017
  - Chicago Society for Neuroscience Annual Meeting, 2017, Member, Executive Council

14. Scientific and societal impact

- Promotion of animal welfare
  - Experimentica Ltd: Member, Animal Welfare Board
  - United States Department of Veterans Affairs, Station Hines: Ad-Hoc member, IACUC committee
- Advocate for the accurate reporting of scientific method in publications
  - Author of several methods papers
  - Consultant for the MIQE (Minimum Information for Publication of Quantitative Real-Time PCR Experiments) consortium
- Consultant for the Pharmaceutical Industry for experimental design

15. Other merits

- Other positions: Member, North Texas Eye Research Institute