

Evento Formativo

FRESCO RESEARCH SYMPOSIA

- Programma
- Razionale
- Curriculum Vita e Corpo Docente

Sede	Città	Data
FRESCOFOUNDATION.EU		30/03/2026

Programma

Durata/orario	Contenuti	Tipologia	Docenti	Interattività	
I Sessione					
1:15	Balance and gait: why are they impaired in Parkinson's disease and Atypical Parkinsonism?	<i>Serie di relazione su tema preordinato</i>	L. Avanzino/D. Schoppik		
1:15	Dystonia across scales: from genetic pathways to brain networks dysfunction	<i>Serie di relazione su tema preordinato</i>	E. Monfrini/K. Simonyan		
1:15	What inflammation has to do with Parkinson's Disease? The inflammatory environment of PD diritto.	<i>Serie di relazione su tema preordinato</i>	R. Ceravolo		
1:15	Hallucination and psychiatric disorders in Parkinson's Disease	<i>Serie di relazione su tema preordinato</i>	G, Bellinj/ Biyu J. He		

RAZIONALE

La ricerca multidimensionale dove ci sta portando e che riflessi può avere nella pratica quotidiana delle varie figure impregnate nell'assistenza riabilitativa e no al paziente con Parkinson?

Curriculum

Karén Simonyan's Biography

Dr. Karén Simonyan's research interests are in the areas of empirical corporate and entrepreneurial finance such as management quality, securities issuance, venture capital, mergers & acquisitions, anti-takeover provisions, corporate restructuring, and corporate innovation. Some of the research topics analyzed recently by Dr. Simonyan include the effect of investor attention on seasoned equity offerings, the effect of anti-takeover provisions on innovation productivity of entrepreneurial firms, the effect of investment banking networks on various aspects of seasoned equity issues, and others. Dr. Simonyan has published in top finance and entrepreneurship journals such as *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Journal of Law and Economics*, *Entrepreneurship Theory and Practice*, among others.

Dr. Karén Simonyan's teaching interests are in the area of corporate finance. His teaching is focused on experiential learning with particular emphasis on financial modeling, case studies, and computer simulations. Dr. Simonyan played an important role in the establishment of the Financial Wealth Management major introduced at SBS several years ago.

Biyu J. He

Assistant professor of Neurology, Neuroscience & Physiology, and Radiology, New York University Grossman School of Medicine

Born in Xinxiang, China, He excelled in math and science from a young age. She graduated from Tsinghua University at the age of 18, and moved to the United States to pursue her PhD in neuroscience. At the age of 24, He developed a research program with the National Institute of Neurological Disorders and Stroke and the National Institutes of Health as part of an intramural research initiative for recent PhD recipients. He flourished in this environment, publishing research in publications including the Journal of Neuroscience, PLOS Computational Biology, and PNAS.

Biyu J. He receives the Vilcek Prize for Creative Promise in Biomedical Science for her research leadership in the field of cognitive neuroscience, and for her groundbreaking work on the biological bases of perceptual cognition and subjective experience.

CURRICULUM VITAE**INFORMAZIONI
PERSONALI**

Nome e Cognome	Roberto Ceravolo
Data di nascita	04-04-1966
Qualifica	Professore Associato-Dirigente Medico
Amministrazione	Università di Pisa-Azienda Ospedaliero-Universitaria Pisana
Incarico attuale	Responsabile Centro Clinico Malattie NeuroDegenerative- Parkinson e Disordini del Movimento
Numero telefonico dell'ufficio	050-992562
Fax dell'ufficio	050-550563
E-mail istituzionale	Roberto.ceravolo@unipi.it; r.ceravolo@ao-pisa.toscana.it

**TITOLI DI STUDIO E
PROFESSIONALI ED
ESPERIENZE
LAVORATIVE**

Titolo di studio	Laurea in Medicina								
Altri titoli di studio e professionali	Specializzazione in Neurologia Abilitazione Scientifica Nazionale (2018) per Professore Ordinario								
Esperienze professionali (incarichi ricoperti)	Honorary Clinical Assistant Hammersmith Hospital Londra 1996-1999								
Capacità linguistiche	<table><tr><th>Lingua</th><th>Livello Parlato</th><th>Livello Scritto</th></tr><tr><td>Inglese</td><td>Buono</td><td>Ottimo</td></tr></table>			Lingua	Livello Parlato	Livello Scritto	Inglese	Buono	Ottimo
Lingua	Livello Parlato	Livello Scritto							
Inglese	Buono	Ottimo							
Capacità nell'uso delle Tecnologie	Oltre alla tecnologia per uso routinario (word, power point, excel), utilizzo di tecnologia per analisi di immagini (post-processing) in particolare PET								

Altro (partecipazione a convegni e seminari, pubblicazioni, collaborazione a riviste, ecc., ed ogni altra informazione utile alla pubblicazione)	Membro del Consiglio Direttivo della Società per i Disordini del Movimento della SIN dal 2007 al 2011. Membro del Consiglio Direttivo della LIMPE dal 2011 al 2013, con funzione di Tesoriere dal 2013 al 2015. Membro del Consiglio Direttivo della Accademia LIMPE-DISMOV con funzione di Segretario dal 2018 al 2020, ne è attualmente il tesoriere. E' tra i fondatori del gruppo di studio per i Disturbi Neuropsichiatrici in Neurologia della SIN. Membro della Movement Disorders Society, è tra i fondatori del gruppo MDS-Neuroimaging. Ha partecipato come relatore su invito a molti corsi e congressi nazionali ed internazionali e ha partecipato e diretto numerose attività di ricerca in collaborazione con molti gruppi italiani ed all'estero. Responsabile di molti studi affidati da qualificate istituzioni pubbliche e private, ha ottenuto finanziamenti su bandi competitivi da importanti enti nazionali ed internazionali. Revisore ad hoc per le maggiori riviste scientifiche neurologiche, è autore o co-autore di oltre 200 pubblicazioni scientifiche (H index 41; https://orcid.org/0000-0003-1412-9406) Tra i principali campi di interesse: la neurofarmacologia clinica dei disordini del movimento e dell'invecchiamento cerebrale e delle demenze, il neuroimaging funzionale (PET, RM funzionale) nei disordini del movimento e nelle demenze, e la psicopatologia dei disordini del movimento.
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Laura Avanzino, PhD

CURRICULUM VITAE

PERSONAL INFORMATION

Name and Surname: Laura Avanzino

Address: Department of Experimental Medicine, Section of Human Physiology University of Genoa, Viale Benedetto XV/ 3, Genova, Italy.

Contact information: laura.avanzino@unige.it

EDUCATION

2007-2009: PhD in Experimental Neuroscience, University of Genoa.

2001-2006 Residence in Neurology (50/50 cum laude), University of Genoa

2001 M.D. (110/110 cum laude), University of Genoa

CURRENT EMPLOYMENT

2019 – to date: Associate Professor of Human Physiology at Department of Experimental Medicine, University of Genova, Italy.

OTHER RESEARCH POSITIONS

2011 – 2019: Assistant Professor of Human Physiology at Department of Experimental Medicine, University of Genova, Italy.

2010-2011: Research Assistant at Department of Experimental Medicine, University of Genova, Italy.

2007-2009: Ph. D Student in Experimental Neuroscience, University of Genova, Italy.

2005-2006: Research Assistant at Sobell Department of Motor Neuroscience and Movement Disorders” (UCL, University College of London).

PERSONAL STATEMENT

Laura Avanzino is graduated in Medicine at the University of Genova. She accomplished her clinical specialization in Neurology in 2006. Between 2005 and 2006, she worked as research assistant at Sobell Department of Motor Neuroscience, London, UK under the supervision of Professor John Rothwell. She accomplished her PhD studies in Experimental Neuroscience, in 2009, at the University of Genova. From 2010 to 2011 she worked as research assistant at the Department of Experimental medicine, Section of Human Physiology, University of Genova. From 2011 to 2012 she worked as Assistant professor at the Department of Experimental medicine, Section of Human Physiology, University of Genova. She is Associate Professor of Human Physiology at the Dept. of Experimental Medicine, University of Genova where she teaches courses on Human Physiology and Neurophysiology.

The main subjects of investigation of Laura Avanzino are brain plasticity mechanisms and motor learning in healthy controls and in patients with Movement Disorders by means of non-invasive neurophysiological techniques (transcranial magnetic stimulation and transcranial direct and alternating current stimulation) and instrumented behavioural assessment. Major interests of her research have been the following: i) influence of transcallosal communication on motor control; ii) neurophysiological basis of action observation and motor imagery; iii) the study of the role of cerebellum in timing performance and the role of cerebellum in the pathophysiology of dystonia; iv) the influence of cognition and emotion on motor control in healthy and in patients affected by Parkinson’s disease.

NATIONAL AND INTERNATIONAL SCIENTIFIC COLLABORATIONS

Prof. Mirta Florio, Department of Neurosciences, Biomedicine and Movement Sciences, Università di Verona, Verona, Italy; Dott. Michela Chiappalone, Rehab Facility, Italian Institute of Technology (IIT), Genova; Prof. Davide Martino, Director of the Movement Disorders Program, Department of Clinical Neurosciences, University of Calgary, Canada; Prof. Jurgen Konczak, Professor of Biomechanics and Neuromotor Control, University of Minnesota, USA; Prof. Alice Nieuweboer and Prof. Moran Gilat, Department of Rehabilitation Sciences, Catholic University of Leuven, Belgium; Prof. Charalambos Papaxanthis, Université de Bourgogne Franche-Comté, Cognition Action et Plasticité Sensorimotrice, Dijon, France; Prof. Jeffrey Hausdorff and Prof. Anat Mirelman, Center for the Study of Movement, Cognition and Mobility, Department of Neurology, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; Prof. Dante Mantini, Associate Professor at the Research Center for Motor Control and Neuroplasticity of Catholic University of Leuven, Belgium, Dr. Jorik Nonnakes, Radboud University Medical Centre, Nijmegen, the Netherlands..

SCIENTIFIC PUBLICATIONS

Author of 198 scientific publications (in international peer-reviewed journals). Concerning publication indexed on international databases (source: Scopus): H-index: 41; Total citations: 5545 by 4409 documents.

OTHER SCIENTIFIC ACTIVITIES

Invited reviewer for Cerebral Cortex, Movement Disorders, Journal of Neurophysiology, Frontiers in Human Neuroscience, Parkinsonism and Related Disorders, Journal of Neurology, Cerebral cortex.

Review Editor, Movement Disorders section of Frontiers in Neurology.

Reviewer for research projects of the Italian Ministry of University and Research (MIUR, MUR), the Italian Foundation for Multiple Sclerosis (FISM), the Jacques and Gloria Gossweiler foundation (Switzerland), the Marsden Fund (New Zealand), The Michael J Fox Foundation, The Binational Israel-USA Foundation.

2016-2018 member of the Board of the "Accademia LIMPE-DISMOV" (Italian academy for Parkinson's disease and Movement Disorders).

2020-2024 member of the Board of the "Società italiana Parkinson LIMPE-DISMOV" (Italian academy for Parkinson's disease and Movement Disorders).

Since 2009, invited speakers in several National and International conferences.

CONFERENCE ORGANIZATION

Since 2015 Dr. Avanzino has been involved in the scientific committees responsible for the organization of the following events:

- 66° National Congress of Italian Physiological Society (SIF), 16-18 September 2015, Genoa.
- II National Congress of the Academy for the Study of Parkinson's Disease and Movement Disorders (LIMPE-DISMOV Academy), 4-6 May 2016, Bari.
- III National Congress of the Academy for the Study of Parkinson's Disease and Movement Disorders (LIMPE-DISMOV Academy), 17-19 May 2017, Verona.
- New advances in neuromodulation, 8 Ottobre 2018, Verona.
- V National Congress of the Academy for the Study of Parkinson's Disease and Movement Disorders (LIMPE-DISMOV Academy), 22-24 May 2019, Catania.
- Convegno di aggiornamento annuale sulla malattia di Parkinson, Liguria Parkinson 2022, 6-9 Aprile 2022 Genova

- 8 Congresso Nazionale dell'Accademia per lo Studio della Malattia di Parkinson e i Disordini del Movimento (Accademia LIMPE / DISMOV), 16-18 Novembre 2022, Napoli
- 9 Congresso Nazionale dell'Accademia per lo Studio della Malattia di Parkinson e i Disordini del Movimento (Accademia LIMPE / DISMOV), 4-6 Maggio 2023, Padova
- 10 Congresso Nazionale dell'Accademia per lo Studio della Malattia di Parkinson e i Disordini del Movimento (Accademia LIMPE / DISMOV), 10-12 Aprile 2024, Milano
- 11 Congresso Nazionale dell'Accademia per lo Studio della Malattia di Parkinson e i Disordini del Movimento (Accademia LIMPE / DISMOV), 14-16 Maggio 2025, Roma
- Convegno di aggiornamento annuale sulla malattia di Parkinson, Liguria Parkinson 2023, 12-13 Maggio 2023 Arenzano.
- Convegno di aggiornamento annuale sulla malattia di Parkinson, Liguria Parkinson 2024, Genova.
- Convegno di aggiornamento annuale sulla malattia di Parkinson, Liguria Parkinson 2025, Genova.
- Convegno di aggiornamento annuale sulla malattia di Parkinson, Liguria Parkinson 2026, Genova.

RESEARCH SUPPORTS

Ongoing

- PRIN 2022 (20224E944R): "Neurophysiological and behavioral signatures of inhibitory mechanisms in multimodal action processing (NEMO)" 05/02/2025-05/02/2027. Avanzino (Responsabile d'unità), Claudia Gianelli (PI).
Total Grant: €189.422
- The Michael J. Fox Foundation. Fall 2022 RFA: Biomarkers to Support Therapeutic Trials Program. 01/02/2023-01/08/2025. Avanzino (coPI), Inbal Maidan (PI). "Using neurophysiology as a stratification tool for synucleinopathy". Grant ID: MJFF-022410.
Total Grant: \$299,756.27.
- JNPD research EU (2023-2026). 01/04/2023-01/04/2027
Avanzino (Italian PI), Project Coordinator: Jorik Nonnekes (The Netherlands). "Unraveling the Neural mechanisms underlying compensation strategies for gait impairments in Parkinson's Disease: a transnational, multimodal approach (UNITE-PD)".
Total Grant: €1.020.364,00.

Completed

- Italian Ministry of Health
01/07/2022-01/12/2025
Avanzino (PI). "The role of AgRP neurons in Parkinson's disease"
Total Grant: € 52.183,71
- Fresco Foundation grant
01/07/2023-31/12/2025
Avanzino (PI). "Fresco Institute Network Research Project (FI-NRP) including the Parkinson outcome project (POP) carried on by the Parkinson's Foundation (USA)". € 60.000

- Italian Ministry of Health

01/07/2021-01/07/2024

Avanzino (coPI). "Cognitive-emotional-sensorimotor integration in Parkinson's disease and major depression". Amore (PI), Pelosin (coPI)

Total Grant: € 79.621,5
- Fresco Foundation grant

01/07/2020-31/12/2022

Avanzino (PI). "Fresco Institute Network Research Project (FI-NRP) including the Parkinson outcome project (POP) carried on by the Parkinson's Foundation (USA)".

\$ 70.000
- Gloria Gossweiler Foundation

18/05/2017 -31/12/2019

Avanzino (PI) "The effect of tACS at gamma frequency on working memory performance in patients affected by mild to moderate Huntington's disease." Role: PI

Total Grant: Euro: € 138.467
- Fresco Foundation grant

01/01/2017-31/12/2019

Abbruzzese (PI). "Fresco Institute Network Research Project (FI-NRP) including the Parkinson outcome project (POP) carried on by the Parkinson's Foundation (USA)". Role: Study coordinator

\$ 210.000
- Italian Ministry of Health

10/12/2014 a 10/12/2018

Fiorio (PI) "How does the cerebellum contribute to the pathophysiology of dystonia? A multidisciplinary approach with ad-hoc behavioral tasks and cerebellar stimulation with transcranial Direct Current Stimulation (tDCS)". Role: research Unit PI

Total Grant: Euro: € 177.949,16
- Seven framework programme (Health-2011-to stage)

01/01/2012-31/12/2015

Hausdorff (PI); Abbruzzese (research Unit PI) "V-TIME: virtual reality treadmill combined intervention for enhancing mobility and reducing falls in the elderly" Role: Co-investigator

Total grant € 7.499.223,20
- University of Genoa, Italy

01/01/2014-31/12/2014

Avanzino (PI) "Learning by observing: the effect of multiple sessions of action-observation training on the spontaneous movement tempo and motor resonance." Role: PI

€ 20.106,69

- University of Genoa, Italy

01/01/2013-31/12/2013

Avanzino (PI) "The role of aging on motor adaptation." Role: PI

€ 11.238

- University of Genoa, Italy

01/01/2012-31/12/2012

Avanzino (PI) "Boosting the proprioceptive-induced after effects by combining tendon vibration and repetitive TMS over M1." Role: PI

€ 8.044

- University of Genoa, Italy

01/01/2011-31/12/2011

Avanzino (PI) "The role of proprioception in use-dependent hemispheric balance: a TMS study."

Role: PI

€ 7.380,58

- Italian Foundation for Multiple Sclerosis

2009-2010

Quartarone (PI) "Central fatigue in multiple sclerosis: from motor preparation to motor execution."

Role: Co-investigator

Total grant € 50.000,00

TEACHING ACTIVITY

A) Undergraduate

- 2008/2009, 2009/2010 and 2010/2011: teaching activity as adjunct professor of Human Physiology in the following courses of the University of Genoa: Bioengineering, Physiotherapy and Nursing school.
- 2011/2012-2018/2019 – ongoing: teaching activity for more than 60 hours of class as professor of Human Physiology and Neurophysiology in the following courses of the University of Genoa: Medicine and Surgery, Bioengineering, Physiotherapy, Sport Science.
- 2019/2020 – ongoing: teaching activity for more than 120 hours of class as professor of Human Physiology and Neurophysiology in the following courses of the University of Genoa: Medicine and Surgery, Bioengineering, Physiotherapy, Sport Science.

B) I have been mentoring more than 40 thesis of undergraduate students of the courses of Biomedical Engineering, Physiotherapy and Medicine and Surgery.

C) Master

- 2015/2016; 2016/2017 and 2017/2018: Teaching activity in the II level Master in Neuropsychology: Assessment, Diagnosis and Rehabilitation, Cattolica University, Milan
- 2017/2018: Teaching activity in the II level Master in Neurorehabilitation, University of Pavia
- 2018/2019: Teaching activity in the I level Master in Telerehabilitation and novel technologies, University of Genoa
- 2020/2021-ongoing: Teaching activity in the I level Master in Neuroscience and Neurorehabilitation, University of Genoa

D) PhD School

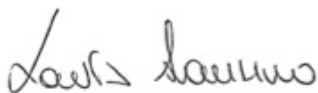
- 2011/2012: Ph.D. in Motor and Sport Science, University of Genoa
- 2013- ongoing: Ph.D. in Neuroscience, University of Genoa
- Mentor of 4 PhD thesis; 1 PhD student ongoing

INSTITUTIONAL ACTIVITIES

2017-2022 is responsible for Quality Assurance of the Department of Experimental Medicine, University of Genoa.

2022-ongoing Member of the Quality Assurance committee of the University of Genoa.

February, 10 2026



Curriculum Vitae

David Schoppik, Ph.D.

Contact Information

Office

Current Appointments and Leadership Positions

- 4/14 - 6/24 Assistant Professor, Departments of Otolaryngology, Neuroscience & Physiology and the Neuroscience Institute
- 7/24-present Associate Professor (with tenure), Departments of Neuroscience, Otolaryngology, and the Institute for Translational Neuroscience

Education and Training

Education

- 1999 B.A. Computer Science, Neuroscience & Philosophy New York University, Gallatin School of Individualized Study
- 2007 Ph.D. Neuroscience University of California, San Francisco

Postdoctoral Training

- 2018-2014 Neuroscience (Labs of Alex Schier & Florian Engert) Harvard University

Awards, Honors, and Membership in Honorary Societies

Internal

- 1995-1999 Gallatin Metropolitan Scholar
- 1999 NYU Founder's Day Scholar
- 2017 Whitehead Foundation Award (NYU)

External

- 1999-2000 Intramural Research Training Award, National Institute of Mental Health
- 2001 National Science Foundation Graduate Research Fellowship Program (declined)
- 2001-2006 Howard Hughes Medical Institute Predoctoral Fellowship
- 2008-2011 Helen Hay Whitney Postdoctoral Fellowship
- 2018 Irma T. Hirschl/Monique Weill-Caulier Charitable Trust Research Award

Research Activity

My lab aims to understand how neural circuits responsible for balance develop, function, and fail. We leverage the transparency, genetic accessibility, and small size of a model vertebrate — the larval zebrafish — to study translationally-relevant phenomenology. We use a combination of novel behavioral assays and cutting-edge imaging techniques, molecular profiling, and *in vivo* intracellular electrophysiology.

Currently, we have four lines of research:

- (i) To understand how central vestibular interneurons acquire their functional identity and integrate into the gaze stabilization circuit.
- (ii) To understand the molecular logic responsible for proper development of extraocular motor neurons, in the service of illuminating the molecular basis of strabismus (ocular misalignment)
- (iii) To understand the earliest (pre-neurodegeneration) stages of tauopathy.
- (iv) To understand the contributions of subcortical oligodendrocytes to developing balance circuits

Our ultimate goal is to understand how molecular-level failures of circuit development lead to behavioral dysfunction. We are highly collaborative, with a track record of productive cross-disciplinary work with optical physicists, evo/devo biologists, and physician-scientists.

Grant History

Current

Agency	Title	Type & #	Period	Total D.C.	Role
NIH/NIDCD	Functional development of interneurons that mediate the vestibulo-ocular reflex	R01 DC017489	12/18-11/29	\$2,048,024 (1-5) \$2,382,535 (6-10)	PI
NIH/NEI	Determinants of extraocular motor neuron subtype diversity	R01 EY035691	6/24-5/28	\$1,665,556	PI
NIH/NEI	The role of heterogeneity among extraocular motor neurons for eye movement control	F31 EY036723 (PI: Celine Bellegarda)	9/25-8/28	\$146,314	ment.

Pending

Agency	Title	Type & #	Period	Total D.C.	Role
NIH/NINDS	Contributions of subcortical myelination to balance development	R01 NS148548-01A1	4/26-3/31	\$2,988,879	PI
NIH/NIA	Mechanisms of neural circuit resilience in early tauopathy	R01 AG100739-01A1	4/26-3/31	\$2,867,960	PI
NIH/NIDCD	Development of visuo-vestibular integration in models of autism spectrum disorder	K99 (PI: Louise Schenberg)	12/26-11/31	\$1,029,744	ment.

Past

Agency	Title	Type & #	Period	Total D.C.	Role
NIH / NIDCD	Developmental Influences on the Functional Organization of the Vestibular System	K99 DC012775	12/12 - 3/14	\$176,016	PI
NIH / NINDS	SCAPE microscopy for high-speed <i>in vivo</i> volumetric microscopy in behaving organisms	Supplement to BRAIN grant U01NS094296	12/16-12/17	\$36,041	con.
NIH / NIDCD	Developmental Influences on the Functional Organization of the Vestibular System	R00 DC012775	3/14 - 12/17	\$946,200	PI
Whitehead Fnd.	The Role of Motoneurons in Sensorimotor Circuit Development.	Fellowship	8/17-8/18	\$30,000	PI
NIH / NIDCD	Functional Development of the Vestibular System	1R56DC016316	9/17-9/18	\$100,000	PI
Brain Research Fnd.	Fay/Frank	Seed Grant	5/18-12/20	\$80,000	PI
NIH/NINDS	SCAPE microscopy for high-speed 3D imaging of cellular function in behaving animals: Continued innovation, optimization, and dissemination.	U01 NS108213-01	09/18-08/21	\$300,000	con.
Dana Fnd	A novel whole-brain method for <i>in vivo</i> imaging of progressive neurodegeneration.	David Mahoney Neuroimaging Grant	10/18-10/22	\$200,000	PI
Leon Levy		Post-doctoral Fellowship (PI: Yunlu Zhu)	6/20-6/22	\$90,000	ment.
NIH/NINDS	A Phenotype-Optimized Zebrafish Model of Progressive Supranuclear Palsy	R61 NS125280-01	1/21-12/22	\$749,971	PI (lead)
NIH/NIDCD	Elucidating transcriptional mechanisms of motor neuron subtype specification	F31 NS110235 (PI: Kristen D'Elia)	9/2019-8/2022	\$117,042	co-PI
NIH/NIDCD	Cellular Mechanisms of Behavioral Development in the Vestibulospinal Circuit	F31 DC019554 (PI: Kyla Hamling)	4/21-4/24	\$129,604	ment.
Hirschl Trust	A novel method for <i>in vivo</i> imaging of progressive neurodegeneration		2/19-2/24	\$175,000	PI
NIH/NINDS	Molecular and sensory foundations of vestibular reflex circuit assembly in the larval zebrafish	F99 (PI: Dena Goldblatt)	7/22-6/28	\$437,080	ment.
NIH/NIDCD	Developmental Contributions to the Functional Maturation of the Vestibulo-Ocular Reflex	F31 (PI: Paige Leary)	7/22-6/24	\$87,278	ment.
Parekh Center (internal)	Transcriptional signatures of tauopathic astrocytes	Exploratory Grant	3/24-2/25	\$10,000	co-PI

NIH/NIDCD / NIA	Administrative Supplement to R01 for Alzheimer's-focused research	3 R01 DC017489-03	6/22-11/24	\$250,000	PI
HHF	Defining myelin's role in developing vestibular circuits	Fellowship (PI: Franziska Auer)	10/23-9/25	\$99,989	ment.
NIH/NINDS	A Phenotype-Optimized Zebrafish Model of Progressive Supranuclear Palsy	R33 NS125280	1/23-12/25	\$507,316	PI (lead)
NIH/BRAIN1	Transformative Optical Imaging of Brain & Behavior in Navigating Genetic Species	R34 DA059500	12/23-11/25	\$450,000	PI (lead)
NIH	Defining myelin's role in developing vestibular circuits	K99 (PI: Franziska Auer)	4/24-3/29	\$996,200	ment.

Educational Activity

Teaching Activity

2012	Neural Systems and Behavior, Marine Biological Laboratory (teaching assistant)
2015-present	CPM Nervous System (small group & lecturer)
2016, 2024-present	Systems and Behavioral Neuroscience (lecturer)
2016	Grant Writing (lecturer)
2019	Critical Writing for Neuroscience (director/sole lecturer)
2023-present	Molecular Neuroscience (lecturer)

Invited Talks and Teaching of Peers

[External to NYU Langone Health and all other NYU schools](#)

2007	NIH, National Eye Institute, Bethesda MD
2007	Harvard University, Cambridge MA
2007	RIKEN Brain Science Institute, Wako-Shi, Japan
2007	Department of Neuroscience, University of Parma, Italy
2012	Systems Neuroscience Forum, Janelia Farm Research Campus, Ashburn VA
2012	Institute for Neuroscience, University of Oregon, Eugene
2012	Seminar Series, Champalimaud Center for the Unknown, Lisbon, Portugal
2012	Center for Hearing and Balance, Johns Hopkins University, Baltimore MD
2013	NERF, Leuven, Belgium
2014	Department of Physiology and Biophysics, University of Washington, Seattle
2014	Department of Biology, Amherst College, Massachusetts
2014	Imaging Zebrafish Neuronal Circuits, Paris, France
2015	Department of Biology Seminar Series, City College of New York, NY
2015	Zebrafish Principal Investigator's Meeting, Janelia Farm Research Campus, Ashburn VA
2015	Dominick P. Purpura Dept. of Neuroscience, Albert Einstein College of Medicine, NY
2016	City University of New York, Brooklyn College
2017	Grossman Workshop, Center for the Statistics of the Mind, Columbia University
2017	RIKEN Brain Science Institute, Wako-Shi, Japan

2017	Zebrafish Principal Investigator's Meeting, Bethesda MD
2018	University of Chicago
2018	Baylor College of Medicine, Houston TX
2018	Kavli Institute for Theoretical Physics, Santa Barbara
2018	University of Toronto
2018	New Jersey Institute of Technology
2018	Zebrafish in Imaging Conference, Brighton UK
2018	Sainsbury Wellcome Center, UK
2018	University of Sussex, UK
2018	University College London, UK
2019	Zebrafish Neural Circuits Meeting, Cold Spring Harbor Labs
2019	International Zebrafish Principal Investigators' Meeting, Asilomar
2019	University of Wyoming, Laramie
2020	Technical University of Munich, Germany
2020	University of Virginia
2020	Rockefeller University
2020	Woods Hole, Zebrafish Course (cancelled due to COVID-19)
2020	Minority Students Program, UC Irvine
2020	Champlimaud Center for the Unknown, Lisbon, Portugal
2021	Washington University, St. Louis
2021	Johns Hopkins University
2021	Gordon Conference, Oculomotor Systems, moved to 2023 due to COVID-19
2021	Minority Students Program, UC Irvine
2022	Kavli Institute for Theoretical Physics, Santa Barbara
2022	University of Washington
2022	Neural Stem Cell Institute, New York
2023	Smith Kettlewell Eye Research Institute, San Francisco
2023	Johns Hopkins University
2023	ZENITH symposium, Paris, France
2024	Michael J. Zigmond Memorial Seminar, University of Pittsburgh Medical Center

- 2024 Chi-Bin Chien Memorial Lecture, Marine Biological Labs, Woods Hole
- 2025 National Institute on Deafness and Communication Disorders, Bethesda MD
- 2026 Johns Hopkins University

Predoctoral students supervised and/or mentored

- 2023-present, Celine Bellegarda (Graduate student)
- 2022-present, Samantha Davis, AuD (Graduate student)
- 2019-2024, Paige Leary (Graduate student)
- 2018-2024, Dena Goldblatt (Graduate student)
- 2018-2023, Kyla Hamling (Graduate student)
- 2015-2022, Kristen D'Elia (Graduate student, co-mentored with Jeremy Dasen)

- 2026-present Alexandra Clayman (Undergraduate student)
- 2026-present Emma Zhang (Undergraduate student)
- 2024-present Nikhita Bolineni (Undergraduate student)
- 2024-present Yifei Zhang (Undergraduate student)
- 2023-present, Marlyn Li (Undergraduate student)
- 2023-present, Andy Kraja (Undergraduate student)
- 2023-2024, Nitika Kamath (Undergraduate student)
- 2023-2024, Harsh Panchal (Undergraduate student)
- 2024-2025, Jiahuan Liu (Masters student)
- 2021-2025, Stephanie Huang (Undergraduate student)
- 2021-2024, Rhoshini Rhaguraman (Undergraduate student)
- 2021-2023, Katherine Nardone (Undergraduate student)
- 2021-2023, Prahashitha Allam (Undergraduate student)
- 2019-2023, Hanna Hameedy (Undergraduate student, then post-bac co-mentored w/Jeremy Dasen)
- 2022-2023, Cheryl Quainoo (Undergraduate student)
- 2022-2023, Grace Xiang (Undergraduate student)

- 2025-present, Naoroz Mahmood (post-bac)
- 2024-present, Emily Gershowitz (post-bac)
- 2022-2024, Hannah Gelnaw (post-bac), currently Ph.D. program at NYU
- 2014-2017, Marie Greaney (post-bac), currently Ph.D. program at University of Chicago
- 2014-2017, Katherine Harmon (post-bac), completed M.D. program, SUNY Stony Brook

Postdoctoral students supervised and/or mentored

- 2024-present, Louise Schenberg (Post-Doctoral Fellow)
- 2020-present, Franzi Auer (Post-Doctoral Fellow)
- 2019-present, Yunlu Zhu (Post-Doctoral Fellow), Assistant Professor U. Michigan starting 2026
- 2015-2019, David Ehrlich (Post-Doctoral Fellow), currently Assistant Professor UW Madison

Diversity, Equity, Inclusion, and Accessibility

I am committed to supporting a diverse population of trainees, both in our program and broadly in neuroscience. As Deputy Director of the graduate program, I maintained formal relationships with students from traditionally underconsidered / underserved populations, disabled students, and students with considerable elder or sibling care responsibilities. I've used my position of authority to help these trainees (and others) to build professional and personal networks of scientists facing comparable challenges, to find financial and legal resources, and to navigate institutional hurdles. I've worked to broaden the department's collective understanding of the challenges faced by members of our scientific community as part of a working group that put together a Workshop on Race & Racism in Science. Lectures in 2021 were attended by nearly all faculty and students in the Neuroscience and Psychology community and stimulated considerable discussion. Operationally, I've single-handedly raised over \$100,000 in private, unrestricted donations to the Neuroscience Institute to support a variety of DEI programs (organized by others). One such program recruited underserved trainees (to other laboratories) for summer research in neuroscience, another brought in a broad set of lecturers to share their work and allowed our trainees to broaden their networks. To improve in my role, I actively listen to and learning from a diverse set of voices about the challenges they face as minoritized members of the neuroscience community; I have found social media to be a rich starting point and maintain an active presence there.

Institutional, Local/National Service and Related Activity

Institutional Service

2017-2021	NYU Langone Microscopy Advisory Committee
2017-2021, 2023-	Graduate Admissions committee member
2017-2020	Joint Neuroscience Colloquia Selection (chair)
2017-2021	Joint Neuroscience Colloquia Selection (member)
2019-2021, 2024-	Deputy Director of Graduate Studies
2024-present	Education Committee (member)
2024-present	Group Meeting (weekly departmental seminar, organizer)

Professional Service

Peer Review Groups, Grant Application Review Groups, and Study Sections

2018	NIH study section (SMI), ad hoc
2018	NASA CBS translational working group
2019-2021	National Science Foundation
2019-2023	NIH study section (ZRG), ad hoc
2020	Natural Sciences and Engineering Research Council (Canada)
2021-2022	Agence Nationale de la Recherche (France)
2021	NIH study section (AUD), ad hoc
2021	NIH study section (ZNS1), ad hoc
2021	Biotechnology and Biological Sciences Research Council (United Kingdom)
2021	Medical Research Council (United Kingdom)
2022	Institut Hospitalo-Universitaire FOReSIGHT (France)
2022	Vienna BioCenter (Austria/EU)
2023	Simons Foundation Autism Research Initiative
2024	Israel Science Foundation
2025	Austrian Science Fund
2025	Howard Hughes Medical Institute
2026	Simons Foundation Autism Research Initiative

Organizing Roles in Scientific Meetings

2016	Association for Research in Otolaryngology Young Investigators Symposium: Zebrafish in Hearing and Balance (Organizer)
2019	Cold Spring Harbor Neurobiology of Zebrafish, Deputy Organizer
2023	Pueblo Brain Science, Specification of Complex Behaviors, Organizer
2023	Cold Spring Harbor Neurobiology of Zebrafish, Organizer
2024	Janelia Research Campus, Developmental Specification of Complex Behaviors, Organizer
2024-present	Zeminar (online monthly zebrafish seminar series), Organizer

Editorial and Journal Positions

Ad hoc reviewer:

2012-	Nature Neuroscience, Journal of Neuroscience
2014-	Nature, Neuroscience
2015-	Experimental Brain Research
2016-	Nature Protocols, Current Biology, Nature Communications
2018-	Nature Methods, eLife
2019-	Developmental Neurobiology
2019-	Journal of Physiology, Journal of Neurophysiology
2020-	eNeuro (a Society for Neuroscience journal)
2022-	Brain Behavior & Evolution, STAR Protocols
2025-	Journal of Experimental Biology
2026-	Science Advances

Reviewing editor

2021-2027	eNeuro (a Society for Neuroscience journal)
2022-	bioRxiv Affiliate (preprint screening)

Bibliography

Peer-reviewed Publications

1. **David Schoppik**, Stephen G. Lisberger. Saccades Exert Spatial Control of Motion Processing for Smooth Pursuit Eye Movements. *Journal of Neuroscience*, July 19, 2006. 26(29):7607-7618.
2. **David Schoppik**, Katherine I. Nagel, Stephen G. Lisberger. Cortical Mechanisms of Smooth Eye Movements Revealed By Dynamic Covariations of Neural and Behavioral Responses. *Neuron*. 2008 vol. 58 (2) pp. 248-60.
3. [Isaac H. Bianco*, Leung-Ha Ma*, **David Schoppik***], Drew N. Robson, Michael B. Orger, James C. Beck, Jennifer M. Li, Alexander F. Schier, Florian Engert, Robert Baker. The Tangential Nucleus Controls a Gravito-inertial Vestibulo-ocular Reflex. *Current Biology* 2012 Jul 24;22(14):1285-95 *equal contributor
4. Joshua Levitz, Carlos Pantoja, Benjamin Gaub, Harold Janovjak, Andreas Reiner, Adam Hoagland, **David Schoppik**, Brian Kane, Philipp Stawski, Alexander F. Schier, Dirk Trauner, Ehud Y. Isacoff. Optical Control of Metabotropic Glutamate Receptors. *Nature Neurosci.* Apr;16(4):507-16, 2013
5. Y. Albert Pan, Tom Freundlich, Tamily Weissman, **David Schoppik**, X. Cindy Wang, Brian Ciruna, Joshua R. Sanes, Jeff W. Lichtman, Alexander F. Schier. Zebrafish: Multispectral Cell Labeling for Lineage Analysis and Neural Circuit Tracing in Zebrafish. *Development* 2013 Jul;140(13):2835-46.
6. I.G. Woods, **D. Schoppik**, V.J. Shi, S. Zimmerman, H.A. Coleman, J. Greenwood, E. R. Soucy, A.F. Schier. Neuropeptidergic Signaling Partitions Arousal Behaviors in Zebrafish. *J. Neurosci* 34 (9) 3142-3160, 2014
7. A. Lacoste, **D. Schoppik**, D. N. Robson, M. Haesemeyer, R. Portugues, J.M. Li, F. Engert, A.F. Schier. A parallel and essential interneuron pathway for Mauthner cell mediated escapes. *Current Biology*, Jun 1 2015 25(11) 1526-1534
8. Owen Randlett, Caroline Wee, Eva Naumann, Onyeka Nnaemeka, **David Schoppik**, James Fitzgerald, Ruben Portugues, Alix Lacoste, Clemens Riegler, Florian Engert, Alexander F. Schier. Whole-brain Activity Mapping onto a Zebrafish Brain Atlas. *Nature Methods* 12(11) 1039-1046, 2015
9. Marie R. Greaney, Ann E. Privorotskiy, Kristen P. D'Elia, **D. Schoppik**. Extraocular motoneuron pools develop along a dorsoventral axis in zebrafish, *Danio rerio*. *Journal of Comparative Neurology*, Jan 1;525(1):65-78, 2017
10. David Ehrlich, **David Schoppik**. Control of movement initiation underlies the development of balance. *Current Biology* Feb 9, 2017 (3), 334-344.
11. David Ehrlich, **David Schoppik**. A novel mechanism for volitional locomotion in larval zebrafish. *bioRxiv*, September 15, 2017 doi: 10.1101/189191. **All findings now published as #22, Zhu et. al. 2023**
12. **David Schoppik**, Isaac H. Bianco, Adam D. Douglass, David A. Prober, Drew N. Robson, Jennifer M. Li, Joel S. F. Greenwood, Edward Soucy, Florian Engert, Alexander F. Schier. Gaze-stabilizing central vestibular neurons project asymmetrically to extraocular motoneuron pools, *Journal of Neuroscience*, September 29, 2017.
13. Limor Freifeld, Iris Odstreil, Dominique Förster, Alyson Ramirez, James A Gagnon, Owen Randlett, Emma K Costa, Shoh Asano, Orhan T Celiker, Ruixuan Gao, Daniel A Martin-Alarcon, Paul Reginato, Cortni

Dick, Linlin Chen, **David Schoppik**, Florian Engert, Herwig Baier, Edward S Boyden. Expansion microscopy of zebrafish for neuroscience and developmental biology studies. PNAS 114 (50) E10799-E10808, Dec. 12, 2017

14. H. Jung, M. Baek, K. D'Elia, C. Boisvert, B. Tay, P. Currie, B. Venkatesh, S. Brown, A. Heguy, **D. Schoppik**, J. Dasen. The Ancient Origins of Neural Substrates for Land Walking. Cell. 172(4) Feb 2018 667-682.e15
15. Marie P. Suver, Andrew M.M. Matheson, Sinekdha Sarkar, Matthew Damiata, **D. Schoppik**, Katherine I. Nagel, Encoding of wind direction by central neurons in Drosophila, Neuron 102 (4), 828-842 2019
16. David Ehrlich, **David Schoppik**, A primal role for balance in the development of locomotion, eLife 8: e45839 2019
17. Manxiu Ma, Alexandro D Ramirez, Tong Wang, Rachel L Roberts, Katherine E Harmon, **David Schoppik**, Avirale Sharma, Christopher Kuang, Stephanie L Goei, James A Gagnon, Steve Zimmerman, Shengdar Q Tsai, Deepak Reyon, J Keith Joung, Emre RF Aksay, Alexander F Schier, Y Albert Pan. Zebrafish dscaml1 deficiency impairs retinal patterning and oculomotor function. Journal of Neuroscience, (40) 1, p143-158, 1/2/2020
18. [Kyla R. Hamling*, Katherine Harmon*], Marie R. Greaney, Zoë Dobler, Yukiko Kimura, Shin-Ichi Higashijima, **David Schoppik**, Synaptic Encoding of Vestibular Sensation Regulates Movement Timing and Coordination (*Danio Rerio*) bioRxiv June 2021 doi: 10.1101/2021.07.05.451142. **All findings now published as #23, Hamling et. al. 2023 and #25, Hamling et. al. 2024**
19. Kyla R. Hamling, Yunlu Zhu, Franziska Auer, **David Schoppik**. Tilt In Place Microscopy (TIPM): a simple, low-cost solution to image neural responses to body rotations. Journal of Neuroscience 43(6), 8 February 2023
20. Dena Goldblatt, Stephanie Huang, Marie R. Greaney, Kyla R. Hamling, Venkatakaushik Voleti, Citlali Perez-Campos, Kripa B. Patel, Wenze Li, Elizabeth M. C. Hillman, Martha W. Bagnall, **David Schoppik**. Neuronal birthdate reveals topography in a vestibular brainstem circuit for gaze stabilization. Current Biology 33(7);1265-1281 2023
21. Kristen P D'Elia, Hanna Hameedy, Dena Goldblatt, Paul Frazel, Mercer Kriese, Yunlu Zhu, Kyla R. Hamling, Koichi Kawakami, Shane A. Liddelow, [**David Schoppik***, Jeremy S. Dasen*]. Determinants of motor neuron functional subtypes important for locomotor speed. Cell Reports 42, 113049 September 26, 2023. ***equal senior contributor, co-corresponding author.**
22. Yunlu Zhu, Franziska Auer, Hannah Gelnaw, Samantha N. Davis, Kyla R. Hamling, Christina E. May, Hassan Ahamed, Niels Ringstad, Katherine I Nagel, **David Schoppik** SAMPL is a high-throughput solution to study unconstrained vertical behavior in small animals. 43, 112573, Cell Reports June 2023.
23. [Kyla R. Hamling*, Katherine Harmon*,] **David Schoppik**, The nature and origin of synaptic inputs to vestibulospinal neurons in the larval zebrafish. eNeuro 10 (6), June 2023.
24. Franziska Auer, Katherine Nardone, Koji Matsuda, Masahiko Hibi, David Schoppik, Purkinje Cells Control posture in Larval Zebrafish (*Danio rerio*). eLife March 28, 2024
25. Kyla R Hamling, Katherine Harmon, Yukiko Kimura, Shin-ichi Higashijima, **David Schoppik**. The vestibulospinal nucleus is a locus of balance development. Journal of Neuroscience, April 18, 2024.

26. Jiakun Chen, Tobias Stock, Yunsik Kang, Katherine AM Nardone, Franziska Auer, Ryan J Farrell, Taylor R Jay, Dongeun Heo, Amy Sheehan, Cameron Paton, Katherine I Nagel, **David Schoppik**, Kelly R Monk, Marc R Freeman. Astrocyte growth is driven by the Tre1/S1pr1 phospholipid-binding G protein-coupled receptor. *Neuron* 112(1):93-112.e10, Jan 3, 2024.
27. Dena Goldblatt, Başak Rosti, Kyla R. Hamling, Paige Leary, Harsh Panchal, Marlyn Li, Stephanie Huang, Cheryl Quainoo, David Schoppik. Motor neurons are dispensable for the assembly of a sensorimotor circuit for gaze stabilization. *eLife* March 8, 2024
28. Yunlu Zhu, Hannah Gelnaw, Franziska Auer, Kyla R. Hamling, David E. Ehrlich, **David Schoppik**, A brainstem circuit for gravity-guided vertical navigation. *PLoS Biology* 5/13/24
29. Paige Leary, Celine Bellegarda, Cheryl Quainoo, Dena Goldblatt, Başak Rosti, **David Schoppik**. Sensation is dispensable for maturation of the vestibulo-ocular reflex. *Science* (387) 85-90, January 3, 2025.
30. Yunlu Zhu, Hannah Gelnaw, Paige Leary, Rhoshini Raghuraman, Nitika Kamath, Andy Kraja, Jiahuan Liu, Qing Bai, Shin-ichi Higashijima, Edward A. Burton, **David Schoppik**. Tau load in select brainstem neurons predicts the severity and nature of balance deficits in the absence of cell death. *bioRxiv* 2024
31. Lambert et. al.. CaBLAM! A high-contrast bioluminescent Ca²⁺-indicator derived from an engineered *Oplophorus gracilirostris* luciferase. *Nature Methods*, 2025
32. Samantha N. Davis, Yunlu Zhu, **David Schoppik**. Multisensory strategies for postural compensation after lateral line loss. *Journal of Experimental Biology* 2025
33. Jiahuan Liu, Samantha N. Davis, **David Schoppik**, Yunlu Zhu. Lighting and circadian cues shape locomotor strategies for balance and navigation in larval zebrafish. *bioRxiv* 2025
34. Franziska Auer, Yifei Zhang, **David Schoppik**. Oligodendrocytes support functional development of subcortical premotor neurons and navigation. *bioRxiv* 2025
35. Stephanie Huang, Marie R. Greaney, Samantha N. Davis, **David Schoppik**, Dena Goldblatt. Birthdate aligns vestibular sensory neurons with central and motor partners across a sensorimotor reflex circuit for gaze stabilization. *Development*, 2026

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1. M. Bagnall and **D. Schoppik**, Development of vestibular behaviors in zebrafish. *Current Opinion in Neurobiology* 53, 83-89, 2018.
2. Y Zhu, KR Hamling and **D Schoppik**. Vestibulospinal circuits and the development of balance in fish. *The Senses: A Comprehensive Reference*, 2nd Edition, 2020
3. F. Auer and **D. Schoppik**, The larval zebrafish vestibular system is a promising model to understand the role of myelin in neural circuits. *Frontiers in Neuroscience* (16) May 6, 2022.
4. C. Bellegarda, F. Auer, and **D. Schoppik**, Zebrafish as a model to understand extraocular motor neuron diversity. *Current Opinion in Neurobiology* 2024.

Editorials and Commentaries

1. KR Hamling and **D. Schoppik**, Sensory gating: Cellular substrates of surprise. *Current Biology* 28 (16) R871-R873, 2018
2. DE Ehrlich and **D. Schoppik**, Balance sense: Motifs that pervade the brain. *Current Biology* 28 (23), R1339-R1342, 2018
3. KP D'Elia and **D Schoppik**, Cell-tracking pipeline reveals how motor circuits are built. *Nature*, November 20, 2019
4. DS Goldblatt and **D Schoppik**, Efference copies: Hair cells are the link. *Current Biology* 30 (1), R10-R12, 2020
5. P Leary and **D Schoppik**, Efference copies: Side-eyeing across species. *Current Biology* 32 (2), PR91-PR93, 2022
6. C Bellegarda and **D Schoppik**, Saccade subtypes: Eyes to the prize. *Current Biology* 2025