

JOHN Q. TROJANOWSKI, MD, PHD

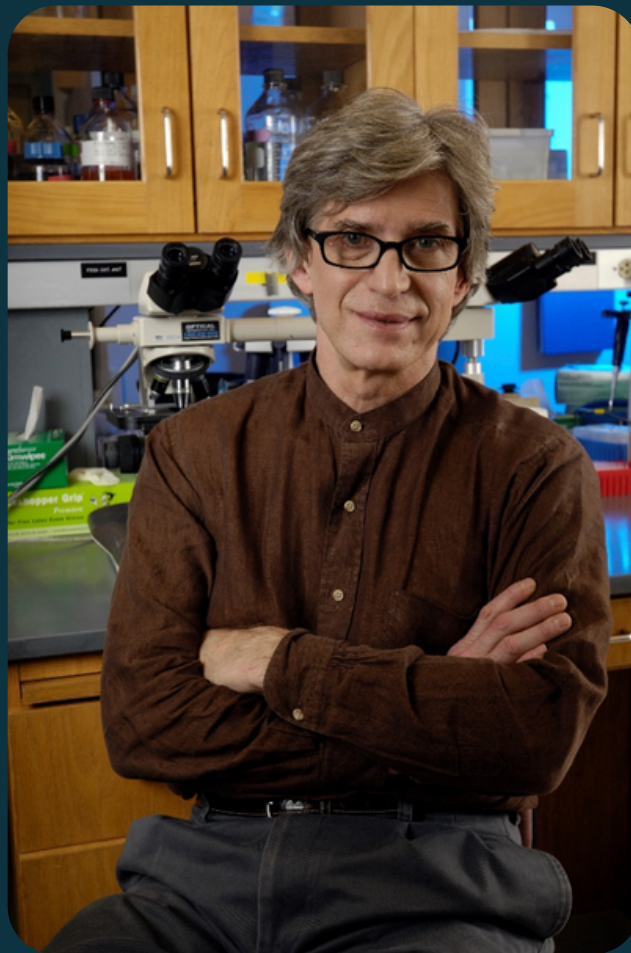


**MEMORIAL
SYMPOSIUM**

SEPTEMBER 16, 2022

**IN LOVING MEMORY OF
JOHN Q. TROJANOWSKI, MD, PHD**

1946 – 2022



"John Q. Trojanowski, M.D., Ph.D., was a giant in the field of neurodegenerative diseases, a clinical and experimental neuropathologist of remarkable stature, a colleague to many, and a friend to even more."

AGENDA

1:00 pm – 1:02 pm

Welcoming Remarks

Virginia Lee, PhD
University of Pennsylvania

1:02 pm – 1:10 pm

Opening Remarks

Eddie Lee, MD, PhD
University of Pennsylvania

1:10 pm – 1:25 pm

Johannes Brettschneider, MD

Spital Wallis

1:25 pm – 1:40 pm

John Robinson

University of Pennsylvania

1:40 pm – 1:55 pm

Peter Nelson, MD, PhD

University of Kentucky

1:55 pm – 2:10 pm

David Irwin, MD

University of Pennsylvania

2:10 pm – 2:25 pm

Gabor Kovacs , MD, PhD

University of Toronto

2:25 pm – 2:35 pm

BREAK

2:35 pm – 2:50 pm

Manuela Neumann, MD

German Centre for Neurodegenerative Diseases
(DZNE)

2:50 pm – 3:05 pm

Maiko Uemura, MD, PhD

University of Pennsylvania

3:05 pm – 3:20 pm

Steven Arnold, MD
Harvard Medical School

3:20 pm – 3:35 pm

Michel Goedert, MD, PhD
Medical Research Council (MRC)

3:35 pm – 3:50 pm

Jeffrey Golden, MD
Cedars-Sinai

3:50 pm – 4:00 pm

BREAK

4:00 pm – 4:15 pm

William Hu, MD, PhD, FAAN
Rutgers Institute for Health

4:15 pm – 4:30 pm

Les Shaw, PhD
University of Pennsylvania

4:30 pm – 4:45 pm

Michael Weiner, MD
University of California San Francisco

4:45 pm – 5:00 pm

Makoto Higuchi, MD, PhD
National Institutes for Quantum and Radiological
Science and Technology, Japan

5:00 pm – 5:15 pm

Daniel Skovronsky, MD, PhD
Eli Lilly

5:15 pm – 5:30 pm

Concluding remarks
Alice Chen-Plotkin, MD
University of Pennsylvania



VIRGINIA LEE, PHD
UNIVERSITY OF PENNSYLVANIA

John Trojanowski was my life partner and long-term collaborator. When we met 46 years ago he convinced me to embark on this wonderful journey with him in identifying disease proteins involved in these devastating neurodegenerative disorders.

As life expectancy continues to increase, so are our risks of succumbing to these late life diseases. Such undertaking requires a multi-disciplinary approach with many colleagues and collaborators as well as the numerous students, postdocs as well as staff scientists who participated in our research over the years. I truly want to thank them for their dedication and commitments.



EDDIE LEE, MD, PHD
UNIVERSITY OF PENNSYLVANIA

John was my teacher, mentor, collaborator and father-figure. I worked with John over the last 25 years through graduate school, clinical training in neuropathology, postdoctoral fellowship and faculty appointment. He graciously had me join him in administering the Center for Neurodegenerative Disease Brain Bank which has historically provided the source material critical for demonstrating that paired helical filaments are made of tau, Lewy bodies in DLB are made of alpha-synuclein, and inclusions in frontotemporal lobar degeneration and amyotrophic lateral sclerosis are made of TDP-43.

I am an Associate Professor in the Department of Pathology and Laboratory Medicine here at Penn. I am also Associate Director of the Penn ADRC, Co-Director of the Penn Institute on Aging, and Principal Investigator of the Translational Neuropathology Research Laboratory where we use genetics and biochemistry to understand the pathophysiologic mechanisms that contribute to downstream neuropathologies. John was a constant presence in my life, and as the current director of the CNDR brain bank, I hold John's memory dear.



JOHANNES BRETTSCHEIDER, MD
SPITAL WALLIS

Johannes Brettschneider is a neurologist trained at the Universities of Tuebingen and Ulm, Germany, who had the honor to work with John from 2011 to 2016, focusing on neuropathology and clinicopathological correlations in amyotrophic lateral sclerosis and frontotemporal dementia. He is now working as a clinical neurologist in Switzerland.



JOHN ROBINSON
UNIVERSITY OF PENNSYLVANIA

I am a Research Specialist at the CNDR. John was my supervisor for over 15 years. In 2006, I showed up with limited neuroanatomy and histology experience. I started out assisting doctors such as Hiroyuku Uryu and Felix Geser with their research. After Hiro left, John encouraged me to become autopsy coordinator for the brain bank which is still my primary role to this day. After Felix left, John nurtured my fascination with pathology, pushing me to take the lead on collaborations he/we embarked on over the years. This led to my involvement in many research projects and including 10 first author publications. I've also learned the basics of the pathological diagnosis of neurodegenerative disease under John's tutelage. As such, I've been lucky to work with many neuropathology fellows over the years who came to CNDR to learn about the horrible and rare diseases we're still trying to understand.



PETER NELSON, MD, PHD
UNIVERSITY OF KENTUCKY

Pete Nelson met John Trojanowski in the mid-1990's and John was a career mentor for Pete ever since. Pete now is a clinically active experimental neuropathologist and leader of the University of Kentucky Alzheimer's Disease Research Center Neuropathology Core, and its biobank. Pete was trained by Dr. John Trojanowski and Zissimos Mourelatos at University of Pennsylvania (where he did residency, fellowship, and post-doc). Pete's work at the University of Kentucky has provided insights about studying the associative impact of pathology in the aged brain, and how genetics may play a role in neurodegenerative diseases. Pete contributed to key papers on newly recognized (as well as well-known) pathologies -- primary age-related tauopathy (PART), Lewy body diseases, age-related tau astrogliopathy (ARTAG), limbic-predominant age-related TDP-43 encephalopathy (LATE), and brain arteriolosclerosis -- as well as participating in consensus papers on the neuropathologic diagnosis of Alzheimer's disease itself.



DAVID IRWIN, MD
UNIVERSITY OF PENNSYLVANIA

I met John when he hired me as a postdoc in 2010 after I completed neurology residency training. He took a chance on me; although I had a strong interest in neurodegenerative research, I had minimal previous experience and lacked a well-articulated career plan. I had the immense opportunity to train as a postdoc under John in CNDR from 2010-2014, where he graciously designed projects for me based on my interests and introduced me to other leaders in neurodegenerative disease research at Penn and beyond. John welcomed me to the field of neuropathology and helped me develop a unique translational research program that matched my clinical neurology background by integrating novel approaches to human brain histopathology with antemortem clinical biomarker data. These efforts culminated into a successfully funded NIH K23 career development award mentored by John in 2014. I was recruited to the faculty at Penn in 2016 by John and am now an Assistant Professor of Neurology in the tenure track with an independent lab that studies brain-behavior relationships to improve the antemortem diagnosis of FTD, LBD and other atypical neurodegenerative dementias.

John's kind and accepting nature and strong support for me has had an enormous impact on me both professionally and personally, for which I am extremely grateful.



GABOR KOVACS, MD, PHD
UNIVERSITY OF TORONTO

After having met John Trojanowski several times at different conferences, together with Virginia Lee, they invited me to join their group to study aging related tau astroglipathy (ARTAG) in their brain tissue collection. I arrived in 2016 June and spent three wonderful months with their group. John popped into my office every day and from the first moment of my arrival I was integrated completely into the team receiving all the support what a visiting scientist dream of. I returned back to Philadelphia in 2017 to work further on ARTAG. These two short visits resulted in 10 publications on the topic of astrocytic tau pathologies, in addition to further ones which we coauthored on various other neurodegenerative conditions.

Currently, Dr. Kovacs is Professor in the Department of Laboratory Medicine and Pathobiology at the University of Toronto and in the Department of Medicine/Division of Neurology, a Consultant Neuropathologist at the Laboratory Medicine Program (LMP) at the University Health Network (UHN) and a Principal Investigator at the Tanz Centre for Research in Neurodegenerative Disease. He is also a Senior Scientist at the Krembil Brain Institute, a Faculty member of the Edmond J. Safra Program in Parkinson's Disease and the Co-Director of the Rossy Program for Progressive Supranuclear Palsy Research (UHN).



MANUELA NEUMANN, MD
GERMAN CENTRE FOR NEURODEGENERATIVE
DISEASES (DZNE)

I am Professor of Neuropathology at the University of Tübingen, Director of the Department of Neuropathology at the University Hospital of Tübingen and Senior Group Leader at the DZNE (German Center for Neurodegenerative Disease Research) since 2012.

John has been an essential teacher, mentor and collaborator in my professional life. Already while doing my neuropathology residency in Germany, I had the privilege of being involved in a joint research project on alpha-synuclein with John in 2000/2001, which resulted in my first two joint publications with John. At the AANP meeting 2002 in Denver, where I presented some of our data, we then also finally met for the first time in person.

I then had the great opportunity to join the lab of John and Virginia at CNDR in 2005/2006 as a visiting scientist and to work on my favorite research project. This finally resulted in the identification of TDP-43 as disease protein in frontotemporal lobar degeneration and amyotrophic lateral sclerosis and in many collaborative follow-up projects and publications since then.

Working and collaborating with John and Virginia was a real turning point in my career, and without their great support and advise also after my return to Germany, I certainly would not be in the position I am in now.



MAIKO UEMURA, MD, PHD
UNIVERSITY OF PENNSYLVANIA

I was a mentee of John Trojanowski from 2018 to the last day of his life.

I am a neurologist and neuroscientist from Japan and working as a postdoctoral fellow at CNDR. When working with John, I had been doing human study clinically, pathologically, biochemically, and genetically, and John told me the importance of collaborating with various people.

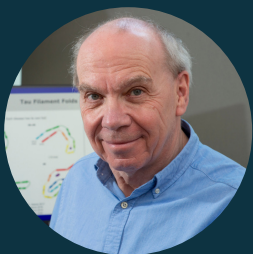
I am currently studying the effect of vascular dysfunction on tau propagation using mouse models and human materials.



STEVEN ARNOLD, MD
HARVARD MEDICAL SCHOOL

John was my most important and beloved mentor, professional benefactor and friend for my 25 years at Penn. As a new assistant professor in Psychiatry, John welcomed me into his and Virginia's lab (fitting me in where he could - at a desk in Virginia's chemical closet!). I can still picture his red felt pen comments on my manuscript drafts, snaking between every line, up and down the margins and extending onto the back of the page. There was so much for him to say and so much for me to learn. I learned brain-cutting in the autopsy suite and histopathology in the microscope, at his side, as we sought the causes of Alzheimer's disease and the even more vexing causes of schizophrenia and severe mental illness. John's focus on brain molecular pathology as the source of the answers to these mysterious illnesses became my chosen direction. As I grew to assume leadership roles in the Penn Memory Center, Alzheimer's Disease Core Center and Institute on Aging, he was my companion and guide, always available to bounce ideas off of and plan our growth.

My move from Penn in 2015 was bittersweet as I took all I had learned to build a new research program and multi-departmental clinical research center at Massachusetts General Hospital. I now serve as Managing Director of the Interdisciplinary Brain Center, a collaboration and clinical research facility for Neurology, Psychiatry and Biomedical Imaging. My own research program is the Alzheimer's Clinical and Translational Research Unit where we translate the most compelling scientific findings from the lab into clinical trials for people with Alzheimer's disease and related disorders using innovative clinical trial design, molecular biomarkers and digital health technologies. In these endeavors still, I keep in my heart and mind a huge debt of gratitude to John.



MICHAEL GOEDERT, MD, PHD
MEDICAL RESEARCH COUNCIL (MRC)

Michel Goedert is a Programme Leader at the Medical Research Council Laboratory of Molecular Biology in Cambridge, UK. He collaborated with John on tau and alpha-synuclein assemblies between 1991 and 2001, when they co-authored 11 primary papers and 5 review articles. Michel's current work focuses on the cryo-EM structures of tau and alpha-synuclein filaments from human brains.



JEFFREY GOLDEN, MD
CEDARS-SINAI

I am currently the Vice Dean for Research and Graduate Education and Director of the Burns and Allen Research Institute at Cedars-Sinai Medical Center in Los Angeles, CA. Prior to my current position I was the Chair of Pathology at Brigham and Women's Hospital and the Ramzi Cotran Chair of Pathology at Harvard Medical School. And before that I was the Chair of Pathology at the Children's Hospital of Philadelphia and the Rorke Chair of Pathology.

My introduction to John (and Virginia) was as a first-year medical student at Penn in 1983. We were introduced and immediately started discussing science; what always impressed me was John's breath of knowledge; although he was interested in neurodegeneration, he was well studied in neurodevelopment, which led to many fruitful discussions over the ensuing years. John was also quite a renaissance man, introducing me to many museums and other important sites that I visited in the Netherlands and other parts of Europe, his breath of knowledge was seemingly endless. Over the nearly 40 years I knew John he served as a teacher, mentor, and colleague and in all of these roles he was steadfastly supportive and enabled my career. Of course, I was only one of many, but the impact he had is everlasting.



WILLIAM HU, MD, PHD, FAAN
RUTGERS INSTITUTE FOR HEALTH

John was my post-doctoral and Beeson Award co-mentor who has been a father figure to me since 2010. I came to Penn wanting to work on TDP-ir pathology, but he redirected me to fluid biomarkers because he said that was the future of pathology. He allowed me to explore fluid biomarkers like a kid in a candy shop, and we together brought you most of the measured CSF inflammatory proteins in ADNI to enable many subsequent studies. I am currently the Chief of Cognitive Neurology, Director of the Center for Healthy Aging, and PI of the Resource Center for Minority Aging Research at Rutgers Biomedical and Health Sciences. I am continuing to work on high dimensional multi-omic CSF and plasma biomarkers across neurodegenerative diseases and populations, including work using a new panel of 100 pathway-based inflammatory proteins based on my work with John; exploring biological consequences of social determinants; and leading the modern characterization of cognitive processes in Mandarin speakers.



LES SHAW, PHD
UNIVERSITY OF PENNSYLVANIA

How I came to know and work closely with John: It was in the early part of the first decade of the new millennium when I became very interested in measurements of oxidative stress, especially in the isoprostane family of biomarkers and especially in the setting of Alzheimer's Disease and other neurodegenerative diseases. John was keenly interested in this area together with colleagues at UPENN and we struck up a research plan to study these biomarkers in the PENN ADCC study participants. In mid-to late 2003 John called me and asked if I'd be interested in setting up a Biomarker Core lab for a newly forming study, the Alzheimer's Disease Neuroimaging Initiative and after pondering this I told John this is exactly the type of research I love, namely, to develop and validate biomarkers for use in clinical studies and trials. This began a major chapter in my scientific career in which John was to me a mentor, friend, Father and Brother-Figure who deeply cared about and was deeply committed to the study of the basic and applied science of Biomarkers of neurodegenerative diseases. I was thoroughly impressed with the completeness of John's commitment to this field and the many layers of scientific enterprise he and his life-partner Virginia Lee have nurtured and engaged with in pursuit of ultimate cures for neurodegenerative diseases based on the basic mechanisms underpinning these diseases. Since the inception of ADNI in 2004 I worked very closely with John until he passed away in February 2022, although his spirit in my life continues to live on.

What I am doing currently: I am PI of the ADNI Biomarker Core and co-Lead of the PENN ADRC Biomarker Core. My current research is focused on the development, validation and implementation of AD biomarkers in plasma and CSF using automated immunoassays and LC/MSMS analytical platforms, applying these assays in AD, MCI and healthy control participants in the ADNI and PENN ADRC studies and across the neurodegenerative diseases at UPENN and PPMI participants. In the ADNI4 study we will be working with the ADNI team and several vendors on provision of timely and robust measurements of plasma proteins that will be used in combination with clinical measures to determine pathologic status and entry into the main study for a large scale screening population with an emphasis in the ADNI4 recruitment strategy that includes a significantly large percentage of underserved minorities. I work collaboratively on studies with an FNII Biomarker Consortium Team devoted to performance comparisons across different platforms and assays for plasma A β 42/A β 40 and ptau proteoforms with the aim to provide data to inform future uses in clinical trials and in clinical practice.



MICHAEL WEINER, MD
UNIVERSITY OF CALIFORNIA SAN FRANCISCO

I first came to know John well in 2002, when Leon Thal and I were planning the ADNI project. Clearly we needed a senior investigator with expertise in measurement of AD biomarkers in biofluids. At that time we were primarily thinking about CSF analysis, although we hoped that blood based biomarkers would be developed someday in the future. We talked about a number of prominent investigators in the field and Leon strongly recommended John. At that time of course I knew who John was (who didn't?), but had never met him. When we called John together he suggested adding a Laboratory Medicine expert, named Les Shaw. We agreed and started working on the ADNI grant submission. Since ADNI was funded in 2004, I worked closely with John and Les on a very wide variety of topics. We spoke monthly on the ADNI Executive Committee calls, and we had very frequent email, phone, and in person (at meetings) discussions.



MAKOTO HIGUCHI, MD, PHD
NATIONAL INSTITUTES FOR QUANTUM AND
RADIOLOGICAL SCIENCE AND TECHNOLOGY, JAPAN

Dr. Higuchi's primary research focus is translational molecular imaging on Alzheimer's, Parkinson's, and diverse other neuropsychiatric diseases bi-directionally connecting animal models and humans. He worked with Profs. Trojanowski and Lee as a postdoctoral fellow at the Center for Neurodegenerative Disease Research (CNDR) from 1999 to 2003, being engaged in the establishment of murine tauopathy models (Neuron 2002; J Neurosci 2005). He has developed imaging agents for tau pathologies (Neuron 2013; 2021) and neuroinflammation (J Neurosci 2008; 2011) back in Japan via continuous collaborations with CNDR. The newest radiotracer for diverse tau lesions is currently evaluated in global clinical trials. Dr. Higuchi has also headed a PPP program for generating imaging probes for alpha-synuclein depositions in Parkinson's and related diseases (Mov Disord 2022). Dr. Higuchi is committed to visualizing what Prof. Trojanowski presented him through a teaching microscope and wished to look at in living cases.



DANIEL SKOVRONSKY, MD, PHD
ELI LILLY

I first met John as an MD PhD student doing a lab rotation under Virginia Lee in 1996, and continued to work with John during my PhD thesis work under Virginia. I chose to pursue neuropathology residency/fellowship at UPenn and continued to learn from John's mentorship and leadership in neuropathology.

I'm currently President of Lilly Research Laboratories and Chief Scientific and Medical Officer at Eli Lilly and Company, where I head research and development.



ALICE CHEN-PLOTKIN, MD
UNIVERSITY OF PENNSYLVANIA

Alice Chen-Plotkin, MD, is the Parker Family Professor of Neurology at the University of Pennsylvania. A physician-scientist with clinical expertise in Parkinson's Disease, she directs a research laboratory focused on the mechanisms underlying adult-onset neurodegenerative diseases. In particular, her laboratory focuses on using "omic" scale screens to identify leads from human tissue samples that can then be investigated in cellular and in vivo models. "John Trojanowski was my science father, full stop. He and Virginia mentored me in my postdoc, and John, in his position as IOA Director, helped to subsequently recruit me as faculty. He is responsible for my interest in patient-derived tissues, he first encouraged me to develop a set of computational skills to interrogate those tissues, and he is responsible for my thinking that wearing a fanny pack is a really cool thing. My favorite thing about John -- among many, many things I loved -- was his ability to make others feel at home, to wear his incredible accomplishments so lightly that it made others -- myself included -- think that many things were possible."

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