BIOGRAPHICAL SKETCH

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NAME: Joseph Jasper Locascio

eRA COMMONS USER NAME (credential, e.g., agency login): JLocascio

POSITION TITLE: Assistant Professor of Neurology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Loyola University, Chicago, IL	B.S.	1972	Psychology
University of Kansas, Lawrence, KS	M.A.	1974	Psychology/Statistics
Northwestern University, Evanston, IL	Ph.D.	1982	Psychology/Statistics
University of Illinois at Champaign-Urbana	Postdoctoral	1983	Statistics

A. Personal Statement

I have had a research appointment as a senior Bio-Statistician for the Alzheimer's Disease Research Center and Memory/Movement Disorders Units, Department of Neurology at Massachusetts General Hospital (MGH), Boston, since 1992, and am an Assistant Professor of Neurology at Harvard Medical School as well as a Collaborating Statistician in the Neurology Dept. at Brigham and Women's Hospital. I had a dual appointment as research statistician in the Department of Brain and Cognitive Sciences at the Massachusetts Institute of Technology (MIT) from 1992 to 2009 where I also taught formal data analysis courses for four years. I am a Consulting Statistician for the Harvard Catalyst Bio-Statistical Consulting Group of Harvard Medical School, and a member of the Statistical Advisory Boards for the journals PLOS One (Public Library of Science) and Lancet-Neurology. I have also taught statistics at Northwestern University (1982) and worked as a statistician in psychiatric research at the University of Chicago (1983-1985) and Bellevue Hospital/New York University Medical Center (1989-1991) and was Research Coordinator for the Mental Health Division of the Chicago Dept. of Health (1976-1979). I have over 100 publications in prestigious medical, scientific, and scholarly journals, magazines, and books.

B. Positions and Honors

Positions and Employment

1975–1979 Coordinator of Research and Evaluation, Mental Health Division, Chicago Dept. of Health, Chicago, IL
1980–1982 Teacher and Teaching Assistant, Northwestern University, Evanston, IL.
1983–1985 Psychiatric Institute, Chicago, IL.
1985–1988 Assistant Professor and Director of Data Management and Analysis Unit, Mental Health Clinical Research Center, Dept. of Psychiatry, Case Western Reserve University and University Hospitals of Cleveland, Cleveland, OH.
1989–1991 Associate Research Scientist, New York University Medical Center/Bellevue Hospital, Dept. of Psychiatry, New York, NY.
1998–2001 Instructor, Introductory Statistics Course, Dept. of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA.
1992–2009 Statistician, Dept. of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA.

1992– Biostatistician, Dept. of Neurology, Massachusetts General Hospital (MGH), Boston, MA.
2007– Instructor in Neurology, Faculty, Harvard Medical School
2012– Consulting Statistician for the Harvard Catalyst Statistical Consulting Group of Harvard Medical School.
2013– Formal Member of Statistical Advisory Board for *PLOS ONE* (Public Library of Science) journal.
2014– Assistant Professor of Neurology, Harvard Medical School
2015– Collaborating Biostatistician, Dept. of Neurology, Brigham and Women's Hospital.
2018– Statistical reviewer for the journal *Lancet–Neurology*

Other Experience and Professional Memberships

1976– Member, American Psychological Association
1981– Member, American Statistical Association
1996– Member, Society for Neuroscience
2008– Member, American Humanist Association

Honors

May, 2011: Invited by the *Journal of Computational and Graphical Statistics* to contribute an editorial/letter to their forum discussion on graphical methods.
May, 2017: I received an honorary award for 25+ years continued service at Massachusetts General Hospital.
October, 2017: Invited by Dr. David Trafimow, Editor of the journal *Basic and Applied Social Psychology* to submit an article advocating "results–blind publishing". The article was published in the same issue with four commentaries on it by leading researchers, and an additional rejoinder by myself.

C. Contributions to Science

1. I have worked in medical and behavioral science research for over 35 years, primarily in Neurology, Neuroscience, Adult Biological Psychiatry, and Child Psychiatry. My role has primarily been that of a statistician, especially in consulting and working as the statistical collaborator on research projects. I have over 100 publications, some as senior or sole author, in medical/social science research journals, books, and magazines.

2. I have taught data analysis formally and informally at Northwestern University, New York University, the Dept.of Brain and Cognitive Sciences at the Massachusetts Institute of Technology, and in the Neurology Dept. at Massachusetts General Hospital.

3. I have also advanced statistical science methodology by publishing numerous data analysis methods papers and editorials. Examples are below:
   a. **Locascio, J. J.** and Atri, A. An overview of longitudinal data analysis methods for neurological research. Dementia and Geriatric Cognitive Disorders Extra, Oct, 2011, Vol. 1, 330-357. PMCID: PMC3243635
   b. **Locascio, J. J.** Results blind science publishing. (and) Rejoinder to responses to 'Results blind publishing'. Basic and Applied Social Psychology, 2017, Vol 39(5), 239-246, 258-261.
   c. **Locascio, J. J.** The impact of results blind science publishing on statistical consultation and collaboration. The American Statistician, (Special issue on "Statistical Inference in the 21st Century"), 2019, Vol73:sup1, 346-351, DOI: 10.1080/00031305.2018.1505658
   d. **Locascio, J. J.** Results that bind. Scientific American magazine, Letters, February, 2020, Vol 322, No. 2, page 6.

4. I have been a member of the PLOS-ONE journal's statistical advisory board since 2013 and in that role, I review the data analysis methods of manuscripts submitted for publication, about two or three manuscripts a month. The manuscripts involve studies in many different areas of medical and behavioral science. I have to date provided detailed statistical and methodological reviews of more than 75 manuscripts. In March, 2018, I was also appointed to a similar position as statistical reviewer for the journal *Lancet-Neurology*.

5. I have also been a member of the Harvard Catalyst Biostatistics Group since 2012 and in that capacity, I have so far consulted on about 90 different research projects with substantive researchers throughout the Boston area in many fields of medicine regarding appropriate data analysis methods for their projects and often perform the data analysis for them myself or oversee it. My assistance has been acknowledged in many manuscripts and grant applications, and so far I am a co-author on over a dozen publications I worked on in my role at Harvard Catalyst (with other manuscripts in submission or preparation), some of the more recent being:
   a. Maleki, N, Cheng, Y, Tu, Y, **Locascio, J. J.** The Longitudinal Course of Vasomotor Symptoms in Perimenopausal Migraineurs. Annals of Neurology, 2019, 85(6): 865-874.
   b. Park, SY, Matte, A., Jung, Y., Ryu, J., Anand, W.B., Han, E.Y.A., Liu, M., Carbone,C., Melisi, D., Nagasawa, T., **Locascio, J. J.**, Lin, C., Silberstein, L.E., Franceschi, L.D. Pathologic angiogenesis in the bone marrow of humanized sickle cell mice is reversible by blood transfusion. Blood, (Journal of the American Society of Hematology), 2020, in press.
   c. Wilkins JM, **Locascio, J. J.**, Gunther JM, Yap L, Hyman BT, Blacker D, Forester BP, Okereke OI. Differences in Assessment of Everyday Preferences between People with Cognitive Impairment and their Care Partners: the role of neuropsychiatric symptoms. American Journal of Geriatric Psychiatry, 2020, in press.
   d. Millett, C.E., Harder J., **Locascio, J. J.**, Shanahan, M., Santone, G., Fichorova, R., Corrigan, A. Baecher-Allan, C., and Burdick, K.E. TNF-α and its soluble receptors mediate the relationship between prior severe mood episodes and cognitive dysfunction in euthymic bipolar disorder. Brain Behavior and Immunity, 2020, in press.

Complete List of Published Work in MyBibliography:
http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/48044298/?sort=date&direction=ascending

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

ACTIVE

R01 AG067021-01 (Marshall) 12/01/19 – 11/30/24
NIH/NIA
Neural correlates of apathy across the Alzheimer's disease continuum
The overall goal of this project is to visualize the in vivo regional distribution of the two hallmark Alzheimer's disease pathological abnormalities, tau and amyloid, as well as structural and functional brain circuits (network connectivity and white matter abnormalities), to determine whether altered baseline brain circuits and concurrent Alzheimer's disease pathology predict baseline severity and future worsening of apathy across individuals with the "full dimensionality of neurobehavioral functioning."
Role: Co-Investigator

5R01-AG053582-04 (Johnson-Akeju) 09/01/16 – 05/31/21
NIH-NIA
Pathophysiology of Postoperative Delirium and the use of Biomimetic Sleep as a Treatment Strategy in the CSICU
The primary goal of this proposal is to conduct a randomized controlled clinical trial to evaluate the efficacy of biomimetic sleep, in reducing the incidence of delirium.

1R01AG062559 (Jacobs, Heidi) 04/01/19 - 03/31/24
NIH-NIA
Tracking the origin of tau pathology
The goal of this grant is to evaluate in vivo locus coeruleus integrity as a gauge discerning cognitive aging from preclinical AD based on its very early associations with Aβ, tau accumulation patterns and trajectories of cognitive decline.

R01AG053184 (Marshall) 06/01/18 – 02/28/23

NIH/NIA
Novel automated performance-based ADL outcomes for early AD clinical trials
The overall goal of this proposal is to optimize and validate a novel set of automated performance-based ADL instruments, the Harvard Automated Phone Task (APT) and computer based Czaja Functional Assessment Battery (CFAB), which have been designed to tap the high level tasks that challenge seniors in daily life and to serve as ADL outcomes for preclinical and early prodromal AD clinical trials.
Role: Statistician

1 R21 AI144103-01 (Kashiwagi) 02/01/19 – 01/31/21

NIH/NIAID
Laser-based non-invasive immunotherapy for food allergy
This study aims at testing whether widely used medical laser can safely enhance immunotherapy for food allergy, which is less than satisfactory to date with the modest efficacy and significant side effects, by augmenting suppressor cells (regulatory T cells) and immunologic tolerance in an established mouse model of peanut allergy. A short, non-tissue damaging exposure of skin with near-infrared laser light has been shown to modulate skin-resident dendritic cells and could provide an ideal microenvironment for dendritic cells to efficiently mount the immune response to needle-free, skin-based immunotherapy. The successful project would lead to the development of effective, painless, side effect-free, easy-to-use immunotherapy for food allergy.
Role: Statistician

P30AG062421 (Hyman) 04/15/2019 – 3/31/2024

NIH
Massachusetts Alzheimer's Disease Research Center
The P30 provides infrastructure to support Alzheimer research, including clinical, neuropathological, neuroradiological, biomarker, statistics, and administrative cores.
Roles: Statistician

1ULITR00254-01 (Fava) 05/01/2018 – 04/30/2023

President and Fellows of Harvard College
Advance Biostatistics, Epidemiology and Research Design
Statistical consulting and data analysis for Harvard Medical School researchers, under supervision of Dr. Garrett Fitzmaurice, Biostatistician, Harvard Medical School.
Role: Statistician

1U01NS100603-01 (Scherzer) 9/30/16-08/31/21

NIH
GBA pathway markers for Lewy body dementias
The goals of this study are to translate genetic clues into clinical trials markers and to create the tools needed for innovative, genetics-inspired, biomarkers-guided phase II trials for Lewy body dementias and generally enrich the PDBP resource.
Role: Statistician

R01 NS104130 (PI: Viswanathan) 08/01/2018 – 04/30/2023

NINDS/NIA
Validation of Small-Vessel Disease Neuroimaging Biomarkers in Cerebral Amyloid Angiopathy Related Cognitive Decline
The purpose of this project is to create a strong foundation both for understanding the mechanisms by which small blood vessel diseases interfere with the brain and for incorporating MRI into efficient, well-designed trials of promising treatments for the growing threat of age-related cognitive impairment.
Role: Biostatistician

5R01NS093415-04 (Ning) 08/01/2015 – 07/31/20

NIH/NINDS
Thrombolysis Profiles in tPA Response
Characterize tPA response by exploring the ADAMTS13/vWF axis/pathway, measuring levels of ADAMTS13 and vWF, and assessing ADAMTS13 activity by means of ADAMTS13-specific vWF subtrate fragments, in responders vs. non-responders. We hypothesize that tPA responders will have elevated ADAMTS13 levels and activity and decreases vWF. Investigate non-response in diabetic stroke patients by exploring the role of glycated albumin, high levels of which are characteristic of diabetes. We hypothesize that glycated albumin is higher in non-responders, and that glycated albumin sequesters tPA, thereby diminishing tPA's efficacy in diabetic patients. We will use innovative proteomic techniques to examine the molecules "stuck" to albumin in individual patients's blood, and we hypothesize that glycated albumin sequesters more tPA than non-glycated albumin.
Role: Statistician

R01NS067139 (ESI) (Ning) 07/01/2019 - 6/30/2024

NIH-NINDSNational Institute of Neurological Disorders and Stroke
* Proteomic Profiling of Patent Foramen Ovale Related Neurovascular Injury
The major goals of this project are: To develop proteomic technology for the discovery of therapeutic targets from cell culture to proximal fluids such as cardiac atrial plasma and to understand the mechanism of PFO related injury through in vitro studies and clinical biomarkers.
Role: Statistician

1R21NS109833-02 (Gomperts) 09/01/2018 - 8/31/2020

NIH/NIA
Imaging Epigenetic Mechanisms in Parkinson's Disease with [11C]Martinostat.
This goal of this study is to image HDAC epigenetic changes in Parkinson's disease and dementia with Lewy bodies with [11C]Martinostat. Role: Statistician

R01AG062667 (Chhatwal) 08/15/2019 – 05/30/2024

Linking Sleep Disruption to Tau Accumulation and Network Dysregulation in Early Alzheimer's Disease: includes This project will determine relationships between sleep disruption, tau pathology, and neural network dysfunction in individuals with Mild Cognitive Impairment.
Role: Statistician

R01NS115144-01 (Scherzer) 09/01/19 – 08/31/24

NIH
Genome-wide Prediction of Dementia in Parkinson Disease
The goals of this study are to discover novel loci associated with progression to Parkinson's disease dementia, to replicate and verify forwarded genetic variants in an independent population, and to build and test a versatile Polygenic Hazard Score to accurately forecast risk of future cognitive decline.
Role: Statistician

R01AG061083 (Vannini/Sepulcre) 08/01/19 05/31/24

NIH-NIA
Decoding neural systems underlying anosogonosia for memory loss in aging and Alzheimers disease
Using a unique state-of-the-art multimodal approach, including the use of Positron Emission Tomography using Pittsburg Compound B amyloid imaging (PiB-PET) to visualize in vivo fibrillar amyloid deposition as well as two magnetic resonance imaging techniques; functional magnetic resonance imaging during rest (rsfcMRI) and diffusion weighted imaging (dMRI) the overall goal of this proposal is to visualize the functional and structural strength of the neural networks that support the ability to accurately assess one's own memory performance.
Role: Statistician

1R01AG061445-01A1 (Sepulcre) 07/01/2019-06/30/24

NIH/NIA
Genetic Profiles of the Spatiotemporal Causality of Tau and Amyloid in the Elderly Brain.
Novel bioengineering approaches are urgently needed in order to integrate findings from multimodal neuroimaging, brain network analysis, and genetic biomarkers. Implementing, developing, and applying methods for connectomics-genetics, along with their unprecedented scale and complexity, are barriers that will be overcome by the creation of cutting-edge connectomics-genetics platforms, such as the one proposed in this project.
Role: Co-Investigator

1R01AG061811-01A1 (Sepulcre) 07/01/19 06/30/24

NIH-NIA
Sensory and Motor Streams in Preclinical and Clinical Stages of Alzheimer's Disease
This project focuses on a combined effort in which we will 1) investigate the sensory and motor streams in preclinical and clinical Alzheimer's disease (AD) cohorts using functional connectivity MRI and graph theory approaches; 2) analyze the cortical intersection between sensory and motor connectivity changes and tau and amyloid deposits in preclinical and clinical AD populations using multimodal PET neuroimaging; 3) characterize sensory and motor connectivity changes over time and its associations with longitudinal variations in clinical, neuropsychological and PET profiles.
Role: Co-Investigator

PENDING

R42AG069629 (Tatar/Marshall) 07/01/20 - 06/30/23

ADK Group, Inc./NIH/NIA
The Assessment of Smartphone Everyday Tasks (ASSET): a new IADL test for early AD
The goal of this project is to complete the development of, optimize, and validate a novel performance-based instrumental activities of daily living (IADL) instrument that uses a smartphone to assess healthcare-related daily activities, the Assessment of Smartphone Everyday Tasks (ASSET). This IADL test has been designed to tap the high-level tasks that challenge seniors in daily life, to serve as a clinically meaningful outcome measure for preclinical and prodromal Alzheimer's disease (AD) trials, and to be easy and quick to administer, using real-life devices.