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PROFESSIONAL EXPERIENCE

January 2014 – present Associate Research Professor
Center for Imaging Science and Institute for Computational Medicine, Dept. of Biomedical Engineering,
Johns Hopkins University, Baltimore, MD.

February 2002 – December 2013 Assistant Research Professor
Center for Imaging Science, Dept. of Biomedical Engineering
Johns Hopkins University, Baltimore, MD.

February 2006 – December 2013 Assistant Research Professor
Institute for Computational Medicine
Johns Hopkins University, Baltimore, MD.

August 2005 Visiting Scientist
Institute of Fundamental Science
Massey University, Palmerston North, New Zealand.

August 2001 – present Staff Scientist
F.M. Kirby Functional Imaging Research Center
Kennedy Krieger Institute, Baltimore, MD.

September 1998 – January 2002 Research Associate
Center for Imaging Science
Johns Hopkins University, Baltimore, MD.

October 1994 – August 1998 Postdoctoral Fellow (Preceptor: AS Popel)
Dept. of Biomedical Engineering,
Johns Hopkins University School of Medicine, Baltimore, MD.

October 1991 – September 1994 Postdoctoral Fellow (Preceptor: WE Brownell)
Dept of Otolaryngology -- Head & Neck Surgery
Johns Hopkins University School of Medicine
Baltimore, MD.

December 1992 – December 2001 Visiting Scientist
Dept. of Mathematics
City University of London.

July 1991 Visiting Scientist
Dept. of Mechanical Engineering
University of Sydney, Australia.

August 1990
Dept. of Mechanical Engineering
Clarkson University, Potsdam, NY. Visiting Scientist

October 1989 – September 1991
Dept. of Mathematics
City University of London. Postdoctoral Fellow (Preceptor: PG Daniels)

EDUCATION

1989 D.Phil. Mathematical Sciences, University of Oxford
-Advisors: J.S. Rollett and K.W. Morton
-Thesis: Numerical Analysis of Turbulent Flows
1985 B.Sc. Mathematics, University College London

AWARDS AND RECOGNITION

2022 Fellow, American Institute of Medical and Biological Engineering
2021 The Susan M. Daniels Disability Mentoring Hall of Fame Inductee
2020 Fellow, Institute of Mathematics and Its Applications, United Kingdom
2020 Patron, Deaf Education is Listening and Talking (DELTA), United Kingdom
2017 Johns Hopkins University Provost's Prize for Faculty Excellence in Diversity – Honorable Mention
2015 Outstanding leadership in the field of listening and spoken language, Alexander Graham Bell Association for the Deaf and Hard of Hearing
2015 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring FY 2012
2013 Speech Day Guest of Honour, Mary Hare School, United Kingdom
2012 Farrington Daniels Award for Best Dosimetry Paper in "Medical Physics"
1994 NSF/University of California Program in Mathematics and Molecular Biology Postdoctoral Fellow
1991 Royal Society of London – Australian Academy of Sciences Postdoctoral Fellow.

PROFESSIONAL MEMBERSHIPS

2021—present American Association for Advancement of Science
2020—present Institute of Mathematics and Its Applications, United Kingdom
2003—present Society for Neuroscience
2003—present Organization for Human Brain Mapping
1993—present Association for Research in Otolaryngology
1992—present Society for Industrial and Applied Mathematics
1992—present American Mathematical Society

PUBLISHED PEER-REVIEWED RESEARCH ARTICLES

Note: CV author in Bold; Trainees are underlined, * indicates co-first, § indicates co-corresponding (85 papers; top 10 cited 1105 times; H-index 34)

1. Padova D, **Ratnanather JT**, Xue Q-L, Resnick SM, Agrawal Y. (2021) Linking vestibular function and sub-cortical grey matter volume changes in a longitudinal study of aging adults. *ApertureNeuro* (in press).
2. Hill C, Deville C Jr, Kiess A, Narang A, **Ratnanather JT**, Bienstick J, Brinckerhoff L, Hodukavich A, Anderson R, Sara A, DeWeese T, Viswanathan A, Page B. (2022) Establishing a Deaf and American Sign Language Inclusive Residency Training Program. *Academic Medicine*, 97,357-363.

3. **Ratnanather JT**, Wang LC, Bae SH, O'Neill ER, Sagi E, Tward DJ. (2022) Visualization of Speech Perception Analysis via Phoneme Alignment: a pilot study. *Front Neurol.* 2021; 12: 724800.
4. Huyck JJ, Anbuhl KL, Buran BN, Adler HJ, Atcherson SR, Cakmak O, Dwyer RT, Eddolls M, El May F, Fraenzer J-T, Funkhouser R, Gagliardini M, Gallun FJ, Goldsworthy RL, Gouin S, Heng J, Hight AE, Jawadi Z, Kovacic D, Kumar R, Kumar S, Lim S, Mo C, Nolan LS, Parbery-Clark A, Pisano DV, Rao VR, Raphael RM, Reiss LAJ, Spencer NJ, Tang S, Tejani V, Tran ED, Valli M, Watkins G, Wayne RV, Wheeler LR, White SL, Wong V, Yuk MC, **Ratnanather JT** and Steyger PS. (2021) Supporting Equity and Inclusion of Deaf and Hard-Of-Hearing Individuals in Professional Organizations. *Frontiers in Education.*
5. Takanayagi Y, Kulason S, Sasabayashi D, Takahashi T, Katagiri N, Sakuma A, Ohmuro N, Katsura M, Nakamura M, Kido M, Furuichi A, Nishikawa Y, Noguchi K, Matsumoto K, Mizuno M, **Ratnanather JT**, Suzuki, M. (2021) Volume reduction of the dorsal lateral prefrontal cortex in individuals with an at-risk mental state who later develop frank psychosis. *Cereb. Cortex.*
6. Kulason S, **Ratnanather JT**, Miller MI, Kamath V, Hua J, Yang K, Ma M, Ishizuka K, Sawa A. (2021) Comparative neuroimaging perspective of olfaction and higher-order olfactory processing: on health and disease. *Seminars in Cell and Developmental Biology.*
7. **Ratnanather JT**, Bhattacharya R, Heston M, Song J-E, Fernandez L, Lim H-S, Lee S-W, Yoo S, Bae SB, Tam E, Lam I, Jeom HW, Chang S-A, Koo J-W. (2021) Speech Banana: a mobile and web application platform for auditory training. *JMIR mHealth and uHealth.* 9(3), p.e20890
8. Manno III FAM, Rodríguez-Cruces R, Kumar R, Shu Y, **Ratnanather JT**, Lau C. (2021) Hearing loss impacts gray and white matter across the lifespan: systematic review, meta-analysis and meta-regression. *NeuroImage*, 231, p.117826..
9. Tzovara A, Amarreh I, Borghesani V, Chakravarty M, DuPre E, Grefkes C, Haugg A, Jollans L, Lee H-W, Newman SD, Olsen RK, **Ratnanather JT**, Rippon G, Uddin LQ, Bringas Vega ML, Veldsman M, White T, Badhwar A. (2021) Embracing diversity and inclusivity in an academic setting: Insights from the Organization for Human Brain Mapping. *Neuroimage* 229 (2021): 117742.
10. Athey T, Ceritoglu C, Tward DJ, Kutten KS, DePaulo JR, Glazer K, Goes FS, Kelsoe JR, Mondimore F, Nievergelt CM, Rootes-Murdy K, Zandi PP, **Ratnanather JT**, Mahon PB. (2021) A 7 Tesla Amygdalar-Hippocampal Shape Analysis of Lithium Response in Bipolar Disorder. *Frontiers in Psychiatry*, 12, 99.
11. Takanayagi Y, Kulason S, Sasabayashi D, Takahashi T, Katagiri N, Sakuma A, Ohmuro N, Katsura M, Nishiyama S, Nakamura M, Kido M, Furuichi A, Noguchi K, Matsumoto K, Mizuno M, **Ratnanather JT**, Suzuki, M. (2020) Structural MRI study of the planum temporale in individuals with an at-risk mental state using labeled cortical distance mapping. *Frontiers in psychiatry* (2020): 1303.
12. Jacob AJ, Tward DJ, Resnick SM, Smith P, Lopez C, Rebello E, **Ratnanather JT**, Agrawal Y. (2020) Vestibular function and cortical and sub-cortical alterations in an aging population. *Heliyon.* 6:e04728
13. Umesh A, Kutten KS, Hogan PS, **Ratnanather JT**, Chib VS. (2020) Motor Cortical Thickness and the Subjective Valuation of Physical Effort in Humans. *J. Neurophysiol.* 123:2373-2381.
14. Dhir B, Kutten KS, Li M, Faria AV, Younes L, **Ratnanather JT**. (2020) Visualising the topography of the acoustic radiation in clinical diffusion tensor imaging scans. *Neuroradiology.* 62:1157-1167.
15. **Ratnanather JT** (2019) Structural neuroimaging of the altered brain stemming from pediatric and adolescent hearing loss – Scientific and clinical challenges. *Wiley Interdisciplinary Reviews: Systems Biology and Medicine.* 12:e1469. 10.1002/wsbm.1469
16. Liu C-F, Faria AV, Padhy S, Ramachandran S, Wang V, Efimov A, Bernal A, Shi L, Vaillant M, **Ratnanather JT**, Caffo B, Albert M, Miller MI. (2019) Using Deep Siamese Neural Networks for

- Detection of Brain Asymmetries Associated with Alzheimer's Disease and Mild Cognitive Impairment. *Magnetic Resonance in Medicine*. <https://doi.org/10.1016/j.mri.2019.07.003>
17. Tang X, Ross CA, Johnson H, Paulsen JS, Younes L, Albin RL, **Ratnanather JT**, Miller MI. Regional subcortical shape analysis in premanifest Huntington's disease. *Hum. Brain Mapp.* 2019. 40:1419-1433.
 18. Kulason S, Tward DJ, Brown T, Sicat CS, Liu CF, **Ratnanather JT**, Younes L, Bakker A, Gallagher M, Albert M, Miller MI, ADNI. Cortical thickness atrophy in the transentorhinal cortex in mild cognitive impairment. *Neuroimaging Clinical.* 2019. 21:101617
 19. Kamil RJ, Jacob A, **Ratnanather JT**, Resnick SM, Agrawal Y. Vestibular function and hippocampal volume in the Baltimore Longitudinal Study of Aging (BLSA). *Otol. Neurotol.* 2018. 39:765-771.
 20. Takayanagi Y, Kulason S, Sasabyashi D, Takahashi T, Katagiri N, Sakuma A, Obara C, Nakamura M, Kido M, Furuichi A, Nishikawa Y, Noguchi K, Matsumoto K, Mizuno M, **Ratnanather JT**, Suzuki M. Reduced thickness of the anterior cingulate cortex in individuals with an at-risk mental state who later develop psychosis. *Schizophrenia Bulletin.* 2017. 43:907-913
 21. Ceyhan E, Nishino T, Botteron KN, Miller MI, **Ratnanather JT**. Analysis of Cortical Morphometric Variability Using Labeled Cortical Distance Maps. 2017. *Statistics and its Interface.* 10:313-341.
 22. Faria AV, **Ratnanather JT**, Tward DJ, Lee DS, van den Noort F, Brown T, Ross CA, Johnson H, Paulsen JS, Younes L, Miller MI, PREDICT-HD Investigators and Coordinators of the Huntington Study Group. Linking white matter and deep gray matter alterations in premanifest Huntington's Disease. *Neuroimage Clinical* 2016. 11:450-460.
 23. Segars WP, Norris H, Sturgeon G, Zhang Y, Bond J, Minhas A, Tward D, **Ratnanather JT**, Miller MI, Frush D, Samei E. The development of a population of 4D pediatric XCAT phantoms for imaging research and optimization. 2015. *Medical Physics.* 42:4719
 24. Miller MI, **Ratnanather JT**, Tward DJ, Brown T, Lee DS, Ketcha M, Mori K, Wang M-C, Mori S, Albert MS, Younes L. Network Neurodegeneration in Alzheimer's Disease via MRI based Shape Diffeomorphometry and High Field Atlasing. 2015. *Front. Bioengng. Biotech.* 3:54.
 25. Marrus N, Belden A, Nishino T, Handler T, **Ratnanather JT**, Miller M, Barch D, Luby J, Kelly Botteron. Ventromedial Prefrontal Cortex Thinning in Preschool-onset Depression. 2015. *J. Affective Disorders.* 180:79-86.
 26. Mahon PB, Lee DS, Trinh H, Tward D, Miller MI, Younes L, Barta PE, **Ratnanather JT**. Morphometry of the amygdala in schizophrenia and psychotic bipolar disorder. 2015. *Schizophrenia Research.* 164:199-202.
 27. Soldan A, Pettigrew C, Lu Y, Wang M-C, Selnes O, Albert M, Brown T, **Ratnanather JT**, Younes L, Miller MI, BIOCARD Research Team. Relationship of medial temporal lobe atrophy, APOE genotype, and cognitive reserve in preclinical Alzheimer's disease. 2015. *Hum. Brain Mapping.* 36:2826-41.
 28. **Ratnanather JT**, Cebon S, Ceyhan E, Postell E, Poynton CB, Pisano DV, Crocker B, Honeycutt NA, Mahon PB, Barta PE. Cortical thickness of superior temporal gyrus and planum temporale in schizophrenia and psychotic bipolar disorder. *Frontiers in Psychiatry.* 2014. <http://dx.doi.org/10.3389/fpsy.2014.00094>
 29. Miller MI, Younes L, **Ratnanather JT**, Brown T, Trinh H, Lee DS, Tward DJ, Mahon P, Mori S, Albert M, BIOCARD Research Team. Amygdalar atrophy in preclinical and symptomatic AD based on diffeomorphic morphometry: The BIOCARD Cohort. *Neurobiology of Aging.* 2014. 36:S3-10.
 30. Norris H, Bond J, Zhang Y, Sturgeon G, Frush J, Tward D, Ratnanather T, Miller M, Samei E, Segars P. A set of 4D Pediatric XCAT Reference Phantoms for Multimodality Research. *Medical Physics.* 2014. 41:033701. <http://dx.doi.org/10.1118/1.4864238>
 31. Li M, **Ratnanather JT**, Miller MI, Mori S. Knowledge-based automated reconstruction of human brain white matter tracts using a pathfinding approach with dynamic programming. *NeuroImage.* 2014. 88:271-281. <http://dx.doi.org/10.1016/j.neuroimage.2013.10.011>

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33. Miller MI, Younes L, **Ratnanather JT**, Brown T, Trinh H, Postell E, Lee DS, Wang M-C, Mori S, O'Brien R, Albert M, BIOCARD Research Team. The Diffeomorphometry of Temporal Lobe Structures in Preclinical Alzheimer's Disease. *NeuroImage: Clinical*. 2013. 3:352-360. <http://dx.doi.org/10.1016/j.nicl.2013.09.001>
34. **Ratnanather JT**, Poynton CB, Pisano DV, Crocker B, Postell E, Cebron S, Ceyhan E, Honeycutt, NA, Mahon PB, Barta PE. Morphometry of superior temporal gyrus and planum temporale in schizophrenia and psychotic bipolar disorder. *Schizophrenia Research*. 150: 476-483. <http://dx.doi.org/10.1016/j.schres.2013.08.014>
35. Ceritoglu C, Tang X, Chow M, Hadiabadi D, Shah D, Brown T, Burhanullah MH, Trinh H, Hsu JT, Ament KA, Crocetti D, Mori S, Mostofsky SH, Yantis S, Miller MI, **Ratnanather JT**. Computational Analysis of LDDMM for Brain Mapping. *Frontiers in Neurology*. 2013. 7:00151. <http://dx.doi.org/10.3389/fnins.2013.00151>
36. **Ratnanather JT**, Lal RM, An M, Poynton CB, Li M, Jiang H, Oishi K, Selemon L, Mori S, Miller MI. Cortico-cortical, Cortico-striatal and cortico-thalamic white matter fiber tracts generated in the macaque brain via dynamic programming. *Brain Connectivity*. 3: 475-490. <http://dx.doi.org/10.1089/brain.2013.0143>
37. Takayanagi M, Wentz J, Takayanagi Y, Schretlen DJ, Ceyhan E, Wang L, Suzuki M, Sawa A, Barta PE, **Ratnanather JT**, Cascella NG. Reduced anterior cingulate gray matter volume and thickness in subjects with deficit schizophrenia. *Schizophrenia Research*. 2013. 150:484-490. <http://dx.doi.org/10.1016/j.schres.2013.07.036>
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39. Davis AMJ, Kim JH, Gunter G, **Ratnanather JT**. The Stokesian flow field of an oscillatory submerged viscous fluid jet impinging on a planar wall. *Proc. Roy. Soc. Lond. A*. 2013. 469: 20130282. <http://dx.doi.org/10.1098/rspa.2013.028>
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43. Selemon LD, Ceritoglu C, **Ratnanather JT**, Wang L, Harms MP, Alridge K, Begovic A, Csernansky JG, Miller MI, Rakic, P. Distinct abnormalities of the primate prefrontal cortex caused by ionizing radiation in early or mid gestation. *J. Comp. Neurol*. 2013. 521:1040-1053. <http://dx.doi.org/10.1002/cne.23217>

44. Davis AMJ, Kim JH, Ceritoglu C, **Ratnanather JT**. A Stokesian analysis of a submerged viscous jet impinging on a planar wall. *J. Fluid Mech.* 2012. 712: 531-551. <http://dx.doi.org/10.1017/jfm.2012.435>
45. Li X, Samei E, Williams CH, Segars WP, Tward DJ, Miller MI, **Ratnanather JT**, Paulsen EK, Frush DP. Effects of protocol and obesity on dose conversion factors in adult body CT. *Medical Physics.* 2012. 39:6550-6571. <http://dx.doi.org/10.1118/1.4754584> (Farrington Daniels Award for best paper)
46. Mahon P, Eldridge H, Crocker B, Notes L, Gindes H, Postell E, King S, Potash JB, **Ratnanather JT**, Barta PE. An MRI Study of Amygdala in Schizophrenia and Psychotic Bipolar Disorder. *Schizophrenia Research.* 2012. 138:188-191. <http://dx.doi.org/10.1016/j.schres.2012.04.005>
47. Steinert-Threlkeld S, Ardekani S, Mejino JV, Detwiler LT, Brinkley JF, Halle M, Kikinis R, Winslow RL, Miller MI, **Ratnanather JT**. Ontological Labels for Automated Location of Anatomical Shape Differences. *J. Biomedical Informatics.* 2012. 45:522-557. <http://dx.doi.org/10.1016/j.jbi.2012.02.013>.
48. Tward DJ, Ceritoglu C, Kolasny A, Sturgeon G, Segars WP, Miller MI, **Ratnanather JT**. Patient Specific Dosimetry Phantoms Using Multi-Channel LDDMM of the Whole Body. *Int. J. Biomed. Imag.* 2011; 2011:481064.
49. Ceyhan E, Beg MF, Ceritoglu C, Wang L, Morris JC, Csernansky JG, Miller MI, **Ratnanather JT**. Metric distances between hippocampal shapes indicate different rates of change over time in nondemented and demented subjects. *Curr. Alzh. Research.* 2011. 9: 972-981.
50. Ceyhan E, Beg MF, Ceritoglu C, Wang L, Morris JC, Csernansky JG, Miller MI, **Ratnanather JT**. Quantization and analysis of hippocampal morphometric changes due to dementia of Alzheimer type using metric distances based on large deformation diffeomorphic metric mapping. *Comp. Med. Imag. Graph.* 2011. 35:275-93.
51. Ceyhan E, Hosakere M, Nishino T, Alexopolous J, Todd RD, Miller MI, Botteron KN, **Ratnanather JT**. Statistical Analysis of Cortical Thickness Using Pooled Distances from Labeled Cortical Distance Maps. *J. Math. Image Vision.* 2011. 40:20-35.
52. Ceritoglu C, Wang L, Selemon LD, Csernansky JG, Miller MI, **Ratnanather JT**, Large deformation diffeomorphic metric mapping registration of in-vivo MR images and reconstructed 3D images of histological section images. *Frontiers in Neurosciences*, <http://dx.doi.org/10.3389/fnhum.2010.00043>, 2010.
53. Arrate F, **Ratnanather JT**, Younes L. Diffeomorphic Active Contours. *SIAM J. Imaging Science.* <http://dx.doi.org/10.1137/090766401>, 2010.
54. Harms MP, Wang L, Campanella C, Aldridge K, Moffitt AJ, Kuelper J, **Ratnanather JT**, Miller MI, Barch DM, Csernansky JG. Structural abnormalities in gyri of the prefrontal cortex in individuals with schizophrenia and their non-psychotic siblings. *Brit. J. Psychiatry.* 196:150-157, 2010.
55. Steinert-Threlkeld S, **Ratnanather JT**. Open standards, web-based mathlets: making interactive tutorials using the html5 canvas element. *Loci: a journal of online mathematics.* <http://mathdl.maa.org/mathDL/55/?pa=content&sa=viewDocument&nodeId=3340>, 2009.
56. Fawkes WG, **Ratnanather JT**. Music at the Mary Hare Grammar School for the Deaf from 1975 to 1988. *Visions of Research in Music Education.* Vol. 14. Retrieved from <http://www-usr.rider.edu/~vrme>, 2009.
57. Penumetcha N, Kabadi S, Jedynek B, Walcutt C, Gado MH, Wang L, **Ratnanather JT**. Feasibility of geometric-intensity based semi-automated delineation of the tentorium cerebelli from MRI scans. *J. Neuroimaging*, 2009.
58. Qiu A, Wang L, Younes L, Harms MP, **Ratnanather JT**, Miller MI, Csernansky JG. Neuroanatomical asymmetry patterns in individuals with schizophrenia and their non-psychotic siblings. *NeuroImage*, 47: 1221-1229, 2009.

59. Miller MI, Priebe C, Qiu A, Kolasny A, Brown T, Park Y, **Ratnanather JT**, Busa E, Jovicich J, Yu P, Dickerson B, Buckner RL and Morphometry BIRN. Collaborative Computational Anatomy: An MRI Morphometry Study of the Human Brain via Diffeomorphic Metric Mapping. *Human Brain Mapping*, 30:2132-2141, 2009.
60. Lee N, Penumetcha N, Priebe CE, Miller MI, **Ratnanather JT**. Validation of Alternating Kernel Mixture Method: Application to Segmentation of Cortical and Sub-cortical Brain Structures. *J. Biomedicine and Biotechnology*, <http://dx.doi.org/10.1155/2008/346129>, 2008.
61. Calabrese DR, Wang L, Harms MP, **Ratnanather JT**, Miller MI, Csernansky JG. Cingulate gyrus neuroanatomy in schizophrenia subjects and their non-psychotic siblings. *Schizophrenia Research* 104:68-70, 2008.
62. Lee N, Priebe CE, **Ratnanather JT**, Miller MI. Validation of Alternating Kernel Mixture Method Based Segmentation of the Human Brain. 2007 *Frontiers in the Convergence of Bioscience and Information Technologies*, pp. 477-481, 2007.
63. Zhang S, Younes L, Zweck J, **Ratnanather JT**. Diffeomorphic Surface Flow: a novel method of surface evolution. *SIAM J. App. Math.* 68:806-824, 2008.
64. Penumetcha N, Jedynek B, Hosakere M, Ceyhan E, Botteron KN, **Ratnanather JT**. Segmentation of arteries in MPRAGE images of the ventral medial prefrontal cortex. *Comp. Med. Imag. Graph* 32:36-43, 2008.
65. Qiu A, Vaillant M, Barta P, **Ratnanather JT**, Miller MI. Surface-Based Gaussian Random Field Model with Application to Cortical Thickness Variation of Left Planum Temporale in Schizophrenia and Bipolar Disorder. *Hum. Brain Mapp.*, 29: 973-985, 2007 (front cover).
66. Qiu A, Younes L, Wang L, **Ratnanather JT**, Gillespie SK, Kaplan G, Csernansky JG, Miller MI, Combining Anatomical Manifold Information via Diffeomorphic Metric Mappings for Studying Cortical Thinning of the Cingulate Gyrus in Schizophrenia. *Neuroimage*, 37,821-833, 2007.
67. Munn MA, Alexopoulos J, Nishino T, Babb CM, Flake LA, Singer T, **Ratnanather JT**, Todd RD, Miller MI, Botteron KN. Amygdala volume analysis in female twins with major depression. *Biological Psychiatry*, 62,415-422, 2007.
68. Wang L, Hosakere M, Trein JCL, **Ratnanather JT**, Barch, DM, Thompson PA, Qui A, Gado M, Miller MI, Csernansky JG. Abnormalities of Cingulate Gyrus Neuroanatomy in Schizophrenia. *Schizophrenia Res.*, 93, 66-78, 2007.
69. Zhi M, **Ratnanather JT**, Ceyhan E, Popel AS, Brownell WE. Hypotonic swelling of salicylate treated cochlear outer hair cells. *Hearing Research*, 228, 95-104, 2007.
70. Wang L, Beg MF, **Ratnanather JT**, Ceritoglu C, Younes L, Morris JC, Csernansky JG, Miller MI. Large Deformation Diffeomorphism and Momentum Based Hippocampal shape Discrimination in Dementia of the Alzheimer Type. *IEEE Trans Med Imaging*. 26, 462-470, 2007.
71. Spector AA, Grosh K, **Ratnanather JT**, Deo N, Raphael RM. Electromechanical models of the outer hair cell composite membrane. *J. Membrane Biology*. 209:135-152. 2006.
72. Priebe CE, Miller MI, **Ratnanather JT**. Segmenting Magnetic Resonance Images via Hierarchical Mixture Modelling. *Computational Statistics and Data Analysis*. *Computational Statistics & Data Analysis*, 50, 551 – 567. 2006
73. **Ratnanather JT**, Wang L, Nebel MB, Hosakere M, Han X, Csernansky JG, Miller MI. Generation and analysis of the cingulate gyrus cortical surface in healthy and schizophrenia subjects. *Psychiatry Research: NeuroImaging*, 132, 53-68. 2004.
74. Holm DD, **Ratnanather JT**, Trouvé A and Younes L. Soliton Dynamics in Computational Anatomy. *NeuroImage*. 23, S170-S178. 2004.
75. Csernansky JG, Wang L, Joshi SC, **Ratnanather JT**, Miller MI. Computational Anatomy and Neuropsychiatric Disease: Probabilistic Assessment of Variation and Statistical Inference of Group Difference, Hemispheric Asymmetry, and Time-Dependent Change. *NeuroImage*, 23, S56-S68. 2004.

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77. **Ratnanather JT**, Honeycutt NA, Lee NG, Morris HM, Dziorny AC, Hurdal MK, Barta PE, Pearlson GD, Miller MI. Dynamic Programming generation of boundaries of local coordinatize submanifolds in the neocortex: application to the Planum Temporale. NeuroImage, 20, 359-377, 2003.
78. **Ratnanather JT**, Botteron KN, Nishino T, Lal R, Massie AB, Patel SG, Peddi S, Todd RD, Miller MI, Validation of Cortical Analysis of the Medial Prefrontal Cortex. NeuroImage,14,1058-1069, 2001.
79. Daniels PG, **Ratnanather JT**, On the thermal field of a separating wall jet. J. Engng. Math., 40, 372-382, 2000.
80. Miller MI, Massie A, **Ratnanather JT**, Botteron KN, Csernansky JG. Bayesian construction of geometrically based cortical thickness metrics. Neuroimage, 12, 676-687, 2000.
81. **Ratnanather JT**, Brownell WE, Popel AS. Analysis of the hydraulic conductivity of the extracisternal space of the cochlear outer hair cell. J. Math. Biol., 40, 372-382, 2000.
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CONFERENCE PAPERS

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 16. Segars WP, Sturgeon G, Li X, Cheng L, Ceritoglu C, **Ratnanather JT**, Miller MI, Tsui BMW, Frish D, Samei E. Patient specific computerized phantoms to estimate dose in pediatric CT. Medical Imaging 2009: Physics of Medical Imaging. Edited by Samei E and Hsieh J. Proceedings of the SPIE, Volume 7258, pp. 72580H-72580H-9, 2009.
 17. Lee N, Penumetcha N, Priebe CE, **Ratnanather JT**, Miller MI. Validation of Alternating Kernel Mixture Method Based Segmentation of the Human Brain. Proc. Frontiers in the Convergence of Bioscience and Information Technology, pp. 477-481, 2007.
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 19. Ceyhan E, Hosakere M, Nishino T, Alexopolous J, Todd RD, **Ratnanather JT**, Botteron, K.N., Miller, M.I. Statistical Analysis of Morphometric Measures Based on Labeled Cortical Distance Maps. 5th Int. Symp. Image and Signal Processing and Analysis, ISPA 2007, 13-18.
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21. **Ratnanather JT**. Computational Anatomy of the Auditory Cortex: implications for auditory rehabilitation". In "From Cochlea to Cortex: understanding auditory dysfunction" Proceedings of the 4th Research Symposium for Non-Scientists at the International Convention of the Alexander Graham Bell Association for the Deaf and Hard of Hearing, June 2004.
22. **Ratnanather JT**, Priebe CE, Miller MI. Semi-automated segmentation of cortical subvolumes via hierarchical mixture modeling. Medical Imaging 2003: Image Processing. Edited by Sonka, Milan; Fitzpatrick, J. Michael. Proceedings of the SPIE, Volume 5032, pp. 1602-1612, 2003.
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26. **Ratnanather JT**, Rollett JS. A Petrov-Galerkin scheme for incompressible turbulent flows. Proceedings of the 6th International Conference on Finite Element Methods in Australia, Eds. Steven GP, Kelly DW, McIvor C, University of Sydney, 1991.
27. **Ratnanather JT**, Daniels.PG. Reversed flow calculations of high Prandtl number thermal boundary layer separation. Proceedings of 4th International Symposium on Transport Phenomena in Heat and Mass Transfer (ISTP-IV), Sydney, Australia, Ed. JA Reizes. Elsevier Science Publishers, 1991.9.

BOOK CHAPTERS

1. **Ratnanather JT**, [Liu C-F](#), Miller MI. (2022) Shape diffeomorphometry of brain structures in degeneration and development diseases. Handbook of Neuroengineering (Ed.: Thakor N). Springer.
2. Younes L, [Kutten KS](#), **Ratnanather JT**. (2022) Normal and Equivolumetric Coordinate Systems for Cortical Areas. Springer.
3. **Ratnanather JT**, Arguillière S, Kutten KS, Hubka P, Kral A, Younes L (2019) 3D normal coordinate systems for cortical areas. In "Mathematics of Shapes and Applications" (Lecture Notes Series, Institute of Mathematical Sciences, National University of Singapore), Eds. Kushnarev S, Qiu A & Younes L, pages 167-179.
4. Winslow RL, Helm P, Baumgartner W, Peddi S, **Ratnanather T**, McVeigh E and Miller MI. Imaging-based integrative models of the heart: closing the loop between experiment and simulation. In "'In Silico' Simulation of Biological Processes: Novartis Foundation Symposium, Volume 247". p. 129-143. Eds. Bock G, Goode JA. 2002.
5. **Ratnanather JT**, Spector AA, Popel AS, Brownell WE. Is the outer hair cell wall viscoelastic? In "Diversity in Auditory Mechanics", Eds. Lewis ER, Long GR, Lyon RF, Narins PM, Steele CR, Hecht-Poinar E. World Scientific, 1997.
6. Brownell WE, **Ratnanather JT**, Popel AS, Zhi M, Sit PS. Labyrinthine lateral walls: cochlear outer hair cell permeability and mechanics. In "Active Hearing", Eds. A. Flock, D. Ottoson, M. Ulfendahl. Elsevier Science Ltd, 1995.
7. **Ratnanather JT**, Brownell WE, Popel AS. The mechanical properties of the cochlear outer hair cell. In "Biophysics of Hair Cell Sensory Systems", Eds. Duifhuis D, Wit H, VanDijk PM, World Scientific Press, 1993.

MANUSCRIPTS IN REVISION

N/A

MANUSCRIPTS IN FIRST REVIEW

1. Liu C-F, Younes L, Tong X, Hinkle J, Wang M, Phatak S, Bang J, Tabrizi S, Scahill R, Paulsen J, Georgiou-Karistianis N, Xu X, Bu X, Looi V, Faria AV, Miller MI, **Ratnanather JT**, Ross CA. Longitudinal Imaging Highlights Preferential Basal Ganglia Circuit Atrophy in Huntington's Disease.

MANUSCRIPTS IN PREPARATION FOR SUBMISSION

1. Trinh HL, Dhir SB, Bergey G, **Ratnanather JT**, Barker PB. 7T study of hippocampus in Temporal Lobe Epilepsy
2. Kutten KS, **Ratnanather JT**. Multi-modal alternating kernel mixture segmentation of histological cortical layers.

INVITED TALKS

1. "Longitudinal MR and DT Imaging Datasets to define brain changes and suggest spread of pathology in HD", Neurodegeneration in CAG Triplet Repeat Diseases, from Molecular Pathogenesis to Rational Therapeutics, Gordon Research Conference, Tuscany (6/19).
2. "Computational Anatomy of the Deaf Brain", Center for Hearing and Balance, Johns Hopkins University (3/19).
3. "Making Mathematics accessible at colleges and universities", Horizons Seminar Series, Department of Mathematics, Brown University (2/18)
4. "3D normal coordinate systems for the cortex: applications in the deafened cortices in babies, adults and cats", Shape analysis and computational anatomy, Isaac Newton Institute, University of Cambridge (11/17)
5. "Accessibility for Mathematicians with Hearing Loss", Minisymposia, SIAM Annual Meeting, Pittsburgh (7/17).
6. "A cortical columnar normal coordinate system", Workshop on the State of Art Shape Research and Its Applications, Institute of Mathematical Sciences, National University of Singapore (7/16).
7. "Whole body Mapping", Medtronics, Minneapolis (4/16)
8. "The shape of the auditory cortex in deaf adults and babies", Speech Sciences Forum, University College London (6/15).
9. "The shape of the auditory cortex in deaf adults and babies" Distinguished Seminar Series, Institute for Computational Medicine, Johns Hopkins University (4/15).
10. "Computational Anatomy of the Deafened Brain", VIANNA (Institute for AudioNeurotechnology), Hannover, Germany (8/13).
11. "Computational Anatomy of the Deafened Brain", Vollum Institute, Oregon Health and Sciences University, Portland, OR (6/13).
12. "Cortical Layers (and Columns) via EPDiff?", Shape Spaces Retreat, Towson, MD, May 2013.
13. "Is cortical thickness influenced by curvature of the gray/white cortical surface? (or can we use the half-tube formula to predict pediatric cochlear implantation outcomes?)", Shape Spaces Retreat, ENS Cachan, France, May 2012.
14. "Computational Anatomy of the Deafened Brain", Brain and Behavior Laboratory, Dept of Speech, Language and Hearing Sciences, University of Colorado at Boulder (11/11).
15. "Computational Anatomy of the Deafened Brain", Center for Hearing and Communication Research, Karolinska Institute, Stockholm, Sweden (6/11).
16. "Large Deformation Diffeomorphic Co-Registration of Reconstructed Histological and MR Volumes", Children's Hospital of Los Angeles, USC (02/10).
17. "Large Deformation Diffeomorphic Co-Registration of Reconstructed Histological and MR Volumes", Center for Computational Biology, Laboratory Of Neuro-Imaging (LONI), UCLA (11/09).

18. "Applications of the Alternating Kernel Mixture model in Computational Anatomy", Graduate School of Biomedical Engineering, University of New South Wales, Sydney, Australia (9/07).
19. "Neuro-imaging of the Deafened Auditory Cortex: potential applications and challenges", Developing a Listening Ear, Newbury, England (7/07).
20. "A few unresolved, if not peripheral, questions on the auditory periphery from the periphery!", The Auditory System, Mathematical Biosciences Institute, Ohio State University (6/07).
21. "Computational Auditory Phrenology: scratching the surface", Mary Hare Grammar School for the Deaf, Newbury, England (6/06)
22. "Computational Anatomy of the deafened auditory cortex: implications for auditory rehabilitation", Division of Audiology, School of Population Health, University of Auckland, New Zealand (8/05).
23. "Computational Anatomy: shape analysis of brain, cortical, cardiac and dendritic structures", New Zealand Institute of Fundamental Sciences, Massey University (8/05).
24. "Salicylate effect on the hydraulic conductivity of the cochlear outer hair cell wall", Auditory Physiology Group, University of Auckland, New Zealand (8/05).
25. "Cortical cartography of the planum temporale in the auditory cortex", Neuropsychiatry Group, Prince of Wales Medical Research Institute, University of New South Wales, Sydney, Australia (8/05).
26. "Computational Anatomy: implications for auditory rehabilitation", Bionic Ear Institute, University of Melbourne, Australia (10/03).
27. "Computational Anatomy: implications for auditory rehabilitation", Cochlea Interest Group, University of New South Wales, Sydney, Australia (10/03).
28. "Beyond the auditory cortex: possible applications of computational anatomy", Cochlear Biophysics Laboratory, Bobby R. Alford Dept. of Otorhinolaryngology, Baylor College of Medicine, Houston, TX. (10/01)
29. Panelist, "Mentoring Women and Minorities", National Partnership in Advanced Computational Infrastructure, All Hands Meeting, San Diego Supercomputer Center. (2/00)
30. "The Ear-Works: the cellular basis of hearing", Colloquium, California State University Northridge. (1/99)
31. "Shake, rattle and roll: the mathematical biology of hearing", Dept. of Mathematics, California State University Northridge. (1/99)
32. "Dancing cochlear outer hair cells: the mathematical biology of hearing", Dept. of Mathematics, Howard University. (4/98)
33. Panelist at "Hear and Now" symposium at Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg, FL. (2/97)
34. "What they didn't teach us at school? - Fire in the belly", Oxford Brookes University School of Education, Oxford, England. (8/96)
35. "Is the outer hair cell wall viscoelastic?", Program in Mathematics and Molecular Biology retreat, Napa, CA. (5/96)
36. "Water permeability and membrane-cytoskeleton-subsurface cisterna association in the cochlear outer hair cell", Program in Mathematics and Molecular Biology retreat, Napa, CA. (1/95)
37. "Making the most of the Sun workstation". Dept. of Mathematics, City University London. (10/91)
38. "On self induced thermal boundary layer separation". Dept. of Mathematics, University of New South Wales, Sydney, Australia. (7/91)
39. "Asymptotic modeling of turbulent and thermal boundary layers". Dept. of Mechanical Engineering, Johns Hopkins University, Baltimore, MD. (2/91)
40. "Numerical analysis of turbulent flows", Dept. of Mathematics, City University London. (2/90)
41. "Numerical analysis of turbulent flows", Dept. of Mathematics, University College London. (1/90)**21.**

OTHER TALKS

1. Co-organizer “Bridging the gap between hearing sciences and audio technologies”, ARO Meeting, Baltimore, (2/17)
2. “Neurodegenerative brain diseases in Computational Anatomy”, 2nd Symposium on Computational Medicine, Johns Hopkins Hospital (10/13)
3. “Cleaning the auditory pathway after late implantation of congenital profound deafness - a personal journey”, kick-off talk at CI-CRASH, University of Wisconsin, Madison (10/13)
4. “Music and Deafness”, Workshop at the 31st Midwinter Meeting of the Association for Research in Otolaryngology, Phoenix, AZ (organizer, 2/08).
5. “Computational Auditory Phrenology: scratching the surface”, Workshop on functional organization of the laminar structure of the auditory cortex (also organizer), Johns Hopkins University (2/06)
6. “Computational Anatomy: New Frontiers in Biomedical Imaging” Session co-chair, 2005 Annual Fall Meeting, Biomedical Engineering Society, Baltimore, MD (9/05)
7. “Computational Anatomy of the Auditory Cortex: implications for auditory rehabilitation”. 4th Research Symposium for Non-Scientists at the International Convention of the Alexander Graham Bell Association for the Deaf and Hard of Hearing, Anaheim, CA. (6/04).
8. “Computing Metric Distances Between Shapes and the Euler-Poincaré Equations of Computational Anatomy”, Short Course at “Image Analysis and Understanding Data from Scientific Experiments” workshop, Los Alamos National Laboratory, Los Alamos, NM. (12/02).
9. Co-chair, Mini-Symposium on “Biomedical Image Analysis and Registration” at 50th SIAM Annual Meeting, Philadelphia, PA. (7/02)
10. “Computing Geodesics Between Anatomical Images”, Mini-Symposium on “Comparative Mathematical Structures in 3D Medical Image Analysis” at the 1st SIAM Conference on Imaging Sciences, Boston, MA (3/02).

INTERVIEWS (Online)

1. Our Oral History (AG Bell), <https://www.youtube.com/watch?v=DXpuzzvY640>, Sept 2018.
2. PAESMEM Alumni Interview, https://www.youtube.com/watch?v=lqzL_upOTJE, March 2017.
3. What if you were born deaf? What if your child was? On Mentoring (AG Bell), https://www.youtube.com/watch?v=lqzL_upOTJE, March 2016.

ABSTRACTS/POSTER PRESENTATIONS

1. Padova D, Faria AV, Agrawal Y, **Ratnanather JT**. Vestibular Function Predicts Prefrontal and Sensorimotor Cortical Gray Matter Volumes in a Cross-Sectional Study of Healthy, Older Adults. *Association for Research in Otolaryngology*, (2/22).
2. Li Q, Kutten K, Sollmann L, Hubka P, Kral P, **Ratnanather JT**. Mechanical Modeling of Changes in Auditory Cortical Morphology Due to Hearing Loss. *Association for Research in Otolaryngology*, (2/22).
3. Padova D, **Ratnanather JT**, Agrawal Y. Linking vestibular function and sub cortical grey matter volume changes in a longitudinal study of aging adults. *Human Brain Mapping (Virtual)*, 06/20).
4. Hubka P, Sollmann L, Kutten KS, **Ratnanather JT**, Kral A. Functional and Structural Analysis of Cortical Profiles in Feline Primary Auditory Cortex – Effect of Auditory Deprivation. *Midwinter Meeting of the Association for Research in Otolaryngology*, (1/20).
5. Kutten K, Sollmann L, Hubka P, Trieu J, Tward DJ, Younes L, Kral A, **Ratnanather JT**. Histological Cortical Depth Profiles for Microstructural Analysis of Feline Auditory Cortex. *Midwinter Meeting of the Association for Research in Otolaryngology*, (1/20).
6. Umesh A, Kutten K, Hogan P, **Ratnanather JT**, Chib V. Motor cortical thickness and the subjective valuation of physical effort in humans. *Society for Neuroscience*, (10/19).

7. **Ratnanather JT**, Kutten K, Hubka P, Sollmann L, Tward DJ, Younes L, Kral A. Normal and equivolumetric coordinate systems for measuring auditory cortical changes. CRCNS PI Meeting, (9/19).
8. Kutten K, Hubka P, Sollmann L, Younes L, Kral A, **Ratnanather JT**. Methods for measuring auditory cortical changes in feline model of cochlear implantation, Conference on Implantable Auditory Prostheses, (7/19).
9. Kutten K, Hubka P, Tward D, Younes L, Kral A, **Ratnanather JT**. Equivolumetric normal coordinate systems for structural analysis of feline auditory cortical areas. Midwinter Meeting of the Association for Research in Otolaryngology, (2/19).
10. Nair P, Shade J, Feliciano A, Reed N, West J, **Ratnanather JT**. Software application development and acoustic validation of a sound field hearing screening tool. Midwinter Meeting of the Association for Research in Otolaryngology, (2/19).
11. Dhir SB, Kutten K, Li M, Faria A, **Ratnanather JT**. Topographic visualization of the acoustic radiation in normal hearing and deaf subjects via semi-automated tractography. Midwinter Meeting of the Association for Research in Otolaryngology, (2/19).
12. Manno FAM, Kumar R, Rodriguez-Cruces R, Lau C, **Ratnanather JT**. The effect of profound hearing loss: meta-analysis of bilateral and unilateral structural MRI studies. Midwinter Meeting of the Association for Research in Otolaryngology, (2/19).
13. Manno FAM, Kumar R, Rodriguez-Cruces R, Lau C, **Ratnanather JT**. Profound bilateral and unilateral hearing loss alters large scale macroscopic cortical asymmetry and Yakovlevian torque. Midwinter Meeting of the Association for Research in Otolaryngology, (2/19).
14. Jacob A, Tward D, Flaherty S, Resnick S, **Ratnanather JT**, Agrawal Y. Linking vestibular function and cortical and subcortical alterations in an aging population. Midwinter Meeting of the Association for Research in Otolaryngology, (2/19).
15. Kulason S, Schretlen D, Sawa A, **Ratnanather T**, Ishizuka K. Measuring the relationship between specific phosphorylation of DISC1 and Cortical thickness in psychotic disorders. SOBP, (5/18).
16. Athey T, Rootes-Murdy K, Gkazer K, Goes F, Mondimore F, Zandi P, **Ratnanather T**, Mahon P. A pilot 7T subcortical shape analysis of lithium response in bipolar disorder. SOBP, (5/18).
17. Wang L, **Ratnanather JT**, Tward DJ, Heiman Z. Speech Perception Analysis via Automated Phoneme Alignment. CI2018, Washington D.C. (3/18).
18. Wang L, Heiman Z, Tward DJ, **Ratnanather JT**. Speech Perception Analysis via Automated Phoneme Alignment. Midwinter Meeting of the Association for Research in Otolaryngology, (2/18).
19. Kamil RJ, Jacob A, **Ratnanather JT**, Resnick SM, Agrawal Y. Vestibular function and hippocampal volume in the Baltimore Longitudinal Study of Aging (BLSA). Midwinter Meeting of the Association for Research in Otolaryngology, (2/18).
20. **Ratnanather JT**. Structural Imaging of the deafened brain – a review. 6th International Conference on the Auditory Cortex, Banff, Canada (9/17)
21. Takayanagi Y, Kulason S, Sasabayashi D, Nakamura M, Takahashi T, Fuuichi A, Kido M, Nishikawa Y, Katagir N, Sakama A, Obara C, Matsumoto K, Mizuno M, **Ratnanather T**, Suzuki M. Prediction of psychosis using labeled cortical distance mapping and machine-learning methods. Human Brain Mapping, Vancouver, Canada (6/17)
22. Tward DJ, Sicat CC, Brown T, Miller EA, **Ratnanather JT**, Younes L, Bakker A, Albert M, Gallagher M, Mori S, Miller MI. Local Atrophy of entorhinal and trans-entorhinal cortex in mild cognitive impairment measured via diffeomorphic morphometry. Society for Neuroscience Annual Meeting, San Diego CA, 2016.
23. **Ratnanather T**, Arguillere S, Younes L. A surface-based diffeomorphic method for calculating cortical thickness. Human Brain Mapping, Geneva, Switzerland (6/16)

24. Kulason S, Ishizuka K, Banerjee A, CeyhanE, Barta P, Sawa A, Miller M, **Ratnanather T**. Quantitative Cortical Shape Measures in Schizophrenia. Human Brain Mapping, Geneva, Switzerland (6/16)
25. Holt A, Reiss L, Baskent D, Davis-Venn E, Hoa M, Mustapha M, Peterson D, **Ratnanather T**, Rajguru S, Ross A, Liu C, Francis H. Hearing Loss and Human Genetics: Science, Policy and Beyond Overview. Midwinter Meeting of the Association for Research in Otolaryngology, 2016.
26. Muca A, Patel J, Mori S, **Ratnanather T**, Holt A. Longitudinal MRI analysis of volumetric differences in Brainstem Neurons following noise-induced temporary threshold shift. Midwinter Meeting of the Association for Research in Otolaryngology, 2016.
27. Bhattacharya R, Heston M, Song J, Fernandez L, **Ratnanather T**. Challenges in designing and developing an auditory training ipad app for adults with hearing loss. Midwinter Meeting of the Association for Research in Otolaryngology, 2015.
28. **Ratnanather T**. Speech Banana – a modular ipad app for auditory training for adults with hearing loss. Midwinter Meeting of the Association for Research in Otolaryngology, 2015.
29. Kulason S, Tward D, Ng K, Zhang J, Krakauer JW, **Ratnanather JT**, O'Brien R, Miller MI. Anatomical Biomarkers of Learning in a murine model. Society for Neuroscience Annual Meeting, Washington, DC, 2014.
30. Ishizuka K, Horiuchi Y, Ishii S, Gamao N, Saito A, **Ratnanather T**, Kulason S, Schretlen D, Kamiya A, Miller M, Okana H, Sawa A. DISC1 serine-713 phosphorylation-dependent neurodevelopmental switch: Its impact on anatomy, cognition and mental conditions. Society for Neuroscience Annual Meeting, Washington, DC, 2014.
31. Pettigrew C, Soldan Ad, Lu Y, Wang M-C, Brown T, Selnes O, Mori S, Younes L, **Ratnanather T**, Miller MI, Albert M. Cortical regions are associated with risk of clinical symptom onset during preclinical Alzheimer's disease. Society for Neuroscience Annual Meeting, Washington, DC, 2014.
32. **Ratnanather JT**, Faria AV, Ross CA, Younes L, Miller MI. Shape analysis of basal ganglia structures in Huntington's Disease. Human Brain Mapping, Hamburg, Germany (6/14)
33. van den Noort F, Faria A, **Ratnanather T**, Ross C, Mori S, Younes L, Miller M. Anatomical connectivity in prodromal Huntington's Disease. Human Brain Mapping, Hamburg, Germany (6/14)
34. Faria AV, van den Noort F, **Ratnanather T**, Ross C, Mori S, Younes L, Miller M. Linking cortical and basal ganglia abnormalities in prodromal Huntington's Disease. Soc. Biological Psychiatry, New York (5/14).
35. **Ratnanather JT**, Limb CJ. Factors behind the "cleaning" of the auditory pathway in late implantation of prelingual oral deaf adults. Int. Symp. Auditory and Audiological Research, Nyborg, Denmark. (8/13).
36. Norris H, Bond J, Zhang Y, Sturgeon G, Tward D, **Ratnanather T**, Miller M, Samei E, Segars P. Development of 4D XCAT Pediatric Reference Phantoms for Multi-Modality Imaging Research and Optimization. 55th Annual Meeting of the American Association of Physicists in Medicine, Indianapolis, IN. (8/13).
37. **Ratnanather JT**. IIPBF - a Matlab toolbox for computing infinite integrals of products of Bessel functions of the 1st and 2nd kind. 25th Biennial Numerical Analysis Conference, University of Strathclyde, Scotland (6/13).
38. Cebron S, Crinion J, Faria AV, Hillis AE, **Ratnanather JT**. Temporal Lobe Region of Interest Cortical Analysis in Primary Progressive Aphasia. Human Brain Mapping, Seattle WA, 2013.
39. Suzuki H, Luby J, Barch D, Marrus N, Trinh H, Nishino T, Miller M, **Ratnanather T**, McKinstry R, Botteron K. Diffusivity and Anisotropy Comparisons between Amygdala Subregions in Healthy and Depressed Children. Human Brain Mapping, Seattle WA, 2013.
40. Li M, **Ratnanather JT**, Zhang Y, Jiang H, Oishi K, Miller MI, Mori S. Knowledge-Based Tractography Using Path Finding by Dynamic Programming. Proc. ISMRM, Salt Lake City, UT, 2013.

41. Li M, Faria AV, Oishi K, Mori S, **Ratnanather JT**. Automated Fibertracking of the Acoustic Radiation Tract in Normal and Hearing-Impaired Adults. Midwinter Meeting of the Association for Research in Otolaryngology, 2013.
42. Tang X, Miller MI, Yantis S, **Ratnanather JT**. Automated Segmentation of Subcortical Structures via Large Deformation Diffeomorphic Metric Mapping. Human Brain Mapping, Beijing, China, 2012.
43. Wentz J, Wang L, Beg MF, Wen W, Sachdev P, Trollor J, **Ratnanather JT**. Cortical thickness of the cingulate gyrus in Memory & Aging Study. Human Brain Mapping, Beijing, China, 2012.
44. Marrus N, Trinh H, Luby J, Tillman R, Brown T, Nishino T, Belden A, Suzuki H, Barch D, **Ratnanather JT**, Miller MI, Botteron KN. Early Maternal Support Predicts Larger Amygdalar Volumes at School Age. Human Brain Mapping, Beijing, China, 2012.
45. **Ratnanather JT**, Tward DJ, Feng J, Smith K, Altaye M, Armand E, Care M, Phillips J, Robertson S, Ruder C, Holland SK. Potential structural neuroimaging biomarkers for pediatric cochlear-implantation outcomes. CI-2012, Baltimore, MD, 2012.
46. Tward DJ, Feng J, Smith K, Altaye M, Armand E, Care M, Phillips J, Robertson S, Ruder C, Holland SK, **Ratnanather JT**. Cortical Thickness Differences in Heschl's Gyrus of Hearing Impaired and Normal Hearing Infants. Midwinter Meeting of the Association for Research in Otolaryngology, 2012.
47. **Ratnanather JT**, Kim JH, Davis AMJ. The flow field of a submerged viscous fluid jet. 64th Annual meeting of the Division of Fluid Dynamics of the American Physical Society, Baltimore, MD, 2011.
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49. Younes L, **Ratnanather JT**, Albin R, Aylward E, Nopoulos P, Pierson R, Johnson H, Magnotta V, Paulsen J, Margolis R, Miller MI, Ross CA. Statistical shape analysis of atrophy of subcortical structures in prodromal Huntington's Disease. Human Brain Mapping, Quebec City, Canada, 2011
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54. Kim JH and **Ratnanather JT**. Infinite integration of complex-valued kernels and products of two Bessel functions of first or second kind with real-valued order. Int. Conf. Special Functions in the 21st Century: Theory and Applications, Washington DC. 2011.
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61. Ceritoglu C, Wang L, Trachtenberg M, Selemo LD, Csernansky JG, Miller MI, **Ratnanather JT**, Large Deformation Diffeomorphic Metric Mapping Registration of *in-vivo* MR Images and Reconstructed 3D Images of Histological Sections, Human Brain Mapping, San Francisco, 2009.
62. Ceritoglu C, Wang L, Trachtenberg M, Selemo LD, Csernansky JG, Miller MI, **Ratnanather JT**, Mapping of cortical area 46 laminar boundaries in MRI volumes: a method developed to study the prenatally irradiated macaque, International Congress on Schizophrenia Research, San Diego. 2009.
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64. Lee N, Oishi K, Faria A, **Ratnanather JT**, Wen W, Trollor J, Sachdev P. Automated localization of White Matter Hyperintensities(WMH) on DTI white matter tract atlas. Human Brain Mapping, Melbourne, 2008.
65. Harms MP, Campanella C, Wang L, Aldridge K, Moffitt AJ, Keulper J, Ratnanather J, Miller MI, Barch DM, Csernansky JG. Abnormalities of prefrontal cortex neuroanatomy in siblings at risk for schizophrenia, Society for Neuroscience Annual Meeting, Washington, DC, 2008.
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68. Ceritoglu C, Wang L, Malhotra N, **Ratnanather JT**, Selemo LD, Csernansky JG, Miller MI. Delineation of a cytoarchitectonically defined macaque cortical area (46) in MRI via large deformation diffeomorphic metric mapping, Society for Neuroscience Annual Meeting, San Diego, 2007.
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70. Arrate F, Younes L, **Ratnanather JT** A numerical method for solving the EPDiff equation of Computational Anatomy. Effective Computational Methods for Highly Oscillatory Problems: The Interplay between Mathematical Theory and Applications, Isaac Newton Institute of Mathematical Sciences, Cambridge, UK. 2007.
71. Arrate F, Younes L, **Ratnanather JT** A numerical method for solving the EPDiff equation of Computational Anatomy. Statistics of Shape Spaces, SAMSI, Raleigh, NC. 2007.
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73. Lee N, Penumetcha N, Priebe C, Wang L, Csernansky J, Miller M, **Ratnanather JT**. Alternating Kernel Mixture Segmentation of Hippocampus and Prefrontal Cortex: a validation study. Human Brain Mapping, Chicago, 2007.

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76. Pisano DV, Poynton CB, Honeycutt NA, Barta PE, **Ratnanather JT**. Delineating the superior temporal gyrus using dynamic programming in schizophrenia and bipolar disorder. International Congress on Schizophrenia Research, Colorado Springs, CO. 2007.
77. Qiu A, Younes L, Wang L, **Ratnanather JT**, Csernansky JG, Miller MI. Cortical thinning of the cingulate gyrus in schizophrenia. International Congress on Schizophrenia Research, Colorado Springs, CO. 2007.
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80. Botteron KN, Babb CM, Nishino T, Storch E, Flake L, Todd RD, Ratnanather JT, Miller MI, Hippocampus Volume in Twins with Early Onset Major Depression. Human Brain Mapping, Florence, 2006.
81. Ceyhan E, Poynton C, Qiu A, Barta P, Miller MI, **Ratnanather JT**, Statistical Analysis of Gender, Laterality and Diagnosis Effect on Planum Temporale. Human Brain Mapping, Florence, 2006.
82. Qiu A, Vaillant M, Barta P, Miller MI, **Ratnanather JT**, Left planum temporale cortical thickness variation in schizophrenia. Human Brain Mapping, Florence, 2006.
83. Wang L, Ceritoglu C, **Ratnanather JT**, Beg MF, Morris JC, Csernansky JG, Miller MI. Initial Velocity and Large-Deformation Diffeomorphic Metric Mapping of Hippocampal Change in Dementia of Alzheimer Type (DAT). Human Brain Mapping, Florence, 2006.
84. Qiu A, Barta P, Miller MI, **Ratnanather JT** "Lateral asymmetry of the laminar structure of the planum temporale", Midwinter Meeting of the Association for Research in Otolaryngology, 2006.
85. Aldridge GM, **Ratnanather JT**, Martone ME, Terada M, Beg MF, Fong L, Ceyhan E, Kolasny AE, Brown TJA, Cochran EL, Tang SJ, Pisano DV, Vaillant M, Hurdal MK, Churchill JD, Greenough WT, Miller MI, Ellisman MH. Semi-automated shape analysis of dendrite spines from animal models of FragileX and Parkinson's disease using Large Deformation Diffeomorphic Metric Mapping. Society for Neuroscience Annual Meeting, Washington DC, 2005.
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87. Wang L, Hosakere M, Ceyhan E, **Ratnanather JT**, Kaplan G, Gado M, Csernansky JG, Miller MI. Labeled Cortical Mantle Distance Mapping of the Cingulate Gyrus in Schizophrenia. Human Brain Mapping, Toronto, 2005.
88. Beg MF, Buckner RL, Fischl B, Park Y, Ceyhan E, Priebe CE, Ceritoglu C, Kolasny AE, Brown T, Quinn B, Yu, P., Gold B, **Ratnanather JT**, Miller MI. BIRN Brain Morphometry. Pattern classification of hippocampal shape analysis in a study of Alzheimer's Disease. Human Brain Mapping, Toronto, 2005.
89. Wang L, Beg MF, **Ratnanather JT**, Csernansky JG, Miller MI. Validating Large-Deformation Diffeomorphic Metric Matching in Hippocampus. Human Brain Mapping, Toronto, 2005.

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91. Qiu A, Bitouk D, **Ratnanather JT**, Poynton C, Wang L, Boatman D, Barta P, Csernansky JG, Miller MI. Visualizing cortical thickness on the gray/white cortical surface. Human Brain Mapping, Toronto, 2005.
92. Poynton C, Lal R, **Ratnanather JT**, Mori S, Boatman D, Miller MI. Probabilistic Tracking of Fiber Pathways Using Dynamic Programming. Human Brain Mapping, Toronto, 2005.
93. Ceyhan E, Hosakere M, Alexopolous J, Nishino T, Babb C, **Ratnanather JT**, Todd RD, Botteron KN, Miller MI. Analysis of Ventral Medial Prefrontal Cortex Metrics for Depression in Twins. Human Brain Mapping, Toronto, 2005.
94. Qiu A, Bitouk D, **Ratnanather JT**, Wang L, Csernansky JG, Miller MI. Cingulate Cortical Thickness Variability on the Gray/White Surface. International Congress on Schizophrenia Research, Savannah, GA. 2005.
95. **Ratnanather JT** The set of hearing-impaired mathematics PhDs is countably finite on the order of at least 22!! Minorities in Mathematics Workshop, Institute for Mathematics and its Applications, University of Minnesota. 2005.
96. Wang L, Trein J, Gado M, Hosakere M, **Ratnanather JT**, Miller MI, Csernansky JG. Volume, Surface Area, and Thickness of the Cingulate Gyrus in Schizophrenia Subjects. International Congress on Schizophrenia Research, Savannah, GA. 2005.
97. **Ratnanather JT**, Poynton C, Ceyhan E, Osdoit A, Boatman D. A cortical analysis of the laterality of the planum temporale in hearing, hearing-impaired and central auditory processing disorder subjects. Midwinter Meeting of the Association for Research in Otolaryngology, 2005.
98. Botteron KN, Nishino T, Hosakere M, Babb CM, Alexopoulos J, Flake L, Ratnanather JT, Rogers C, Heath AC, Todd RD, Miller MI. Ventral medial prefrontal cortex heritability and alternations in major depressive disorder: a twin MRI study. Abstracts for the XIIth World Congress of Psychiatric Genetics, Dublin, Ireland. 2004
99. Beg MF, Ceritoglu C, Kolasny AE, Priebe CE, **Ratnanather JT**, Yashinski R, Younes L, Yu P, Jovicich J, Buckner RL, Pieper S, Fischl B, Miller MI. Biomedical Informatics Research Network: Multi-Site Processing Pipeline for Shape Analysis of Brain Structures. Human Brain Mapping, Budapest, 2004.
100. Botteron KN, Hosakere M, Nishino T, Babb C, **Ratnanather JT**, Todd RD, Miller MI. Ventral Medial Prefrontal Cortex Metrics in Early Onset Depression: A Twin MRI Study. Human Brain Mapping, Budapest, 2004.
101. Barker AR, Priebe CE, Miller MI, Hosakere M, **Ratnanather JT**, Csernansky JG, Wang L. Statistical Testing on Labeled Cortical Distance Maps to Identify Dementia Progression. Proceedings of the Joint Statistical Meeting, Section on Nonparametric Statistics, American Statistical Association, 2003.
102. Lee N, **Ratnanather JT**, Barta PE, Hurdal MK, Miller MI Dynamic Programming Definition of Boundaries of the Planum Temporale. Human Brain Mapping, New York City, NY, 2003.
103. Hurdal MK, Lee A, **Ratnanather JT**, Nishino T, Miller MI, Botteron KN. Investigating the Medial Prefrontal Cortex with Cortical Flat Mappings Human Brain Mapping, New York City, NY, 2003.
104. Lee N, **Ratnanather JT**, Barta PE, Hurdal MK, Miller MI Dynamic Programming Definition of Boundaries of the Planum Temporale. Conformal Geometry of Surfaces: Theory, Computation and Application. University of Tennessee, Knoxville, TN, 2003.
105. **Ratnanather JT**. Dynamic Programming in Cortical Surface Analysis. Image Analysis and Understanding Data from Scientific Experiments workshop, Los Alamos National Laboratory, Los Alamos NM, 2002.

106. Beg MF, **Ratnanather JT**, Miller MI. Computing geodesics between anatomical configurations. Diversity in Computing, Houston, TX, 2001.
107. Beg MF, Majethia A, Browne M, Kaiser TH, Martone M, Wong KF, Massie AB, Homer J, **Ratnanather JT**, Miller MI. Enhancing tools to manipulate anatomical images: a step towards a federated neuroscience image database. National Partnership for Advanced Computational Infrastructure All-Hands Meeting, San Diego, CA, 2001.
108. **Ratnanather JT**, Batman S, Francis H, Flores J, Roberts P, Nutt RC. Spatial analysis of spiral ganglion cells from human temporal bones. Midwinter Meeting of the Association for Research in Otolaryngology, 2001.
109. Flores J, Batman S, **Ratnanather JT**, Francis H. A new method for analyzing 3-D trends in spiral ganglion cell density and distribution from a human temporal bone bank. Symposium on Synaptic Function in Hearing and Balance, Johns Hopkins University, Baltimore, MD., 2000.
110. Stone M, **Ratnanather JT**, Yang C, Yeh J. Ultrasound Imaging of Speech by Very Intelligent Profoundly Deaf Speakers. Alexander Graham Bell Association for the Deaf and Hard of Hearing International Convention, Philadelphia, PA. 2000.
111. Beg MF, Bhanot G, Miller MI, **Ratnanather JT**, Walkup R, Younes L. Computing Geodesics on Anatomies. National Partnership for Advanced Computational Infrastructure All-Hands Meeting, San Diego, CA, 2000.
112. Beg MF, Miller MI, **Ratnanather JT**, Younes L. A gradient method to solve a nonlinear optimization problem arising in computational anatomy. American Mathematical Society Annual Meeting, Washington, D.C., 2000.
113. **Ratnanather JT**, Jing C, Miller MI. Computational Anatomy of the Brain. National Partnership for Advanced Computational Infrastructure All-Hands Meeting, San Diego Supercomputer Center, 1999.
114. **Ratnanather JT**, Spector AA, Popel AS, Brownell WE. Analysis of viscoelastic deformations of the cochlear outer hair cell wall. Annual meeting of the American Mathematical Society, Baltimore, MD., 1998.
115. **Ratnanather JT**, Popel, AS, Brownell WE. A micro-fluidic analysis of the lateral wall of the cochlear outer hair cell. Michigan Interdisciplinary Mathematics Meeting on Modeling and Analysis in Medicine and Biology, Ann Arbor, MI, 1998.
116. **Ratnanather JT**, Spector, AA, Popel AS, Brownell WE. Viscosity effects on the dynamics of the cochlear outer hair cell. Annual Meeting of the Society of Mathematical Biology, Raleigh, NC, 1997.
117. **Ratnanather JT**, Spector, AA, Popel AS, Brownell WE. The fluid-membrane interaction in the cochlear outer hair cell wall. Euromech 344: Fluid-structure interactions in biomechanics, London, England, 1996.
118. **Ratnanather JT**, Spector, AA, Popel AS, Brownell WE. Membrane viscoelastic properties of dancing outer hair cells of the inner ear. Mathematics and Molecular Biology IV, Santa Fe, NM, 1995.
119. Zhi M, **Ratnanather JT**, Brownell WE. Triggering water permeability changes in outer hair cells. Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg, FL, 1995.
120. Popel AS, **Ratnanather JT**, Sit PS, Brownell WE. Micromechanics of the cochlear outer hair cell. 2nd World Congress in Biomechanics, Amsterdam, Holland, 1994.
121. Sit PS, Bittner CA, **Ratnanather JT**, Brownell WE. Vesiculation of the outer hair cell cytoplasmic membrane. Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg, FL. 1994.
122. **Ratnanather JT**, Brownell WE, Popel AS. Mechanical properties and water permeability coefficient of the outer hair cell. Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg, FL. 1993.
123. **Ratnanather JT**, Daniels PG. Self—induced thermal boundary layer separation. 44th Annual meeting of the Division of Fluid Dynamics of the American Physical Society, Phoenix, AZ, 1991.

124. **Ratnanather JT**, Daniels PG. On self--induced thermal boundary layer separation. 40th British Applied Mathematics Colloquium, Oxford, England, 1991.
125. **Ratnanather JT** E-mail: a tool for the disabled scientist and student. "Changing lives: New technology for people with disabilities" symposium at American Association for the Advancement of Science Annual Meeting, Washington DC, 1991.
126. **Ratnanather JT**. E-mail: - the way forward. XVIIth Int. Congress on the Education of the Deaf, Rochester, NY, 1990.
127. **Ratnanather JT**, Phillips WRC. The turbulence law of the wake in a boundary layer. 42nd Annual meeting of the Division of Fluid Dynamics of the American Physical Society, Palo Alto, CA, 1989.
128. **Ratnanather JT**, Phillips WRC. The outer region of a turbulent boundary layer. 41st Annual meeting of the Division of Fluid Dynamics of the American Physical Society, Buffalo, NY, 1988.

OTHER PUBLICATIONS

1. **Ratnanather JT**, 2020. Expanding Accessibility in Neuroscience Through Speech-to-Text Technologies. Neuronline, <https://neuronline.sfn.org/training/expanding-accessibility-in-neuroscience-through-speech-to-text-technologies>.
2. Adler HL, **Ratnanather JT**, Steyger PS, Buran BN, 2019. Scientists with Hearing Loss Changing Perspectives in STEMM. *Acoust. Today* 15(1):66-70.
3. Adler HJ, Anbuhl KL, Atcherson SR, Barlow N, Brennan MA, Brigande JV, Buran BN, Fraenzer JT, Gale JE, Gallun FJ, Gluck SD, Goldsworthy RL, Heng J, Hight AE, Huyck JJ, Jacobson BD, Karasawa T, Kovačić D, Lim SR, Malone AK, Nolan LS, Pisano DV, Rao VRM, Raphael RM, **Ratnanather JT**, Reiss LAJ, Ruffin CV, Schwalje AT, Sinan M, Stahn P, Steyger PS, Tang SJ, Tejani VD, Wong V. Community Network for deaf scientists, *Science*, 2017, 356:386-387.
4. **Ratnanather JT**. 2017. Accessible Mathematics for People with Hearing Loss at Colleges and Universities. *Notices of the American Mathematical Society*, 64, 1180-1183.
5. **Ratnanather JT**. 2016. Mentoring the Future. *Hearing Health Magazine*. Winter 2016, p. 12-15.
6. **Ratnanather JT**. 2016. Mentoring students with hearing loss in Science, Technology, Engineering and Mathematics. University College London Department of Mathematics De Morgan Association Newsletter 2015.
7. **Ratnanather JT**. 2015. Speech Banana: a mobile platform for auditory training for adults with hearing loss. *ASHA KIRAN* 2015. p11-14.
8. Raphael RM and **Ratnanather JT**. Deaf and Hard of Hearing People in Biomedical Engineering and Bioengineering. *Volta Voices*, p. 22-24 March/April 2003.
9. **Ratnanather JT** Review of "Web Accessibility for People with Disabilities", *Volta Review*, 102, no. 2, p.75-76, 2002.
10. **Ratnanather JT**. The Power of Two Line Voice Carry Over. *Contact*. 12, 22-27, 1997.
11. **Ratnanather JT**. Eight years in higher education: a deaf perspective. In "European Conference: a european university for students with special needs". Ed. C. Marco, University of Mons, Belgium, 1990.
12. **Ratnanather JT**. International and national research computer networks - their implications for hearing impaired students. In "European Deaf Students Can : Deaf Students in Higher Education", Ed. Carter, K., Deaf-Fax, University of Reading, England, 1988.
13. **Ratnanather JT**. Experiences of a deaf undergraduate. In *Proceedings of the XVIth International Congress on the Education of the Deaf*, Manchester, UK 1985, Ed. Taylor, I.G. Croom-Helm Publishers, 1987.
14. **Ratnanather JT**. Studies in simple turbulence models. Oxford University Computing Laboratory Numerical Analysis Group Research report, NA-87/7, 1987.

TEACHING EXPERIENCE – ONGOING COURSES

2016 – Instructor	JHU	EN.580.431/631	Introduction to Computational Medicine I (Computational Anatomy)	~50 students
2016 – Instructor	JHU	EN.580.424	Neuroengineering and Lab (Speech Perception Module)	~100 students

TEACHING EXPERIENCE – ONE-TIME

2012	INSTRUCTOR	JHU	EN.580.404.01	The Bionic Ear: an odyssey from profound deafness to possible hearing	~15 students
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ADVISORY INFORMATION

Postdoctoral Fellows

1. Francis A. M. Manno (2021-):
2. Kwame S. Kutten (2017-2019): Two book chapters, several conference posters. Teaching faculty, JHU BME.
3. Felipe Arrate (2010-2011): One paper. Data Scientists in a Silicon Valley company.
4. Haroon Burhanullah (2009-2010): One paper. Assistant Professor, Dept of Geriatric Psychiatry, Johns Hopkins Bayview.
5. Elvan Ceyhan (2004-2005): several papers. Assistant Professor, Dept of Mathematics, Auburn University.
6. Sirong Zhang (2004-2007): three papers. Associate Professor, Dept of Mathematics, Beihang University, China.

Ph.D. Students

- N/A

M.S. Students

1. Jacob Desman	2021-2022	
2. Qianwei Li	2020-2021	
3. Sanika Phatak	2020-2021	
4. Jenny Trieu	2019-2020	
5. Eshan Joshi	2020	
6. Teja Karri	2019	thesis committee
7. Dominic Padova	2017-2019	thesis committee (JH Engineering for Professionals)
8. Shreyas Padhy	2017-2019	thesis committee
9. Athira Jacob	2016-2018	one paper
10. Hongkun Kim	2016-2018	thesis committee
11. David Lee	2013-2015	two papers, thesis committee
12. Saumya Gurbani	2013	thesis committee
13. Huong Trinh	2011-2013	two papers
14. Jacqueline Wentz	2010-2012	
15. Neeraja Penumetcha	2004-2006	two papers
16. Rakesh Lal	2002-2004	two papers, thesis committee
17. Ken Probst	1999-2000	thesis committee (Medical Illustration)

Undergraduate Students (BME unless noted otherwise)

1. Mitra Harpale '24

2. Jacob Desman '21
3. Ben Bae '21 (Neuroscience)
4. Jessica Kasamoto '21
5. David Shi '21
6. Jason Wu '22 (Chemical & Biomolecular Engineering)
7. Amith Umesh '21 (Neuroscience)
8. Zachary Zarubin '20
9. Looi Nga Laam '23 (Neuroscience and Computer Science)
10. Sungho Yoo '21 (Computer Science and Applied Mathematics & Statistics)
11. Connie He '20 (Computer Science and Chemical & Biomolecular Engineering)
12. Lily Batchelor '23 (Chemical & Biomolecular Engineering)
13. Jamie Shade '19
14. Judy Wang '18
15. Thomas Athey '18
16. Lindsey Kriz '17
17. Inez Lam '16
18. Seung Wook Lee '16
19. Carolyn Zin '16 (Chemical & Biomolecular Engineering)
20. Jo Eun Song '16
21. Hong Seo Lim '16 (also '17 MSE Applied Mathematics and Statistics)
22. Sue Kulason '12
23. Edric Tam '16
24. Aditya Banerjee '17
25. Kanami Mori '16 (Neuroscience)
26. Lindsey Fernandez '15
27. Rohit Bhattachyara '15
28. Margo Heston '15
29. Margaret Chow '14
30. David Soobin Lee '14 (and MSE)
31. Shannon Cebron '13 (Applied Mathematics & Statistics)
32. Payal Patnaik '12
33. Won Jong Choi '12
34. Shane Steinert-Threlkeld '11 (Mathematics and Philosophy)
35. Jordan Etten '13 (Chemical and Biomolecular Engineering)
36. Jung Hun Kim '10 (MSE Applied Mathematics & Statistics)
37. Nayoung A. Lee '03
38. Joseph Heng '10
39. Yoshiako Sono '10
40. JaeHo Sohn '10 (Applied Mathematics & Statistics)
41. Britni Crocker '09
42. Matt Trachtenberg '09
43. Nikhil Ram Mohan '09 (Applied Mathematics & Statistics)
44. Ann Kennedy '09
45. Suraj Kabadi '08
46. Kihyuk Hong '08 (Applied Mathematics and Statistics)
47. Stephen Tang '07
48. Eric Cochran '07 (Neurosciences and Economics)
49. Neda Jahanshad '06

50. Dominic Pisano '06 (Neuroscience)
51. Michael An '06
52. Tiffany Tasky '06 (Mathematics and Applied Mathematics & Statistics)
53. Russell Frisby '05
54. Clare Poynton '04
55. Katherine Johnson '04
56. Adam Dziorny '03 (and Computer Science)
57. Allison Barker '03 (and Applied Mathematics & Statistics)
58. Darren Roblyer '03
59. D. Agatha Lee '03
60. Srinivas Peddi '02 (and Computer Science)
61. Aashish Majethia '02
62. Paul Roberts '02
63. Rakesh Lal '01 (and Computer Science)
64. Salil G. Patel '01
65. Guangli Hoh '01

Summer and Visiting Students (BME and undergraduate unless noted otherwise):

2019- Co-Director, Johns Hopkins Neuroscience Scholar Program (R25NS107167)

2016- STEMM-HEAR (STEMM for students with Hearing loss to Engage in Auditory Research)

1. Benjamin Luo (Computer Science, Pomona College, 2021)
2. Mary Caroline Yuk (Neuroscience, University of Alabama, 2020)
3. Sarinah Wahl (Neuroscience, University of Maryland, College Park, 2019 & 2020)
4. Sam Bidwell (Mathematics & Physics, Wesleyan University, 2018 & 2019)
5. Francis Manno (Universidad Nacional Autónoma de México, Mexico City and City University of Hong Kong, 2018)
6. Greg Alspaugh (Physics, Davidson College, 2018-)
7. Rachit Kumar (Georgia Tech, 2018)
8. Pierce Perkins (Chemistry, Morgan State University, 2018)
9. Edward Robinson (Biological Sciences, Tufts University, 2018)
10. Bryn Dhir (International American University College of Medicine, 2018-2020)
11. Mackenzie Quirk (Engineering, Griffiths University, Australia, Jan-May 2016)
12. Evan Mercer (Neuroscience, Vanderbilt, 2016)
13. Muwei Li (PhD Student, Sichuan University, 2010-2012)
14. Melissa Plummer (Syracuse University, 2013)
15. Elizabeth Postell (Neuroscience, University of Delaware, 2010 & 2011)
16. Jonathan Virga (Mathematics & Computer Science, University of Maryland, College Park, 2010 & 2011)
17. Geoffrey Gunter (Washington University at St Louis, 2010 & 2011)
18. Rossitza Irobaleva (Bioinformatics, University of Maryland, Baltimore County, 2006)
19. Ali Hasan (University of Kansas School of Medicine, 2004)
20. Matthew Browne (UCSD, 2001 & 2002)
21. Robert Nutt (Dartmouth School of Medicine, 2001)
22. Stephanie Creech (Computer Science, Goucher, 2001)

High School Students

1. Lydia Wang, Montgomery Blair HS, Summer 2017.

2. A few Center for Talented Youth (CTY) summer interns

Post-baccalaureate Students

1. Milan Dower (2020-2021) – advisory committee
2. Jessica Campanile (2020-2021) – advisory committee

Thesis Committee Service (BME unless noted otherwise)

1. Sue Kulason
2. Brian Lee
3. Michael Ketcha
4. Kai Yuen Lim
5. Daniel Tward
6. Nayoung Lee
7. Kwame Kutten
8. Felipe Arrate (Applied Mathematics & Statistics)
9. Sirong Zhang (Mathematics)
10. Marc Valliant
11. Algerim Djamanakova
12. XH Chen (UNSW School of Medicine)
13. Aastha Jain (Applied Mathematics & Statistics)
14. Yichen Chen (Applied Mathematics & Statistics, GBO)
15. Elvan Ceyhan (Applied Mathematics & Statistics, GBO)

RESEARCH

EXTERNAL RESEARCH SUPPORT: (not updated)

9/17/19 – 8/31/22 NIH Mouselight RF1MH121539
(PI Mueller)

Accessible technologies for high-throughput, whole-brain reconstructions

Funding to lab, entire period: \$71,015 total; \$43,368 direct
Funding to lab, current year \$23,671 total \$14,456 direct

9/1/19 – 3/31/24 NIH BIOCARD U19AG033655
(PI Albert)

Biomarkers of Cognitive Decline Among Normal Individuals: The BIOCARD Cohort

Funding to lab, entire period: \$113,805 total; \$69,500 direct
Funding to lab, current year \$22,761 total \$13,900 direct

6/15/18 – 4/30/22 NIH HD R01NS1026
(PI Miller)

Tracing Spread of Pathology Within The HD Brain via Automated Neuroimaging

Funding to lab, entire period: \$215,986 total; \$131,900 direct
Funding to lab, current year \$53,996 total \$32,975 direct

9/21/17 – 5/31/22 NIH CSHL U19 5U19MH114821
(PI Huang)

A High Resolution Cell Type Atlas of the Mouse Forebrain

Funding to lab, entire period: \$82,407 total; \$50,325 direct
Funding to lab, current year \$16,481 total \$10,065 direct

7/01/17 – 6/30/21 NIDCD CRCNS R01DC016784
(PI Ratnanather)

CRCNS US-German Res Prop: functional computational anatomy of the auditory corte

Funding to lab, entire period: \$725,316 total; \$443,393 direct
Funding to lab, current year \$93,498 total \$146,663 direct

9/30/16 – 7/30/21 NIBIB Neuro R01 EB020062
(PI Miller)

Neurodegenerative and Neurodevelopmental Subcortical Shape Diffeomorphometry

Funding to lab, entire period: \$142,089 total; \$86,772 direct
Funding to lab, current year \$35,522 total \$21,693 direct

9/01/16 – 6/30/21 NIH TRD4 P41EB015909
(PI VanZijl)

The Resource of Quantitative Functional MRI—TRD4

Funding to lab, entire period: \$118,358 total; \$72,280 direct
Funding to lab, current year \$23,671 total \$14,456 direct

9/25/14 – 5/31/21 NIH DISC-1 R01MH105660
(PI Ishizuka)

DISC1-dependent defects in neural fate, corticogenesis and cognition in psychosis

Funding to lab, entire period: \$163,903 total; \$101,175 direct
Funding to lab, current year \$32,780 total \$20,235 direct

EXTERNAL RESEARCH SUPPORT: Completed

9/15/15 – 5/31/2019 NIA PhaseII/PhaseIII 5R01AG048349-04
(PI Gallagher)

PHASE II/III TRIAL FOR SLOWING PROGRESSION IN MILD COGNITIVE IMPAIRMENT

Funding to lab, entire period: \$90,413 total; \$55,811 direct
Funding to lab, current year \$22,602 total \$13,952 direct

8/01/16 – 7/31/2020 NIH Hippocampal Atrophy 5R03DC015583-04
(PI Agrawal)

Does Vestibular Loss Predict Hippocampal Atrophy in Aging Adults

Funding to lab, entire period: \$90,413 total; \$55,811 direct
Funding to lab, current year \$22,602 total \$13,952 direct

7/01/09 – 6/30/2014 NIBIB MRL Localization 2R01EB000975-05A2
(PI Miller)

Validation of Structural/Functional MRL Localization

Funding to lab, entire period: \$226,292 total; \$139,686 direct
 Funding to lab, current year \$56,753 total \$34,921 direct

5/01/09 – 8/28/2013 NIBIB Computational Anatomy R01EB008171
 (PI Miller)

NCBC: 3D Shape Analysis for Computational Anatomy

Funding to lab, entire period: \$72,331 total; \$44,648 direct
 Funding to lab, current year \$18,082 total \$11,162 direct

4/01/09 – 1/31/2013 NIH Model of Human Heart Imaging Research 5R01HL091036-03
 (PI Segars)

Multi-scale Model of the Human Heart for Imaging Research

Funding to lab, entire period: \$55,798 total; \$34,443 direct
 Funding to lab, current year \$13,950 total \$8,610 direct

9/22/05 – 8/31/2009 NIH Simulation Tools for Dynamic CT 5R01EB001838-04
 (PI Segars)

Simulation Tools for Dynamic CT

Funding to lab, entire period: \$103,330 total; \$63,783 direct
 Funding to lab, current year \$25,832 total \$15,946 direct

3/07/11 – 11/30/2015 NHLBI CVRG 5R24HL085343-09
 (PI Winslow)

Cardiovascular Research Grid (CVRG)

Funding to lab, entire period: \$86,073 total; \$53,132 direct
 Funding to lab, current year \$21,518 total \$13,283 direct

5/01/10 – 02/28/2015 NIH **Neuroimaging in Early Onset Depression** 1R01MH090786-01
 (PI Luby)

Neuroimaging in Early Onset Depression: Longitudinal Assessment of Brain Changes

Funding to lab, entire period: \$58,123 total; \$35,878 direct
 Funding to lab, current year \$11,624 total \$7,175 direct

9/26/12 – 07/31/2014 NIH **Huntington's Disease** 1U01NS082085
 (PI Miller)

Basal Ganglia Shape Analysis and Circuitry in Huntington's Disease

Funding to lab, entire period: \$43,036 total; \$26,566 direct
 Funding to lab, current year \$21,518 total \$13,283 direct

SERVICE

UNIVERSITY SERVICE –

Homewood Council on Inclusive Excellence (2020-)

Search Committee: Chief Diversity Officer (2019-2020)

Co-Director, Johns Hopkins Neuroscience Scholars Program (www.jhnsp.org: funded by R25 NS107167, PI – Amanda Brown, Ph.D, Department of Neurology, Johns Hopkins University School of Medicine)

WSE Diversity Committee (2005-2007)

WSE Faculty Academic Advisory Committee (2021-)

Diversity, Inclusion, Culture and Equity Committee – Dept of Biomedical Engineering (2020-)

Homewood Academic Council Research Faculty AdHoc SubCommittee (2022-)

PROFESSIONAL SERVICE –

Tenure and Promotion Reviews for School of Medicine faculty at five institutions

ad hoc reviewer for Center for Scientific Research (NIH), Department of Energy, National Science Foundation (CRCNS, PAESMEM)

Association for Research in Otolaryngology (ARO) Subcommittees – Diversity (2005-2011), External Relations (2020-2023)

Organization for Human Brain Mapping (OHBM) Diversity and Inclusion Committee (2019-)

Organization for Human Brain Mapping (OHBM) Technology Task Force (2020-2021)

External Advisory Committee, Research in Human Communication and its disorders (T32 Postdoctoral Training Program), Boys Town National Research Hospital (2020-).

OTHER SCHOLARLY AND TECHNICAL OUTPUT

Other Roles in Companies

- 1996- Chairperson, College Financial Aid Committee, Alexander Graham Bell Association for the Deaf and Hard of Hearing
- 2002- Organizing Committee, Research Symposium, Alexander Graham Bell Association for the Deaf and Hard of Hearing