NAME and CONTACT

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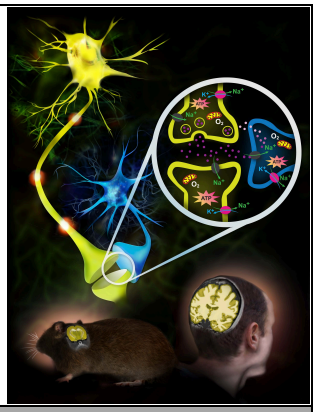
TITLE(s)

- Professor, Radiology & Biomedical Imaging
- Professor, Biomedical Engineering
- Director, Quantitative Neuroimaging with Magnetic Resonance (QNMR) Research Core

RESEARCH/TEACHING OBJECTIVE(s)

- Imaging early metabolic biomarkers of brain disorders, from degeneration to oncology
- Translational neuroimaging of physiology and chemistry with advanced MRI/MRS methods
- Quantitative neuroimaging with magnetic resonance, from basic sciences to clinical paradigms



A. EDUCATION and TRAINING

INSTITUTION and LOCATION	DEGREE	YEAR	SCIENTIFIC DISCIPLINE (and MENTOR)
Wabash College, Crawfordsville, IN, USA	BA	1990	Physical Chemistry (Robert J. Olson)
Yale University, New Haven, CT, USA	PhD	1995	Biophysical Chemistry (Robert G. Shulman)
Yale University, New Haven, CT, USA	PDA	1997	Biomedical Imaging (Douglas L. Rothman)

B. PROFESSIONAL POSITIONS and SERVICE

POSITION and EMPLOYMENT

2019-*present* Director, Quantitative Neuroimaging with Magnetic Resonance (QNMR) Research Core, Yale University
2015-*present* Fellow, Timothy Dwight College, Yale College
2015-*present* Professor (tenure), Radiology & Biomedical Imaging, Biomedical Engineering, Yale University
2010-2015 Professor (tenure), Diagnostic Radiology, Biomedical Engineering, Yale University
2007-2018 Director, Quantitative Neuroscience with Magnetic Resonance (QNMR) Core Center, Yale University
2006-2010 Associate Professor (tenure), Diagnostic Radiology, Biomedical Engineering, Yale University
2004-*present* Technical Director, Magnetic Resonance Research Center (MRRC) Preclinical Scanners, Yale University
2003-2006 Associate Professor, Diagnostic Radiology, Biomedical Engineering, Yale University
1999-2003 Assistant Professor, Diagnostic Radiology, Biomedical Engineering, Yale University
1997-1999 Associate Research Scientist, Diagnostic Radiology, Yale University
1995-1997 Post-Doctoral Associate (with Douglas L. Rothman), Internal Medicine, Yale University
1992-1995 Graduate Student & Research Assistant (with Robert G. Shulman; Thesis: "*Assessment of Regional Hemodynamics and Metabolism in Rat Brain by In Vivo Nuclear Magnetic Resonance*"), Chemistry, Yale University
1990-1991 Graduate Student & Teaching Assistant, Chemistry, Yale University
1989 Research Fellow (with Tuan Vo-Dinh), Health and Safety Division, Oak Ridge National Laboratory
1989 Research Fellow (with Robert G. Bryant), Biophysics, University of Rochester
1987-1988 Research Assistant (with Robert J. Olsen and Michael M. Fuson), Chemistry, Wabash College

EDITORIAL BOARDS

2012-*present* Editorial Board, NeuroImage
2012-*present* Review Editor, Frontiers in Brain Imaging Methods
2009-*present* Editorial Board, Brain Connectivity
2009-*present* Editorial Board, International Journal of Molecular Imaging
2008-*present* Associate Editor, Frontiers in Neuroenergetics, Nutrition and Brain Health
2007-*present* Editorial Board, Journal of Cerebral Blood Flow and Metabolism

EXECUTIVE BOARDS

2018-*present*	External Advisory Board, Preclinical MRI Center, Stony Brook University, Stony Brook, NY
2017-2019	Member, Board of Directors, International Society for Cerebral Blood Flow and Metabolism
2017-*present*	College of Reviewers, Canadian Institutes of Health Research, Canada
2017-2019	Member, Board of Directors, International Society for Cerebral Blood Flow and Metabolism
2009-*present*	Member, Comprehensive Cancer Center, School of Medicine, Yale University, New Haven, CT
2009-*present*	Member, Nutrition Obesity Research Center, School of Medicine, Yale University, New Haven, CT
2006-*present*	Member, Board of Permanent Officers, School of Medicine, Yale University, New Haven, CT
2005-2009	Member, Board of Directors, International Society for Cerebral Blood Flow and Metabolism

ADVISORY PANELS (domestic)

2019	Shared Instrumentation Grant Program S10 (PAR-19-179), NIH
2019	Ruth L. Kirschstein Awards F30, F31, and F32 (PA-11-110, PA-11-111, PA-11-113), NIH
2018	NIH research review project - The Anonymization Study, CSR
2018	NIBIB Biomedical Technology Resource Center P41 Grants ZEB1 OSR-F (01) (PAR-17-083), NIBIB
2017	Mentored Career Development Awards K08, K23, K25, K99/R00, NIDCD
2016	Clinical Neuroplasticity and Neurotransmitters (CNNT), NIH
2016	Mentored Career Development Awards K08, K23, K25, K99/R00, NIBIB
2016	Clinical and Translational Imaging Applications (ZRG1 DTCS-A, 81), NIH
2016	Early Phase Clinical Trials in Imaging and Imaging-guided Interventions (PAR-14-066), NIH
2016	Mentored Career Development Awards K08, K23, K25, K99/R00, NIDCD
2016	Cancer Center Support Grants (P30) for NCI-designated Cancer Centers (PAR-13-386), NIH
2016	Imaging and Biomarkers for Early Cancer Detection (R01) Applications in (ZRG1 DTCS-A), NIH
2015	Pre-application for a Biomedical Technology Research Resource, X02 (PAR-14-023), NIH
2015	Provocative Questions Initiative (RFA-CA-15-008, R01 and RFA-CA-15-009, R21), NCI
2015	Early Clinical Trials for Imaging and Image-guided Interventions (PAR-14-166), NIH
2015	UT BRAIN Seed Grant Review Committee, University of Texas System Neuroscience
2014	Special Emphasis Panel, Medical Imaging Investigations ZRG1 SBIB-Z (03), NIH
2014	Centers of Biomedical Research Excellence (COBRE) Grant P20 (PAR-14-035), NIGMS
2014	Transformative Research Awards (RFA-RM-13-008), NIH
2014	Clinical and Molecular Imaging Probe Development (CMIP) study section, NIH
2013	Shared Instrumentation Grant Program S10 (PAR-13-008), NIH
2012-2015	Ruth L. Kirschstein Awards F30, F31, and F32 (PA-11-110, PA-11-111, PA-11-113), NIH
2012	Academic-Industrial Partnerships for Translation of in vivo Imaging Systems PAR-10-169, NCI
2012	Provocative Questions Initiative (RFA CA 11-011, R01 and RFA CA 11-012, R21), NCI
2011	Centers of Biomedical Research Excellence (COBRE) Grant P20 (PAR-09-079), NCRR
2011	NCI Drug Discovery and Imaging P01 Special Emphasis Panel (PAR-09-025), NCI
2010	NIDCD Clinical Research Center P50 Grants (PAR-10-047), NIDCD
2010	International Research Grant Program, Alzheimer's Association
2010	Alzheimer's Association, International Research Grant Program
2009	NCI Program Project P01 Applications (PAR-09-025), NCI
2009	RC2 Grand Opportunity Applications (RFA-OD-09-004), NIDCR
2009	DRTC Pilot and Feasibility Program, Vanderbilt Diabetes Center, Vanderbilt University

2009	American Institute of Biological Sciences
2008-2010	Bioengineering Research Partnerships (PAR-07-352), NIBIB
2008	Maryland Technology Development Corporation, University Technology Development Fund
2007	Pathway to Independence Award K99/R00 (PA-06-133), NINDS
2007	Research Service Award Institutional Research Training T32 Grants (PA-02-109), NINDS
2007	Faculty Early Career Development (CAREER) Program, NSF
2006-2008	Beginning Grant-In-Aid, American Heart Association
2003-2005	Ruth L. Kirschstein Awards F30, F31, and F32 (PA-00-125), NIDCD
2003	Systems and Methods for Imaging (RFA-EB-03-002), NIBIB
1999-2000	Major Research Instrumentation Program, NSF

ADVISORY PANELS (international)

2018	ARC Centres of Excellence 2020, Australian Research Council
2018	Division of Research & Graduate Studies, United Arab Emirates University, Al-Ain, United Arab Emirates
2018	Research Grants Council, Hong Kong
2017	Medical Physics & Imaging, Canadian Institutes of Health Research, Canada
2017	Fondation pour la Recherche sur les Accidents Vasculaires Cérébraux (Stroke Research Foundation), France
2017	The Stroke Association, United Kingdom
2017	Canada Foundation for Innovation, Canada
2017	The Wellcome Trust India Alliance, Biomedical Research Careers Program for India, India
2016-2018	Commission for Technology and Innovation, Swiss National Science Foundation, Switzerland
2016-2017	Canadian Institutes of Health Research, Canada
2016-2017	Australian Research Council, Australia
2016	Deutsche Forschungsgemeinschaft, German Research Foundation, Germany
2016	Investigator Initiated Research, Canadian Institutes of Health Research, Canada
2016	VIDI grant from the Talent Scheme, Netherlands Organization for Scientific Research, The Netherlands
2016	Research Grant Awards, Human Frontier Science Program Organization, Strasbourg, France
2015	VICI grant from the Talent Scheme, Netherlands Organization for Scientific Research, The Netherlands
2015	Council for Earth and Life Sciences, Netherlands Organization for Scientific Research, The Netherlands
2015	Panum NMR Center, University of Copenhagen, Copenhagen, Denmark
2015	National Sciences and Engineering Research Council of Canada, Canada
2015	Consolidator Grants Panel, Swiss National Science Foundation, Switzerland
2014-2015	Israel Science Foundation, Israel
2014	Elections and Nominations, Royal Society of Canada, Canada
2014	Major Science Initiatives, Canada Foundation for Innovation, Canada
2014	Medical Research Council, United Kingdom
2014	Australian Research Council, Australia
2013	The Wellcome Trust, United Kingdom
2013	National Sciences and Engineering Research Council of Canada, Canada
2012-2013	Competitive Research Program, National Research Foundation, Singapore
2012	Pegasus Marie Curie Fellowship, Research Foundation Flanders, Belgium
2012	The French National Institute for Agricultural Research, France
2012	National Sciences and Engineering Research Council of Canada, Canada

2011-2012	Council for Earth and Life Sciences, Netherlands Organization for Scientific Research, The Netherlands
2011	The Wellcome Trust, United Kingdom
2011	The Wellcome Trust India Alliance, Biomedical Research Careers Program for India, India
2011	Biotechnology and Biological Sciences Research Council, United Kingdom
2010	European Research Council Executive Agency, Belgium
2009	The Wellcome Trust, United Kingdom
2009	Health Research Awards, United Kingdom
2008-2011	Medical Research Council, United Kingdom
2008	National Medical Research Council, Singapore
2008	Israel Science Foundation, Israel
2007	Danish Agency for Science and Technology Innovation, Denmark
2006	Medical Research Council, United Kingdom
2006	National Research Agency, France
2006	Canada Foundation for Innovation, Canada
2003	The Wellcome Trust, United Kingdom
2003	Council for Earth and Life Sciences, Netherlands Organization for Scientific Research, The Netherlands
2002	Israel-USA Binational Science Foundation, Israel

MEMBER OF PROFESSIONAL ASSOCIATIONS

Biomedical Engineering Society (BMES)
European Society of Magnetic Resonance in Medicine and Biology (ESMRMB)
International Conference on Brain Energy Metabolism (ICBEM)
International Society for Cerebral Blood Flow and Metabolism (ISCBFM)
International Society of Magnetic Resonance in Medicine (ISMRM)
International Society for Neurochemistry (ISN)
International Society on Oxygen Transport to Tissue (ISOTT)
The Organization for Human Brain Mapping (OHBM)
Society for Neuroscience (SfN)

COMMITTEES (intramural)

2019-*present*	Advisor to Biomedical Engineering Majors, Class of 2022, Yale College
2018-*present*	Advisory Committee, The Chemical Biology Institute at West Campus, Yale University
2016-*present*	Thesis Committee for Biomedical Engineering at School of Medicine, Yale University
2016-*present*	Promotion and Tenure Committee for Biomedical Engineering, Yale University
2016-2018	Malone Professor Search Committee, Biomedical Engineering, Yale University
2016-2018	Advisory Committee for Diversity and Faculty Development, Yale University
2016-2018	Advisor to Biomedical Engineering Majors, Class of 2018, Yale College
2014	Faculty Leave Committee, Biomedical Engineering, Yale University
2013-2018	Scholar Award Committee, Center for Clinical Investigation, Yale University
2012	Faculty Mentoring Committee, Biomedical Engineering, Yale University
2011	Career Oversight Committee, Center for Clinical Investigation, Yale University
2007-2011	Scholar Award Committee, Center for Clinical Investigation, Yale University
2006-	Board of Permanent Officers, School of Medicine, Yale University

2004-2005	Graduate Student Admissions Committee, Biomedical Engineering, Yale University
2004-2008	Clinical Research Committee, Diagnostic Radiology, Yale University

COMMITTEES (extramural)

2019	Organizing Committee, ICBEM (Sea Pines Resort, Hilton Head, SC, USA)
2017-2019	Program Committee, ISCBFM (Yokohama, Japan)
2017	Chair, Symposium "In Vivo Veritas: A tribute to Louis Sokoloff", ISCBFM (Berlin, Germany)
2015-2017	Program Committee, ISCBFM (Berlin, Germany)
2015	Chair, Symposium "Energetic basis of resting function in the human brain", ISCBFM (Vancouver, Canada)
2011	Chair, Symposium "Alternate brain energy substrates in relation to what, where, and when of functional energetics", ISN (Athens, Greece)
2011-2012	Chair, Molecular and Cellular Imaging Study Group, ISMRM (Montreal, Canada)
2011-2013	Workshop and Study Group Committee, ISMRM
2009-2011	Program Committee, ISN
2007-2009	Chair, Educational Committee, ISCBFM (Chicago, Illinois)
2007	Chair, Symposium "Cerebral Perfusion and Brain Function", ISMRM (Salvador, Bahia, Brazil)
2007	Chair, Symposium "Neurophysiologic Investigations of Baseline Activity: Implications for Functional Imaging", ISCBFM (Osaka, Japan)
2007	Chair, Educational Program on "Functional Brain Imaging", ISCBFM (Osaka, Japan)
2006-2008	Workshop and Study Group Committee, ISMRM
2005-2006	Chair, Brain Function Study Group, ISMRM
2005-2009	Executive Committee, ISOTT
2005-2009	Board of Directors, ISCBFM
2005-2007	Education Committee, ISCBFM
2005	Chair, Symposium "Emerging Magnetic Resonance Techniques for Neuroscience", OHBM (Toronto, Canada)
2005	Chair, Symposium "Heterogeneity in Cerebral Metabolism and Blood Flow", ISCBFM (Amsterdam, The Netherlands)
2004-2005	Metabolism-Blood Flow Faculty Search Committee, The John B. Pierce Laboratory
2003-2007	Program Committee, ISCBFM
2003-	Chair, Bioimaging Sciences Seminar Series, Division of Bioimaging Sciences, Yale University

REVIEWER (Scientific Journals)

Academic Radiology
ACS Chemical Neuroscience
Advances in Experimental Medicine and Biology
Age
American Journal of Physiology
Annals of Biomedical Engineering
Annals of Neurology
Applied Physics Reviews
Archives Italiennes de Biologie
Arthritis & Rheumatology
Biological Psychiatry
Biophysical Journal
BMC Neuroscience
Brain
Brain & Cognition
Brain Research
Brain Topography
Cerebral Cortex
Circulation Research
Cortex
Current Biology
Drug Design, Development & Therapy

eLife
Epilepsia
European Journal of Neuroscience
Experimental Brain Research
Eye & Brain
FASEB J
Frontiers in Aging Neuroscience
Frontiers in Brain Imaging Methods
Frontiers in Cellular Neuroscience
Frontiers in Consciousness Research
Frontiers in Neural Circuits
Frontiers in Nutrition
Frontiers in Neurology
Frontiers in Neuroscience
Frontiers in Perception Science
Frontiers in Systems Neuroscience
Human Brain Mapping
IEEE Transactions on Circuits and Systems I
Inorganic Chemistry
Journal of Applied Physiology
Journal of Comparative Neurology
Journal of Computational Neuroscience
Journal of Cerebral Blood Flow and Metabolism
Journal of Magnetic Resonance
Journal of Magnetic Resonance Imaging
Journal of Neurochemistry
Journal of Neurophysiology
Journal of Neuroscience
Journal of Neuroscience Methods
Journal of Neuroscience Research
Journal of Physiology
Journal of Theoretical Biology
Magnetic Resonance in Chemistry
Magnetic Resonance Imaging
Magnetic Resonance in Medicine
Magnetic Resonance Materials in Physics, Biology & Medicine
Medical Engineering & Physics
Medical Physics
Medicinal Research Reviews
Nanomedicine
Nature
Nature Medicine
Nature Neuroscience
Naturwissenschaften
Neurobiology of Aging
Neurochemical Research
Neurochemistry International
NeuroImage
NeuroReport
Neuroscience
Neuroscience & Biobehavioral Reviews
Neuroscience Journal
Neuroscience Letters
NMR in Biomedicine
Phil Trans B Royal Society
PLoS Biology
PLoS Computational Biology
PLoS One
Proceedings of ISOTT
Proceedings of the National Academy of Sciences USA
Progress in Neurobiology
Psychiatry Research: Neuroimaging
Psychometrika
Psychopharmacology
Science
Science Translational Medicine
Scientific Reports
Sensor
Theranostics

REVIEWER (Scientific Societies)
ISCBFM
ISMRM
ISN
ISOTT
OHBM

C. HONORS and AWARDS

2019 Fellow, American Institute for Medical & Biological Engineering
2017-*present* R01 Grant (AG-054459), National Institute of Aging
2017-*present* R01 Grant (EB-023366), National Institute of Biomedical Imaging & Bioengineering
2017-2019 R21 Grant (MH-110862), National Institute of Mental Health
2017-2019 Board of Directors, ISCBFM
2016-*present* R01 Grant (NS-100106), National Institute of Neurological Disorders & Stroke
2016-*present* R01 Grant (MH-111424), National Institute of Mental Health
2016 Distinguished Investigator, Academy of Radiology & Biomedical Imaging Research
2016 Cover (paper #148, Section D), J Cereb Blood Flow Metab. Volume 36, Issue 5
2015-2017 Chair, Program Committee, ISCBFM
2015 Affiliated Professor in Neuroenergetics, University of Copenhagen, Denmark
2014 Lundbeck Foundation Visiting Professorship, University of Copenhagen, Denmark
2013 Pilot Award, Yale-UCL Medical Technologies Collaborative: Imaging & Sensing
2013 From the Cover with Commentary (paper #119, Section D), Proc Natl Acad Sci USA. Volume 110, Issue 9
2013 From the Cover with Commentary (paper #114, Section D), J Clin Invest. Volume 123, Issue 5
2013-*present* Eligible for Continuous Submission, NIH
2012 Pilot Award, Translational-Targeted Area of Research Excellence, Yale Cancer Center
2012 From the Cover with Commentary (paper #105, Section D), NeuroImage. Volume 62, Issue 2
2011 Distinguished Reviewer, Magnetic Resonance in Medicine
2011-2017 R01 Grant (DC-011286), National Institute on Deafness & Other Communication Disorders
2010-2017 R01 Grant (CA-140102), National Cancer Institute
2010-2015 R01 Grant (EB-011968), National Institute of Biomedical Imaging & Bioengineering
2009 Cum Laude Epos Award, European Society for Magnetic Resonance in Medicine and Biology
2009-2010 NSF STTR Phase II Grant (0923928), Division of Industrial Innovation and Partnerships, National Science Foundation
2008 Pilot Award, Juvenile Diabetes Research Foundation
2008 Editor, Dynamic Brain Imaging: Multi-Modal Methods and In Vivo Applications (Springer)
2007-2018 P30 Grant (NS-052519), National Institute of Neurological Disorders & Stroke
2005-2009 Board of Directors, ISCBFM
2004 Cover (paper #62, Section D), Stroke. Volume 35, Issue 11, Supplement 1
2004 From the Cover with Commentary (paper #55, Section D), Trends Neurosci. Volume 27, Issue 8
2003 Niels Lassen Award, International Society for Cerebral Blood Flow and Metabolism
2002 From the Cover with Commentary (papers #42-3, Section D), Proc Natl Acad Sci USA. Volume 99, Issue 16
2002-*present* R01 Grant (MH-067528), National Institute of Mental Health
2002-2008 R01 Grant (DC-003710), National Institute on Deafness & Other Communication Disorders
2001-2004 NSF Grant (DBI-0095173), Division of Biological Infrastructure, National Science Foundation
2001 21st Century Science Initiative Award: Bridging Brain, Mind & Behavior, James S. McDonnell Foundation
2001 Melvin H. Knisely Award, International Society on Oxygen Transport to Tissue
2001 Editor, Neuroenergetics: Relevance for Functional Brain Imaging (Human Frontier Science Program)
1998-2003 DBI / CAREER Award (BIO-9730892), Division of Biological Infrastructure, National Science Foundation
1998-2003 R29 / FIRST Award (NS-037203), National Institutes of Health

1995 Young Scientist Award, International Society for Cerebral Blood Flow and Metabolism
1994 E.K. Zavoisky Stipend, International Society of Magnetic Resonance in Medicine
1990 Brown-Wetherill Scholar (declined), Purdue University
1990 Sherman Clarke Fellow (declined), University of Rochester
1990 Cum Laude, Wabash College
1990 Outstanding Senior in Chemistry, The American Institute of Chemists Foundation
1990 Outstanding Senior in Chemistry, Phi Lambda Upsilon
1990 Promotion of Research in Science, Sigma Xi
1989 Oak Ridge Science Semester Fellow (at Oak Ridge National Laboratory, TN), Great Lakes Colleges Association
1989 PEW Undergraduate Science Fellow (at University of Rochester, NY), James S. McDonnell Foundation
1988 Lloyd and Howell Award in Chemistry, Wabash College
1987-1990 President's Scholarship, Wabash College
1986-1990 Dean's List, Wabash College

D. PEER-REVIEWED PUBLICATIONS (^corresponding author; §undergraduate or ⌘graduate trainee; *journal cover and/or commentary)

193. Lin AL, Parikh I, White RS, Hartz AM, Taylor CE, McCulloch SD, Thalami SW, Xia M, McCarty K, Ubele M, Head E, Yanckello LM, Hyder F, Sanganahall BG (2019) APOE genotype-dependent pharmacogenetic responses to Rapamycin for preventing Alzheimer's disease. Neurobiol Disease. (under review)

192. Savic LJ, Doemel L, Schobert I, Montgomery RR, Joshi N, ⌘Walsh JJ, Duncan JS, Leng L, Bucala RJ, Goldberg SN, **Hyder F**, Coman D, Chapiro J (2019) Novel molecular imaging tools for probing immunometabolic crosstalk in liver cancer. Radiology. (under review)

191. Borde T, van Breugel JMM, Laage-Gaupp F, Savic LJ, Lin MD, Geschwind JF, Adam L, Miszczuk M, Huber S, Duncan JS, Peters DC, Sinusas A, Schlachter T, **Hyder F**, Coman D, Chapiro J (2019) Transarterial chemoembolization with Idarubicin-eluting Oncozene microspheres in a rabbit tumor model for liver cancer: Safety, efficacy and role of tumor microenvironment. J Vasc Interv Radiol. (under review)

190. Thompson GJ, Herman P, Rothman DL, Gjedde A, **Hyder F** (2019) The structural basis of regional metabolic difference in oxidative and glucose metabolism. NeuroImage. (under review)

189. Sanganahalli BG, Baker KL, Thompson GJ, Herman P, Shepherd GM, Verhagen JV, **Hyder F** (2019) Orthonasal versus retronasal glomerular activity in rat olfactory bulb by fMRI. NeuroImage. (under review)

188. Debnath N, Das H, Liba SI, Sikder SS, Maritim S, Coman D, **Hyder F**, Hoque SM (2019) Synthesis and characterization of surfactant-coated superparamagnetic $MgFe_2O_4$ nanoparticles for potential use as MRI contrast agents. Mater Sci Eng B. (under review)

187. Hoque SM, Nayeem A, Nahar A, Islam R, Coman D, **Hyder F** (2019) Performance evaluation of folate-chitosan coated $CoFe_2O_4$ for biomedical applications. Macromolecules. (under review)

186. Spinelli M, Boucard C, Ornaghi S, Schoeberlein A, Keller I, Coman D, **Hyder F**, Zhang L, Haesler V, Bordey A, Barnea ER, Paidas M, Surbek D, Mueller M (2019) PreImplantation Factor dictates oligodendrocyte fate by lncRNA H19 induced de-methylation of NCOR2. J Clin Invest. (under review)

185. Lake EMR, Ge X, Shen X, Herman P, **Hyder F**, Cardin JA, Higley MJ, Scheinost D, Papademetris X, Crair MC, Constable RT (2019) Simultaneous mesoscopic Ca^{2+} imaging and fMRI: Neuroimaging spanning spatiotemporal scales. Nat Methods. (under review)

184. Savic LJ, Schobert I, Peters D, ⌘Walsh JJ, Laage-Gaupp F, Hamm CA, Tritz N, Doemel L, Lin MD, Sinusas A, Schlachter T, Duncan JS, **Hyder F**, Coman D, Chapiro J (2019) Molecular imaging of extracellular tumor pH to reveal and monitor effects of loco-regional therapy on liver cancer microenvironment. Clin Cancer Res. (in press)

183. Coman D, Peters DC, ⌘Walsh JJ, Savic LJ, Huber S, Sinusas AJ, Lin MD, Chapiro J, Constable RT, Rothman DL, Duncan JS, **Hyder F** (2019) Extracellular pH mapping of liver cancer on a clinical 3T MRI scanner. Magn Reson Med. (in press)

182. Thakur A, Rose F, Ansari SR, Koch P, Martini V, Ovesen SL, Quistorff B, Maritim S, **Hyder F**, Andersen P, Christensen D, Mori Y, Foged C (2019) Design of Gadoteridol-loaded cationic liposomal adjuvant CAF01 for MRI of lung deposition of intrapulmonary administered particles. Mol Pharm. 16:4725-4737

181. Hanna J, Temares D, **Hyder F**, Rothman DL, Fulbright RK, Chiang V, Coman D (2019) Prognosticating brain tumor patient survival after laser thermotherapy: Comparison between neuroradiological reading and semi-quantitative analysis of MRI data. Magn Reson Imag. (in press)

180. Parent M, Chitturi J, Santhakumar V, **Hyder F**, Sanganahalli BG, Kannurpatti SS (2019) Kaempferol treatment after TBI during early development mitigates brain parenchymal microstructure and neural functional connectivity deterioration at adolescence. J Neurotrauma. (in press)

179. Cakir B, Xiang Y, Kural MH, Parent M, Chapeton K, He CS, Raredon MSB, Dengelegi J, Patterson B, Kang YJ, Tanaka Y, Kim KY, Sun P, Lee SH, Patra P, **Hyder F**, Niklason LE, Lee SH, Yoon YS, Yuan Y, Zhong M, Park IH (2019) Development of human brain organoids with functional vascular-like system. Nat Methods. 16:1169-1175

178. ⌘Walsh JJ, Huang Y, Simmons JW, Goodrich JA, McHugh B, Rothman DL, Elefteriades JA, **Hyder F**, Coman D (2019) Dynamic thermal mapping of therapeutic hypothermia in the brain. J Neurotrauma. (in press)

177. Rothman DL, de Graaf RA, **Hyder F**, Mason GF, Behar KL, De Feyter HM (2019) In vivo ^{13}C and ^{1}H-[^{13}C] MRS studies of neuroenergetics and neurotransmitter cycling, applications to neurological and psychiatric disease and brain cancer. NMR Biomed. (in press)

176. ⌘Kaczmarz S, Göttler J, Zimmer C, **Hyder F**, Preibisch C (2019) Characterizing white matter fiber orientation effects on multi-parametric quantitative BOLD assessment of oxygen extraction fraction. J Cereb Blood Flow Metab. (in press)

175. Göttler J, ⌘Kaczmarz S, Kallmayer M, Wustrow I, Eckstein HH, Zimmer C, Sorg C, Preibisch C, **Hyder F** (2019) Flow-metabolism uncoupling in patients with asymptomatic unilateral carotid artery stenosis assessed by multi-modal MRI. J Cereb Blood Flow Metab. 39:2132-2143

174. Zhou Y, Dhaher R, Parent M, Hu QX, Hassel B, Yee SP, **Hyder F**, Gruenbaum S, Eid T, Danbolt NC (2019) Selective deletion of glutamine synthetase in the mouse cerebral cortex induces glial dysfunction and vascular impairment that precede epilepsy and neurodegeneration. Neurochem Int. 123:22-33

173. Parent M, Li Y, Santhakumar V, **Hyder F**, Sanganahalli BG, Kannurpatti SS (2019) Alterations of parenchymal microstructure, neuronal connectivity and cerebrovascular resistance at adolescence following mild to moderate traumatic brain injury in early development. J Neurotrauma. 36:601-608

172. Koush Y, de Graaf RA, Jiang L, Rothman DL, **Hyder F** (2019) Functional MRS with J-edited lactate in human motor cortex at 4 Tesla. NeuroImage. 184:101-108

171. Benveniste H, Dienel G, Jacob Z, Lee H, Makaryus R, Gjedde A, **Hyder F**, Rothman DL (2018) Trajectories of brain lactate and re-visited oxygen-glucose index calculations do not support elevated non-oxidative metabolism of glucose across childhood. Front Neurosci. 12:631. PMCID: 6141825

170. Lee J, Yanckello LM, Ma D, Hoffman JD, Parikh I, Thalami S, Bauer B, Hartz AMS, **Hyder F**, Lin AL (2018) Neuroimaging biomarkers of mTOR inhibition on vascular and metabolic functions in aging brain and Alzheimer's disease. Front Aging Neurosci. 10:225. PMCID: 6094969

169. ⌘Mortensen KN, Gjedde A, Thompson GJ, Herman P, Parent MJ, Rothman DL, Kupers R, Ptito M, Stender J, Laureys S, Riedl V, Alkire MT, **^Hyder F** (2018) Impact of global mean normalization on regional glucose metabolism in the human brain. Neural Plasticity. 2018:6120925

168. Thompson GJ, Sanganahalli BG, Baker KL, Herman P, Shepherd GM, Verhagen JV, **Hyder F** (2018) Spontaneous activity forms a foundation for odor-evoked activation maps in the rat olfactory bulb. NeuroImage. 172:586-596. PMCID: 5910178

167. Johnson MB, Sun X, Kodani A, Borges-Monroy R, Ryu S, Girkis K, Wang PB, Patel K, Gonzalez D, Woo YM, Yan Z, Liang B, Coman D, Papademetris X, Staib L, **Hyder F**, Mandeville JB, Grant PE, Kwak H, Engelhardt JF, Walsh CA, Bae BI (2018) Aspm knockout ferret reveals an evolutionary mechanism governing cerebral cortical size. Nature. 556:370-375

166. Johnson F, Delpech JC, Wei L, Thompson GJT, Hao J, **Hyder F**, Kaffman A (2018) Amygdala hyper-connectivity in a mouse model of unpredictable early life stress. Transl Psychiat. 8:49. PMCID: 5820270

165. Chang CF, Goods BA, Askenase MH, Hammond MD, Renfroe SC, Steinschneider AF, Landreneau MJ, Ai Y, Beatty HE, da Costa LHA, Mack M, Sheth KN, Greer DM, Huttner A, Coman D, Hyder F, Ghosh S, Rothlin CV, Love JC, Sansing LH (2018) Erythrocyte efferocytosis modulates macrophages towards recovery after intracerebral hemorrhage. J Clin Invest. 128:607-624. PMCID: 5785262

164. Yu Y, Herman P, Rothman DL, §Agarwal D, **^Hyder F** (2018) Evaluating the gray and white matter energy budgets of human brain function. J Cereb Blood Flow Metab. 38:1339-1353. PMCID: 6092772

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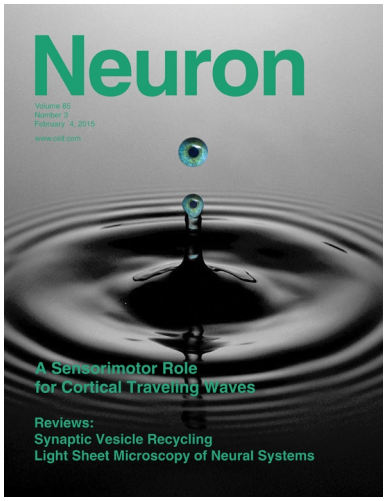

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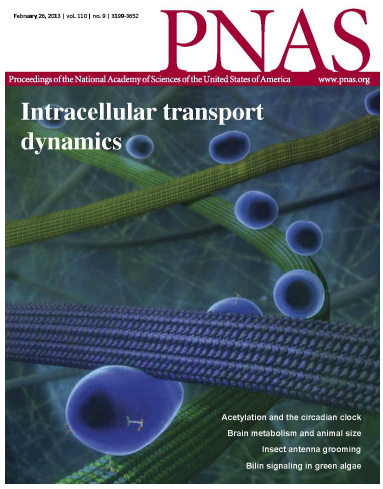

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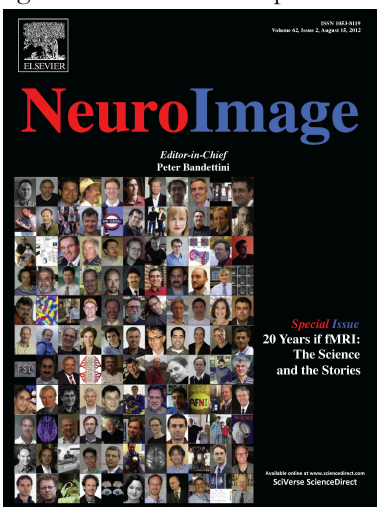

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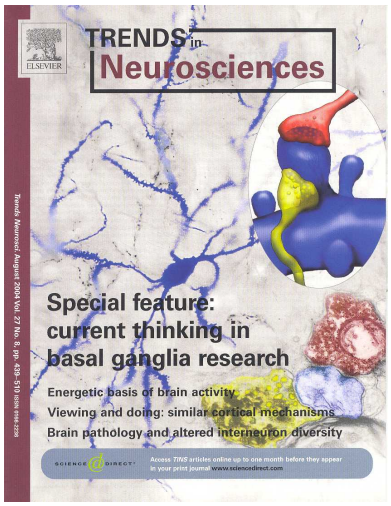
56. Trübel H, Herman P, Kampmann C, Novotny E, **^Hyder F** (2004) Duration of induced seizures during selective pharyngeal brain cooling. Biomed Tech (Berl). 49:279-281



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54. Trübel H, Herman P, Kampmann C, Novotny EJ, **^Hyder F** (2003) Selective brain cooling from the pharynx. Biomed Tech (Berl). 48:298-300

53. Shulman RG, **Hyder F**, Rothman DL (2003) Cerebral metabolism and consciousness. Comptes Rendus Biol. 326:253-273

52. Xu F, Liu N, Kida I, Rothman DL, **Hyder F**, Shepherd GM (2003) Odor maps of aldehydes and esters revealed by fMRI in the glomerular layer of the mouse olfactory bulb. Proc Natl Acad Sci USA. 100:11029-11034. PMCID: 196921

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46. Shulman RG, **Hyder F**, Rothman DL (2002) Biophysical basis of brain activity: Implications for neuroimaging. Q Rev Biophys. 35:287-325

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44. **^Hyder F**, Kida I, Smith AJ, Blumenfeld H, Shulman RG, Rothman DL (2002) Quantitative fMRI of rat brain by multi-modal MRI and MRS measurements. International Congress Series. 1235:57-71

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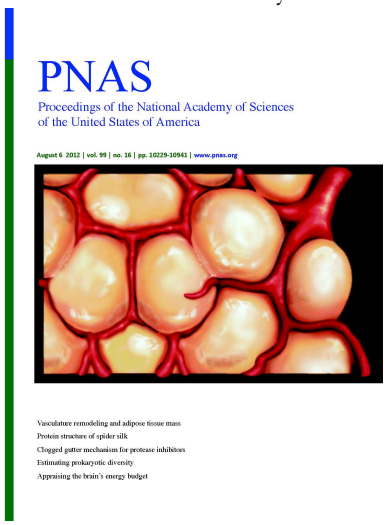

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29. **^Hyder F**, Shulman RG, Rothman DL (1999) Regulation of cerebral oxygen delivery. Adv Exp Med Biol. 471:99-109

28. **^Hyder F**, ⌘Renken R, Rothman DL (1999) In vivo carbon-edited detection with proton echo-planar spectroscopic imaging (ICED PEPSI): [3,4-$^{13}CH_2$]glutamate/glutamine tomography in rat brain. Magn Reson Med. 42:997-1003

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19. Petroff OAC, **Hyder F**, Collins T, Mattson RH, Rothman DL (1999) Acute effects of vigabatrin on brain GABA and homocarnosine in patients with complex partial seizures. Epilepsia. 40:958-964

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5. McCarthy G, Blamire AM, Puce A, Nobre AC, Bloch G, **Hyder F**, Goldman-Rakic P, Shulman RG (1994) Functional magnetic resonance imaging of human pre-frontal cortex during a spatial memory task. Proc Natl Acad Sci USA. 91:8690-8694. PMCID: 44672

4. Vo-Dinh T, Alarie JP, **Hyder F**, Sepaniak MJ (1993) Laser-based fiberoptic immunosensors for DNA-adduct measurements. Polycyc Arom Compds. 3:765-772

3. Blamire AM, Ogawa S, Ugurbil K, Rothman DL, McCarthy G, Ellermann JM, **Hyder F**, Rattner Z, Shulman RG (1992) Dynamic mapping of the human visual cortex by high-speed magnetic resonance imaging. Proc Natl Acad Sci USA. 89:11069-11073**.** PMCID: 50485

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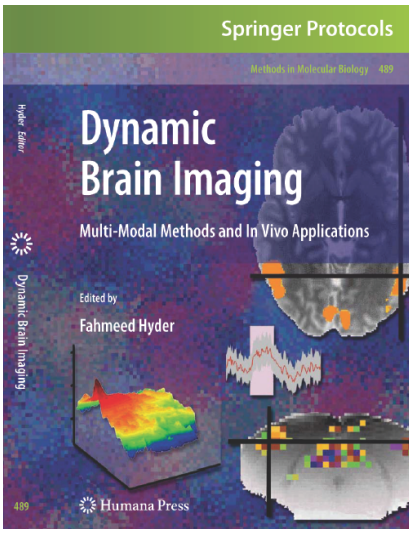
E. BOOKS and CHAPTERS



BOOKS

2. **Hyder F**, ed (2009) Dynamic Brain Imaging: Multi-Modal Methods and In Vivo Applications. Humana Press Inc (Totowa, New Jersey, USA) **Metrics by Bookmetrix: >200 Citations, >25,000 downloads**

1. Frackowiak RSJ, Magistretti PJ, Shulman RG, Altman JS, Adams M, Hadjikhani N, **Hyder F**, Pellerin L, Sibson NR, eds (2001) Neuroenergetics: Relevance for Functional Brain Imaging. Human Frontier Science Program (Strasbourg, France)

CHAPTERS

16. Gummadavelli A, Sanganahalli BG, Herman P, **Hyder F**, Blumenfeld H (2019) "EEG-fMRI in Animal Models" in EEG-fMRI: Physiology, Technique and Applications (Ed. C Mulert, L Lemieux) Ch. 6 (Springer-Verlag, NY) pp. 46-52

15. Shu CY, Sanganahalli BG, Coman D, Herman P, **Hyder F** (2016) "New Horizons in Neurometabolic and Neurovascular Coupling from Calibrated fMRI" in New Horizons in Neurovascular Coupling: A Bridge Between Brain Circulation and Neural Plasticity (Ed. K Masamoto, H Hirase, K Yamada) Ch. 5 (Elsevier, NY) pp. 99-122

14. Kim R, **Hyder F**, Blumenfeld H (2014) "Physiological basis of BOLD fMRI decreases" in Neurovascular Coupling Methods (Ed. M Zhao, H Ma, TH Schwartz), Ch. 11 (Springer Protocols, NY) pp. 221-236

13. **Hyder F**, Shu CY, Herman P, Sanganahalli BG, Coman D, Rothman DL (2013) "CMR_{O2} mapping by calibrated MRI" in Quantifying Morphology and Physiology of the Human Body With MRI (Ed. LT Muftuler) Ch. 3 (Taylor & Francis, NY) pp. 85-109

12. Herman P, Sanganahalli BG, Coman D, Blumenfeld H, **Hyder F** (2010) "Transient neural energetics by fMRI for short and long stimuli" in 11th Meeting of Hirosaki International Forum of Medical Science (Ed. Itoh K) Hirosaki Med J. 61 (Suppl), pp. S11-S22

11. Chowdhury GMI, Lai JCK, Leung SW, de Graaf RA, Mason GF, **Hyder F**, Rothman DL, Behar KL (2009) "Nanotoxicity studies of the CNS: Potential application of magnetic resonance spectroscopy methods" in 12th World Multi-Conference on Systemics, Cybernetics and Informatics (Eds. Callaos N, Lesso W, Zinn CD, Baralt J, Eshraghian K, Severi S) Vol II, pp. 1-5

10. Sanganahalli BG, Bailey CJ, Herman P, **Hyder F** (2009) "Tactile and non-tactile sensory paradigms for fMRI and neurophysiologic studies in rodents" in Dynamic Brain Imaging: Multi-Modal Methods and In Vivo Applications (Ed. **Hyder F**) Ch. 10 (Humana: Totowa, NJ) pp. 213-242

9. **Hyder F** (2009) "Dynamic imaging of brain function" in Dynamic Brain Imaging: Multi-Modal Methods and In Vivo Applications (Ed. **Hyder F**) Ch. 1 (Humana: Totowa, NJ) pp. 3-21

8. Xu F, Schafer J, Liu N, Rothman DL, **Hyder F**, Shepherd GM (2008) "Coding of peripheral olfactory information in the olfactory bulb of small animals" in Advances in Cognitive Neurodynamics (Eds. Wang R, Gu F, Shen E) pp. 279-283

7. Shulman RG, **Hyder F** (2004) "NMR studies of cerebral metabolism, neuronal activity, and consciousness" in Brain Energetics and Neuronal Activity: Applications to fMRI and Medicine (Eds. Shulman RG, Rothman DL) Ch. 15 (Wiley: London, UK) pp. 296-314

6. **Hyder F**, Blumenfeld H (2004) "Relationship between CMR_{O2} and neuronal activity" in Brain Energetics and Neuronal Activity: Applications to fMRI and Medicine (Eds. Shulman RG, Rothman DL) Ch. 10 (Wiley: London, UK) pp. 172-194

5. **Hyder F** (2004) "Deriving changes in CMR_{O2} from calibrated fMRI" in Brain Energetics and Neuronal Activity: Applications to fMRI and Medicine (Eds. Shulman RG, Rothman DL) Ch. 9 (Wiley: London, UK) pp. 147-171

4. **Hyder F** (2003) "Neuroenergetic basis of functional MRI: Implications for efficiency of brain work" in Proceedings of the IEEE 29th Annual Northeast Bioengineering Conference (Eds. Reisman S; Foulds R; Mantilla B) pp. 73-74

3. **Hyder F**, Kida I, Smith AJ, Blumenfeld H, Shulman RG, Rothman DL (2002) "Quantitative fMRI of rat brain by multi-modal MRI and MRS measurements" in Proceedings of Brain Activation and CBF Control (Eds. Tomita M, Kanno I, Hamel E) Ch. 7 (Elsevier, Amsterdam, The Netherlands) pp. 57-71

2. Rothman DL, **Hyder F**, Sibson NR, Behar KL, Mason GF, Shen J, Petroff OAC, Shulman RG (2002) "In vivo magnetic resonance spectroscopy studies of the glutamate and GABA neurotransmitter cycles and functional neuroenergetics" in Neuropsychopharmacology: The Fifth Generation of Progress (Eds. Davis KL, Charney D, Coyle JT, Nemeroff C) Ch. 25 (Lippincott Williams & Wilkins, Philadelphia, PA) pp. 315-342

1. Vo-Dinh T, Alarie JP, **Hyder F**, Sepaniak MJ (1993) "Laser-based fiberoptic immunosensors for DNA-adduct measurements" in Polycyclic Aromatic Compounds: Synthesis, Properties, and Biological Efforts (Gordon and Breach: Philadelphia, PA) p. 765-772

F. PATENTS

4. "Tumor detection and characterization by ultra-high speed spectroscopic imaging of paramagnetic contrast agents", Yale OCR# 6151, 3-28-2013 (U.S. PTO pending)

3. "Combined ratiometric PARACEST imaging and BIRDS for mapping extracellular pH and temperature using multivalent paramagnetic contrast agents", Yale OCR# 6150, 3-28-2013 (U.S. PTO pending)

2. "Estimating absolute heat deposition associated with radio frequency exposure in magnetic resonance imaging and spectroscopy studies", Yale OCR# 5545, 10-18-2010 (U.S. PTO 61/561,515)

1. "Paramagnetic metal ion macrocyclic complexes as contrast agents and their use in magnetic resonance", Yale OCR# 5285, 9-24-2009 (U.S. PTO 61/277,413)

G. TEACHING

PRIMARY COURSES (*currently active; ^Science & Writing credits)

BENG 352 (Biomedical Signals and Images) – Biomedical Engineering (1999-2011)

BENG 355L (Biomedical Engineering Laboratory) – Biomedical Engineering (1999-2008)

BENG 356L (Biomedical Engineering Laboratory) – Biomedical Engineering (1999-2008, 2015)

*** BENG 410/510 (Physical and Chemical Basis of Biosensing) – Biomedical Engineering (2010-present)**

BENG 471/472 (Special/Senior Projects) – Biomedical Engineering (2003, 2009, 2011-present)

BENG 480 (Seminar in Biomedical Engineering) – Biomedical Engineering (2004, 2005)

***,^ BENG 485/585 (Fundamentals of Neuroimaging) – Biomedical Engineering (2007-present)**

BENG 825 (Physics of Magnetic Resonance Spectroscopy In Vivo) – Biomedical Engineering (2001, 2004)

SECONDARY COURSES (*currently active)

CMP 520 (Current Perspectives in Physiology) – Cellular and Molecular Physiology (2004)

GENE 703 (Mouse in Biomedical Research) – Comparative Medicine (2012, 2014)

NICN 101 (Neuroimaging for the Clinical Neuroscientist) – Neurology (2015-present)

NSCI 521 (Neuroimaging in Neuropsychiatry) – Psychiatry (2001, 2003-2004, 2005, 2007, 2008)

PHYS 471/472 (Independent Projects in Physics) – Physics (2012)

PSYC 495 (Research Topics) – Psychology (2012, 2013)

H. MAJOR PRESENTATIONS (* plenary, keynote, and/or honorary)

182.	April 2020	Invited lecture at Institute of Neuroscience, Leuven University, Brussels, Belgium
181.	January 2020	Invited lecture at Department of Physiology and Biophysics, Case Western Reserve University, Cleveland, OH
180.	November 2019	Invited lecture at Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
179.	September 2019	Invited lecture at Fourth Annual Anesthesiology Department Celebration of Research, Department of Anesthesiology, Yale University, New Haven, CT
178.	July 2019	Invited lecture at ISCBFM-sponsored Satellite Symposium on "Advances in Multi-Scale Imaging of Cerebral Blood Flow and Metabolism in relation to Brain Activity" at Sunkyunkwan University, Suwon, South Korea
177.	July 2019	Invited lecture at ISCBFM Educational Program for "How to get started as an independent investigator", Yokohama, Japan
176.	March 2019	Invited lecture at Center for Information and Neural Networks, National Institute of Information and Communications Technology, Osaka, Japan
175.	March 2019	Invited lecture at National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology, Chiba, Japan
174.	January 2019	Invited lecture at School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore
*173.	December 2018	Keynote lecture at Institute of Science and Technology for Brain-inspired Intelligence Symposium on "Functional and Molecular Imaging", Fudan University, Shanghai, China
172.	December 2018	Invited lecture at Biomedical Imaging Center, University of Texas, Austin, TX
172.	November 2018	Invited lecture at Department of Biomedical Engineering, IUPUI, Indianapolis, IN
171.	November 2018	Invited lecture at James S. McDonnell Foundation Workshop on "Glutamate/GABA and Brain Health: It's more than a Balancing Act", Tarrytown, New York
170.	September 2018	Invited lecture at Sixth Biennial Conference on Resting State Brain Connectivity, McGill University, Montreal, Canada
169.	June 2018	Invited lecture at ISMRM Symposium on "Neurophysiological basis of resting-state functional connectivity: evidence from rodents, monkeys and humans", Paris, France
168.	April 2018	Invited lecture at Center for Computational Systems Biology, Fudan University, Shanghai, China
167.	April 2018	Invited lecture at iHuman Institute, ShanghaiTech University, Shanghai, China
166.	November 2017	Invited lecture, BigBrain Workshop 2017: From open data to novel applications, Montreal Neurological Institute, McGill University, Montreal, Canada
165.	September 2017	Clinical Neuroscience Grand Rounds, Department of Neurology, Yale University
164.	July 2017	Invited lecture at the University of Calgary's Engineering Solutions for Health: Biomedical Engineering Research Strategy University of Calgary, Calgary, Canada
163.	June 2017	Invited lecture at Advanced Imaging Research Center, University of Texas Southwestern, Dallas, Texas
*****162.	May 2017	Keynote lecture at 17th Abass Alavi Meeting in Odense, Odense Scientific Molecular Imaging Center, Department of Nuclear Medicine, Odense University Hospital, Odense, Denmark
161.	April 2017	Invited lecture at Neurotalk Yale-ICM II, workshop between Yale's Department of Neurology

		and the Institut du Cerveau et de la Moelle épinière (ICM, Pitie-Salpétrière, Paris), New Haven, Connecticut
160.	April 2017	Invited lecture at In-vivo Cellular and Molecular Imaging Center (ICMIC) Lecture Series, Johns Hopkins University, Baltimore, Maryland
159.	April 2017	Invited lecture at ISCBFM Educational Program for "Cutting-edge technologies for multi-scale and multi-modal neuroimaging", Berlin, Germany
158.	January 2017	Invited lecture at Symposium on "Magnetic Resonance Imaging in Pre-Clinical Models of Psychiatric Disorders: Toward Bridging Translational Gaps and Developing Treatments", Winter Conference on Brain Research, Big Sky, Montana
157.	January 2017	Invited lecture at Montreal Neurological Institute, McGill University, Montreal, Canada
156.	October 2016	Invited rapporteur at "Measuring the Brain: From the Synapse to Thought", National Science Foundation, Arlington, Virginia
155.	July 2016	Invited lecture at ISOTT, Chicago, Illinois
*****154.	April 2016	Honorary lecture at Institute for Engineering in Medicine, University of Minnesota, Minneapolis, Minnesota
*****153.	April 2016	Plenary lecture at Experimental Nuclear Magnetic Resonance Conference (ENC), Pittsburgh, PA
152.	February 2016	Invited lecture at Department of Biomedical Engineering, University of Connecticut, Storrs, Connecticut
151.	January 2016	Invited lecture at Sunnybrook Research Institute, University of Toronto, Toronto, Ontario, Canada
150.	October 2015	Invited lecture at Symposium CEST, University of Pennsylvania, Philadelphia, Pennsylvania
149.	June 2015	Invited lecture at ISCBFM Symposium for "Energetic basis of resting function in the human brain", Vancouver, Canada
148.	June 2005	Lectures at ISCBFM, Amsterdam, Vancouver, Canada
147.	May 2015	Invited lecturer ISMRM Course on "Quantitative Physiology Course", Toronto, Canada
146.	February 2015	Invited lecture at Ivy Muslims Conference, Yale University, New Haven, Connecticut
145.	October 2014	Invited lecturer for PhD-course on "Cerebral blood flow and metabolism" at University of Copenhagen, Copenhagen, Denmark
144.	July 2014	Plenary lecture at ISOTT, London, United Kingdom
143.	June 2014	Invited lecture at OHBM, Hamburg, Germany
142.	March 2014	Invited lecture at Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, IL
141.	March 2014	Invited lecture at Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong
140.	March 2014	Invited lecture at Distinguished Seminar Series of Wuhan Institute of Physics and Mathematics, The Chinese Academy of Sciences, Wuhan, China
139.	January 2014	Invited lecture at BrainMap Seminar Series at Massachusetts General Hospital, Harvard University, Cambridge, Massachusetts
138.	December 2013	Invited lecture at Department of Biosciences and Diagnostic Imaging, University of Georgia, Athens, Georgia
*****137.	November 2013	Invited lecture at Distinguished Seminars in Neuroscience and Pharmacology, University of Copenhagen, Copenhagen, Denmark
136.	November 2013	Invited lecture at Centre for Neuroimaging Technique Seminar Series, University College London, London, United Kingdom
135.	September 2013	Invited lecture at ESMRMB Educational Workshop on "Resting State fMRI - Analysis and Interpretation", Vienna, Austria
134.	August 2013	Invited rapporteur at Workshop on "Mapping and Engineering the Brain", National Science Foundation, Arlington, Virginia
133.	June 2013	Lecture at OHBM, Seattle, Washington
132.	May 2013	Invited lecture at Founders Lecture Series at Institute of Imaging Science, Vanderbilt University, Nashville, Tennessee

131.	May 2013	Lectures at ISCBFM, Shanghai, China
130.	February 2013	Invited lecture at Nanomedicine and Imaging Seminar Series, Translational and Molecular Imaging Institute, Mount Sinai School of Medicine, New York, New York
129.	February 2013	Wallace H. Coulter Foundation Lecture at Department of Biomedical Engineering, Florida International University, Miami, Florida
128.	February 2013	Invited lecture at Aortic Institute, Yale-New Haven Hospital, New Haven, Connecticut
127.	September 2012	Invited lecture at Yale-UCL MedTech Collaborative, New Haven, Connecticut
126.	September 2012	Invited lecture at Third Biennial Conference on Resting State Brain Connectivity, University of Magdeburg, Magdeburg, Germany
125.	September 2012	Invited lecture at ESMRMB Educational Workshop on "Resting State fMRI - Analysis and Interpretation", Magdeburg, Germany
*124.	August 2012	Keynote lecture at Gordon Research Seminar on Brain Energy Metabolism and Blood Flow, Colby College, Waterville, Maine
123.	July 2012	Invited lecture at The Third International Workshop on Metabolic Imaging, University of Pennsylvania, Philadelphia, Pennsylvania
122.	June 2012	Invited lecture at Workshop on "Unraveling Mental Disorders with Neuroimaging", Center for the Computational System Biology, Fudan University, Shanghai, China
121.	June 2012	Lecture at OHBM, Beijing, China
120 .	May 2012	Invited lecture at Brain and Mind Research Institute, University of Sydney, Sydney, Australia
119 .	May 2012	Lecture at ISMRM, Melbourne, Australia
118.	May 2012	Invited lecture at Society of Biological Psychiatry Symposium on "Quantitative fMRI in Neuropsychiatry - The Importance of BOLD Change", Philadelphia, Pennsylvania
117.	April, 2012	Invited lecture at Research Imaging Institute, The University of Texas Health Science Center, San Antonio, Texas
116.	April 2012	Invited lecture at Career Day, Highland Elementary School, Cheshire, Connecticut
115.	January 2012	Invited lecture at Symposium on "Imaging Brain Function with Magnetic Resonance: The Next 20 Years", 2012 Robert G. Shulman Lectures in Magnetic Resonance, Yale University, New Haven, Connecticut
114.	October 2011	Invited lecture at Nanomedicine and Imaging Seminar Series, Translational and Molecular Imaging Institute, Mount Sinai School of Medicine, New York, New York
113.	September 2011	Invited lecture at Dean's Workshop on "Quantitative Neuroscience with Magnetic Resonance", Yale University, New Haven, Connecticut
112.	September 2011	Invited lecture at John B. Pierce Laboratory, New Haven, Connecticut
111.	June 2011	Invited lecture at Amity Science Research, Amity Regional High School, Woodbridge, Connecticut
110.	June 2011	Invited lecture at Symposium on "CEST and Spectroscopy for Cancer and Other High-Impact Diseases", Rogers NMR Center, University of Texas Southwestern, Dallas, Texas
109.	June 2011	Lecture at ISCBFM, Barcelona, Spain
108.	May 2011	Invited lecture at Workshop on "Brain Function Investigation by Magnetic Resonance, Electrophysiology, and Molecular Imaging", International School on Magnetic Resonance and Brain Function, Erice, Italy
107.	May 2011	Invited lecture at ISMRM Study Group of Dynamic NMR Spectroscopy, Montreal, Canada
106.	April 2011	Invited lecture at Integrated Brain Imaging Center, University of Washington, Seattle, Washington
105.	April 2011	Invited lecture at Career Day, Highland Elementary School, Cheshire, Connecticut
104.	February 2011	Invited lecture at Laboratory of Functional and Molecular Imaging, NINDS, NIH, Bethesda, Maryland
103.	February 2011	Invited lecture at James S. McDonnell Foundation Workshop on "Waking Up - Brain Systems and Recovery from Anesthesia", Emory Conference Center, Atlanta, Georgia
102.	December 2010	Invited lecture at Bangladesh Atomic Energy Center, Dhaka, Bangladesh
101.	December 2010	Invited lecture at Department of Chemical Engineering, Bangladesh University of Engineering

		and Technology, Dhaka, Bangladesh
*100.	September 2010	Plenary lecture at Second Biennial Conference on Resting State Brain Connectivity, Medical College of Wisconsin, Milwaukee, Wisconsin
99.	September 2010	Invited lecture at Second Biennial Conference on Resting State Brain Connectivity, Medical College of Wisconsin, Milwaukee, Wisconsin
98.	May 2010	Invited lecture (on molecular imaging) at Workshop on "Brain Function Investigation by Magnetic Resonance, Electrophysiology, and Molecular Imaging", International School on Magnetic Resonance and Brain Function, Erice, Italy
97.	May 2010	Invited lecture (on functional imaging) at Workshop on "Brain Function Investigation by Magnetic Resonance, Electrophysiology, and Molecular Imaging", International School on Magnetic Resonance and Brain Function, Erice, Italy
96.	March 2010	Invited lecture at Symposium on "Quantitative Neuroscience with Magnetic Resonance", Yale University, New Haven, Connecticut
95.	February 2010	Invited lecture at Division of Natural Sciences and Mathematics, Wabash College, Crawfordsville, Indiana
94.	November 2009	Invited lecture at Center for Advanced Imaging, University of Queensland, St Lucia, Queensland, Australia
*93.	November 2009	Plenary lecture at Japanese Society of Cerebral Blood Flow and Metabolism, Osaka, Japan
92.	October 2009	Lectures at ESMRMB, Antalya, Turkey
*91.	July 2009	Plenary lecture at ISOTT, Cleveland, Ohio
90.	June 2009	Invited lecture at ISCBFM Educational Program on "Functional Brain Imaging", Chicago, Illinois
89.	April 2009	Invited lecture at Burke Institute for Medical Research, White Plains, New York
88.	April 2009	Invited lecture at Faculty Research Symposium, Biomedical Engineering Society, Yale University, New Haven, Connecticut
*87.	March 2009	Plenary lecture at Hirosaki International Forum of Medical Science, Hirosaki, Japan
86.	March 2009	Invited lecture at Department of Functional Brain Imaging, Institute for Development, Aging and Cancer, Tohoku University, Aobaku, Sendai, Japan
85.	March 2009	Invited lecture at Laboratory for Cognitive Brain Mapping, Riken Brain Science Institute, Wako City, Saitama, Japan
84.	December 2008	Invited lecture at First Biennial Conference on Resting State Brain Connectivity, University of Magdeburg, Magdeburg, Germany
83.	October 2008	Invited lecture at Center for Neuroimaging and Neuroscience, University of Arkansas for Medical Services, Little Rock, Arkansas
*82.	October 2008	Killam lecture at Montreal Neurological Institute, McGill University, Montreal, Canada
*81.	October 2008	Plenary lecture at ESMRMB, Valencia, Spain
80.	August 2008	Invited lecture at Queensland Brain Institute, University of Queensland, St Lucia, Queensland, Australia
79.	June 2008	Invited lecture at ISN Special Neurochemistry Conference on Brain Energy Metabolism – Degeneration and Regeneration, Beijing, China
78.	March 2008	Invited lecture at Symposium on "Quantitative Neuroscience with Magnetic Resonance", Yale University, New Haven, Connecticut
77.	September 2007	Invited lecture at Neuroimaging Research Branch, NIDA, NIH, Baltimore, Maryland
76.	August 2007	Invited lecture at ISOTT, Uppsala, Sweden
75.	July 2007	Invited lecture at ISMRM Workshop on "Cerebral Perfusion and Brain Function", Salvador, Bahia, Brazil
74.	July 2007	Invited lecture at Department of Biophysics, Medical College of Wisconsin, Milwaukee, Wisconsin
73.	May 2007	Invited lecture at ISCBFM Educational Program on "Functional Brain Imaging", Osaka, Japan
72.	February 2007	Invited lecture at Molecular Imaging Center, National Institute of Radiological Sciences, Chiba, Japan

71.	November 2006	Invited lecture at Bioimaging Center, Pfizer Global Research and Development, Ann Arbor, Michigan
70.	November 2006	Invited lecture at Center for Comparative Neuroimaging, University of Massachusetts, Worcester, Massachusetts
69.	August 2006	Invited lecture at ISOTT, Louisville, Kentucky
68.	July 2006	Invited lecture at Gordon Research Conference Workshop on "In Vivo Magnetic Resonance", Mt. Holyoke College, South Hadley, Massachusetts
67.	June 2006	Invited lecture at OHBM Educational Program for "Advanced fMRI", Florence, Italy
66.	February 2006	Invited lecture at Gatsby Workshop on "Neural Activity and BOLD Functional MRI", University College London, London, United Kingdom
65.	January 2006	Invited lecture at Ogawa Laboratories for Brain Function Research, Hamano Life Science Research Foundation, Shinjuku-ku, Tokyo, Japan
64.	January 2006	Invited lecture at Laboratory for Cognitive Brain Mapping, Riken Brain Science Institute, Wako City, Saitama, Japan
63.	December 2005	Invited lecture at Pacifichem Symposium on "Methods to Analyze Cellular Processes", Honolulu, Hawaii
62.	December 2005	Invited lecture at Pacifichem Symposium on "Chemical Sensors, Biosensors, and Sensing Technologies", Honolulu, Hawaii
61.	October 2005	Invited lecture at Workshop on "Magnetic Resonance Imaging of Brain Function", University of Minnesota, Minneapolis, Minnesota
*60.	August 2005	Keynote lecture at ISOTT, Brisbane, Queensland, Australia
59.	June 2005	Lecture at OHBM, Toronto, Canada
58.	June 2005	Lecture at ISCBFM, Amsterdam, The Netherlands
57.	May 2005	Invited lecture at The Thirteenth Yale Workshop on "Adaptive and Learning Systems, Center for Systems Science", Yale University, New Haven, Connecticut
56.	May 2005	Lecture at ISMRM, Miami, Florida
55.	April 2005	Invited lecture at Symposium on "Prospects of Biochemical Imaging: The Brain & Beyond, Rogers NMR Center", University of Texas Southwestern, Dallas, Texas
54.	February 2005	Lecture at Biophysical Society, Long Beach, California
53.	October 2004	Invited lecture at Department of Biophysics, Medical College of Wisconsin, Milwaukee, Wisconsin
52.	August 2004	Invited lecture at Gordon Research Conference Workshop on "Brain Energy Metabolism and Blood Flow", Colby College, Waterville, Maine
51.	May 2004	Invited lecture at Interdepartmental Neuroscience Program of Yale University, Lakeville, Connecticut
50.	April 2004	Invited lecture at Princeton Conference on Cerebrovascular Disease, Baltimore, Maryland
49.	March 2004	Invited lecture at Workshop on "Statistical and Mathematical Modeling of fMRI Data", Mathematical Bioscience Institute, Ohio State University, Columbus, Ohio
48.	February 2004	Lecture at Biophysical Society, Baltimore, Maryland
47.	November 2003	Invited lecture at James S. McDonnell Foundation Workshop on "Brain Energetics and Information Processing: What's Your Brain Doing When You're Just Sitting There?", IBM Conference Center, Palisades, New Jersey
46.	September 2003	Invited lecture at ISMRM Workshop on "Dynamic Spectroscopy and Measurements of Physiology, Metabolism and Function", Orlando, Florida
45.	July 2003	Lectures at ISMRM, Toronto, Canada
*44.	July 2003	Niels Lassen Award lecture at Opening Ceremony of ISCBFM, Calgary, Canada
43.	June 2003	Invited lecture at Symposium on "From Molecules to Mind: Celebrating the Contributions of Robert G. Shulman to Biological NMR", Yale University, New Haven, Connecticut
42.	June 2003	Invited lecture at Department of Diagnostic Radiology, Columbia University, New York, New York
41.	April, 2003	Invited lecture at NINDS Workshop on "Imaging and the Neurobiology of Epilepsy",

		Washington, District of Columbia
*40.	March 2003	Plenary lecture at Northeast Bioengineering Conference, Newark, New Jersey
39.	March 2003	Invited lecture at Department of Anesthesia, University of Cincinnati, Cincinnati, Ohio
38.	March 2003	Invited lecture at Department of Biomedical Engineering, The City College of New York, New York
37.	March 2003	Lecture at Biophysical Society, San Antonio, Texas
36.	December 2002	Invited lecture at Rutgers University Workshop on "Mind Brain Analysis, Neural Information Processing Systems Foundation", Whistler, Canada
35.	August 2002	Invited lecture at ISOTT, Manchester, United Kingdom
34.	June 2002	Lecture at OHBM, Sendai, Japan
33.	May 2002	Lecture at ISMRM, Honolulu, Hawaii
32.	November 2001	Lecture at SfN, San Diego, California
31.	June 2001	Invited lecture at OHBM Educational Program on "fMRI Methods", Brighton, England
30.	June 2001	Lecture at ISCBFM, Taipei, Taiwan, China
29.	June 2001	Invited lecture at ISCBFM Workshop on "Brain Activation and CBF Control", Tokyo, Japan
28.	April 2001	Invited lecture at ISMRM Educational Program on "fMRI: What Can We Measure?", Glasgow, Scotland
27.	April 2001	Lectures at ISMRM, Glasgow, Scotland
26.	March 2001	Invited lecture at Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, Pennsylvania
25.	December 2000	Invited lecture at Pacifichem Workshop on "Frontiers in Spectroscopic Analysis of the Brain", Honolulu, Hawaii
24.	October 2000	Invited lecture at Workshop on "Understanding BOLD Imaging and its use in Studying Brain Function", University of North Carolina, Chapel Hill, North Carolina
23.	October 2000	Invited rapporteur at Human Frontier Science Program Workshop on "Neuroenergetics: Relevance for Functional Brain Imaging", Strasbourg, France
22.	August 2000	Invited lecture at International Conference on Magnetic Resonance in Biological Systems Workshop on Diagnostic NMR, Sienna, Italy
21.	April 2000	Lecture at ISMRM, Denver, Colorado
20.	February 2000	Invited lecture at Workshop on "Measurement and Mechanism of Secondary Signal Related to Neuronal Activity", Akita, Japan
19.	December 1999	Invited lecture at Department of Neurology, Yale University
18.	November 1999	Invited lecture at Department of Diagnostic Radiology, Yale University
17.	October 1999	Invited lecture at Workshop on "Magnetic Resonance Imaging of Brain Function", University of Minnesota, Minneapolis, Minnesota
16.	August 1999	Lectures at ISOTT, Hanover, New Hampshire
15.	June 1999	Lecture at ISCBFM, Copenhagen, Denmark
14.	May 1999	Lectures at ISMRM, Philadelphia, Pennsylvania
13.	August 1998	Lecture at ISOTT, Budapest, Hungary
12.	May 1998	Invited lecture at Singapore General Hospital, Singapore
11.	April 1998	Lectures at ISMRM, Sydney, Australia
10.	February 1998	Invited lecture at Neuroimaging Sciences Training Program, Yale University, New Haven, Connecticut
9.	June 1997	Lecture at ISCBFM, Baltimore, Maryland
8.	May 1997	Invited lecture at Neuroimaging Sciences Training Program, Yale University, New Haven, Connecticut
7.	March 1997	Invited lecture at Workshop on "Magnetic Resonance Imaging of Brain Function", University of Minnesota, Minneapolis, Minnesota
6.	October 1996	Invited lecture at Department of Anatomy and Neurobiology, University of Kentucky, Lexington, Kentucky
5.	April 1996	Lecture at ISMRM, New York, New York

4.	February 1996	Invited lecture at Symposium on "Towards Therapeutical Advances on Cerebral Ischemia: NMR Studies of Metabolism, Hemodynamics, and Functional Integrity", Max-Planck Institute of Neurological Research of Cologne, Schloss Ringberg, Rottach-Egern, Germany
3.	August 1995	Lecture at ISMRM, Nice, France
2.	August 1995	Invited lecture at Department of Chemistry, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
1.	July 1995	Lecture at ISCBFM, Cologne, Germany

I. GRANT FUNDING

ACTIVE as PI (7 total = 6 NIH grants (5 R01, 1 R21) + 1 other grants)

Grant title	Mitochondrial calcium homeostasis and translatable outcome in spinal cord injury
Grant number	NJCBIR 18-000000
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NJ Department of Health (subcontract Sridhar Kannurpatti, PhD, Rutgers University)
Funding period	07/01/2018-06/30/2020 (total direct $40,106 is sub-contracted to Yale)

Grant title	Multi-Modal MRI to Assess Alzheimer's Disease Prevention in an APOE4 Mouse Model
Grant number	R01-AG-054459
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NIA, NIH (subcontract Ai-Ling Lin, PhD, University of Kentucky)
Funding period	07/01/2017-04/30/2022 (total direct $474,235 is sub-contracted to Yale)

Grant title	Energetics of Neuronal Populations by fMRI
Grant number	R01 MH-067528
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NIMH, NIH
Funding period	08/16/2002-01/31/2022 (total direct $6,477,908)

Grant title	Extracellular pH Mapping as Therapeutic Readout of Drug Delivery in Glioblastoma
Grant number	R01 EB-023366
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NIBIB, NIH
Funding period	04/01/2017-01/31/2021 (total direct $2,475,367)

Grant title	Assessing the Relationship Between Cortical Oxidative Metabolism and Working Memory Deficits Under NMDA Receptor Blockade
Grant number	R21 MH-110862
PI	D. S. Fahmeed Hyder, PhD / Naomi R. Driesen, PhD / John H. Krystal, MD
Funding agency	NIMH, NIH
Funding period	01/05/2017-05/31/2019 (total direct $404,250)

Grant title	MRS Validation of Computational Metabolic Modeling of Human Brain Function to Determine Energetic Disruptions Underlying fMRI-Derived Functional Connectivity in Degenerative or Psychiatric Disorders
Grant number	R01 NS-100106
PI	D. S. Fahmeed Hyder, PhD / Douglas L. Rothman, PhD
Funding agency	NINDS, NIH
Funding period	09/16/2016-07/31/2021 (total direct $958,512)

Grant title	Understanding Evoked and Resting-State fMRI through Multi-Scale Imaging (BRAIN Initiative)
Grant number	R01 MH-111424
PI	D. S. Fahmeed Hyder, PhD / R. Todd Constable, PhD / Michael Crair, PhD

Funding agency	NIMH, NIH
Funding period	09/16/2016-07/31/2021 (total direct $5,161,289)

ACTIVE as CoI (10 total = 10 NIH grants (6 R01, 1 R24, 1 R37, 1 R41, 1 T32)

Grant title	Amygdala hyper-connectivity in a mouse model of unpredictable early life stress
Grant number	R01 MH118332
PI	Arie Kaffman, MD, PhD
Funding agency	NIMH, NIH
Funding period	08/07/2019-04/30/2024

Grant title	Yale site for stroke preclinical assessment network (SPAN) for acute neuroprotection
Grant number	U01 NS113445
PI	Lauren H. Sansing, MD
Funding agency	NINDS, NIH
Funding period	08/01/2019-07/31/2022

Grant title	Role of microglial IRF8 in the developmental consequences of early adversity
Grant number	R01 MH119164
PI	Arie Kaffman, MD, PhD
Funding agency	NIMH, NIH
Funding period	12/01/2019-11/30/2024

Grant title	Multi-Context Software for Robust and Reproducible Neuroscience Image Analysis (BRAIN Initiative)
Grant number	R24 MH114805
PI	Xenophon Papademetris, PhD
Funding agency	NIMH, NIH
Funding period	09/17/2017-06/30/2020

Grant title	Neuroimaging, Neuronal Firing and Behavior in Spikewave Seizures
Grant number	R37 NS-100901
PI	Hal Blumenfeld, MD, PhD
Funding agency	NINDS, NIH
Funding period	09/01/2017-08/31/2021

Grant title	Network Mechanisms of Seizure-Induced Cardiorespiratory Impairment
Grant number	R01 NS-096088
PI	Hal Blumenfeld, MD, PhD
Funding agency	NINDS, NIH
Funding period	09/01/2016-08/31/2021

Grant title	Remote Effects of Focal Hippocampal Seizures on Neocrotical Function
Grant number	R01 NS-066974
PI	Hal Blumenfeld, MD, PhD
Funding agency	NINDS, NIH
Funding period	09/01/2016-08/31/2021

Grant title	Efferocytosis and the Resolution of Inflammation After Intracerebral Hemorrhage
Grant number	R01 NS-095993
PI	Lauren H. Sansing, MD
Funding agency	NINDS, NIH
Funding period	09/01/2016-08/31/2021

Grant title	Quantitative Multimodal Image Guidance for Improved Liver Cancer Treatment
Grant number	R01 CA-206180
PI	James S. Duncan, PhD / Mingde Lin, PhD
Funding agency	NCI, NIH
Funding period	08/01/2016-07/31/2021

Grant title	Preimplantation Factor Plus Hypothermia to Treat Neonatal Brain Injury
Grant number	R41 HD-085744
PI	Michael Paidas, MD
Funding agency	NICHHD, NIH
Funding period	08/16/2016-07/31/2018

Grant title	Validation of GABA MRS as a Biomarker of Inhibition
Grant number	R01 MH-109159
PI	Douglas L. Rothman, PhD / Kevin L. Behar, PhD
Funding agency	NIMH, NIH
Funding period	06/16/2016-04/30/2020

Grant title	Regulation of Brain Glucose Metabolism by Alternate Fuels in Type 1 Diabetes
Grant number	R01 DK-101984
PI	Raimund Herzog, MD
Funding agency	NIDDK, NIH
Funding period	10/01/2014-09/30/2019

Grant title	Neuroimaging Sciences Training Program
Grant number	T32 DA-022975
PI	Graeme F. Mason
Funding agency	NIDA, NIH
Funding period	07/01/2007-06/30/2024

PAST as PI (15 total = 8 NIH grants (4 R01, 1 R29, 1 R56, 2 P30) + 2 NSF grants + 5 other grants)

Grant title	Core Center for Quantitative Neuroscience with Magnetic Resonance
Grant number	P30 NS-052519
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NINDS, NIH
Funding period	06/01/2007-12/31/2018 (total direct $6,395,796)

Grant title	Novel Method for Classifying BOLD Response Mechanisms in Focal Epilepsy
Grant number	R56 NS-094784
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NINDS, NIH (subcontract Jorge Riera Diaz, PhD, Florida International University)
Funding period	08/01/2016-07/31/2018 (total direct $58,654 is sub-contracted to Yale)

Grant title	Bulbar Maps to Retronasal Smell by Optical Calcium Imaging and fMRI in Acute Rat
Grant number	R01 DC-011286
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NIDCD, NIH (subcontract Justus Verhagen, PhD, John Pierce Laboratory)
Funding period	07/01/2011-06/30/2018 (total direct $794,694 is sub-contracted to Yale; NCE-renewal)

Grant title	Mitochondrial Facilitation Treatment in Mild TBI and its Integrated Translatable Monitoring
Grant number	NJCBIR 15-001926
PI	D. S. Fahmeed Hyder, PhD

Funding agency	NJ Department of Health (subcontract Sridhar Kannurpatti, PhD, Rutgers University)
Funding period	06/01/2015-05/31/2018 (total direct $129,707 is sub-contracted to Yale)

Grant title	Translation of Smart Contrast Agents for Brain Tumor Characterization by MR
Grant number	R01 CA-140102
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NCI, NIH
Funding period	07/05/2010-12/31/2016 (total direct $1,647,020)

Grant title	Multivalent PARACEST Agents for Quantitative Molecular Imaging
Grant number	R01 EB-011968
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NIBIB, NIH
Funding period	08/01/2010-05/31/2015 (total direct $1,347,079)

Grant title	Translation of Convection-Enhanced Delivery of Drug-Loaded Nanoparticles for Treatment of Glioma With Multi-Modal MRI
Grant number	Internal T-TARE grant
PI	D. S. Fahmeed Hyder, PhD / Joseph Piepmeier, MD / W. Mark Saltzman, PhD
Funding agency	Yale Cancer Center
Funding period	02/01/2012-10/31/2013 (total direct $54,065)

Grant title	Core Center for Quantitative Neuroscience with Magnetic Resonance
Grant number	P30 NS-052519-04S1
PI	D. S. Fahmeed Hyder, PhD
Funding agency	P30 NS-052519-04S1
Funding period	04/01/2010-11/30/2011 (total direct $518,197)

Grant title	Intraventricular Cooling Catheter
Grant number	NSF-0923928
PI	D. S. Fahmeed Hyder, PhD
Funding agency	SBIR/STTR Program, NSF (subcontract John Simmons, Coolspine LLC, Woodbury, CT)
Funding period	09/1/2009-09/30/2013 (total direct $2,138,631 of which $474,780 is sub-contracted to Yale)

Grant title	Mapping the Neuronal Pathway of Hypoglycemia Detection
Grant number	Pilot Award 42004807
PI	D. S. Fahmeed Hyder, PhD
Funding agency	Juvenile Diabetes Research Foundation
Funding period	09/01/2008-10/31/2009 (total direct $50,000)

Grant title	Spatiotemporal Responses to Odors in Rat Olfactory Bulb by fMRI
Grant number	R01 DC-003710
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NIDCD, NIH
Funding period	04/01/2002-03/31/2008 (total direct $1,637,939)

Grant title	Energetics of Neuronal Populations: Quantitative Brain Imaging by Functional MRI
Grant number	JSMF-21002033
PI	D. S. Fahmeed Hyder, PhD
Funding agency	James S. McDonnell Foundation
Funding period	12/01/2001-11/30/2002 (total direct $30,000)

Grant title	Development of Ultra-High Resolution In Vivo NMR Methods for Functional Molecular Physiology

	Studies in Mouse Brain
Grant number	NSF-0095173
PI	D. S. Fahmeed Hyder, PhD
Funding agency	DBI, NSF
Funding period	08/01/2001-09/30/2005 (total direct $474,767)

Grant title	Multi-Modal Approach to Understand BOLD fMRI Image-Contrast
Grant number	NSF-0095173
PI	D. S. Fahmeed Hyder, PhD
Funding agency	DBI, NSF
Funding period	08/15/1998-07/31/2002 (total direct $271,797)

Grant title	Physiologic Understanding of Functional MRI
Grant number	R29 NS-037203
PI	D. S. Fahmeed Hyder, PhD
Funding agency	NINDS, NIH
Funding period	07/01/1998-07/31/2003 (total direct $584,960)

PAST as CoI (13 total = 10 NIH grants (3 R01, 2 P01, 2 R21, 1 R33, 1 U24, 1 U01) + 3 other grants)

Grant title	Multiscale Imaging of Spontaneous Activity in Cortex: Mechanisms, Development and Function (BRAIN Initiative)
Grant number	U01 NS-094358
PI	Micahel C. Crair, PhD / R. Todd Constable, PhD
Funding agency	NINDS, NIH
Funding period	10/01/2015-06/30/2018

Grant title	Magnetic Resonance Imaging-Assisted Design of a Thermostable and Self-Administrable Tuberculosis Vaccine for Inhalation
Grant number	4184-00422A
PI	Camilla Foged, PhD (University of Copenhagen, Copenhagen, Denmark)
Funding agency	Danish Council for Independent Research
Funding period	10/01/2015-06/30/2018

Grant title	Deep Brain Stimulation To Prevent Impaired Consciousness In Epilepsy
Grant number	R21 NS083783
PI	Hal Blumenfeld, MD, PhD
Funding agency	NINDS, NIH
Funding period	03/01/2014-02/29/2017

Grant title	Development of Agents to Diminish the Risk of Hypoglycemia-Induced Brain Injury in T1DM
Grant number	2-SRA-2014-271-M-R
PI	Robert S. Sherwin, MD
Funding agency	Juvenile Diabetes Research Foundation
Funding period	10/01/2014-09/30/2016

Grant title	Injury and Recovery in Developing Brain
Grant number	P01 NS-062686
PI	Flora Vaccarino, MD
Funding agency	NINDS, NIH
Funding period	09/15/2009-06/30/2014

Grant title	Preventing Spike-Wave Epileptogenesis: Critical Period & Neuroimaging Biomarkers

Grant number	R01 NS-049307
PI	Hal Blumenfeld, MD, PhD
Funding agency	NINDS, NIH
Funding period	10/01/2009-09/30/2011

Grant title	Chemotherapy with Injectable Microdroplets
Grant number	R33 CA-112144
PI	Francesco d'Errico, PhD
Funding agency	NCI, NIH
Funding period	09/01/2006-08/31/2008

Grant title	Increasing FDG-PET Specificity with Kreb Cycle Flux using MR Spectroscopy
Grant number	Y-003-04
PI	David W. Cheng, MD, PhD
Funding agency	Pfizer Inc.
Funding period	01/01/2004-03/31/2008

Grant title	Neuronal Firing and Cerebral Blood Flow in Spike-Wave Seizures
Grant number	R01 NS-049307
PI	Hal Blumenfeld, MD, PhD
Funding agency	NINDS, NIH
Funding period	01/01/2004-03/31/2008

Grant title	Adaptive Mechanisms of Developing Brain
Grant number	P01 NS-03547
PI	Laura R. Ment, MD
Funding agency	NINDS, NIH
Funding period	07/01/1997-01/31/2008

Grant title	Yale Mouse Metabolic Phenotypic Center
Grant number	U24 DK-059653
PI	Gerald I. Shulman, MD, PhD
Funding agency	NIDDK, NIH
Funding period	04/01/2001-3/31/2006

Grant title	fMRI of Brain Development in Newborn Infants
Grant number	R21 NS-042027
PI	Laura R. Ment, MD
Funding agency	NINDS, NIH
Funding period	09/20/2001-08/31/2005

Grant title	Human Cerebral GABA Metabolism Studied In Vivo With NMR Spectroscopy
Grant number	R01 NS-032518
PI	Douglas L. Rothman, PhD
Funding agency	NINDS, NIH
Funding period	05/01/1998-03/31/2001

PAST as CoI for Instrumentation (6 total = 6 S10 grants)

Grant title	Console and Gradient Upgrade for a 9.4 T 16 cm In Vivo MR System
Grant number	S10 OD-020045
PI	Douglas L. Rothman, PhD
Funding agency	Office of the Director, NIH

Funding period	02/01/2015-01/31/2016

Grant title	Acquisition of a 500 MHz NMR System for Metabolic Studies
Grant number	S10 OD-011929
PI	Robin A. de Graaf, PhD
Funding agency	Office of the Director, NIH
Funding period	05/08/2012-11/07/2013

Grant title	Console for 4T Human MR System
Grant number	S10 OD-010613
PI	Douglas L. Rothman, PhD
Funding agency	Office of the Director, NIH
Funding period	05/07/2012-11/06/2013

Grant title	7T Human MR System, Ultra High Resolution: Neuroscience
Grant number	S10 RR-023073
PI	Douglas L. Rothman, PhD
Funding agency	NCRR, NIH
Funding period	8/01/2006-07/31/2007

Grant title	Acquisition of a 11.74T/21 cm Magnet & Gradients for Ultra-High Resolution MRS & MRI of Transgenic Mouse Models
Grant number	S10 RR-016761
PI	Douglas L. Rothman, PhD
Funding agency	NCRR, NIH
Funding period	04/01/2002-03/31/2003

Grant title	Spectroscopy Console for 7T NMR System
Grant number	S10 RR-013045
PI	Douglas L. Rothman, PhD
Funding agency	NCRR, NIH
Funding period	07/15/1998-07/14/1999

J. TRAINEES (* = female; trainees = 84; high school = 19; college = 25; pre-doctoral = 15; post-doctoral = 25)

HIGH SCHOOL Trainees (19 total = 2 present + 17 past; females = 9/19)

Name (training in years)	Year	Degree	Current (or last known) Position
Jacob Leisawitz (¼)	2019		High School Student (Masuk High School, Monroe, CT)
Mariam Khan* (¼)	2019		High School Student (Hamden High School, Hamden, CT)
Ariba Chaudhry* (¼)	2018		High School Student (Amity High School, Amity, CT)
Sean Lee (¼)	2018		High School Student (Amity High School, Amity, CT)
Baasim Zafar (¼)	2018		High School Student (Amity High School, Amity, CT)
Keri Tenerowicz* (¾)	2018		High School Student (Amity High School, Amity, CT)
Hosam Arammash (¼)	2017		College Student (Johns Hopkins University, Baltimore, MD)
Armana Islam* (1¼)	2017		College Student (University of Connecticut, Storrs, CT)
Christina Walker* (1¼)	2017		College Student (New England College, Henniker, NH)
Radha Patel* (¼)	2016		College Student (University of New Haven, New Haven, CT)
Haya Jarad* (1)	2016		College Student (University of Connecticut, Storrs, CT)

Vinayak Mishra (1¼)	2016		College Student (University of Connecticut, Storrs, CT)
Vinnie Silverman (1¼)	2015		College Student (Carnegie Mellon University, Pittsburgh, PA)
Kevin Dardik (1¼)	2015		College Student (Brandeis University, Waltham, MA)
Alysha Fahmi* (¼)	2007	DPharm	PGY-1 Pharmacy Practice Resident (Dignity Health, Stockton, CA)
Atif Khandker (¼)	2006	BSc	SoC Design/Verification Engineer (Intel Corporation, Boston, MA)
Diya Banerjee* (¼)	2005	MD	Psychiatrist in Training (Baylor College of Medicine, Waco, TX)
Rabi Alam (¼)	2005	BA	Director (Platform Engineering @ Blink Health, Brooklyn, NY)
Wakil Ahmed (¼)	2004	BSc	MSc in Mathematics (Johns Hopkins University, Baltimore, MD)

COLLEGE Trainees (24 total = 1 present + 23 past; females = 10/24)

Name (training in years)	Year	Degree	Current (or last known) Position
Deon Ababio (¼)	2019	BSc	Biomedical Engineering ('22), Yale University, New Haven, CT
Eric Youshao (½)	2018	BSc	Biomedical Engineering ('21), Yale University, New Haven, CT
Matthew Derbin (½)	2018	BSc	Biomedical Engineering ('18), Yale University, New Haven, CT
Danielle Temares* (1)	2017	BSc	Research Assistant (Memorial Sloan Kettering, New York, NY)
Reinder Vos de Wael (1)	2016	BSc	PhD in Neuroscience (McGill University, Montreal, Canada)
Kristian N. Mortensen (1)	2015	BSc	PhD in Neuroscience (University of Copenhagen, Copenhagen, Denmark)
Kantiya Jindachomthong* (1)	2015	BSc	Frontend Developer (Folia Health, New York, NY)
Divyansh Agarwal (2)	2015	BSc	MD/PhD (University of Pennsylvania, Philadelphia, PA)
Helen Wang* (3)	2015	BSc	MD/PhD (University of California, San Diego, CA)
Nelson Zwane (2)	2014	BSc	Lecturer (Swaziland Christian Medical University, Mbabane, Swaziland)
Clinton Bourbonais (½)	2014	BSc	Senior Associate Scientist (Pfizer, Boston, MA)
Sara Samuel* (2)	2014	BSc	MSc in Public Health (Columbia University, New York, NY)
Sefanit Tucker* (1)	2013	BSc	Psychology ('14), Yale University, New Haven, CT
Mike H. Wu (½)	2013	BSc	Machine Learning Enthusiast (San Mateo, CA)
Brian Jang (½)	2013	BSc	Consultant (Strategy & Operations at Deloitte, Washington DC)
Ellen Song* (½)	2013	BSc	PhD in Physics (New York University, New York, NY)
Thomas Werfel (¼)	2013	BSc	PhD in Biomedical Engineering (Vanderbilt University, Nashville, TN)
Kelly Carreiro* (¼)	2013	BSc	Full-Time Volunteer (Amigos de Jesus, Chicago, IL)
Brianna Chrisman* (¼)	2012	BSc	Biomedical Engineering ('15), Yale University, New Haven, CT
Nabil Khandker (¼)	2006	MD	Neurologist (University of Michigan Hospitals, Ann Arbor, MI)
Alyssa Siefert* (¼)	2006	PhD	Administrative Director (CBIT, Yale University, New Haven, CT)
Laura Sacolick* (2)	2004	PhD	Senior Scientist (Hyperfine Research Inc, New Haven, CT)
Jacqueline A. Farber* (2)	2003	MD	Pediatrician (Capitol Pediatrics and Adolescent Center, Knightdale, NC)
Mohammed Siddeek (2)	1997	MBA	Investor (SoftBank Vision Fund, San Francisco, CA)

PRE-DOCTORAL Trainees (15 total = 4 present + 11 past; females = 3/15)

Name (training in years)	Year	Degree	Current (or last known) Position
Adil Akif (1)	2023	MSc	PhD student in Biomedical Engineering (Yale University)
Simon Sanggaard (1)	2023	MSc	PhD student in Biomedical Engineering (Yale University)
Muhammad Khan (3)	2021	MSc	PhD student in Biomedical Engineering (Yale University)
John J. Walsh (4)	2019	BSc	MD, PhD student in Biomedical Engineering (Yale University)

Samuel Maritim (5)	2018	PhD	Formulation Scientist (Biogen, Cambridge, MA)
Christina Y. Shu* (5)	2016	PhD	Senior Associate Scientist (Amgen, Thousand Oaks, CA)
Anna Gaglianese* (1)	2013	PhD	Scientist in Neuroscience (University of Utrecht, Utrecht, The Netherlands)
Joshua E. Motelow (4)	2013	MD, PhD	Resident in Neurology (Columbia University, New York, NY)
Dario J. Englot (4)	2008	MD, PhD	Resident in Neurology (University of California, San Francisco, CA)
Christopher J. Bailey (1)	2008	PhD	Staff Scientist (Aarhus University, Aarhus, Denmark)
James R. Schafer (4)	2007	MD, PhD	Radiologist (The Good Samaritan Hospital, Cincinnati, OH)
Arien J. Smith (1)	2002	MD	Neurosurgeon (Advanced Neurosurgery Associates, Hackensack, NJ)
Natasja J. Maandag* (1)	2002	MD	Anesthesiologist (University Medical Centre, Nijmegen, The Netherlands)
Remco Renken (2)	2001	PhD	Staff Scientist (University Medical Center, Groningen, The Netherlands)
Xiaojin Yang (4)	1998	PhD	Senior Consultant (Symmetry Capital Management LLC, Jenkintown, PA)

POST-DOCTORAL Trainees (25 total = 3 present + 22 past; females = 7/25)

Name (training in years)	Year	Degree	Current (or last known) Position
Jelena Mihailovic* (1)	2018	PhD	Post-Doctoral Associate in Radiology & Biomedical Imaging (Yale University, New Haven, CT)
Sandeep Kumar (1½)	2018	PhD	Post-Doctoral Associate in Radiology & Biomedical Imaging (Yale University, New Haven, CT)
A. B. M. Zakaria (1½)	2018	PhD	Post-Doctoral Associate in Radiology & Biomedical Imaging (Yale University, New Haven, CT)
Lynn J. Savic* (2)	2010	MD	Resident in Diagnostic and Interventional Radiology (Charité–Universitätsmedizin Berlin, Berlin, Germany)
Maxime Parent (3)	2018	PhD	Professional Scientist (National Institute for Excellence in Health and Social Services, Montreal, Canada)
Stephan S. Kaczmarz (1)	2017	PhD	Research Scientist (Technical University of Munich, Germany)
Jens Göttler (1)	2017	MD	Neuroradiologist (Technical University of Munich, Germany)
Lucas Adam (1)	2017	MD	Neuroradiologist (Charité Medical School, Berlin, Germany)
Yury Koush (2)	2017	PhD	Associate Research Scientist in Radiology & Biomedical Imaging (Yale University, New Haven, CT)
Garth J. Thompson (4)	2017	PhD	Assistant Professor in Neuroscience (Shanghai Tech iHuman Institute, Shanghai, China)
Gen Kaneko (2)	2016	PhD	Assistant Professor in Biology (University of Houston, Vitoria, TX)
Elizabeth Lippard* (1)	2016	PhD	Assistant Professor in Psychiatry (University of Texas, Austin, TX)
Yueguo Huang (4)	2016	PhD	Biomedical Imaging Consultant, LLC (Syracuse, NY)
Jyotsna Rao* (2)	2016	PhD	Research Associate in Cancer Institute (University of Cambridge, UK)
S. Manjura Hoque* (1)	2014	PhD	Chief Scientific Officer (Atomic Energy Commission, Dhaka, Bangladesh)
Soubantika Palchoudhury* (1)	2013	PhD	Assistant Professor in Chemical Engineering (University of Tennessee, Chattanooga, TN)
Daniel Coman (5)	2008	PhD	Assistant Professor in Radiology & Biomedical Imaging (Yale University, New Haven, CT)
Halima Chahboune (5)	2008	PhD	Assistant Director of Center for Research on Interface Structures and Phenomena (Yale University, New Haven, CT)
Basavaraju G. Sanganahalli (5)	2007	PhD	Associate Research Scientist in Radiology & Biomedical Imaging (Yale University, New Haven, CT)
Manjula Khubchandani* (2)	2006	PhD	Scientist in Medicine (Mt. Sinai Hospital, New York, NY)
Peter Herman (5)	2004	PhD	Associate Research Scientist in Radiology & Biomedical Imaging (Yale University, New Haven, CT)

Fuqiang Xu (5)	2003	PhD	Professor (Wuhan Institute of Physics and Mathematics, Wuhan, China)
Hubert K. Trübel (3)	2002	MD	Scientist (Bayer Health Care AG, Wuppertal, Germany)
Hrachya Nersesyan (3)	2001	MD, PhD	Neurologist (College of Medicine, University of Illinois, Peoria, IL)
Ikuhiro Kida (5)	2001	PhD	Associate Professor (Center for Information and Neural Networks, Osaka, Japan)

FACULTY Mentees (14 total = 4 present + 10 past; females = 3/14)

Name (training in years)	Year	Degree	Current (or last known) Position (¶ funding during mentorship)
¶Junjie Liu (½)	2018	MD, PhD	Clinical Fellow, School of Medicine (Yale University, New Haven, CT)
Daniel Coman (½)	2018	PhD	Assistant Professor of Radiology & Biomedical Imaging (Yale University, New Haven, CT)
¶Lauren A. Baldassarre* (1)	2017	MD	Assistant Professor of Medicine (Yale University, New Haven, CT) - *American Heart Association Career Development Award*
¶Julius Chapiro (1½)	2017	MD	Associate Research Scientist of Radiology & Biomedical Imaging (Yale University, New Haven, CT) - *Society of Interventional Oncology Research Grant on Chemoembolization with Lipiodol*
¶Nikhil Malvankar (1½)	2017	PhD	Assistant Professor of Molecular Biophysics & Biochemistry (Yale University, New Haven, CT) - *DP2 AI-138259 from NIH in USA*
¶Lauren H. Sansing* (1½)	2016	MD	Associate Professor of Neurology (Yale University, New Haven, CT) - *R01 NS-095993 from NIH in USA*
¶Sridhar S. Kannurpatti (2)	2015	PhD	Assistant Professor of Radiology (Rutgers University, Newark, NJ) - *NJCBIR 15-001926 from NJ state in USA*
¶Yuguo Yu (3)	2015	PhD	Professor of Physiology & Biophysics (Fudan University, Shanghai, China) - *016YFC0904400 from Chinese Ministry of Science & Technology*
¶Meser M. Ali (4)	2014	PhD	Senior Scientist of Physics and Engineering (Henry Ford Hospital, Detroit, MI) - *R01 CA-206190 from NIH in USA*
¶Jorge J. Riera (1)	2013	PhD	Associate Professor of Biomedical Engineering (Florida International University, Miami, FL) - *R56 NS-094784 from NIH in USA*
¶Ai-Ling Lin* (3)	2013	PhD	Assistant Professor of Sanders-Brown Center on Aging (University of Kentucky, Lexington, KY) - *K01 AG-040164 from NIH in USA*, *R01 AG-054459 from NIH in USA*
Hisham Alhadlaq (1)	2011	PhD	Associate Professor of Medical Physics and Nanomedicine (King Saud University, Riyadh, Saudi Arabia)
Albert Gjedde (1)	2006	MD, PhD	Professor of Neuroscience & Pharmacology (University of Copenhagen, Copenhagen, Denmark)
¶Paul K. Maciejewski (2)	2003	PhD	Associate Professor of Biostatistics in Radiology (Cornell University, New York, NY) - *K25 NS-044316 from NIH in USA*