

## BIOGRAPHICAL SKETCH

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NAME Chester A Mathis		POSITION TITLE Professor of Radiology, Pharmacology and Pharmaceutical Sciences	
eRA COMMONS USER NAME (credential, e.g., agency login) mathis			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Humboldt State University, Arcata, CA	B.S.	1968-1972	Chemistry
University of California, Davis, CA	Ph.D.	1975-1979	Chemistry
Crocker Nuclear Laboratory, UC Davis, CA	Postdoc	1979-1980	Radiochemistry
Lawrence Berkeley Laboratory, UC Berkeley, CA	Postdoc	1980-1982	Radiochemistry

### A. Personal Statement

Chester A. Mathis has a long standing interest in applying radiochemistry techniques to develop new radiopharmaceuticals to image brain function in normal subjects and patients with a wide variety of psychiatric and neurological disorders. He has published more than 200 peer-reviewed papers, invited contributions, reviews, and book chapters primarily in the area of PET imaging in neuroscience research.

### B. Positions and Honors

#### Positions and Employment

1972-1975 US Navy Submarine Service, Diving/Supply Officer, Pearl Harbor, Hawaii  
1975-1979 Research/Teaching Assistant, Chemistry Department, University of California, Davis, CA  
1979-1980 Postdoctoral Fellow, Crocker Nuclear Laboratory, University of California, Davis, CA  
1980-1982 Postdoctoral Fellow, Lawrence Berkeley Laboratory, University of California, Berkeley, CA  
1982-1983 Radiochemist, PET Center, Clinical Center, NIH, Bethesda, MD  
1983-1992 Staff Scientist, Lawrence Berkeley Laboratory, University of California, Berkeley, CA  
1992-2000 Associate Professor, Depts of Radiology and Pharmaceutical Sciences, University of Pittsburgh  
1992-pres. Senior Chemist, PET Facility, University of Pittsburgh Medical Center, Pittsburgh, PA  
1996-2005 Co-Director, PET Facility, University of Pittsburgh Medical Center, Pittsburgh, PA  
2000-pres. Professor, Department of Radiology, University of Pittsburgh, School of Medicine, Pittsburgh, PA  
2004-pres. Professor of Pharmaceutical Sciences, University of Pittsburgh, School of Pharmacy, Pittsburgh, PA  
2005-pres. Professor of Pharmacology, University of Pittsburgh, School of Medicine, Pittsburgh, PA  
2005-pres. Director, PET Facility, University of Pittsburgh Medical Center, Pittsburgh, PA

#### Selected Honors and Awards

1972 Valedictorian, Class of 1972, Humboldt State University  
1977-1979 Associated Western Universities Fellowship, UC Davis  
1980-1982 NIH National Research Service Award Fellowship, Lawrence Berkeley Laboratory/UC Berkeley  
1995-1999 Member Reviewer, Diagnostic Radiology Study Section, Center for Scientific Review, NIH  
2003 Discover Magazine "100 Top Science Stories of 2002"  
2004 Alzheimer's Association Neuroimaging Award corresponding author for "Best Paper 2002-2004"  
2004 MetLife Foundation "Major Award" in Alzheimer's Disease Research  
2005 Pitt Innovator Award for successful licensed intellectual property, University of Pittsburgh  
2006 Nature Medicine 12:767 (2006): #1 among AD "key papers in the field" published 2003-2006  
2007 Chancellor's Distinguished Research Award, University of Pittsburgh  
2008 Inaugural Recipient of the UPMC Endowed Chair of PET Research, University of Pittsburgh  
2008 Potamkin Award for Alzheimer's Disease Research, American Academy of Neurology  
2009 Ronald and Nancy Reagan Research Award in Alzheimer's Disease, Alzheimer's Association  
2009 Kuhl-Lassen Award, Brain Imaging Council, Society of Nuclear Medicine  
2010 Paul C. Aebersold Award in Basic Science in Nuclear Medicine, Society of Nuclear Medicine

### C. Selected Peer-reviewed Publications (from >160 contributions)

- Friedland RP, Budinger TF, Ganz E, Yano Y, Mathis CA, Koss B, Ober BA, Huesman RH, Derenzo SE. Regional Cerebral Metabolic Alterations in Dementia of the Alzheimer Type: Positron Emission Tomography with [<sup>18</sup>F]Fluorodeoxyglucose. *Journal of Computer Assisted Tomography* 1983; 7:590-598.
- Wang SSH, Mathis CA, Peroutka SJ. R(-)-2,5-Dimethoxy-4-77Br- Bromoamphetamine (77Br-R(-)DOB): A Novel Radioligand Which Labels a 5-HT Binding Site Subtype. *Psychopharmacology* 1988; 94:431-432.
- Bishop JE, Mathis CA, Gerdes JM, Whitney JM, Eaton AM, Mailman RB. Synthesis and In Vitro Evaluation of 2,3-Dimethoxy-5-Fluoroalkyl-Substituted Benzamides: High Affinity Ligands for CNS Dopamine D2 Receptors. *Journal of Medicinal Chemistry* 1991; 34:1612-1624.
- Valk PE, Mathis C, Prados MD, Gilbert JC, Budinger TF. Hypoxia in Human Gliomas: Demonstration by PET with Fluorine-18-Fluoromisonidazole. *Journal of Nuclear Medicine* 1992; 33:2133-2137.
- Mathis CA, Simpson NR, Mahmood K, Kinahan PE, Mintun MA. [<sup>11</sup>C]WAY 100635: A Radioligand for Imaging 5-HT<sub>1a</sub> Receptors with Positron Emission Tomography. *Life Sciences* 1994; 55:PL403-407.
- Mathis CA, Mahmood K, Huang Y, Simpson NR, Gerdes JM, Price JC. Synthesis and Preliminary In Vivo Evaluation of [<sup>11</sup>C]MDL 100907: A Potent and Selective Radioligand for the 5-HT<sub>2a</sub> Receptor System. *Medicinal Chemistry Research* 1996; 6:1-10.
- Drevets WC, Frank E, Price JC, Kupfer DJ, Holt D, Greer PJ, Huang Y, Gautier C, Mathis C. Imaging of serotonin 1A receptor binding in depression. *Biological Psychiatry* 1999; 46:1375-1387
- Meltzer CC, Drevets WC, Price JC, Mathis CA, Lopresti BJ, Villemagne VL, Mason NS, Reynolds CF, DeKosky ST. Gender-Specific Aging Effects on the Serotonin-1A Receptor System. *Brain Research* 2001; 895:9-17.
- Bohnen NI, Kaufer DI, Ivancov LS, Lopresti B, Koeppe RA, Davis JG, Mathis CA, Moore RY, DeKosky ST. Cortical Cholinergic Function Is More Severely Affected in Parkinsonian Dementia Than in Alzheimer Disease. *Archives of Neurology* 2003; 60:1745-1748.
- Venneti S, Lopresti BJ, Wang G, Bissel SJ, Mathis CA, Meltzer CC, Boada F, Capuano III S, Reynolds IJ, Murphey-Corb M, Trichel AM, Wisniewski SR, Wiley CA. PET imaging of brain macrophages using the peripheral benzodiazepine receptor in a macaque model of neuroAIDS. *J. Clinical Invest.* 2004;113:981-989.
- Meltzer CC, Price JC, Mathis CA, Butters MA, Ziolk SK, Moses-Kolko E, Mazumdar S, Mulsant BH, Houck PR, Lopresti BJ, Weissfeld LA, Reynolds CF. Serotonin 1A receptor binding and treatment response in late-life depression. *Neuropsychopharmacology* 2004; 29:2258-2265.
- Mathis CA, Wang Y, Holt DP, Huang G-F, Debnath ML, Klunk WE. Synthesis and Evaluation of <sup>11</sup>C-Labeled 6-Substituted 2-Aryl Benzothiazoles as Amyloid Imaging Agents. *J Med Chem* 46:2740-55 (2003).
- Klunk WE, Engler H, Nordberg A, Wang Y, Blomqvist G, Holt DP, Bergstrom M, Huang G-F, Debnath ML, Barletta J, Price JC, Sandell J, Lopresti BJ, Wall A, Koivisto P, Antoni G, Mathis CA, Langstrom B. Imaging Brain Amyloid in Alzheimer's Disease with Pittsburgh Compound-B. *Annals of Neurology* 55:306-19 (2004).
- Mathis CA, Wang Y, Klunk WE. Imaging  $\beta$ -Amyloid Plaques and Neurofibrillary Tangles in the Aging Human Brain. *Current Pharmaceutical Design* 10: 1469-92 (2004).
- Buckner RL, Snyder AZ, Shannon BJ, LaRossa G, Sachs R, Fotenos AF, Sheline YI, Klunk WE, Mathis CA, Morris JC, Mintun MA. Molecular, structural, and functional characterization of Alzheimer's disease: evidence for a relationship between default activity, amyloid, and memory. *J Neurosci.* 2005; 25:7709-17.
- Mathis CA, Klunk WE, Price JC, DeKosky ST. Imaging technology for neurodegenerative diseases: Progress toward detection of specific pathologies. *Arch Neurology* 62:196-200 (2005).
- Bohnen NI, Kaufer D, Hendrickson R, Lopresti BJ, Mathis CA, Moore RY, DeKosky ST. Cognitive correlates of cortical cholinergic denervation in Parkinson's disease and parkinsonian dementia. *J Neurol* 2006; 253:242-7.
- Mintun MA, Larossa GN, Sheline YI, Mach RH, Klunk WE, Mathis CA, DeKosky ST, Morris JC. [<sup>11</sup>C]PIB in a nondemented population: potential antecedent marker of Alzheimer disease. *Neurology* 2006; 67:446-52.
- Ikonomovic MD, Klunk WE, Abrahamson EE, Mathis CA, Price JC, Tsopelas ND, Lopresti BJ, Ziolk SK, Bi W, Paljug WR, Debnath ML, Isanski BA, Hamilton RL and DeKosky ST. Post-mortem correlates of in vivo PiB-PET amyloid imaging in a typical case of Alzheimer's disease. *Brain* 2008; 131:1630-1645.
- Aizenstein HJ, Nebes RD, Saxton JA, Price JC, Mathis CA, Tsopelas ND, Snitz B, Houck P, Bi W, Cohen A, Lopresti BJ, DeKosky ST, Halligan E, Klunk WE. Amyloid deposition is frequent and often is not associated with significant cognitive impairment in the elderly. *Arch Neurol* 2008; 65:1509-17.
- Wiley CA, Lopresti BJ, Venneti S, Price JC, Klunk WE, DeKosky ST, Mathis CA. Carbon 11-labeled Pittsburgh Compound B and carbon 11-labeled (R)-PK11195 positron emission tomography imaging in Alzheimer's disease. *Archives of Neurology* 2009; 66:60-68.
- Jagust WJ, Landau SM, Shaw LM, Trojanowski JQ, Koeppe RA, Reiman EM, Foster N, Petersen RC, Weiner MC, Price J, Mathis CA. Relationships between biomarkers in aging and dementia. *Neurol* 2009; 73:1193-99.