

SHORT BIOSKETCH



Dr. Frederick T. Chin

Assistant Professor, Department of Radiology
Principal Investigator, Translational Radiopharmaceutical Sciences and
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Stanford University School of Medicine
Stanford, CA USA

Education

Indiana University, Bloomington, IN
B.S. Chemistry with Honors; Minors: Biology and Mathematics, 1991
Purdue University, West Lafayette, IN, USA
Ph.D., Organic Chemistry/Radiochemistry, December 2000

Careers

2013 – present	Assistant Professor, Department of Radiology
2005 – present	Head, Cyclotron Radiochemistry Director, Cyclotron and Radiochemistry Facility Stanford University School of Medicine
2010 – 2013	Instructor, Molecular Imaging Program (Stanford University)
2002 – 2005	Postdoctoral Fellow (Dr. Victor Pike), National Institute of Mental Health
2000 – 2002	Postdoctoral Fellow (Dr. Henry VanBrocklin), Lawrence Berkeley National Laboratory

Short Biography

Dr. Frederick T. Chin is an Assistant Professor in the Department of Radiology at Stanford University and the Director of the Cyclotron and Radiochemistry Program. Dr. Chin has nearly 25 years of experience in the field of radiopharmaceutical and tracer development for molecular imaging. Dr. Chin completed an NIH postdoctoral fellow in the National Institute of Mental Health where he made and developed many radiopharmaceuticals that were used to study neuropsychiatric-related disorders such as stress, anxiety and Alzheimer's disease. As Director of

the Cyclotron and Radiochemistry Facility since 2005, he supervises the program development of PET/SPECT probes for molecular imaging at Stanford, which involves more than 30 radiochemistry/chemistry personnel including faculty, staff, postdocs, and graduate students. Dr. Chin's research areas of interest include developing new strategies for: 1) novel radioligand and radiotracer development for various targets involved in brain and cancer biology, 2) radiolabeling methods of molecules/peptides/antibodies, and 3) clinical translation of useful radiopharmaceuticals for early-detection of disease and monitoring therapy. Dr. Chin continues to develop novel tracers for positron emission tomography and have translated over 40 radiolabeled compounds for clinical imaging in his career. He is currently leading two PET-MR centric projects including a NIH R01 funded project entitled "Cross-Species Multi-Modal Neuroimaging to Investigate GABA Physiology in Fragile X Syndrome" as well as his first-in-human studies using clinical grade ^{18}F -FTC-146 used for imaging sigma-1 receptors (S1Rs).

Representative Publications

1. Hjørnevik T, Cipriano PW, Shen B, Gulaka P, Holley D, Gandhi H, McCurdy CR, Biswal S, and **Chin FT**. (2017) "Radiation dosimetry and biodistribution of [^{18}F]FTC-146 in humans". *Journal of Nuclear Medicine and Molecular Imaging*, 58(12):2004-2009.
2. Shen B, Park JH, Hjørnevik T, Cipriano PW, Yoon D, Gulaka PK, Holly D, Behera D, Avery BA, Gambhir SS, McCurdy CR, Biswal S, and **Chin FT**. (2017) "Radiosynthesis and First-in-human PET/MRI Evaluation with Clinical-grade [^{18}F]FTC-146." *Molecular Imaging and Biology*, 19(5):779-786
3. Shen B, Behera D, James ML, Mavlyutov T, Ruoho A, Borgohain P, Andrews L, Patankar M, McCurdy CR, Biswal S, and **Chin FT**. (2017) "PET/MRI Imaging of Peripheral Neural Sigma-1 Receptor Expression in a Neuropathic Pain Model." *Theranostics*, 7(11):2794-2805.
4. Witney TH, James ML, Shen B, Pohling C, Chang E, Arksey N, Bodapati D, Weber J, Hoehne A, Gowrishankar G, **Chin FT**, and Gambhir SS. (2015) "Imaging tumour glycolysis downstream of hexokinase through noninvasive measurement of pyruvate kinase M2 by positron emission tomography." *Science Translational Medicine*, 7(310):310ra169.
5. James ML, Belichenko N, Nguyen TV, Andrews L, Liu H, Bodapati D, Shen B, Cheng Z, Gambhir SS, Longo FM, **Chin FT**. (2015) "Multimodality molecular imaging of translocator protein (18kDa) in a mouse model of Alzheimer's disease using [^{18}F]PBR06." *Journal of Nuclear Medicine*, 56(2): 311-316.
6. James ML, Shen B, Nielsen CH, Behera D, Buckmaster CL, Mesangeau C, Zavaleta C, Vuppala PK, Jamalapuram S, Avery BA, Lyons DM, McCurdy CR, Biswal S, Gambhir SS, and **Chin FT**. "Evaluation of Sigma-1 Receptor Radioligand [^{18}F]FTC-146 in Rats and Squirrel Monkeys using Positron Emission Tomography." *Journal of Nuclear Medicine*, **2014**, 55(1):147-153.
7. Shen BS, Jeon J, Palner M, Ye D, Shuhendler A, **Chin FT**, and Rao J. "Positron Emission Tomography Imaging of Drug-Induced Tumor Apoptosis with a Caspase-Triggered Nano-aggregation Probe." *Angewandte Chemie*, **2013**, 52 (40): 10511-10514. (Inside cover story)
8. Hoehne A, Behera D, Parsons WH, James ML, Shen B, Borgohain P, Bodapati D, Prabhakar A, Gambhir SS, Yeomans DC, Biswal S, **Chin FT**, and Du Bois J. "A ^{18}F -labeled saxitoxin derivative for *in vivo* PET-MR imaging of voltage-gated sodium channel expression following nerve injury." *Journal of the American Chemical Society*, **2013**, 135(48):18012-18015

9. James ML, Shen B, Zavaleta C, Nielsen CH, Berganos RA, Mesangeau C, Vupalla PK, Avery BA, Shaikh J, Matsumoto RR, Gambhir SS, McCurdy CR, and **Chin FT**. "A New Positron Emission Tomography (PET) Radioligand for Imaging Sigma-1 Receptors in Living Subjects." *Journal of Medicinal Chemistry*. **2012**, 55(19), 8272-82.
10. Jeon J, Shen B, Xiong L, Miao Z, Gambhir SS, Rao J, and **Chin FT**. "An Efficient and Site-specific ^{18}F -Labeling Method Using the Rapid Condensation Reaction between 2-Cyanobenzothiazole and Cysteine." *Bioconjugate Chemistry*. **2012**, 23(9), 1902-8.