

# SinchaiTsao

Postdoctoral Fellow

## contact

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## languages

english mother tongue  
chinese cantonese  
chinese mandarin  
thai (spoken only)  
japanese  
(conversational)

## programming

C++, OpenMP, ITK,  
VTK, MATLAB, JAVA,  
SQL

## education

- On-going **Postdoctoral Fellow in Pediatrics / Bioengineering** University of Washington  
Advisor: Colin Studholme, PhD
- 2013 **Doctor of Philosophy in Biomedical Engineering** University of Southern California  
Advisor: Natasha Lepore, PhD & Manbir Singh, PhD
- Master of Science in Electrical Engineering**  
**Master of Science in Biomedical Engineering**
- 2004 **Bachelor of Science in Biophysics**  
**Bachelor of Arts in International Relations** Brown University

## experience

- 2013- **Biomedical Image Computing Group** University of Washington, Seattle, WA, USA  
**PI: Colin Studholme, PhD**  
*Senior Fellow*
- 2012-2013 **CIBORG** Children's Hospital Los Angeles / USC, Los Angeles, California, USA  
**PI: Natasha Lepore PhD**  
*Research Assistant*
- 2008-2013 **Biomedical Imaging Laboratory** USC, Los Angeles, California, USA  
**PI: Manbir Singh PhD / Meng Law MD (2012-)**  
*Research Assistant*
- 2010-2011 **Iridescent Learning** Los Angeles, California, USA  
**A 501(c)3 Science and Engineering Outreach Non-Profit**  
*Director of IT*
- 2009-2010 **Iridescent Learning** Los Angeles, California, USA  
**A 501(c)3 Science and Engineering Outreach Non-Profit**  
*Director of Engineering Curriculum*
- 2006-2008 **Image Processing and Informatics Lab** USC, Los Angeles, California, USA  
**PI: Bernie H.K. Huang ScD and Brent J. Liu PhD**  
*Research Assistant*

## service

### Reviewer for:

Journals: Medical Image Analysis, Neuroimage, IEEE Trans. Biomedical Engineering

Conferences: ISBI, OHBM

2014-15	<b>Co-Chair</b> <b>University of Washington Postdoctoral Association</b>	University of Washington
2012-13	<b>President and Founder</b> <b>Graduate Students of Biomedical Engineering</b>	University of Southern California
2009	<b>Co-Chair</b> <b>13th Annual Fred S. Grodins Graduate Research Symposium</b>	

## awards

2013	<b>Department Service Award</b> Department of Biomedical Engineering, Viterbi School of Engineering	University of Southern California
2011	<b>Poster Award</b> 15th Annual Fred S. Grodins Graduate Research Symposium	University of Southern California
2010	<b>Poster Award</b> 14th Annual Fred S. Grodins Graduate Research Symposium	University of Southern California
2010-2011	<b>Iridescent Learning Teaching Fellowship</b> Inaugural Fellowship for PhD students to do Science Outreach.	Iridescent Learning, Los Angeles, CA, USA
2007	<b>Runner-up Platform Award</b> 11th Annual Fred S. Grodins Graduate Research Symposium	University of Southern California

## Teaching Experience

Spring 2012	<b>PHY 151Lg - Mechanics and Thermodynamics</b> <b>Laboratory Instructor</b> Undergraduate Sciences Core Curriculum.	University of Southern California, Los Angeles, CA, USA
2009	<b>AME 490 - Engineering / Science Outreach</b> <b>Instructor</b> Undergraduate / Graduate Level	University of Southern California, Los Angeles, CA, USA
Spring 2008	<b>BME 528 - Medical Imaging Informatics</b> <b>Teaching Assistant</b> Graduate Level Medical Imaging Core Curriculum.	University of Southern California, Los Angeles, CA, USA
Spring 2007	<b>BME 210 - Biomedical Computer Simulation Methods</b> <b>Teaching Assistant</b> Undergraduate Biomedical Engineering Core Curriculum.	University of Southern California, Los Angeles, CA, USA
Fall 2007	<b>BME 527 - Integration of Medical Imaging Systems</b> <b>Teaching Assistant</b> Graduate Level Medical Imaging Core Curriculum.	University of Southern California, Los Angeles, CA, USA
Fall 2006	<b>BME 423 - Statistical Methods in Biomedical Engineering</b> <b>Teaching Assistant</b> Undergraduate / Graduate Level.	University of Southern California, Los Angeles, CA, USA

## Invited Talks

- Spring 2013 **BME 425 - Medical Imaging**  
**Invited Speaker** University of Southern California, Los Angeles, CA, USA  
Invited Lecture on MR Physics
- Spring 2012 **Neuroradiology Grand Rounds**  
**Invited Speaker** University of Southern California, Los Angeles, CA, USA  
Mapping the Effects of ApoE-E4 in Dementia using Diffusion MRI

## Select Publications

### Peer-Reviewed Journals

- Insulin sensitivity and brain reward activation in overweight Hispanic girls: a pilot study  
T C Adam, S Tsao, K A Page, H Hu, R E Hasson, M I Goran  
*Pediatric Obesity* 10.1 (Dec. 2013) pp. 30–36. 2013
- Neuroimaging Changes in the Brain in Contact versus Noncontact Sport Athletes Using Diffusion Tensor Imaging  
N Gajawelli, Y Lao, M L J Apuzzo, R Romano, C Liu, S Tsao, D H Hwang, B Wilkins, N Lepore, M Law  
*World Neurosurgery* 80.6 (Dec. 2013) pp. 824–828. 2013

### International Peer-Reviewed Conferences/Proceedings

- TractRender: a new generalized 3D medical image visualization and output platform  
D H Hwang, S Tsao, N Gajawelli  
*10th International Symposium on Medical Information Processing and Analysis*, 2015
- Mapping of ApoE4 Related White Matter Damage using Diffusion MRI.  
S Tsao, N Gajawelli, D H Hwang, S Kriger, M Law, H Chui, M Weiner, N Lepore  
*Proceedings - Society of Photo-Optical Instrumentation Engineers*, 2014
- The Power of Hybrid/Fusion Imaging Metrics in Future PACS Systems: A Case Study into the White Matter Hyperintensity Penumbra using FLAIR and Diffusion MR.  
S Tsao, S J Ma, P A Michels, N Gajawelli, M Law, H Chui, N Lepore  
*Proceedings - Society of Photo-Optical Instrumentation Engineers*, 2014
- Evaluating the Predictive Power of Multivariate Tensor-based Morphometry in Alzheimers Disease Progression via Convex Fused Sparse Group Lasso.  
S Tsao, N Gajawelli, J Zhou, J Shi, J Ye, Y Wang, N Lepore  
*Proceedings - Society of Photo-Optical Instrumentation Engineers*, 2014
- Novel MRI methodology to detect human whole-brain connectivity changes after ingestion of fructose or glucose  
S Tsao, B Wilkins, K A Page, M Singh  
*Proceedings - Society of Photo-Optical Instrumentation Engineers*, 2012
- CSF Contamination Correction in DTI Tractography of the Fornix in Elderly Subjects  
S Tsao, D H Hwang, M Singh  
*Proc Intl Soc Mag Reson Med*, 2010, Stockholm
- RadSearch: a RIS/PACS integrated query tool  
S Tsao, J Documet, P Moin, K Wang, B J Liu  
*Proceedings - Society of Photo-Optical Instrumentation Engineers*, 2008
- Web-based computer-aided-diagnosis (CAD) system for bone age assessment (BAA) of children  
A Zhang, J Uyeda, S Tsao, K Ma, L A Vachon, B J Liu, H K Huang  
*Proceedings - Society of Photo-Optical Instrumentation Engineers*, 2008