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CURRICULUM VITAE

A. **Personal Information:**

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| Name | Ou Tan |
| Title | Assistant Professor of Research Ophthalmology |
| Business Address | University of Southern California Doheny Eye Institute 1355 San Pablo Street, DVRC 160 Los Angeles, CA 90033 |
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B. **Education:**

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| Ph.D, 2000 | Zhejiang University, China, Major in Biomedical Engineering |
| M.S., 1996 | University of Electronic Science and Technology of China. Major in Electric and Magnetic Engineering, |
| B.S., 1993 | Chongqing University, China. Major in Biomedical Engineering |

C. **Professional Background:**

Academic appointments

Assistant Professor of Research ophthalmology
University of Southern California, Los Angeles, CA, 9/2004-current

Research associate
Cleveland Clinic Foundation, Cleveland, OH, 6/2002 – 8/2004

Post-doctoral research fellow
National Institute of Radiological Sciences, Japan, 7/2000 – 5/2002

Research Assistant
Zhejiang University, 3/1996-12/1999

Teaching experience

Lectures on Signal Processing and Image Processing for master students
Zhejiang University, 1998-1999

D. **Society Memberships**

National

IEEE-Institute of Electrical and Electronics Engineers, 1998-current
ARVO-The Association for Research on Vision and Ophthalmology, 2003-current
SigmaXi, 2008

F. **Research Activities**

Major Areas of Research Interest

Optical coherence tomography, Biomedical image processing, Visualization of Three-dimensional medical image

Research in Progress

Analysis of Glaucoma with Fourier Domain Optical Coherence Tomography (FD-OCT)

Analysis of Diabetic Macular Edema with FD-OCT

Analysis of Optic nerve diseases with FD-OCT

Analysis of Retinal diseases with FD-OCT

Doppler Blood flow measurement with FD-OCT

Research Grants in Past Five Years

1. Advance imaging in Glaucoma, \$ 6,000,000.

National Institutes of Health, NIH R01 EY013516
2003-2008, Co-Investigator

2. Advance imaging in Glaucoma, \$ 8,000,000.

National Institutes of Health, NIH 2R01 EY013516
2008-2013, Co-Investigator

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PEER REVIEW

1. O. Tan, V. Chopra, A.T. Lu, J.S. Schuman, H. Ishikawa, G. Wollstein, R. Varma, and D. Huang, "Detection of Macular Ganglion Cell Loss in Glaucoma by Fourier-Domain Optical Coherence Tomography," *Ophthalmology*, vol. 116, no. 12, 2009, pp. 10
2. Y. Wang, A. Fawzi, O. Tan, J. Gil-Flamer, and D. Huang, Retinal blood flow detection in diabetic patients by Doppler Fourier domain optical coherence tomography, *Opt Express*, vol. 17, pp. 4061-73, Mar 2 2009.

3. Y. Wang, A. Lu, J. Gil-Flamer, O. Tan, J. A. Izatt, and D. Huang, Measurement of total blood flow in the normal human retina using Doppler Fourier-domain optical coherence tomography, *Br J Ophthalmol*, vol. 93, pp. 634-7, May 2009.
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5. J. I. Lim, O. Tan, A. A. Fawzi, J. J. Hopkins, J. H. Gil-Flamer, and D. Huang, A pilot study of Fourier-domain optical coherence tomography of retinal dystrophy patients, *Am J Ophthalmol*, vol. 146, pp. 417-426, Sep 2008.
6. O. Tan, G. Li, A. T. Lu, R. Varma, and D. Huang, Mapping of macular substructures with optical coherence tomography for glaucoma diagnosis, *Ophthalmology*, vol. 115, pp. 949-56, Jun 2008.
7. Y. Wang, B. A. Bower, J. A. Izatt, O. Tan, and D. Huang, "Retinal blood flow measurement by circumpapillary Fourier domain Doppler optical coherence tomography," *J Biomed Opt*, vol. 13, p. 064003, Nov-Dec 2008
8. Y. Wang, BA Bower, J. Izatt, O. Tan, et al, In Vivo Total Retinal Blood Flow Measurement by Fourier Domain Doppler Optical Coherence Tomography, *J Biomed Opt* 12 (4), 041215, 2007
9. SR Sadda, O. Tan, AC Walsh, JS Schuman, R. Varma, D. Huang, Automated Detection of Clinically Significant Macular Edema by Grid Scanning Optical Coherence Tomography. *Ophthalmology*, 113(7), 1187-1196, 2006.7
10. O. Tan, H. Duan, W. Lu, Review on Segmentation and Classification of Three-dimensional Medical Image. *Chinese Journal of Medical Instrumentation*, 26(3), 197-206, 2002.6
11. H. Duan, C. Jia, O. Tan, W. Lu, Genetic Algorithm for Medical Image Matching. *Chinese Journal of Biomedical Engineering*, 20(4), 364-370, 2001.8
12. H. Duan, O. Tan, C. Jia, W. Lu, Segmentation and Classification of VHP Dataset Based on Atlas Matching, *Chinese Journal of Biomedical Engineering*, 20(3), 248-253, 2001.6
13. C. Jia, O. Tan, X. Lu, H. Duan, W. Lu, Automatic Image Matching of the Visible Human Dataset, *Chinese Journal of Biomedical Engineering*, 20(2), 143-147, 2001.4
14. Y. Li, O. Tan, H. Duan, Review on Visualization of Three-dimensional Medical Image, *Chinese Journal of image and graphics*, 6(2), 103-110, 2001.2
15. O. Tan, C. Jia, H. Duan, W. Lu. Segmentation and Classification of MR Images Based on FCM Clustering Algorithm and Computerized Brain Atlas, *Chinese Journal of Software*, 10(4), 652-657, 1999.6
16. C. Jia, O. Tan, H. Duan. W. Lu. Medical Image Matching Based on Active Contour, *Chinese Journal of Computer Aided Design and graphics*, 11(2), 115-119, 1999.3
17. O. Tan, H. Duan, W. Lu. Automatic Segmentation and Classification of Human Brain Image Based on a Fuzzy Brain Atlas. *Proceeding of SPIE*, 3545, 508-511, 1998
18. Z. He, O. Tan, Digital Multi-beam Forming Technique, *Journal of UEST of China*, 8, 234, 1996

BOOK CHAPTERS

1. D Huang, **O. Tan**, J. Fujimoto, W Drexler, J Deboer, M Woktkowski, A kowalczyk, Optical Coherence Tomography, In: Retinal Imaging, Graphic World Publishing Services, 2005
2. D Huang, O. Tan, Introduction to RTVue for Glaucoma Analysis, In: RTVue Fourier Domain Optical Coherence Tomography Primer Series: Vol. III Glaucoma, Editor: Robertr N Weinreb and Rohit Varma, Optovue, 2009

PATENT

1. Method and apparatus for measuring a retinal sublayer characteristic, US Serial No. 10/833,524, filed April 28, 2004
2. Mapping and Diagnosis of Macular Edema by Optical Coherence Tomography, US Serial No. 11/743,135, filed May 1, 2007
3. Pattern Analysis of Retina Map for the Diagnosis of Optic Nerve Disease by Optical Coherence Tomography, US Serial No. 60/944,449 (provisional application), filed June 11, 2007

ABSTRACTS

1. Tan O. Fourier-Domain Optical Coherence Tomography Parameter Combination for Glaucoma Diagnosis ARVO/ISIE. Fort Lauderdale, 2009.
2. Tan, V. Chopra, R. Varma, and D. Huang, Automated Disc Boundary Detection on Optical Coherence Tomography Optic Nerve Head Scans in *ARVO* Fort Lauderdale, 2009, pp. E-abstract#356.
3. Y. Wang, A. Fawzi, D. Aggarwal, O. Tan, A. A. Sadun, and D. Huang, Doppler Optical Coherence Tomography Measurement of Retinal Blood Flow in Optic Neuropathies and Retinal Diseases in *ARVO* Fort Lauderdale, 2009, pp. E-abstract#1383.
4. Tan, A. T. Lu, V. Chopra, R. Varma, H. Ishikawa, G. Wollstein, J. S. Schuman, and D. Huang, "Glaucoma Diagnosis by Mapping Peripapillary Nerve Fiber Layer Thickness With Fourier Domain Optical Coherence Tomography," in *ARVO* Fort Lauderdale, 2008, pp. E-abstract#4655.
5. Y. Wang, O. Tan, and D. Huang, "Investigation of Retinal Blood Flow in Glaucoma Patients by Fourier-Domain Doppler Optical Coherence Tomography," in *ARVO* Fort Lauderdale, 2008, pp. E-abstract#1872.
6. **Tan**, V.Chopra, D.Huang, R.Varma, Advanced Imaging for Glaucoma Study Group,Glaucoma Diagnosis by Mapping the Macula with Fourier Domain Optical Coherence Tomography, ARVO, 2007
7. Lu AT, Chopra V, Tan O, Schuman JS, Huang D, Advanced Imaging for Glaucoma Study Group, Magnification Correction in the Diagnosis of Glaucoma With Optical Coherence Tomography, Invest Ophthalmol Vis Sci 2007;ARVO E-Abstract:#508
8. Wang Y, Tan O, Huang D, In Vivo Retinal Blood Flow Measurement by Fourier-Domain Doppler Optical Coherence Tomography, Invest Ophthalmol Vis Sci 2007;ARVO E-Abstract:#4399

9. Lim Ji, Tan O, Fawzi AA, Hopkins J, Gil-Flamer JH, Huang D, Fourier Domain OCT of Retinal Dystrophy Patients Compared to Normal Controls, Invest Ophthalmol Vis Sci 2007;ARVO E-Abstract:#4499
10. AA Fawzi, JJ Hopkins, O Tan, D Huang, [High-Speed High-Resolution Optical Coherence Tomography in Age-related Macular Degeneration](#) *American Academy of Ophthalmology Annual Meeting*, Las Vegas, NV, November 2006
11. V Chopra, O Tan, D Huang, Advanced Imaging for Glaucoma Study Group, [Glaucoma Detection using High-speed High-resolution Optical Coherence Tomography](#) *American Academy of Ophthalmology Annual Meeting*, Las Vegas, NV, November 2006
12. G.Li, **O.Tan**, R.Varma, D.Huang, Advanced Imaging for Glaucoma Study Group, Mapping of Macular Substructures With Optical Coherence Tomography for Glaucoma Diagnosis, ARVO, 2006
13. **O.Tan**, S.Sadda, A.Walsh, J.S. Schuman, H.Ishikawa, G.Wollstein, D.Huang. Automated grading of diabetic macular edema by grid scanning optical coherence Tomography, ARVO, 2006
14. **O.Tan**, V.Chopra, D.Huang, R.Varma, Advanced Imaging for Glaucoma Study Group, Optical Coherence Tomography Grid Scanning of Macular Inner Retinal Layer Thickness for Glaucoma Diagnosis, ARVO, 2005
15. **O. Tan**, D. Huang, Grid Scanning for Thickness Mapping of Inner Retinal Layers with Optical Coherence Tomography, ISIE, 2004
16. **O. Tan**, J. Schuman, D. Huang, Measurement of Retinal Ganglion Cell Layer and Inner Plexiform Layer Thickness with Optical Coherence Tomography, ARVO, 2004
17. **O. Tan**, Y. Li, D. Huang, Measurement of Retinal Ganglion Cell Layer and Inner Plexiform Layer Thickness with Optical Coherence Tomography, ARVO, 2003

NON PEER REVIEW

1. **O. Tan**, A. Lu, V. Chopra, R. Varma, I. Hiroshi, J. Schuman, and D. Huang, Glaucoma diagnosis by mapping macula with Fourier domain optical coherence tomography, in *SPIE Medical Imaging*. vol. 6915, M. L. Giger and N. Karssemeijer, Eds. San Diego, 2008, p. 69153L.
2. Yan Li, **Ou Tan**, Huilong Duan, Weixue Lu. Knowledge-based Tumor Segmentation in MR Images. Proceedings of IEEE-EMBS Asia-Pacific Conference on Biomedical Engineering. 256-257, 2000.9
3. **Ou Tan**, Huilong Duan, Weixue Lu. The Utility of the Virtual Brain in Segmentation/Labelling of Human Brain. Proceedings of IEEE-EMBS Asia-Pacific Conference on Biomedical Engineering, 334-335, 2000.9
4. Yan Li, **Ou Tan**, Huilong Duan, Weixue Lu. Comparison of Image Fusion Methods in Atlas-based Medical Image Analysis. Proceedings of IEEE-EMBS Asia-Pacific Conference on Biomedical Engineering, 290-291, 2000.9
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Proceeding of Computer Assisted Radiology and Surgery, 567-571, 2000.6-7
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Proceeding of Computer Assisted Radiology and Surgery 1998, 153 –158, 1998.6
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Proceedings of 20th Annual International Conference of the IEEE EMBS, 556-558, 1998.10
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Automatic segmentation and classification of human brain images based on TT atlas.
Proceedings of 20th Annual International Conference of the IEEE EMBS, 700-702, 1998
- 9.** **Ou Tan**, Zhengquan He.
The Calculation and Simulation of Ultrasonic Field of Array Transducer with Dynamic Focusing and Dynamic Apodization. Proceeding of BME Joint Academic Annual Meeting of China, Beijing, 1995
- 10.** Tan. T. Ichimiya, F. Yasuno, T. Suhara.
Semi-automatic volumetrics system to parcellate ROI on neocortex, Proceedings of SPIE Volume: 4684, 1734-1741, 2002