

# Curriculum Vitae

Yu-Chong Tai, PhD.

Anna L. Rosen Professor of EE and MedE

Andrew and Peggy Cherng Leadership Professor of Medical Engineering (MedE)  
Executive Officer (i.e., Chair) of the Department of Medical Engineering (MedE)

Mail Stop 136-93

California Institute of Technology (Caltech)

Pasadena, CA 91125

Tel: (626) 395-8317, E-mail: [yctai@mems.caltech.edu](mailto:yctai@mems.caltech.edu)

Website: <http://mems.caltech.edu>

## Publication

According to Google Scholar, Tai has published >800 articles (including technical articles and patent filings) with >31,000 citations in the MEMS field. Publication list is available at <https://mems.caltech.edu>.

## REFEREED JOURNAL ARTICLES

1. Abiri, Parinaz, Yuan Luo, Zi-Yu Huang, Qingyu Cui, Sandra Duarte-Vogel, Mehrdad Roustaei, Chih-Chiang Chang et al. "3-Dimensional electrical impedance spectroscopy for in situ endoluminal mapping of metabolically active plaques." *Sensors and Actuators B: Chemical* 354 (2022): 131152.
2. Lu, Chen-Hsuan, Kuang-Ming Shang, Shi-Ri Lee, Yu-Chong Tai, and Nai-Chang Yeh. "Graphene on Nanoscale-Thick Au Films: Implications for Anticorrosion in Smart Wearable Electronics." *ACS Applied Nano Materials* 5, no. 3 (2022): 4343-4349.
3. Shahrestani, Shane, Gabriel Zada, and Yu-Chong Tai. "Development of computational models for microtesla-level magnetic brain scanning: a novel avenue for device development." *BMC Biomedical Engineering* 4, no. 1 (2022): 1-11.
4. Shang, Kuang-Ming, Hirotake Komatsu, and Yu-Chong Tai. "Oxygen-Transporting Parylene-HT Mesh for Cell Transplantation to Reduce Hypoxia." In *2021 IEEE 34th International Conference on Micro Electro Mechanical Systems (MEMS)*, pp. 458-461. IEEE, 2021.
5. Cook, Colin A., Seonah Kang, Jianming Lu, Yu-Chong Tai, Saswati Chatterjee, and Yuman Fong. "Intensified Production of Vaccinia-Based Oncolytics in the High Density Cell Respirator (HDCR) Bioreactor Improves Vaccine Logistics and Economics." *Molecular Therapy* 29, no. 4, S1 (2021): 397-398.
6. Shahrestani, Shane, Gabriel Zada, Tzu-Chieh Chou, Brandon Toy, Bryan Yao, Norman Garrett, Nerses Sanossian, Andrew Brunswick, Kuang-Ming Shang, and Yu-Chong Tai. "Noninvasive transcranial classification of stroke using a portable eddy current damping sensor." *Scientific reports* 11, no. 1 (2021): 1-11.
7. Shahrestani, Shane, Danielle Wishart, Sung Min J. Han, Ben A. Strickland, Joshua Bakhsheshian, William J. Mack, Arthur W. Toga, Nerses Sanossian, Yu-Chong Tai, and

- Gabriel Zada. "A systematic review of next-generation point-of-care stroke diagnostic technologies." *Neurosurgical Focus* 51, no. 1 (2021): E11.
8. Shahrestani, Shane, Ben A. Strickland, Joshua Bakhsheshian, William J. Mack, Arthur W. Toga, Nerses Sanossian, Yu-Chong Tai, and Gabriel Zada. "Transcranial eddy current damping sensors for detection and imaging of hemorrhagic stroke: feasibility in benchtop experimentation." *Neurosurgical focus* 51, no. 1 (2021): E15.
  9. Shahrestani, Shane, Tzu-Chieh Chou, Kuang-Ming Shang, Gabriel Zada, Zea Borok, Adupa P. Rao, and Yu-Chong Tai. "A wearable eddy current based pulmonary function sensor for continuous non-contact point-of-care monitoring during the COVID-19 pandemic." *Scientific reports* 11, no. 1 (2021): 1-10.
  10. Chang, Chih-Chiang, Zi-Yu Huang, Shu-Fu Shih, Yuan Luo, Arthur Ko, Qingyu Cui, Jennifer Sumner et al. "Electrical impedance tomography for non-invasive identification of fatty liver infiltrate in overweight individuals." *Scientific reports* 11, no. 1 (2021): 1-12.
  11. Xu, Huizhuo, Xingwu Zhong, Changlin Pang, Jing Zou, Wangling Chen, Xianggui Wang, Shanxiang Li et al. "First human results with the 256 channel Intelligent Micro Implant Eye (IMIE 256)." *Translational vision science & technology* 10, no. 10 (2021): 14-14.
  12. Luo, Yuan, Dong Huang, Zi-Yu Huang, Tzung K. Hsiai, and Yu-Chong Tai. "An ex vivo study of outward electrical impedance tomography (OEIT) for intravascular imaging." *IEEE Transactions on Biomedical Engineering* 69, no. 2 (2021): 734-745.
  13. Abiri, Parinaz, Sandra Duarte-Vogel, Tzu-Chieh Chou, Arash Abiri, Varun Gudapati, Alireza Yousefi, Mehrdad Roustaei et al. "In Vivo Intravascular Pacing Using a Wireless Microscale Stimulator." *Annals of Biomedical Engineering* 49, no. 9 (2021): 2094-2102.
  14. Abiri, Parinaz, Sandra Duarte-Vogel, Tzu-Chieh Chou, Arash Abiri, Varun Gudapati, Alireza Yousefi, Mehrdad Roustaei et al. "In Vivo Intravascular Pacing Using a Wireless Microscale Stimulator." *Annals of Biomedical Engineering* (2021): 1-9.
  15. Abiri, Parinaz, Alireza Yousefi, Arash Abiri, Varun Gudapati, Yichen Ding, Kim-Lien Nguyen, Ahmad Abiri, Dejan Markovic, Yu-Chong Tai, and Tzung K. Hsiai. "A Multi-Dimensional Analysis of a Novel Approach for Wireless Stimulation." *IEEE Transactions on Biomedical Engineering* (2020).
  16. Abiri, Parinaz, Yuan Luo, Zi-Yu Huang, Mehrdad Roustaei, Sandra Duarte-Vogel, Quinyu Cui, René R. Sevag Packard et al. "Three-Dimensional Impedance Tomographic Mapping of Metabolically Active Endolumen." (2020).
  17. Komatsu, Hirotake, Nelson Gonzalez, Mayra Salgado, Colin A. Cook, Junfeng Li, Jeffrey Rawson, Keiko Omori, Yu-Chong Tai, Fouad Kandeel, and Yoko Mullen. "A subcutaneous pancreatic islet transplantation platform using a clinically applicable, biodegradable Vicryl mesh scaffold-an experimental study." *Transplant International* 33, no. 7 (2020): 806-818.

18. Komatsu, Hirotake, Jeffrey Rawson, Leonard Medrano, Colin A. Cook, Alyssa Barriga, Nelson Gonzalez, Mayra Salgado et al. "Optimizing temperature and oxygen supports long-term culture of human islets." *Transplantation* 103, no. 2 (2019): 299-306.
19. Komatsu, Hirotake, Colin A. Cook, Nelson Gonzalez, Leonard Medrano, Mayra Salgado, Feng Sui, Junfeng Li, Fouad Kandeel, Yoko Mullen, and Yu-Chong Tai. "Oxygen transporter for the hypoxic transplantation site." *Biofabrication* (2018).
20. Yang, Qianhui, Juan Carlos Martinez-Camarillo, Colin A. Cook, Nicholas Scianmarello, Yu-Chong Tai, Amir H. Kashani, and Mark S. Humayun. "Effectiveness and Safety of a phototherapeutic contact lens for Diabetic Retinopathy." *Investigative Ophthalmology and Visual Science* 59, no. 9 (2018).
21. Luo, Yuan, Parinaz Abiri, Shell Zhang, Chih-Chiang Chang, Amir H. Kaboodrangi, Rongsong Li, Ashish K. Sahib et al. "Non-Invasive Electrical Impedance Tomography for Multi-Scale Detection of Liver Fat Content." *Theranostics* 8, no. 6 (2018): 1636-1647.
22. Liu, Yaoping, Dongyang Kang, Wangzhi Dai, Haida Li, Wei Wang, and Yu-Chong Tai. "Highly controllable and reliable ultra-thin Parylene deposition." *Micro and Nano Systems Letters* 6, no. 1 (2018): 5.
23. Packard, René R. Sevag, Yuan Luo, Parinaz Abiri, Nelson Jen, Olcay Aksoy, William M. Suh, Yu-Chong Tai, and Tzung K. Hsiai. "3-D Electrochemical Impedance Spectroscopy Mapping of Arteries to Detect Metabolically Active but Angiographically Invisible Atherosclerotic Lesions." *Theranostics* 7, no. 9 (2017): 2431.
24. Fernandes, Rodrigo A. Brant, Francisco R. Stefanini, Paulo Falabella, Michael J. Koss, Trent Wells, Bruno Diniz, Ramiro Ribeiro et al. "Development of a new tissue injector for subretinal transplantation of human embryonic stem cell derived retinal pigmented epithelium." *International journal of retina and vitreous* 3, no. 1 (2017): 41.
25. Komatsu, Hirotake, Colin Cook, Chia-Hao Wang, Leonard Medrano, Henry Lin, Fouad Kandeel, Yu-Chong Tai, and Yoko Mullen. "Oxygen environment and islet size are the primary limiting factors of isolated pancreatic islet survival." *PloS one* 12, no. 8 (2017): e0183780.
26. Lee, Juhyun, Tzu-Chieh Chou, Dongyang Kang, Hanul Kang, Junjie Chen, Kyung In Baek, Wei Wang et al. "A Rapid Capillary-Pressure Driven Micro-Channel to Demonstrate Newtonian Fluid Behavior of Zebrafish Blood at High Shear Rates." *Scientific Reports* 7 (2017).
27. Da Silveira Franciozi, Carlos Eduardo, Carleton Thomas Vangsness, James Eugene Tibone, Juan Carlos Martinez, Damien Rodger, Tzu-Chieh Chou, Yu-Chong Tai et al. "Parylene scaffold for cartilage lesion." *Biomedical microdevices* 19, no. 2 (2017): 26.
28. Komatsu, Hirotake, Dongyang Kang, Henry Lin, Colin A. Cook, Daniel Mendez, Jeffrey Rawson, Yoko Mullen, Fouad Kandeel, and Yu-Chong Tai. "MEMS oxygen transport device for islet transplantation in the subcutaneous site." *Micro & Nano Letters* 11, no. 10 (2016): 632-635.

29. Murali, Karthik, Dongyang Kang, Hossein Nazari, Nicholas Scianmarello, Enrique Cadenas, Yu-Chong Tai, Amir Kashani, and Mark Humayun. "Spatial Variations in Vitreous Oxygen Consumption." *PloS one* 11, no. 3 (2016).
30. Shapero, Aubrey M., Yang Liu, and Yu-Chong Tai. "Parylene-on-oil packaging for long-term implantable pressure sensors." *Biomedical microdevices* 18, no. 4 (2016): 1-10.
31. Komatsu, Hirotake, Dongyang Kang, Leonard Medrano, Alyssa Barriga, Daniel Mendez, Jeffrey Rawson, Keiko Omori et al. "Isolated human islets require hyperoxia to maintain islet mass, metabolism, and function." *Biochemical and biophysical research communications* 470, no. 3 (2016): 534-538.
32. Wu, Chun-Hui, Dongyang Kang, Ping-Hei Chen, and Yu-Chong Tai. "MEMS thermal flow sensors." *Sensors and Actuators A: Physical* 241 (2016): 135-144.
33. DeBoer, Charles MT, Jonathan K. Lee, Brooks P. Wheelan, Craig Cable, Wendian Shi, Yu-Chong Tai, and Mark S. Humayun. "Biomimetic accommodating intraocular lens using a valved deformable liquid balloon." *IEEE Transactions on Biomedical Engineering* 63, no. 6 (2016): 1129-1135.
34. Ma, J., Luo, Y., Packard, R.R.S., Ma, T., Ding, Y., Abiri, P., Tai, Y.C., Zhou, Q., Shung, K.K., Li, R. and Hsiai, T., 2016. Ultrasonic transducer-guided electrochemical impedance spectroscopy to assess lipid-laden plaques. *Sensors and Actuators B: Chemical*, 235, (2016): pp.154-161.
35. Packard, René R. Sevag, XiaoXiao Zhang, Yuan Luo, Teng Ma, Nelson Jen, Jianguo Ma, Linda L. Demer et al. "Two-Point Stretchable Electrode Array for Endoluminal Electrochemical Impedance Spectroscopy Measurements of Lipid-Laden Atherosclerotic Plaques." *Annals of biomedical engineering* 44, no. 9 (2016): 2695-2706.
36. Packard, Rene R., XiaoXiao Zhang, Yuan Luo, Teng Ma, Nelson Jen, Jianguo Ma, Linda L. Demer et al. "The Next Generation of Stretchable Sensors for Intravascular Electrochemical Impedance Spectroscopy of Varying Levels of Lipid Burden and Atherosclerosis." *Circulation* 132, no. Suppl 3 (2015): A18004-A18004.
37. Liu, Yang, Tong Xu, Yucheng Xu, Dongyang Kang, Lei Xu, Jungwook Park, Jay Han-Chieh Chang, Xiaoxiao Zhang, Amir Goldkorn, and Yu-Chong Tai. "Isolation of circulating tumor cells by a magnesium-embedded filter." *Journal of Micromechanics and Microengineering* 25, no. 10 (2015): 104002.
38. Zhang, X., Beebe, T., Jen, N., Lee, C. A., Tai, Y., & Hsiai, T. K. , "Flexible and waterproof micro-sensors to uncover zebrafish circadian rhythms: The next generation of cardiac monitoring for drug screening," *Biosensors and Bioelectronics*, 71, 150-157 (2015).
39. Desautels, T., Choe, J., Gad, P., Nandra, M., Roy, R., Zhong, H., Tai YC, Edgerton, R. and Burdick, J., "An Active Learning Algorithm for Control of Epidural Electrostimulation," *Biomedical Engineering, IEEE Transactions on*, Issue: 99, pp.1-12, 2015.

40. Murali, K., Nazari, H., Kang, D., Scianmarello, N., Tai, Y. C., Humayun, M. S., & Kashani, A. H. (2015). Spatial Variation in Vitreous Oxygen Consumption. *Investigative Ophthalmology & Visual Science*, 56(7), 4416-4416.
41. Gad, P., Roy, R. R., Choe, J., Zhong, H., Nandra, M. S., Tai, Y. C., ... & Edgerton, V. R., "Electrophysiological mapping of rat sensorimotor lumbosacral spinal networks after complete paralysis," *Progress in brain research*, 218, 199-212, 2015.
42. Goldkorn, A., Ely, B., Tangen, C. M., Tai, Y. C., Xu, T., Li, H., ... & Quinn, D. I., "Circulating tumor cell telomerase activity as a prognostic marker for overall survival in SWOG 0421: A phase III metastatic castration resistant prostate cancer trial," *International Journal of Cancer*, 136(8), 1856-1862, 2015.
43. Zhao Y., Cao H., Beebe T., Zhang H., Zhang X., Chang, H., Scremin O., Lien C., Tai, YC. and Hsiai T., "Dry-contact microelectrode membranes for wireless detection of electrical phenotypes in neonatal mouse hearts," *Biomedical Microdevices* (2015), 17:40, pp.1-6.
44. Ming-Da Zhou, Sijie Hao, Anthony J. Williams, Ramdane A. Harouaka, Brett Schrand, Siddarth Rawal, Zheng Ao, Randall Brenneman, Eli Gilboa, Bo Lu, Shuwen Wang, Jiyue Zhu, Ram Datar, Richard Cote, Yu-Chong Tai and Si-Yang Zheng, "Separable Bilayer Microfiltration Device for Viable Label-free Enrichment of Circulating Tumour Cells," [www.Nature.com/Scientific Report](http://www.Nature.com/Scientific Report), 4:7392, DOI:10.1038/srep07392, 2014.
45. Cao, Hung, Fei Yu, Yu Zhao, Xiaoxiao Zhang, Joyce Tai, Juhyun Lee, Ali Darehzereshki et al. "Wearable multi-channel microelectrode membranes for elucidating electrophysiological phenotypes of injured myocardium." *Integrative Biology* 6, no. 8 (2014): 789-795.
46. Stephen V. Liu, Denice D. Tsao-Wei, Shigang Xiong, Susan Groshen, Tanya B. Dorff, David I. Quinn, Yu-Chong Tai, Juergen Engel, Debra Hawes, Andrew V. Schally, and Jacek K. Pinski,, "Phase I, Dose-Escalation Study of the Targeted Cytotoxic LHRH Analog AEZS-108 in Patients with Castration- and Taxane-Resistant Prostate Cancer," *Cancer Therapy: Clinical*, published OnlineFirst October 2, 2014; DOI: 10.1158/1078-0432.CCR-14-0489
47. Goldkorn, A., N. Vogelzang, L. Fink, B. Ely, D. Quinn, C. Tangen, Y. C. Tai et al. "Circulating tumor cell (CTC) counts and CTC telomerase activity (TA) are prognostic of overall survival in SWOG S0421," *J of Investigative Medicine* vol. 62, no. 1, pp. 276-276. 530, 2014.
48. Kriti Mittal, Anthony Williams, Siddarth Rawal, Vyshak Alva Venur, Bo Lu, Jorge Torres-Munoz, Ernest C. Borden, Zheng Ao, Martin OMalley, Laura S. Wood, Siyang Zheng, Ram H Datar, Yu-Chong Tai, Richard J. Cote and Brian I. Rini, "Circulating tumor cell kinetics in mRCC patients treated with sunitinib," *Journal of Clinical Oncology*, 2014, Vol 32, No 4\_suppl (February 1 Supplement), 2014: 481
49. Cao, Hung, Fei Yu, Yu Zhao, Nick Scianmarello, Juhyun Lee, Wangde Dai, Nelson Jen et al. "Stretchable electrochemical impedance sensors for intravascular detection of lipid-rich lesions in New Zealand White rabbits." *Biosensors and Bioelectronics* 54 (2014): 610-616.

50. Gad, Parag, Jaehoon Choe, Mandheerej Singh Nandra, Hui Zhong, Roland R. Roy, Yu-Chong Tai, and V. Reggie Edgerton. "Development of a multi-electrode array for spinal cord epidural stimulation to facilitate stepping and standing after a complete spinal cord injury in adult rats." *Journal of neuroengineering and rehabilitation* 10, no. 1 (2013): 2.
51. Lu, B., Y. C. Tai, and M. S. Humayun. "Microdevice-based cell therapy for age-related macular degeneration." *Developments in ophthalmology* 53 (2013): 155-166.
52. M. Birkhahn, A.P. Mitra, A. Williams, N.J. Barr, E. C. Skinner, J. P. Stein, D. G. Skinner, Y.C. Tai, R. Data and R. J. Cote, "A novel precision-engineered microfabrication device for capture and characterization of bladder cancer cells in urine," *European J. of Cancer*, (2013) 49, 3159-3168.
53. Shi, Wendian, Luke Guo, Harvey Kasdan, and Yu-Chong Tai. "Four-part leukocyte differential count based on sheathless microflow cytometer and fluorescent dye assay." *Lab on a Chip* 13, no. 7 (2013): 1257-1265. (cover story).
54. P. Gad, J. Choe, M. Nandra, H. Zhong, R. Roland, YC Tai and R. Edgerton, "Development of a multi-electrode array for spinal cord epidural stimulation to facilitate stepping and standing after a complete spinal cord injury in adult rats," *J. of Neuroengineering and Rehabilitation*, 2013, 10:2-17.
55. B. Lu, D. Zhu, D. Hinton, M. Humayun and YC Tai, "Mesh-supported submicron parylene-C membranes for culturing retinal pigment epithelial cells," *Biomedical Microdevices* (2012), 14: 659-667.
56. J Lin, Y. Zhao, PJ Chen, M. Humayun and YC Tai, "Feeling the pressure: a parylene-based intraocular pressure sensor," *Nanotechnology Magazine*, 2012, Vol.6, Issue 3, pp.8-16.
57. F. Yu, Y Zhao, J. Gu, K Quigley, N. Chi, YC Tai and TK Hsai, "Flexible microelectrode arrays to interface epicardial electrical signals with intracardial calcium transients in zebrafish hearts," *Biomedical Microdevices* (2012) 14:357-366.
58. John Lee, Scott Newbern, Yu-Chong Tai, Chih-Ming Ho, Po-Hao Adam Huang, "Flight demonstrations of micro-actuator controlled delta wing", *Aircraft Engineering and Aerospace Technology* (2011), Vol. 83 Iss: 5, pp.324 – 331
59. S. Zheng, H. Lin, B. Lu, A. Williams, R. Datar, R. Cote and YC Tai, "3D microfilter device for viable circulating tumor cell (CTC) enrichment from blood," *Biomedical Microdevices* (2011) 13:203-213.
60. M Liu and YC Tai, "A 3D microfluidic combinatorial cell array," *Biomedical Microdevices*, Vol.13, No.1, 191-201, 2011.
61. W Li, D Roger, A Pinto, E Meng, J Weiland, M Humayun and YC Tai, "Parylene-based integrated wireless single-channel neurostimulator," *Sensors and Actuators A: Physical*, 166 (2011) 193-200.
62. PJ. Chen, SS. Saati, R. Varma, M. Humayun and YC Tai, "Wireless intraocular pressure sensing microfabricated minimally invasive flexible-coiled LC sensor implant," *J Microelectromechanical systems*, Vol.19, No.4, Aug 2010, pp. 721-734.

63. T. Xu, B. Lu, YC. Tai and A. Goldkorn, "A cancer detection platform which measures telomerase activity from live circulating tumor cells captured on a microfilter," *Cancer Research*, 70(16), pp. 6420-6426, Aug15, 2010.
64. H Lin, S Zheng, A Williams, M Balic, S Groshen, H Scher, M Fleisher, W Stadler, R Datar, YC Tai and R Cote, "Portable filter-based microdevice for detection and characterization of circulating tumor cells," *Clinical Cancer Research*, 16(20) October, 2010.
65. W Li, D Roger, E Meng, J Weiland, M Humayun and YC Tai, "Wafer-level parylene packaging with integrated RF electronics for wireless retinal prosthesis," *Journal of MEMS*, Vol.19, Issue 4, pp.735-742, 2010.
66. S. Zheng, H. Lin, B. Lu, A. Williams, R. Datar, R. Cote and Y.C. Tai, "3D microfilter device for viable circulating tumor cell enrichment from blood," *Biomedical Microdevices*, online, Oct. 2010.
67. B. Lu, S. Zheng, B. Q. Quach and Y. -C. Tai. "A study of the autofluorescence of parylene materials for  $\mu$ TAS applications", *Lab on a Chip*, Vol. 10, pp. 1826-1834, 2010.
68. P. Wahjudi, J. Oh, S. Salman, J. Seabold, D. Rodger, Y.C. Tai, and M. Thompson, "Improvement of metal and tissue adhesion on surface-modified parylene C", *J. of Biomedical materials Research, Part A*, Vol. 89A, Issue 1, pp. 206-214, 2009.
69. H.W. Lo and Y.C. Tai, "Parylene-based electrets power generator," *J. Micromech. Microeng.* 1B (2008), pp. 1-8.
70. J. Erickson, A. Tooker, YC. Tai and J. Pine, "Caged neuron MEA: a system for long-term investigation of culture neural network connectivity," *J. Neuroscience methods*, 175 (2008), 1-16.
71. Damien C. Rodger, Andy J. Fong, Wen Li, Hossein Ameri, Ashish K. Ahuja, Christian Gutierrez, Igor Lavrov, Hui Zhong, Parvathy R. Menon, Ellis Meng Joel W. Burdick, Roland R. Roy, Reggie Edgerton, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai, "Flexible Parylene-based Multielectrode Array Technology for High-density Neural Stimulation and Recording," *Sensors and Actuators B: Chemical*, Vol. 132, Issue 2, 16 June 2008, pp. 449-460.
72. S. Zheng, M. Liu and YC. Tai, "Micro Coulter counters with platinum black electroplated electrodes for human blood cell sensing," *Biomedical Devices* (2008), 10:221-231.
73. S. Zheng, M. S. Nandra, C. Y. Shih, W. Li, and YC. Tai, "Resonance Induced Impedance Sensing of Human Blood Cells," *Sensors and Actuators A: Phys.* vol.145-146, pp 29-36, 2008.
74. Meng, Ellis, Po-Ying Li, and Yu-Chong Tai. "Plasma removal of Parylene C." *Journal of Micromechanics and Microengineering* 18, no. 4 (2008): 045004.
75. Ellis Meng, Po-Ying Li, and Yu-Chong Tai, "A biocompatible parylene thermal flow sensing array," *Sensors and Actuators A: Phys.* Vol. 144 (2008), pp. 18-28.
76. M. C. Liu, D. Ho, and Y.C. Tai, "Monolithic fabrication of three-dimensional microfluidic networks for constructing cell culture array with an integrated combinatorial mixer", *Sensors and Actuators B: Chem.*, 129(2), pp 826-833, 2008.

77. P.J. Chen, D. Rodger, S. Saati, M. Humayun and YC. Tai, "Microfabricated implantable parylene-based wireless passive intraocular pressure sensors," *J. Microelectromechanical systems*, Vol.17, No.6, Dec. 2008, pp. 1342-1351.
78. P.J. Chen, D. Rodger, M. Humayun and YC. Tai, "Floating-Disk Parylene microvalves for self-pressure-regulating flow controls," *J. Microelectromechanical systems*, Vol.17, No.6, 2008, pp. 1352-1361.
79. Po-Ying Li, Jason Shih, Ronalee Lo, Rajat Agrawal, Saloomeh Saati, Mark S. Humayun, Yu-Chong Tai, and Ellis Meng, "An Electrochemical Intraocular Drug Delivery Device," *Sensors and Actuators A: Physical*, Vol. 143, Issue 1, 2 May 2008, pp.41-48.
80. S. Miserendino, Y.C. Tai, "Modular microfluidic interconnects using photodefinable silicone microgaskets and MEMS O-rings", *Sensors and Actuators A: Phys.* Vol. 143, Issue 1, 2 May 2008, pp. 7-13.
81. E. Chow, G. Cheng, Y.C. Tai, and D. Ho, "Cellular Inflammation Suppression Via Glucocorticoid-Functionalized Copolymers," *IEEE NTC Advances in Micro, Nano, and Molecular Systems*, 2007.
82. S. Zheng, J. C.-H. Lin, H. L. Kasdan, and Y.C. Tai, "Fluorescent labeling, sensing, and differentiation of leukocytes from undiluted whole blood samples," *Sensors and actuators B: Chemical*, vol. 132, pp 558-567, 2008.
83. S. Zheng, J.-Q. Liu, and Y.C. Tai, "Streamline Based Microfluidic Device for Erythrocytes and Leukocytes Separation in Human Blood," *IEEE/ASME J. of Microelectromechanical Systems*, vol. 17, pp 1029-1038, 2008.
84. S. Zheng, M. Liu, and Y.C. Tai, "Micro coulter counters with platinum black electroplated electrodes for human blood cell sensing," *Biomedical Microdevices*, vol. 10, pp 221-231, 2008.
85. E. Meng, PY Lee and YC Tai, "A biocompatible parylene thermal flow sensor array," *Sensors & Actuators A*, 2007 (Dec. 2007 on-line).
86. E. Chow, B. Chu, G. Cheng, Y.C. Tai, E. Pierstorff and D. Ho, "Co-polymer-mediated fabrication of versatile electro-active and inflammation attenuation substrates for biological interrogation," *Nano*, Vol. 2, No.6, December 2007, pp. 35-359 (Cover story).
87. S. Zheng, H. Lin, J.-Q. Liu, M. Balic, R. Datar, R. J. Cote, and Y. C. Tai, "Membrane Microfilter Device for Selective Capture, Electrolysis and Genomic Analysis of Human Circulating Tumor Cells," *J. of Chromatography A*, 1162 (2007), 154-161.
88. Q. Lin, B. Yang, J. Xie, and YC Tai, "Dynamic simulation of a peristaltic micropump considering coupled fluid flow and structural motion," *J. Micromech. Microeng.* 17 (2007) 220-228.
89. P.J. Chen, D.C. Rodger, R. Agrawal, S. Saati, E. Meng, R. Varma, M.S. Humayun and Y.C. Tai, "Implantable micromechanical parylene-based pressure sensors for unpowered intraocular pressure sensing," *J. Micromech. Microeng.* vol. 17, pp. 1931-1938, 2007.



90. P.J. Chen, D.C. Rodger, E. Meng, M.S. Humayun, and Y.C. Tai, "Surface-Micromachined Parylene Dual Valves for On-Chip Unpowered Microflow Regulation," *J. of Microelectromechanical Systems*, 16(2), pp. 223-231, 2007.
91. T. Bendikov, S. Miserendino, Y.C. Tai, and T. Harmon, "A parylene-protected nitrate selective microsensor on a carbon fiber cross section," *Sensors and Actuators B: Chemical*, B123, 2007, 127-134.
92. A. Aoyagi, D. Yoshikawa, Y. Isono, YC Tai., "Development of a capacitive accelerometer using parylene – study on resonant frequency of parylene suspended structure," *IEEJ Trans. Sensors and Micromachines*, Vol. 12, No. 6, pp. 1-7, 2007.
93. A. Aoyagi, D. Yoshikawa, Y. Isono, YC Tai., "Development of a capacitive accelerometer using parylene – measurement principle using fringe electrical field and characterization," *IEEJ Trans. Sensors and Micromachines*, Vol. 12, No. 6, pp. 8-14, 2007.
94. Yuji Suzuki and Yu-Chong Tai, "Micromachined high-aspect-ratio parylene spring and its application to low frequency accelerometers," *J. of Microelectromechanical Systems*, 15(5), pp. 1364-1370, 2006.
95. D. Yoshikawa, A. Aoyagi, , and Y.C. Tai., "Microfabrication of parylene suspended structure and investigation of its resonant frequency," *Mechatronics for Safety, Security and Dependability in a New Era, 2006*, pp. 149-152.
96. P.J. Chen, C.Y. Shih, and Y.C. Tai, "Design, Fabrication and Characterization of Monolithic Embedded Parylene Microchannels in Silicon Substrate," *Lab on a Chip*, 6(6), pp. 803-810, 2006.
97. P.J. Chen, D.C. Rodger, M.S. Humayun, and Y.C. Tai, "Unpowered Spiral-Tube Parylene Pressure Sensor for Intraocular Pressure Sensing," *Sensors and Actuators A: Physical*, 127(2), pp. 276-282, 2006.
98. H. Lo and Y. C. Tai, "Design, Fabrication and Characterization of Parylene-Packaged Thin-Film Transistors", *ECS Trans.* 3, (8) 273 (2006)
99. C.Y. Shih, Y. Chen, J. Xie, Q. He and Y.C. Tai, "On-chip temperature gradient interaction chromatography," *J. Chromatography A*, vol. 1111, issue 2, 14 April 2006, pp. 272-278.
100. C.Y. Shih, Y. Chen, W. Li, J. Xie, Q. He and Y.C. Tai, "An integrated system for on-chip temperature gradient interaction chromatography," *Sensors and Actuators A: Physical*, vol. 127, issue 2, 13 March 2006, pp. 270-276.
101. C.Y. Shih, Y. Chen, and Y.C. Tai, "Parylene-strengthened thermal isolation technology for microfluidic system-on-a-chip applications," *Sensors and Actuators A: Physical*, vol. 126, issue 1, 26 Jan 2006, pp. 207-215.
102. S. Miserendino, J. Yoo, A. Cassell, and Y. C. Tai, "Electrochemical characterization of parylene-embedded carbon nanotubes nanoelectrode arrays," *Nanotechnology*, 17 (2006) S23-S28.

103. C. Pang, Y.C. Tai, J. W. Burdick, and R. A. Andersen, "Electrolysis-based Diaphragm Actuators," *Nanotechnology*, 17 (2006) S64-S68.
104. D.C. Rodger, J.D. Weiland, M.S. Humayun, and Y.-C. Tai, "Scalable high lead-count parylene package for retinal prostheses," *Sensors and Actuators B: Chemical*, vol. 117, pp. 107-114, 2006.
105. Xie J, Miao Y, Shih J, He Q, Tai Y.-C, and Lee T.D., "Microfluidic platform for liquid chromatography – tandem mass spectrometry analyses of complex peptide mixture," *Analytical Chemistry*, 2005, 77(21), 6947-6953.
106. A. Tooker, E. Meng, J. Erickson, Y.C. Tai, and J. Pine, "Biocompatible parylene neurocages," *IEEE Engineering in Medicine and Biology*, vol. 24, no. 6, pp. 30-33, Nov./Dec. 2005
107. D.C. Rodger and YC Tai, "Microelectronic packaging for retinal prostheses," *IEEE Engineering in Medicine and Biology*, Vol. 24, No. 5, pp. 52-57, Sept.-Oct. 2005.
108. Q. Lin, Y. Xu, F. Jiang, Y.C. Tai and C.M. Ho, "A Parameterized Three-Dimensional Model for MEMS Thermal Shear-Stress Sensors," *J. of Microelectromechanical Systems*, Volume 14, Issue 3, June 2005 Page(s):625 – 633.
109. Y. Xu, C.W. Chiu, F. Jiang, Q. Lin and Y.C. Tai, "A MEMS Multi-Sensor Chip for Flow Sensing," *Sensors and Actuators A: Physical*, Volume 121, Issue 1, 31 May 2005, Pages 253-261
110. C.Y. Shih, T.A. Harder, YC. Tai, "Yield strength of thin-film parylene-C," *Microsystem Technologies*, 10 (2004) 407-411.
111. Xie J, Miao YN, Shih J, He Q, Liu J, Tai YC, Lee TD, "An electrochemical pumping system for on-chip gradient generation" *Analytical Chemistry*, 2004, 76 (13): 3756-3763.
112. J. Xie, J. Shih, QA Lin, BZ Yang and YC Tai, "Surface micromachined electrostatically actuated micro peristaltic pump," *Lab-on-a-chip*, 4 (5): 495-501 2004
113. Huang, A.; Lew, J.; Xu, Y.; Tai, YC.; Ho, CM., "Microsensors and Actuators for Macrofluidic Control", *IEEE Journal of Sensors*, Volume: 4 , Issue: 4 , pp. 494-502, Aug. 2004
114. Qiao Lin, Fukang Jiang, Xuan-Qi Wang, Yong Xu, Zhigang Han, Yu-Chong Tai, James Lew and Chih-Ming Ho, "Experiments and simulations of MEMS thermal sensors for wall shear-stress measurements in aerodynamic control applications" *J. Micromech. Microeng.* 14 No 12, December 2004, pp.1640-1649
115. LJ Yang, TJ Yao and YC Tai, "The marching velocity of the capillary meniscus in a microchannel," *J. of Micromechanics and Microengineering*, 14: 220-225, 2004.
116. HT Hsieh, G Panotopoulos, M Liger, YC Tai and D Psaltis, "A thermal holographic filters," *IEEE Photonics Technology Letters*, Vol. 16, No. 1, Jan. 2004.

117. S. Ho, H. Nassef, N. Pornsin-Sirirak, Y.C. Tai and C.M. Ho, "Unsteady Aerodynamics and Flow Control for Flapping Wing Flyers," *Progress in Aerospace Science*, 39:635-681, 2003.
118. Y. Xu, Y.C. Tai, A. Huang and C.M. Ho, "IC-integrated flexible shear-stress sensor skin," *IEEE/ASME J. of Microelectromechanical Systems (J. MEMS)*, Vol. 12, Issue: 5, pp.740-747, Oct. 2003.
119. Y. Xu, F. Jiang, S. Newbern, A. Huang, C.M. Ho and Y.C. Tai, "Flexible shear-stress sensor skin and its application to unmanned aerial vehicles," *Sensors and Actuators A: Physical*, Volume 105, Issue 3, 15, pp. 321-329, Aug. 2003
120. L. Yang, W.Z. Lin, T.J. Yao and Y.C. Tai, "Photo-patternable gelatin as protection layers in low-temperature surface micromachining," *Sensors and Actuators A: Physical*, Volume 103, Issues 1-2, 15, pp. 284-290, Jan. 2003.
121. Tzung Hsiai, Sung Kwon Cho, Joon Mo Yang, Xing Yang, Yu-Chong Tai and Chih-Ming Ho, "Pressure Drops of Water Flow Through Micromachined Particle Filters," *J. of Fluids Engineering*, Vol. 124, pp. 1-3, Dec. 2002.
122. Y.C. Tai, J. Xie and T.D. Lee, "Integrated micro/nano fluidics for mass-spectrometry protein analysis," *International Journal of Nonlinear Sciences and Numerical Simulation*, 2002. 3(3-4): p. 739-741.
123. T. K. Hsiai, S. K. Cho, J. M. Yang, X. Yang, Y. C. Tai and C. M. Ho, 2002, "Pressure Drops of Water Flow through Micromachined Particle Filters," *ASME Journal of Fluids Engineering*, Vol. 124, No. 4, pp. 1053-1056, 2002.
124. Tze-Jung Yao, Xing Yang and Yu-Chong Tai, "BrF<sub>3</sub> dry release technology for large freestanding parylene microstructures and electrostatic actuators," *Sensors and Actuators A: Physical*, Volumes 97-98, 1, pp.771-775, April, 2002.
125. Meng E., Wu S., and Tai YC, "Silicon couplers for microfluidic applications," *Fresenius' Journal of Analytical Chemistry*, Volume 371, Number 2, September 2001, pp. 270 – 275.
126. J.M. Yang, C.M. Ho, X. Yang and Y.C. Tai, "Micromachined Particle Filter with Low Power Dissipation," *J. of Fluids Engineering*, Vol. 123, pp. 899-908, Dec. 2001.
127. T. Nick Pornsin-sirirak, Y.C. Tai, H. Nassef and C.M. Ho, "Titanium-alloy MEMS wing technology for a micro aerial vehicle application," *Sensors and Actuators A: Physical*, 89 (1-2), pp. 95-103, 2001.
128. Shuyun Wu, Qiao Lin, Yin Yuen and Yu-Chong Tai, "MEMS flow sensors for nano-fluidic applications," *Sensors and Actuators A: Physical*, 89 (1-2), pp. 152-158, 2001.
129. Fukang Jiang, Gwo-Bin Lee, Yu-Chong Tai and Chih-Ming Ho," A flexible micromachine-based shear-stress sensor array and its application to separation-point detection," *Sensors and Actuators A: Physical*, 79 (3), pp. 194-203, 2000.

130. N. Miyagi, M Kimura, H Shoji, A Saima, CM Ho, S Tung, YC Tai, "Statistical analysis on wall shear stress of turbulent boundary layer in a channel flow using micro-shear stress imager," *Int. J. Heat Fluid Flow*, Volume (issue): 21 (5) 2000, pp. 576-581.
131. Lee, G. B., Chiang, S., Tai, YC., Tsao, T., Liu, C., Huang, P. H. and Ho, C. M., "Robust Vortex Control of a Delta Wing by Distributed MEMS Actuators", *Journal of Aircraft*, Vol. 37, No. 4, pp. 697, July-August, 2000.
132. Lee, G.B., Huang, P.H., Ho, C.H., Jiang, F., Grosjean, C., and Tai, Y.C., "Sensing and Control of Aerodynamic Separation by MEMS", *The Chinese Journal of Mechanics*, Vol. 16, No. 1, pp. 45-52, March 2000.
133. Huang, P.H., Ho, C.M., Jiang, F. and Tai, YC., "MEMS Transducers for Aerodynamics - A Paradym Shift", *AIAA Paper No. 00-0249*, Reno, Nevada, January 10-13, 2000.
134. Licklider L, Wang, XQ, Desai A, Tai, YC and Lee TD, "A micromachined chip-based electrospray source for mass spectrometry, *Analytical Chemistry*. 2000, Jan 15;72(2):367-75.
135. MP Maher, J. Pine J. Wright and YC Tai, "The neurochip: a new multielectrode device for stimulating and recording from cultured neurons" *J. Neurosci. Methods*, Vol. 87, Issue 1, pp. 45-56, Feb. 1999.
136. Maher MP, Dvorak-Carbone H, Pine J, Wright JA, Tai YC. , "Microstructures for studies of cultured neural networks." *Med. Biol. Eng. Comput.* 1999 Jan;37(1):110-8.
137. Chang Liu and Yu-Chong Tai, "Sealing of Micromachined Cavities using Chemical Vapor Deposition Methods: Characterization and Optimization," *IEEE/ASME J. of Microelectromechanical Systems (J. MEMS)*, Vol. 8, No. 2, pp.135-145, June 1999.
138. X. Yang, C. Groasjean and Y.C. Tai, "Design, fabrication and testing of micromachined silicone rubber membrane valves," *IEEE/ASME J. of Microelectromechanical Systems (J. MEMS)*, Vol. 8, No. 4, pp.393-402, Dec. 1999.
139. C. Liu, J. Huang, A. Zhu, F. Jiang, S. Tung, Y.C. Tai and C.M. Ho, "A Micromachined Flow Shear Stress Sensor Based on Thermal Transfer Principles," *IEEE/ASME J. of Microelectromechanical Systems (J. MEMS)*, Vol. 8, No. 1, pp.90-99, March 1999.
140. B. Liu, T. Tsao and Y.C. Tai, "A high-yield drying process for surface-micromachined structures using magnetostatic forces," *Sensors and Materials*, Vol. 11, No. 2, pp.071-086, 1999.
141. J.B. Huang, F.K. Jiang, Y.C. Tai and C.M. Ho, "A Micro-Electro-Mechanical-System Based Thermal Shear-Stress Sensor with Self-Frequency Compensation," *Meas. Sci. Technology*, 10, pp.687-696, 1999.
142. C. Liu, T. Tsao, G.B. Lee. J. Leu, Y. Yi, Y.C. Tai and C.M. Ho, "Out-of-plane magnetic actuators with electroplated permalloy for fluid dynamics control," *Sensors and Actuators A: Physical*, 78 (2-3), pp. 190-197, 1999.

143. X. Yang, J. Yang, Y.C. Tai and C.M. Ho, "Micromachined Particle Membrane Filters," *Sensors and Actuators, A: Physical*, 73, pp.184-191, 1999.
144. SW Lee and YC Tai, "A micro cell lysis device" *Sensors and Actuators A: Physical, Volume 73, Issues 1-2, 9 March 1999, Pages 74-79.*
145. A Desai, SW Lee and YC Tai, " A MEMS electrostatic particle transportation system" *Sensors and Actuators A: Physical, Volume 73, Issues 1-2, 9 March 1999, Pages 37-44*
146. G.B. Lee, YC Tai, F. Jiang, C. Grosjean, C. Liu and C.M. Ho, "Leading-edge Vortices Control on a Delta Wing by Micromachined Sensors and Actuators," *J. Am. Inst. of Aeronautics and Astronautics*, 1999.
147. Kimura, M., Tung, S., Liu, J., Ho, C.M., Jiang, F. and Tai, YC., "Measurements of Wall Shear Stress of Turbulent Boundary Layer Using Micro Shear Stress Imaging Chip", *Fluid Dynamics Research*, Vol. 24, pp. 329-342, 1999.
148. V. Lubecke, W. McGrath, Y.C. Tai and D. Rutledge, "Microfabrication of Linear Translator Tuning Elements in Submillimeter Wave Integrated Circuits," *IEEE/ASME J. of Microelectromechanical Systems (J. MEMS)*, Vol. 7, No. 4, pp. 404-410, Dec. 1998.
149. C.M. Ho and Y.C. Tai, "Micro Electro Mechanical systems (MEMS) and Fluid Flows," *Annual Review of Fluid Mechanics*, Vol. 30, pp.579-612, 1998.
150. X. Yang, C. Grosjean, Y.C. Tai and C.M. Ho, "A MEMS Thermopneumatic Silicone Rubber Membrane Valve," *Sensors and Actuators A: Physical*, Vol. 64, pp.101-108, 1998.
151. B. Bokenkamp, A. Desai, X. Yang, Y.C. Tai, E. Marzluff and S. Mayo, "Microfabricated Silicon Mixers for Submillisecond Quench-flow Analysis," *Analytical Chemistry*, Vol. 70, No. 2, pp. 232-236, Jan. 1998 (Cover story).
152. M. Kimura, S. Tung, J. Liu, C.M. Ho, F. Jiang and Y.C. Tai, "Measurements of Wall Shear Stress of Turbulent Boundary Layer Using Micro Shear Stress Imaging Chip", *Journal of Japan Soc. of Mech. Eng.*, 1998.
153. R. Miller and Y.C. Tai, "Electromagnetic MEMS Scanning Mirrors," *J. of Optical Engineering*, Vol. 36, No. 5, May 1997.
154. S. Tatic-Lucic, J. Wright, Y.C. Tai and J. Pine, "Silicon cultured-neuron prosthetic devices for *in vivo* and *in vitro* studies," *Sensors and Actuators*, B 43, pp. 105-109, April 1997.
155. S. Wu, V. Temesvary, Y.C. Tai, and D. K. Miu, "Silicon Micromachined Integrated Suspension Systems for Magnetic Disk Drives", *Sensors and Actuators A: Physical*, Vol.55, No.2-3, pp. 195-200, July, 1996.
156. B. Gupta, R. Goodman, F. Jiang, Y.C. Tai, S. Tung, and C.M. Ho, "Analog VLSI system for active drag reduction," *IEEE MICRO -- Chips, Systems, Software, and Applications*, pp. 53-59, Oct. 1996.

157. C.H. Ho and Y.C. Tai, "Review: MEMS and its applications for flow control," *J. of Fluids Engineering*, Vol. 118, pp. 437-447, Sept. 1996.
158. J.B. Huang, S. Tung, C.M. Ho, C. Liu and Y.C. Tai, "Improved Micro Thermal Shear Stress Sensor," *IEEE Trans. on Instrumentation and Measurement*, Vol. 45, No. 2, pp. 570-574, April. 1996.
159. W. Tang, V. Temesvary, J. Yao, Y.C. Tai and D. Miu, "Silicon Microactuators for Computer Disk Drives," *Jpn. J. Appl. Phys.* Vol.35, Part 1, No.1B, pp.350-356, 1996.
160. J. Shih, C.M. Ho, J. Liu and Y.C. Tai, "Monatomic and Polyatomic Gas Flow through Uniform Microchannels", *ASME MEMS*, DSC-Vol. 59, pp 197- 203, 1996.
161. W. Tang, V. Temesvary, R. Miller, A. Desai, Y.C. Tai and D. Miu, "Silicon-micromachined Electromagnetic Microactuators for Rigid Disk Drives," *IEEE Trans. Magnetics*, Vol. 31, No. 6, pp. 2964-2966, 1995.
162. D. Miu and Y.C. Tai, "Silicon Micromachined SCALED Technology," *IEEE Trans. on Industrial Electronics*, Vo. 42, No. 3, pp. 234-239, 1995.
163. V. Temesvary, S. Wu, W. Hsieh, Y.C. Tai and D. Miu, "Design, Fabrication, and Testing of Silicon Microgimbals for Super-Compact Rigid Disk Drives," *IEEE/ASME J. of MicroElectroMechanical Systems (J. MEMS)*, Vol. 4, No. 1., pp. 18-27, 1995.
164. J. Shih, C.M. Ho, J. Liu and Y.C. Tai, "Non-linear Pressure Distribution in Uniform Microchannels. *ASME AMD-MD*. 1995.
165. D. Miu and Y.C. Tai, "Silicon Microstructures and Microactuators for Compact Computer Disk Drives," *IEEE Trans. on Control Systems*, Vol. 14, No. 6, pp. 52-57, Dec. 1994.
166. S. Tatic-Lucic and Y.C. Tai, "Novel Extra-accurate Method for Two-sided Alignment on Silicon Wafers," *Sensors and actuators A: Physical*, Vol. 42, No. 1-3, pp. 573-577, 1994.
167. V. Temesvary, S. Wu, W. Hsieh, Y.C. Tai and D. Miu, "Design, Fabrication and Testing Of Silicon Microgimbals For Super-Compact Rigid Disk Drives," *Dynamic Systems and Control*, DCS-Vol. 55-2, pp. 767-774, Vol.2, ASME, 1994.
168. S. Tatic-Lucic, Y.C. Tai, J. Wright, and J. Pine, "Silicon-Micromachined Cultured Neuron Probes For In Vivo Studies of Neural Networks," *Dynamic Systems and Control*, DCS-Vol. 55-2, pp. 761-766, Vol. 2, ASME, 1994.
169. C.M. Ho and Y.C. Tai, "MEMS Science and Technology," *Application of Microfabrication to Fluid Mechanics*," FED-Vol. 197, pp. 39-50, ASME, 1994.
170. K.C. Pong, C.M. Ho, J. Liu, and Y.C. Tai, "Nonlinear Pressure Distribution in Uniform Microchannels," *Application of Microfabrication to Fluid Mechanics*, FED-Vol. 197, pp. 51-56, ASME, 1994.

171. C. Liu, Y.C. Tai, J. Huang, and C. M. Ho, "Surface-Micromachined Thermal Shear Stress Sensor," *Application of Microfabrication to Fluid Mechanics*, FED-Vol. 197, pp. 9-16, ASME, 1994.
172. T. Tsao, C. Liu, Y.C. Tai, and C. M. Ho, "Micromachined Magnetic Actuator for Active Fluid Control," *Application of Microfabrication to Fluid Mechanics*, FED-Vol. 197, pp. 31-38, ASME, 1994.
173. D. Miu, S. Wu, V. Temesvary, Y.C. Tai, "Silicon Microgimbals for Super-Compact Magnetic Recording Rigid Disk Drives," *Advances in Information Storage Systems*, Vol. 5, pp. 139-152, ASME, 1993.
174. W. McGrath, C. Walker, M. Yap, and Y.C. Tai, "Silicon Micromachined Waveguides for Millimeter-Wave and Submillimeter-Wave Frequencies," *IEEE Microwave and Guided Wave Letters*, Vol. 3, No. 3, pp. 61-63, March 1993.
175. M. Mehregany and Y.C. Tai, "Surface Micromachined Mechanisms and Micromotors," *J. of Micromechanics and Microengineering (J. MM)*, Vol. 1, No. 2, pp. 73-85, June 1991.
176. Y. C. Tai and R. S. Muller, "Frictional Study of IC-processed Micro-motors," *Sensors and actuators*, A21-23, pp.180-183, 1990.
177. Y.C. Tai and R.S. Muller, "Integrated Stylus Force Gauges," *Sensors and Actuators*, A21-23, pp.410-413, 1990.
178. C.H. Mastrangelo, Y.C. Tai, and R. S. Muller, "Thermophysical Properties of Low-residual Stress, Silicon-rich, LPCVD Silicon Nitride Films," *Sensors and Actuators*, A21-23, pp.856-860, 1990.
179. Y.C. Tai and R.S. Muller, "IC-processed Electrostatic Synchronous Motor," *Sensors and Actuators*, Vol. 20, No. 1&2, pp. 49-56, Nov. 15, 1989.
180. L.S. Fan, Y.C. Tai and R.S. Muller, "IC-processed electrostatic micromotors," *Sensors and Actuators*, Vol. 20, No. 1&2, pp. 41-48, Nov. 15, 1989.
181. Y.C. Tai and R.S. Muller, "Lightly-doped Polysilicon Bridge as a Flow Meter," *Sensors and Actuators*, 15, pp.63-75, Sep. 1988.
182. Y.C. Tai, C.H. Mastrangelo, and R.S. Muller, "Thermal Conductivity of Heavily Doped Low-Pressure Chemical Vapor Deposited Polycrystalline silicon films," *J. Appl. Phys.* 63 (5), pp. 1442-1447, March 1, 1988.
183. L.S. Fan, Y.C. Tai, R.S. Muller, "Integrated Movable Micromechanical Structures for Sensors and Actuators," *IEEE Trans. on Electron Devices*, Vol. ED-35, No. 6, pp. 724-730, June 1988.

#### **REFEREED CONFERENCE PROCEEDINGS**

1. Shahrestani, Shane, Gabriel Zada, Tzu-Chieh Chou, Brandon Toy, Bryan Yao, Norman Garrett, Nerses Sanossian, Andrew Brunswick, Sebina Bulic, and Yu-chong Tai.

- "Transcranial Detection and Classification of Stroke Using a Noninvasive Handheld Portable Device." *Stroke* 52, no. Suppl\_1 (2021): A34-A34.
2. Shahrestani, Shane, Tzu Chieh Chou, and Yu-Chong Tai. "Abstract WP288: A Portable and Rapid Stroke Imaging and Classification Device." *Stroke* 51, no. Suppl\_1 (2020): AWP288-AWP288.
  3. Luo, Yuan, Parinaz Abiri, Rene RS Packard, Tzung K. Hsiai, and Yu-Chong Tai. "Dual-Function Intravascular Catheter for Atherosclerosis Diagnostics." In *2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems & Eurosensors XXXIII (TRANSDUCERS & EUROSENSORS XXXIII)*, pp. 625-628. IEEE, 2019.
  4. Cook, Colin, Hirotake Komatsu, Mayra Salgado, Yoko Mullen, Fouad Kandeel, and Yu-Chong Tai. "MEMS Silicon Cutters for Rapid Sectioning of Diffusion-Limited Pancreatic Islets to Improve Viability." In *2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems & Eurosensors XXXIII (TRANSDUCERS & EUROSENSORS XXXIII)*, pp. 2221-2224. IEEE, 2019.
  5. Huang, Zi-Yu, Yuan Luo, Parinaz Abiri, Rene RS Packard, Tzung K. Hsiai, and Yu-Chong Tai. "Double-Ballooned Local Drug Delivery Catheter with Blood Bypassing Function." In *2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems & Eurosensors XXXIII (TRANSDUCERS & EUROSENSORS XXXIII)*, pp. 2213-2216. IEEE, 2019.
  6. Shapero, Aubrey, Abhinav Agarwal, Juan Carlos Martinez, Azita Emami, Mark Humayun and Yu-Chong Tai. "Wireless implantable intraocular pressure sensor with parylene-oil-encapsulation and forward-angled RF coil,"" In *2019 IEEE Micro Electro Mechanical Systems (MEMS) Conference, Seoul, Korea, 2019*.
  7. Nicholas Scianmarello, Colin Cook, Kuang-Ming Shang and Yu-Chong Tai, "Development of gas permeable parylene HT as a substrate for cell-culture-on-a-chip applications,"" In *2019 IEEE Micro Electro Mechanical Systems (MEMS) Conference, Seoul, Korea, 2019*.
  8. Yang, Qianhui, Juan Carlos Martinez-Camarillo, Colin A. Cook, Nicholas Scianmarello, Yu-Chong Tai, Amir H. Kashani, and Mark S. Humayun. "Effectiveness and Safety of a phototherapeutic contact lens for Diabetic Retinopathy." *Investigative Ophthalmology and Visual Science* 59, no. 9 (2018).
  9. Rodger, Damien C., Aubrey Shapero, Abhinav Agarwal, Azita Emami, Mark S. Humayun, and Yu-Chong Tai. "Precision Wireless Implantable Continuous Intraocular Pressure Sensors Utilizing Parylene-on-oil Encapsulation." *Investigative Ophthalmology and Visual Science* 59, no. 9 (2018).
  10. Martinez, Juan Carlos, Nicholas Scianmarello, Colin A. Cook, Karthik Murali, Qianhui Yang, Amir H. Kashani, Yu-Chong Tai, and Mark S. Humayun. "Wireless Oxygen Generator to Treat Retinal Ischemia." *Investigative Ophthalmology and Visual Science* 59, no. 9 (2018).



11. Agarwal, Abhinav, Aubrey Shapero, Damien Rodger, Mark Humayun, Yu-Chong Tai, and Azita Emami. "A wireless, low-drift, implantable intraocular pressure sensor with parylene-on-oil encapsulation." In *Custom Integrated Circuits Conference (CICC), 2018 IEEE*, pp. 1-4. IEEE, 2018.
12. Komatsu, Hirotake, Jeffrey Rawson, Leonard Medrano, Colin A. Cook, Alyssa Barriga, Nelson Gonzalez, Mayra Salgado et al. "Optimizing Temperature and Oxygen Supports Long-term Culture of Human Islets." *Transplantation* (2018).
13. Cook, Colin A., Juan C. Martinez-Camarillo, Qianhui Yang, Nicholas E. Scianmarello, Mark S. Humayun, and Yu-Chong Tai. "Phototherapeutic contact lens for diabetic retinopathy." In *Micro Electro Mechanical Systems (MEMS), 2018 IEEE*, pp. 62-65. IEEE, 2018.
14. Shapero, Aubrey, and Yu-Chong Tai. "Parylene-oil-encapsulated low-drift implantable pressure sensors." In *Micro Electro Mechanical Systems (MEMS), 2018 IEEE*, pp. 47-50. IEEE, 2018.
15. Chou, Tzu-Chieh, Yudan Pi, Han Xu, and Yu-Chong Tai. "A new method to manufacture parylene microcapillaries." In *Micro Electro Mechanical Systems (MEMS), 2018 IEEE*, pp. 1245-1248. IEEE, 2018.
16. Cook, Colin A., Juan C. Martinez-Camarillo, Mark S. Humayun, and Yu-Chong Tai. "Implantable phototherapy device to treat diabetic retinopathy." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS), 2017 19th International Conference on*, pp. 393-396. IEEE, 2017.
17. Chou, Tzu-Chieh, Juhyun Lee, Tzung K. Hsiai, and Yu-Chong Tai. "A vacuum capillary viscometer that measures the viscosity of biofluids." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS), 2017 19th International Conference on*, pp. 1547-1550. IEEE, 2017.
18. Sui, Wenshu, Maxime S. Duvieusart, Junhua Zhao, Yu-Chong Tai, and Yi-Kuen Lee. "Comparative study of the viscoelasticity of parylene thin films for MEMS using Nano-DMA and Molecular Dynamics." In *Micro Electro Mechanical Systems (MEMS), 2017 IEEE 30th International Conference on*, pp. 468-471. IEEE, 2017.
19. Cook, Colin A., Yang Liu, Jianming Lu, Nanhai Chen, Yuman Fong, and Yu-Chong Tai. "Gas perfusable microfabricated membranes for high-density cell culture." In *Micro Electro Mechanical Systems (MEMS), 2017 IEEE 30th International Conference on*, pp. 472-475. IEEE, 2017.
20. Komatsu, Hirotake, Dongyang Kang, Leonard Medrano, Alyssa Barriga, Daniel Mendez, Jeffrey Rawson, Keiko Omori et al. "Isolated Human Islets Require 270-350 Torr Partial Oxygen Tension to Alleviate Islet Damage and Maintain Better Function." In *Posters*, pp. BR06-BR06. Endocrine Society, 2016.
21. A. Shapero, Y. Liu and YC Tai, "Parylene-on-oil packaging for implantable pressure sensors," Proceedings, IEEE MEMS Conference, pp.403-406, 2016.

22. Y. Luo, X Zhang, R. Packard, R. Li, T. Hsiai, Y. Liu and YC Tai, "In-vivo Intravascular intervention with Parylene microelectrode to diagnose rupture-prone atherosclerotic plaque using electrical impedance spectroscopy," Proceedings, IEEE MEMS Conference, pp.307-310, 2016.
23. N. Sciammarello, D. Kang, K. Murali, C. Cook, J. Han, M. Humayun and YC Tai, "Oxygen Generator by electrolysis to treat retinal ischemia," Proceedings, IEEE MEMS Conference, pp.399-402, 2016.
24. W. Wang, D. Kang, W. Dai and YC Tai, "Reliable deposition of ultra-thin parylene," Proceedings, IEEE MEMS Conference, pp.462-465, 2016.
25. Cao, Hung, Yu Zhao, Ammar B. Kouki, Yu-Chong Tai, and Tzung K. Hsiai. "A wireless ecg recording system for small animal models of heart regeneration." In *Microwave Symposium (IMS), 2015 IEEE MTT-S International*, pp. 1-3. IEEE, 2015.
26. Zhang, Xiaoxiao, Lei Xu, Juhyun Lee, Rongsong Li, Yang Liu, Aubrey Shapero, Tzung Hsiai, and Yu-Chong Tai. "Flexible micro sensor for intravascular vulnerable plaque diagnostic with electrical impedance spectroscopy." In *Nano/Micro Engineered and Molecular Systems (NEMS), 2015 IEEE 10th International Conference on*, pp. 243-247. IEEE, 2015.
27. Kang, Dongyang, Hirotake Komatsu, Henry Lin, Colin A. Cook, Yu-Chong Tai, Yoko Mullen, and Fouad R. Kandeel. "MEMS oxygen transport device for islet transplantation in the subcutaneous site." In *Nano/Micro Engineered and Molecular Systems (NEMS), 2016 IEEE 11th Annual International Conference on*, pp. 499-503. IEEE, 2016.
28. Kang, Dongyang, Wei Wang, Juhyun Lee, Yu-Chong Tai, and Tzung K. Hsiai. "Measurement of viscosity of unadulterated human whole blood using a capillary pressure-driven viscometer," IEEE NEMS Conference, pp.1-4, 2015.
29. Zhang, X., Xu, L., Lee, J., Li, R., Liu, Y., Shapero, A., ... & Tai, Y. C., "Flexible micro sensor for intravascular vulnerable plaque diagnostic with electrical impedance spectroscopy," IEEE NEMS Conference, pp. 243-247, 2015.
30. Y. Liu, A. Shapero, X. Zhang, D. Kang, J. Park, L. Xu, K. Chang, H. Lin, K. Ferreri, Y.C. Tai., "MEMS for single-islet electroisletogram," Solid-State Sensors, Actuators and Microsystems, 18th Transducers International Conference, Anchorage, AK, 2015, pp. 77-80.
31. Zhang, X., Beebe, T., Liu Y., Park J., Hsiai T. and Tai, YC., "Wearable flexible micro electrode for adult zebrafish long term ecgmonitoring," in *Micro Electro Mechanical Systems (MEMS), 2015 IEEE 28th International Conference on*, pp. 690-693. IEEE, 2015.
32. Liu, Y., Park, J., Xu T., Xu Y., Chang J., Kang D., Zhang X., Goldkorn A. and Tai, YC., "Magnesium-embedded live cell filter for CTC isolation," in *Micro Electro Mechanical Systems (MEMS), 2015 IEEE 28th International Conference on*, pp. 340-343, IEEE, 2015.

33. Kang, Dongyang, Karthik Murali, Nicholas Scianmarello, Jungwook Park, Jay Han-Chieh Chang, Yang Liu, Kai-Tang Chang, Yu-Chong Tai, and Mark S. Humayun. "MEMS oxygen transporter to treat retinal ischemia." *IEEE MEMS Conference*, (2015): 154-157.
34. Kang, D., Matsuki, S. and Tai., YC., "Study of the hybrid parylene/PDMS material," *Micro Electro Mechanical Systems (MEMS), 2015 IEEE 28th International Conference on*, pp. 397-400, IEEE, 2015.
35. Ming-Da Zhou, Sijie Hao, Anthony J. Williams, Bo Lv, Jiyue Zhu, Richard J. Cote, Ram H. Datar, Yu-Chong Tai, Siyang Zheng. Separable bilayer microfiltration device for viable label-free enrichment of circulating tumor cells. [abstract]. In: Proceedings of the 105th Annual Meeting of the American Association for Cancer Research; 2014 Apr 5-9; San Diego, CA. Philadelphia (PA): AACR; Cancer Res 2014;74(19 Suppl):Abstract nr LB-193. doi:10.1158/1538-7445.AM2014-LB-193
36. Chang, Jay Han-Chieh, Yang Liu, and Yu-Chong Tai. "Long term glass-encapsulated packaging for implant electronics." In *Micro Electro Mechanical Systems (MEMS), 2014 IEEE 27th International Conference on*, pp. 1127-1130. IEEE, 2014.
37. Liu, Yang, Jungwook Park, Jay Han-Chieh Chang, and Yu-Chong Tai. "Thin-film magnesium as a sacrificial and biodegradable material." In *Micro Electro Mechanical Systems (MEMS), 2014 IEEE 27th International Conference on*, pp. 656-659. IEEE, 2014.
38. Zhang, Xiaoxiao, Joyce Tai, Jungwook Park, and Yu-Chong Tai. "Flexible MEA for adult zebrafish ECG recording covering both ventricle and atrium." In *Micro Electro Mechanical Systems (MEMS), 2014 IEEE 27th International Conference on*, pp. 841-844. IEEE, 2014.
39. Williams, Anthony, Siddarth Rawal, Zheng Ao, Jorge Torres-Munoz, Marija Balic, Mingda Zhou, Siyang Zheng, Yu-Chong Tai, Richard J. Cote, and Ram Datar. "Clinical translation of a novel microfilter technology Capture, characterization and culture of circulating tumor cells." In *Point-of-Care Healthcare Technologies (PHT), 2013 IEEE*, pp. 220-223. IEEE, 2013.
40. Monge, Manuel, Mayank Raj, Meisam Honarvar-Nazari, Han-Chieh Chang, Yu Zhao, James Weiland, Mark Humayun, Yu-Chong Tai, and Azita Emami-Neyestanak. "A fully intraocular 0.0169 mm 2/pixel 512-channel self-calibrating epiretinal prosthesis in 65nm CMOS." In *Solid-State Circuits Conference Digest of Technical Papers (ISSCC), 2013 IEEE International*, pp. 296-297. IEEE, 2013.
41. Kim, JY-H., Yang Liu, Nicholas Scianmarello, P. Satsanarukkit, and Yu-Chong Tai. "Ice Fishing Micro channels with sub-micron pores." In *Nano/Micro Engineered and Molecular Systems (NEMS), 2013 8th IEEE International Conference on*, pp. 1080-1083. IEEE, 2013.
42. Chang, H. L., F. L. Chen, F. Ye, S. J. Hong, W. Z. Yuan, and Y. C. Tai. "A continuously tunable size-based filter." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSENSORS XXVII), 2013 Transducers & Eurosensors XXVII: The 17th International Conference on*, pp. 2082-2085. IEEE, 2013.

43. Chang, Jay Han-Chieh, Yang Liu, Dongyang Kang, and Yu-Chong Tai. "Reliable packaging for parylene-based flexible retinal implant." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSENSORS XXVII), 2013 Transducers & Eurosensors XXVII: The 17th International Conference on*, pp. 2612-2615. IEEE, 2013.
44. Liu, Yang, Jungwook Park, Robert J. Lang, Azita Emami-Neyestanak, Sergio Pellegrino, Mark S. Humayun, and Yu-Chong Tai. "Parylene origami structure for introcular implantation." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSENSORS XXVII), 2013 Transducers & Eurosensors XXVII: The 17th International Conference on*, pp. 1549-1552. IEEE, 2013.
45. Chang, Jay Han-Chieh, Yang Liu, and Yu-Chong Tai. "A low-temperature parylene-C-to-silicon bonding using photo-patternable adhesives and its applications." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSENSORS XXVII), 2013 Transducers & Eurosensors XXVII: The 17th International Conference on*, pp. 2217-2220. IEEE, 2013.
46. Zhao, Yu, Fei Yu, Hung Cao, Honglong Chang, Xiaoxiao Zhang, Tzung K. Hsiai, and Yu-Chong Tai. "A wearable percutaneous implant for long term zebrafish epicardial ECG recording." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSENSORS XXVII), 2013 Transducers & Eurosensors XXVII: The 17th International Conference on*, pp. 756-759. IEEE, 2013.
47. Kim, JY-H., Y. Liu, N. Scianmarello, and Y. C. Tai. "Piezoelectric Parylene-C MEMS microphone." In *Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSENSORS XXVII), 2013 Transducers & Eurosensors XXVII: The 17th International Conference on*, pp. 39-42. IEEE, 2013.
48. Park, Jungwook, Jerome Pine, and Yu-Chong Tai. "Flexible neurocage array for live neural network study." In *Micro Electro Mechanical Systems (MEMS), 2013 IEEE 26th International Conference on*, pp. 295-298. IEEE, 2013.
49. Kang, Dongyang, Andrew Standley, J. H. Chang, Yang Liu, and Yu-Chong Tai. "Effects of deposition temperature on Parylene-C properties." In *Micro Electro Mechanical Systems (MEMS), 2013 IEEE 26th International Conference on*, pp. 389-390. IEEE, 2013.
50. Chang, J. H., Yang Liu, Dongyang Kang, Manuel Monge, Yu Zhao, Chia-Chen Yu, Azita Emami-Neyestanak, James Weiland, M. H. Yun, and Yu-Chong Tai. "Packaging study for a 512-channel intraocular epiretinal implant." In *Micro Electro Mechanical Systems (MEMS), 2013 IEEE 26th International Conference on*, pp. 1045-1048. IEEE, 2013.
51. William, S. Rawal, A. Zheng, J. Torres-Munoz, M. Balic, M. Zhou, S. Zheng, YC Tai, R. Cote and R. Datar, "Clinical translation of a novel microfilter technology Capture, characterization and culture of circulating tumor cells," IEEE Point-of-Care Health Technologies (PHT), 2013, pp. 220-223.
52. M. Monge, M. Raj, M. Honarvar-Nazari, H. Chang, Y. Zhao, J. Weiland, M. Humayun, YC Tai and A. Emami, "A fully intraocular 0.0169mm<sup>2</sup>/pixel 512-channel self-

- calibrating epiretinal prosthesis in 65nm CMOS,” IEEE *ISSCC* Conference, 2013, pp. 296-297.
53. J. Kim, M. Nandra and YC Tai, “Cantilever actuated by piezoelectric parylene-C,” IEEE *MEMS* Conference, 2012, pp. 1141-1144.
  54. B. Lu, D. Zhu, D. Hinton, M. Humayun and YC Tai, “A 3D parylene scaffold cage for culturing retinal pigment epithelial cells,” IEEE *MEMS* Conference, 2012, pp. 741-744.
  55. C. DeBoer, WD Hyung, J. Lee, M. Humayun and YC Tai, “Biomimetic Accommodating intraocular lens (IOL),” IEEE *MEMS* Conference, 2012, pp. 926-929.
  56. J. Chang, D. Kang and YC Tai, “High yield packaging for high-density multi-channel chip integration on flexible parylene substrate,” IEEE *MEMS* Conference, 2012, pp. 353-356.
  57. J. Lin, G. Lam and YC Tai, “Viscoelasticity of parylene-C film at body temperature,” IEEE *MEMS* Conference, 2012, pp. 476-479.
  58. Y. Zhao, M. Nandra, CC Yu and YC Tai, “High performance 3-coil wireless power transfer system for the 512-electrode epiretinal prosthesis,” IEEE Engineering in medicine and Biology Society (EMBC), 2012 , pp.6583-6586.
  59. J. Chang, D. Kang and YC Tai, “Dry mechanical liftoff technology for metallization on parylene-C using SU-8,” IEEE NEMS Conference, 2012, pp. 286-289.
  60. D. Kang, J Chang, J. Kim and YC Tai, “In situ heating to improve adhesion for parylene-on-parylene deposition,” IEEE *NEMS* Conference, 2012, pp. 226-229.
  61. P. Satsanarukkit, H. Lo, and Y.C. Tai, “A Free-Standing and Flexible Parylene PCR Device”, *NEMS 2012*, Kyoto, Japan, 2012, pp.146-149.
  62. J. Lin, P Deng, G. Lam, B. Lu, YK Lee and YC Tai, “Creep of Parylene-C film,” Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 2698-2701.
  63. W. Shi, W. Guo and YC. Tai, “A microfluidic blood-clogging valve for on-chip blood analysis,” Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 1923-1926.
  64. J. Chang, R Huang and YC. Tai, “High density 256-channel chip integration with flexible parylene pocket,” Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 378-381.
  65. J. Chang, B. Lu and YC. Tai, “Adhesion-enhancing surface treatment for parylene deposition,” Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 390-393.
  66. Y. Zhao, MS. Nandra and YC Tai, “A MEM intraocular origami coil,” Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 2172-2175.

67. B. Lu, J.H.C. Chang and Y.C. Tai, "Time-dependent cell membrane damage under mechanical tension: experiments and modeling", Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 446-449.
68. B. Lu, Z. Liu, L. Liu, D. Zhu, D. Hinton, B. Thomas, M.S. Humayun and Y.C. Tai, "Semipermeable parylene membrane as an artificial Bruch's membrane", Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp. 950-953.
69. Wendian Shi, Luke W. Guo, Harvey Kasdan, Alan Fridge and Yu-Chong Tai, "Leukocyte 5-Part Differential Count Using a Microfluidic Cytometer", Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp.2956-2959.
70. Wendian Shi, Luke W. Guo and Yu-Chong Tai, "A Microfluidic Blood-Clogging Valve for on-chip Blood Analysis", Proceeding of 16th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '11*), Beijing, China, 2011, pp.1923-1926.
71. Jay H.C. Chang, Ray Huang, and Y.C. Tai, "High-Density IC Chip Integration with Parylene Pocket", *NEMS 2011*, Kaosiung, Taiwan, Feb. 21-23, 2011.
72. Jeffrey Chun-Hui Lin, Feiqiao Yu, Yu-Chong Tai, "Integration of Slanted Tether Check-valves for High Pressure Applications", *NEMS 2011*, Kaohsiung, Taiwan, Feb. 20-23, 2011, pp. 750-753.
73. Justin Young-Hyun Kim, Austin Cheng, Yu-Chong Tai, "Parylene-C as a Piezoelectric Material", *MEMS 2011*, Cancun, Mexico, 2011, pp. 473-476.
74. B. Lu, Z. Liu and Y.C. Tai, "Ultrathin parylene-C semipermeable membranes for biomedical applications", *MEMS 2011*, Cancun, Mexico, 2011, pp. 505-508.
75. B. Lu, J. Lin, Z. Liu, Y.K. Lee and Y.C. Tai, "Highly flexible, transparent and patternable parylene-C superhydrophobic films with high and low adhesion", *MEMS 2011*, Cancun, Mexico, 2011, pp. 1143-1146.
76. Mandheerej. S. Nandra, Igor A. Lavrov, V. Reggie Edgerton, Yu-Chong Tai. "A Parylene-Based Microelectrode Array Implant for Spinal Cord Stimulation in Rats", *MEMS 2011*, Cancun, Mexico, 2011, pp. 1007-1010.
77. Jeffrey Chun-Hui Lin, Clark Dongyang Kang, Yu-Chong Tai, "Micro Fluidic Cracking Pressure Regulating System Using All-Parylene In Channel Pop-up Checkvalve," *MEMS 2011*, Cancun, Mexico, 2011, pp. 1091-1094.
78. W. Shi and Y.-C. Tai, "Algal Biototoxicity Assay Using  $\square$ Flow Cytomeer for Environmental Monitoring", *Proceedings of the 14<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\square$ TAS 2010)*, Groningen, the Netherlands, Oct. 3-7, 2010, pp. 342-344.

79. L. Giacchino, YC. Tai, "Electrolysis-based Inchworm Actuators", in *Proceedings of the 14th in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and microsystems (Hilton Head 2010)*, Hilton Head Island, SC, USA, June 6-10, 2010, pp. 122-125.
80. B. Lu, T. Xu, A. Goldkorn and Y. -C. Tai, "The capture and 3-D culture of viable circulating tumor cells using high open-factor parylene-C/HT membrane filters", in *Proceedings of the 14th in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and microsystems (Hilton Head 2010)*, Hilton Head Island, SC, USA, June 6-10, 2010, pp. 439-442.
81. P. Satsanarukkit, H. Lo, Q. Quach, and Y.C. Tai "On-chip PCR with free-standing parylene channel", in *Proceedings of the 14th in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and microsystems (Hilton Head 2010)*, Hilton Head Island, SC, USA, June 6-10, 2010, pp. 431-434.
82. B. Lu, T. Xu, S. Zheng, A. Goldkorn and YC Tai, "Parylene membrane slot filter for the capture, analysis and culture of viable circulating tumor cells," Proceedings, IEEE MEMS conference (**MEMS '10**), Hong Kong, 2010, pp. 935-938.
83. W. Shi, H. Kasdan, A. Fridge and YC Tai, "Four-part differential leukocyte count using microflow cytometer," Proceedings, IEEE MEMS conference (**MEMS '10**), Hong Kong, 2010, pp. 1019-1022.
84. F. Yu, J. Lin, PJ Chen and YC Tai, "Parylene stiction," Proceedings, IEEE MEMS conference (**MEMS '10**), Hong Kong, 2010, pp. 408-411.
85. J. Lin, F. Yu and YC Tai, "Cracking pressure control of parylene checkvalve using slanted tensile tethers," Proceedings, IEEE MEMS conference (**MEMS '10**), Hong Kong, 2010, pp. 1107-1110.
86. R. Huang and YC Tai, "Flexible parylene-based 3D coiled cable," IEEE NEMS Conference, 2010.
87. J. Lin, F. Yu, S. Saati, R. Varma, M. Humayun and YC Tai, "Ex Vivo implantation study of minimally invasive Glaucoma drainage device," IEEE NEMS Conference, 2010, pp. 317-320.
88. F. Yu, C. Lin, PJ Chen and YC Tai, "Stiction of parylene C to silicon surface measured using blister tests," IEEE NEMS Conference, 2010, pp 309-312.
89. B. Lu, S. Zheng, S. Xie and YC. Tai, "Live capture of circulating tumor cells from human blood by a splittable 3D parylene membrane filtration device", Proc. of  $\mu$ TAS 2009, Jeju, Korea, 2009, pp. 588-590.
90. Weiland, J.D.; Humayun, M.S.; Eckhardt, H.; Ufer, S.; Laude, L.; Basinger, B.; Yu-Chong Tai, "A comparison of retinal prosthesis electrode array substrate materials," Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC, 2009, Page(s): 4140 – 4143.
91. B. Lu, S. Zheng and YC. Tai, "Parylene Background Fluorescence Study For BioMEMS

- Applications,” Proceeding of 15th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '09*), Denver, 2009.
92. W. Shi, S. Zheng, H.L. Kasdan, A. Fridge and Y.-C. Tai, “Leukocyte Count and two-part differential in whole blood based on a portable microflow cytometer”, Proceeding of 15th International Conference on Solid-State Sensors, Actuators and Microsystems (*Transducers '09*), Denver, 2009, pp616-619.
  93. R. Huang, YC. Tai, “Chip Integration with Flexible Parylene Pocket”, The 5th International Conference on Microtechnologies in Medicine and Biology (**MMB '09**), 2009.
  94. R. Huang, YC. Tai, “Parylene to Silicon Adhesion Enhancement”, The 15th International Conference on Solid-State Sensors, Actuators and Microsystems (**Transducers '09**), 2009
  95. L. Giacchino, YC. Tai, “Electrolysis-based Parylene-balloon Actuators”, The 15th International Conference on Solid-State Sensors, Actuators and Microsystems (**Transducers '09**), Denver, 2009.
  96. J.C. Lin, P.-J. Chen, S. Saati, R. Varma, D. Rodger, M. Humayun, Y.-C. Tai, “A Minimally Invasive Wireless Intraocular Pressure Sensor Implant,” *Proceedings, ARVO*, 2009.
  97. R. Huang, YC. Tai, “Parylene-Pocket Chip Integration”, in the 22nd IEEE International Conference on Micro Electro Mechanical Systems (**MEMS '09**), 2009.
  98. Lin, J.C.-H.; Po-Jui Chen; Yu, B.; Humayun, M.; Yu-Chong Tai, “Minimally Invasive Parylene Dual-Valved Flow Drainage Shunt for Glaucoma Implant”, IEEE 22nd International Conference on Micro Electro Mechanical Systems, (**MEMS '09**) 2009, Page(s): 196 – 199.
  99. Po-Jui Chen; Saati, S.; Varma, R.; Humayun, M.S.; Yu-Chong Tai, “Implantable Flexible-Coiled Wireless Intraocular Pressure Sensor”, in The 22nd IEEE International Conference on Micro Electro Mechanical Systems (**MEMS '09**), 2009, pp. 244-247.
  100. Weiland, J.D.; Fink, W.; Humayun, M.S.; Wentai Liu; Wen Li; Sivaprakasam, M.; Yu-Chong Tai; Tarbell, M.A. “Systems design of a high resolution retinal prosthesis“ IEEE International Electron Devices Meeting, (**IEDM '08**), 2008 , Page(s): 1 - 4
  101. R. Huang, C. Pang, Y.-C. Tai, J. Emken, C. Ustun, R. A. Andersen, and J. W. Burdick, "Integrated Parylene-Cabled Silicon Probes for Neural Prosthetics," in The 21th IEEE International Conference on Micro Electro Mechanical Systems (**MEMS '08**), 2008
  102. R. Huang, C. Pang, Y.-C. Tai, J. Emken, C. Ustun, and R. A. Andersen, "Parylene coated silicon probes for neural prosthesis," in The 3rd IEEE International Conference on Nano/Micro Engineered and Molecular Systems, (**NEMS '08**) Sanya, Hainan, China, 2008.
  103. D.S. Rizzuto, S. Musallam, C. Pang, R. Huang, Y.-C. Tai, and R.A. Andersen, "The Caltech Brain-Machine Interface Platform", **Society for Neuroscience**, 2006



104. M.C. Liu and Y.C. Tai, "A 3-D Microfluidic Combinatorial Cell Culture Array", Technical Digest, The 22nd IEEE International Conference on Micro Electro Mechanical Systems (**MEMS '09**), Sorrento, Italy, Jan. 25-29, 2009, pp. 427-430.
105. L. Giacchino, Y.-C. Tai, "Parylene-membrane Piezoresistive Pressure Sensors with XeF<sub>2</sub>-etched cavity", 7<sup>th</sup> IEEE Conference on Sensors (**IEEE Sensors 2008**), Lecce, Italy, Oct. 26-29, 2008.
106. S. Zheng, H. L. Kasdan, A. Fridge, and Y. -C. Tai, "Blood Cell Analysis Using Portable Flow Cytometer with Microfluidic Chips as Cartridge", in *Proceedings of the 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS'08)*, San Diego, USA, Oct. 12-16, 2008.
107. J. C.-H. Lin, P.-J. Chen, S. Saati, Rohit Varma, M. Humayun, Y.-C. Tai, "Implantable Microvalve-Packaged Glaucoma Drainage Tube," in *Proceedings of the 13th in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and microsystems (Hilton Head 2008)*, Hilton Head Island, SC, USA, June 1-5, 2008, pp. 146-149.
108. S. Zheng, H. K. Lin, R. J. Cote, and Y.-C. Tai, "A Novel 3D Micro Membrane Filtration Device for Capture Viable Rare Circulating Tumor Cells from Whole Blood," in *Proceedings of the 13th in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and microsystems (Hilton Head 2008)*, Hilton Head Island, SC, USA, June 1-5, 2008.
109. Q. Quach, Y.C. Tai, "A Thermally Improved Quantitative PCR Device" in *Proceedings of the 13<sup>th</sup> in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and Microsystems (Hilton Head 2008)*, Hilton Head Island, SC, USA, June 1-5, 2008.
110. Wen Li, Damien C. Rodger, Parvathy Menon, and Yu-Chong Tai, "Accelerated-lifetime soak testing of parylene packaging," *ACS 235th National Meeting*, New Orleans, USA, Apr. 6-10, 2008.
111. P.-J. Chen, D.C. Rodger, S. Saati, M.S. Humayun, and Y.-C. Tai, "Implantable Parylene-Based Wireless Intraocular Pressure Sensor," Technical Digest, *The 21<sup>st</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS'08)*, Tucson, AZ, USA, Jan. 13-17, 2008, pp. 58-61.
112. P.-J. Chen, D.C. Rodger, M.S. Humayun, and Y.-C. Tai, "Floating-Disk Parylene Microvalve for Self-Regulating Biomedical Flow Controls," *Technical Digest, The 21<sup>st</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS'08)*, Tucson, AZ, USA, Jan. 13-17, 2008, pp. 575-578.
113. Lo H and Tai YC, "Parylene-HT-based electret rotor generator". The 21st IEEE International Conference on Micro Electro Mechanical Systems (**MEMS '08**), Tucson, USA, Jan 13-17 (2008).
114. W. Li, D.C. Rodger, and Y.C. Tai, "Implantable RF-Coiled Chip Packaging," *Proceedings, The 21<sup>th</sup> IEEE International Conference on Micro Electro Mechanical*

- Systems (MEMS '08)*, Tucson, USA, Jan. 13-17, 2008, pp. 108-111.
115. P.-J. Chen, W.-C. Kuo, W. Li, Y.-J. Yang, and Y.-C. Tai, "Q-Enhanced Fold-and-Bond MEMS Inductors," *Technical Digest, The 3<sup>rd</sup> IEEE International Conference on Nano/Micro Engineered and Molecular Systems (NEMS'08)*, Sanya, China, Jan. 6-9, 2008, pp. 869-872.
  116. Lo H, Kuo WC and Tai YC, "Recrystallized parylene as a mask for silicon chemical etching". The 3rd Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (**NEMS' 08**), Sanya, Hainan Island, China, Jan. 6-9 (2008).
  117. Lo H and Tai YC, "Metal suppression of pentacene grain growth". Material Research Society (**MRS07**) 2007 Fall Meeting, Symp. F. Interfaces in Organic and Molecular Electronics III, Boston, USA, Nov. 26-30 (2007).
  118. Lo H and Tai YC, "Parylene HT for electret generators". **PowerMEMS 2007**, Freiburg, Germany, Nov. 28-29 (2007).
  119. P.-J. Chen and Y.-C. Tai, "A Micromechanical Parylene Spiral-Tube Sensor and Its Applications of Unpowered Environmental Pressure/Temperature Sensing," *Technical Digest, The 6<sup>th</sup> IEEE International Conference on Sensors (IEEE Sensors'07)*, Atlanta, GA, USA, Oct. 28-31, 2007, pp. 1476-1479.
  120. P.-J.Chen, D.C. Rodger, S. Saati, J.C. Altamirano, C.-H. Lin, R. Agrawal, R. Varma, M.S. Humayun, and Y.-C. Tai, "Implementation of Microfabricated Suture-Less Flexible Parylene Tissue Anchors on Minimally Invasive Biomedical Implants," *Technical Digest, The 11<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'07)*, Paris, France, Oct. 7-11, 2007, pp. 518-520.
  121. M.C. Liu and Y.C. Tai, "Monolithic Multilevel Microfluidic Networks with Integrated Membrane: Applications for on-chip Cell Co-Culture and Fabrication of Biomimetic Culture Chamber", *Technical Digest, The 11<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'07)*, Paris, France, Oct. 7-11, 2007, pp. 1140-1142.
  122. S. Zheng and Y. C. Tai, "Dual frequency resonance impedance spectroscopy flow cytometry for blood and tumor cells," in *The 11th International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'07)*, Paris, France, Oct. 7-11, 2007.
  123. Wen Li, Damien C. Rodger, Parvathy Menon, and Yu-Chong Tai, "Corrosion Behavior of Parylene-Metal-Parylene Thin Films in Saline," *212th Meeting of the Electrochemical Society (ECS '07)*, Washington. DC, USA, Oct. 7-12, 2007.
  124. D.C. Rodger, W. Li, H. Ameri, S. Saati, P. Menon, E. Meng, J.D. Weiland, M.S. Humayun, YC. Tai, "Dual-metal-layer parylene-based flexible electrode arrays for intraocular prostheses," *Proceedings, ARVO*, 2007.
  125. Saati S, Lo R, Li PY, Shih J, Tai YC, Meng E, Agrawal RN, Humayun MS, "Surgical Methods to Place a Novel Refillable Ocular Microelectromechanical System (MEMS) Drug Delivery Device". **ARVO 2007**, Ft. Lauderdale, Florida, USA, May 6-10 (2007).

126. Lo R, Li PY, Shih J, Saati S, Agrawal R, Tai YC, Humayun MS, Meng E, "Refillable MEMS Drug Delivery Pump for Chronic Ocular Disease". **ARVO**, Ft. Lauderdale, Florida, May 6-10 (2007).
127. Lo H and Tai YC, "Improved parylene-packaged pentacene thin-film transistors, oral presentation". The 212th Electrochemical Society Meeting, Symp. (**ECS07**) Organic Semiconductor Materials and Devices, Washington DC, USA, Oct 7-12, pp. 51-57, (2007).
128. D.C. Rodger, W. Li. A.J. Fong, J.D. Weiland, M.S. Humayun and YC Tai, "Parylene-enabled flexible prosthetic devices," Proceedings, **SMTA** conference, 2007.
129. D.C. Rodger, A.J. Fong, W. Li, H. Ameri, I. Lavrov, H. Zhong, S. Saati, P. Menon, E. Meng, J.W. Burdick, R.R. Roy, V.R. Edgerton, J.D. Weiland, M.S. Humayun, and Y.C. Tai, "High-density Flexible Parylene-based Multielectrode Arrays for Retinal and Spinal Cord Proceedings, *The 14th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '07)*, Lyon, France, 2007, pp. 1385-1388.
130. S. Zheng, J. C.-H. Lin, H. L. Kasdan, and Y. C. Tai, "Fluorescent Labeling, Sensing and Differentiation of Leukocytes from Undiluted Whole Blood Samples," Proceedings, *The 14th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '07)*, Lyon, France, 2007, pp. 807-8010.
131. S. Zheng, M. S. Nandra, C. Y. Shih, W. Li, and Y. C. Tai, "Resonance Induced Impedance Sensing of Human Blood Cells," Proceedings, *The 14th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '07)*, Lyon, France, 2007, pp. 1741-1744.
132. M. C. Liu, D. Ho, and Y.C. Tai, "Monolithic 3-D Microfluidic Device for Cell Assay with an Integrated Combinatorial Mixer," Proceedings, *The 14th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '07)*, Lyon, France, 2007, pp. 787-790.
133. S. Miserendino and Y.C. Tai, "Photodefinable Silicone MEMS Gaskets and O-rings for Microfluidics Packaging," Proceedings, *The 20<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '07)*, Kobe, Japan, Jan. 21-25, 2007, pp. 369-372.
134. P.J. Chen and Y.C. Tai, "Floating-disk parylene micro check valve," Proceedings, *The 20<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '07)*, Kobe, Japan, Jan. 21-25, 2007, pp. 453-456.
135. H. Lo, R. Whang, and Y.C. Tai, "A simplified micro electret power generator" Proceedings, *The 20<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '07)*, Kobe, Japan, Jan. 21-25, 2007
136. E. Chow, E. Pierstorff, G. Cheng, Y.C. Tai, and D. Ho, "Attenuation of Cellular Inflammation Using Glucocorticoid-Functionalized Copolymers." *Proc. IEEE-NEMS*, p.1039-43, 2007.

137. M.C. Liu, D. Ho, and Y.C. Tai, "A Monolithically Fabricated Combinatorial Mixer for Microchip-Based High-Throughput Cell Culturing Assays," presented at The 2nd Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (*IEEE-NEMS' 07*), Bangkok, Thailand, 2007.
138. S. Zheng, M. S. Nandra, and Y.C. Tai, "Human Blood Cell Sensing with Platinum Black Electroplated Impedance Sensor," presented at The 2nd Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (*IEEE-NEMS' 07*), Bangkok, Thailand, 2007.
139. C. Pang, Y.C. Tai, J. W. Burdick, and R. A. Andersen, "Electrolysis-based Parylene Balloon Actuators for Movable Neural Probes," presented at The Second Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (*IEEE-NEMS'07*), Bangkok, Thailand, Jan. 16-19, 2007.
140. H. Lo and Y.C. Tai, "Characterization of Parylene as a Water Barrier via Buried-in Pentacene Moisture Sensors for Soaking Tests", *oral presentation and proceedings, The 2nd Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS' 07)*, Bangkok, Thailand, 2007.
141. Jason Shih, Yunan Miao, Terry Lee, and Yu-Chong Tai, "Microfabricated Platform for Nanoscale Sensing and Control," *SENSORS 2007*, Daegu, Korea. October 2006, pp. 1432–1435.
142. C. Pang, S. Musallam, D. Rizzuto, C. Ustun, Y.C. Tai, J. W. Burdick, and R. A. Andersen, "Vivo Study of Mechanical Properties for the Monolithic Silicon Probes with Flexible Parylene Cables for Neural Prostheses," *The 10th International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'06)*, Tokyo, Japan, Nov. 5-9, 2006. pp. 702-704.
143. P.J. Chen, D.C. Rodger, E. Meng, M.S. Humayun, and Y.C. Tai, "In Vivo Characterization of Implantable Unpowered Parylene MEMS Intraocular Pressure Sensors", *Technical Digest, The 10<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'06)*, Tokyo, Japan, Nov. 5-9, 2006, pp. 834-836.
144. P.J. Chen and Y.C. Tai, "Plasma-Based Microfabrication of Submicron-Aperture Parylene Nozzles", *Technical Digest, The 10<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'06)*, Tokyo, Japan, Nov. 5-9, 2006, pp. 176-178.
145. A Tooker, J. Erickson, G. Chow, Y.C. Tai, and J. Pine, "Parylene Neurocages for Electrical Stimulation on Silicon and Glass Substrates," *Technical Digest, The 28<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'06)*, Aug. 30- Sept. 3, New York City, New York, USA, 2006, p. 4322-4325.
146. S. Zheng and Y.C. Tai, "Streamline Based Design of a MEMS Device for Continuous Blood Cell Separation," *Technical Digest, The 12<sup>th</sup> Solid State Sensors, Actuators, and Microsystems Workshop*, Hilton Head Island, South Carolina, USA, Jun. 4-8, 2006.

147. P.J. Chen, D.C. Rodger, E. Meng, M.S. Humayun, and Y.C. Tai, "Surface-Micromachined In-Channel Parylene Dual Valves for Unpowered Microflow Regulation," Technical Digest, *The 12<sup>th</sup> Solid State Sensors, Actuators, and Microsystems Workshop*, Hilton Head Island, South Carolina, USA, Jun. 4-8, 2006, pp.205-208.
148. D.C. Rodger, W. Li, A.J. Fong, H. Ameri, E. Meng, J.W. Burdick, R.R. Roy, V. Reggie Edgerton, J.D. Weiland, M.S. Humayun, and Y.C. Tai, "Flexible microfabricated parylene multielectrode arrays for retinal stimulation and spinal cord field modulation," in *Proc. 4th International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'06)*, Okinawa, Japan, May 9-12, 2006, pp. 31-34.
149. W. Li, D.C. Rodger, E. Meng, J.D. Weiland, M.S. Humayun, and Yu-Chong Tai, "Flexible parylene packaged intraocular coil for retinal prostheses," in *Proc. 4th International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'06)*, Okinawa, Japan, May 9-12, 2006, pp. 105-108.
150. S. Zheng and Y.C. Tai, "Design and Fabrication of a Micro Coulter Counter with Thin Film Electrodes," Technical Digest, *The 4<sup>th</sup> International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'06)*, Okinawa, Japan, May 9-12, 2006.
151. C. Pang, S. Musallam, Y.C. Tai, J. W. Burdick, and R. A. Andersen, "Novel Monolithic Silicon Probes with Flexible Parylene Cables for Neural Prostheses," Technical Digest, *The 4<sup>th</sup> International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'06)*, Okinawa, Japan, May 9-12, 2006.
152. P.J. Chen, D.C. Rodger, E. Meng, M.S. Humayun, and Y.C. Tai, "Implantable Unpowered Parylene MEMS Intraocular Pressure Sensor," Technical Digest, *The 4<sup>th</sup> International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'06)*, Okinawa, Japan, May 9-12, 2006, pp. 256-259.
153. Lo and Y.C. Tai, "Performance of parylene-packaged flexible pentacene thin-film transistors in saline", in *Proc. 4th International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'06)*, Okinawa, Japan, May 9-12, 2006.
154. A Tooker, J. Erickson, Y.C. Tai, and J. Pine, "Biocompatible Parylene Neurocages for Action Potential Recording and Stimulation," in *Electrobiological Interfaces on Soft Substrates*, edited by J.P. Conde, B. Morrison III, S.P. Lacour (**Mater. Res. Soc. Symp. Proc.** 926E, Warrendale, PA 2006), 0926-CC07-05.
155. D.C. Rodger, W. Li, H. Ameri, A. Ray, J.D. Weiland, M.S. Humayun, and Y.C. Tai, "Flexible parylene-based microelectrode technology for intraocular retinal prostheses," Technical Digest, *The First Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS'06)*, Zhuhai, China, Jan. 18-21, 2006.
156. C. Pang, J.G. Cham., S. Musallam, Y.C. Tai, J. W. Burdick, and R. A. Andersen, "Monolithic Silicon Probes with Flexible Parylene Cables for Neural Prostheses," Technical Digest, *The First Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS'06)*, Zhuhai, China, Jan. 18-21, 2006.

157. S. Zheng, M. Liu, H. L. Kasdan and Y.C. Tai, "Platinum Black Electroplated Impedance Particle Sensor," Technical Digest, *The First Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS'06)*, Zhuhai, China, Jan. 18-21, 2006.
158. P.J. Chen and Y.C. Tai, "Monolithic High-Aspect-Ratio Embedded Parylene Channel Technology: Fabrication, Integration, and Applications," Technical Digest, *The First Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS'06)*, Zhuhai, China, Jan. 18-21, 2006, pp. 1284-1287.
159. D. Ho, E. Chow, G. Cheng, and Y.C. Tai, "Dexamethasone-Triblock Copolymer Composites as Immune-Suppressing Materials for Enhancement of Implant Biocompatibility." *Proc. of the Mat. Res. Soc. (MRS'05)*, October 2005.
160. P.J. Chen, D. Rodger, and Y.C. Tai, "Fully-Dry Fabrication of Monolithic High-Aspect-Ratio Embedded Parylene Microchannels," Technical Digest, *The Ninth International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'05)*. Boston, Massachusetts, USA, Oct. 9-13, 2005, pp. 181-183.
161. S. Zheng, Y.C. Tai and H.L. Kasdan, "MEMS Device for Continuous Blood Separation", Technical Digest, *The Ninth International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'05)*. Boston, Massachusetts, USA, Oct. 9-13, 2005.
162. S. Zheng, Y.C. Tai, H. Lin, M. Balic, R. Datar, R.J. Cote, "Circulating Tumor Cell Capture from Whole Blood by Parylene Filter Devices", Technical Digest, *The Ninth International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'05)*. Boston, Massachusetts, USA, Oct. 9-13, 2005.
163. C. Pang, J.G. Cham., Z. Nenadic, Y.C. Tai, J. W. Burdick, and R. A. Andersen. "A New Neural Recording Electrode Array with Parylene Insulating Layer," to be published in Technical Digest, *The Ninth International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS'05)*. Boston, Massachusetts, USA, Oct. 9-13, 2005.
164. C. Pang, Y.C. Tai, J. W. Burdick, and R.A. Andersen. "Electrolysis-Based Diaphragm Actuators," *The International Conference on Bio-Nano-Informatics (BNI) Fusion*. 2005. Marina del Rey, California, USA.
165. S. Zheng, Y.C. Tai and H. Kasdan, "A micro device for separation of erythrocytes and leukocytes in human blood," Engineering in Medicine and Biology Society, 2005. EMBC 2005. Conference Proceedings. 27th Annual International Conference, Shanghai China.
166. J. D. Weiland, W. Fink, M. Humayun, W. Liu, D. C. Rodger and Y.C. Tai, "Progress towards a high-resolution retinal prostheses," Engineering in Medicine and Biology Society, 2005. EMBC 2005. Conference Proceedings. 27th Annual International Conference, Shanghai China.
167. W. Li, D.C. Rodger, J.D. Weiland, M. Humayun and Y.C. Tai, "Integrated flexible ocular coil for power and data transfer in retinal prostheses," Engineering in Medicine and Biology Society, 2005. EMBC 2005. Conference Proceedings. 27th Annual International Conference, Shanghai China.

168. C. Pang, J. Cham, Z. Nenadic, S. Musallam, Y.C. Tai, J. Burdick and R. Andersen, "A new multi-site probe array with monolithically integrated parylene flexible cable for neural prostheses," Engineering in Medicine and Biology Society, 2005. EMBC 2005. Conference Proceedings. 27th Annual International Conference, Shanghai China.
169. D. Rodger, J.D. Weiland, M.S. Humayun and Y.C. Tai, "Scalable flexible chip-level parylene package for high lead count retinal prostheses," Technical Digest, *The 13<sup>th</sup> International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '05)*, Seoul, Korea, pp. 1973-1976, 2005.
170. C.Y. Shih, Y. Chen and Y.C. Tai, "Parylene-strengthened thermal isolation technology for microfluidic system-on-chip applications," Technical Digest, *The 13<sup>th</sup> International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '05)*, Seoul, Korea, pp. 1183-1186, 2005.
171. E. Meng, P.J. Chen, D. Rodger, Y.C. Tai, and M. Humayun, "Implantable parylene MEMS for glaucoma therapy," Technical Digest, *The 3<sup>rd</sup> International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine and Biology (MMB'05)*, Oahu, HI, USA, May 12-15, 2005, pp. 116-119.
172. Q. He, Y. Miao, T. Lee and Y.C. Tai, "An integrated microchip with conventionally-packed liquid chromatography column and electrospray ionization nozzle for LC-ESI-MS applications," Book of Abstracts," *The 18<sup>th</sup> International Symposium on MicroScale Bioseparations (MSB'05)*, New Orleans, LA, USA, Feb. 12-17, 2005, p. 194.
173. C.Y. Shih, Y. Chen, J. Xie, Q. He and Y.C. Tai, "On-chip temperature gradient interaction chromatography," Book of Abstracts," *The 18<sup>th</sup> International Symposium on MicroScale Bioseparations (MSB'05)*, New Orleans, LA, USA, Feb. 12-17, 2005, p. 192.
174. S. Zheng, R. Yung, Y.C. Tai and H. Kasdan, "Deterministic lateral displacement MEMS device for continuous blood cell separation," Proceedings, *The 18<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '05)*, Miami Beach, Florida, USA, Jan. 2005, pp. 851-854.
175. C.Y. Shih, Y. Chen, J. Xie, Q. He and Y.C. Tai, "On-chip temperature gradient liquid chromatography," Proceedings, *The 18<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '05)*, Miami Beach, Florida, USA, Jan. 2005, pp. 782-785.
176. J. Xie, J. Shih, Y. Miao, T. Lee and Y.C. Tai, "Complete gradient-LC-ESI system on a chip for protein analysis," Proceedings, *The 18<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '05)*, Miami Beach, Florida, USA, Jan. 2005, pp. 778-781.
177. J. S. Boland, J.D. M. Messenger, H.W. Lo and Y.C. Tai, "Arrayed liquid rotor electret power generator systems," Proceedings, *The 18<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '05)*, Miami Beach, Florida, USA, Jan. 2005, pp. 618-621.

178. E. Meng and Y.C. Tai, "Parylene etching techniques for microfluidics and bioMEMS," Proceedings, *The 18<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '05)*, Miami Beach, Florida, USA, Jan. 2005, pp. 568-571.
179. P.J. Chen, D. Rodger, M. Humayun and Y.C. Tai, "Spiral-tube parylene intraocular pressure sensor," Proceedings, *The 18<sup>th</sup> IEEE International Conference on Micro Electro Mechanical Systems (MEMS '05)*, Miami Beach, Florida, USA, Jan. 2005, pp. 311-314.
180. A Huang, P.J. Chen, J. Boland, D. Alberer, T.S. Wong, H.Q. Yang, Y.C. Tai, and C.M. Ho, "Liquid-rotor electret power generator energized by a MEMS-based pulsed combustor," Proceedings, *The Fourth International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS'04)*, Kyoto, JAPAN, Nov. 28-30, 2004, pp. 171-174.
181. J. S. Boland, J.D. M. Messenger, and Y.C. Tai, "Alternative designs of liquid-rotor electret power generator systems," Proceedings, *The Fourth International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS'04)*, Kyoto, JAPAN, Nov. 28-30, 2004, pp. 191-194.
182. Andersen, R.A.; Burdick, J.W.; Musallam, S.; Scherberger, H.; Pesaran, B.; Meeker, D.; Corneil, B.D.; Fineman, I.; Nenadic, Z.; Branchaud, E.; Cham, J.G.; Greger, B.; Tai, Y.C.; Mojarradi, M.M.;" **Recording advances for neural prosthetics**" Engineering in Medicine and Biology Society, 2004. EMBC 2004. Conference Proceedings. 26th Annual International Conference, Volume: 2 , 1-5 September 2004 Pages:5352 - 5355
183. Kazemi, M.; Basham, E.; Sivaprakasam, M.; Guoxing Wang; Rodger, D.; Weiland, J.; Tai, Y.C.; Wentai Liu; Humayun, M.;" **A Test Microchip for Evaluation of Hermetic Packaging Technology for Biomedical Prosthetic Implants**" Engineering in Medicine and Biology Society, 2004. EMBC 2004. Conference Proceedings. 26th Annual International Conference, Volume: 2 , 1-5 September 2004 Pages:4093 - 4095
184. Q. Lin, B. Yang, J. Xie and Y.C. Tai, "Analysis of a surface-micromachined peristaltic pump," Proceedings, *2004 Micro Total Analysis System (uTAS '04)*, Malmo, Sweden, Sept. 26-30, pp. 611-613, 2004.
185. E. Meng, S. Aoyagi and Y.C. Tai, "High aspect ratio parylene etching for microfluidics and bioMEMS," Proceedings, *2004 Micro Total Analysis System (uTAS '04)*, Malmo, Sweden, Sept. 26-30, pp. 401-403, 2004.
186. C.Y. Shih, S. Zheng, Y.C. Tai, Y. Liu and J. F. Stoddart, "Shear flow self-assembled gold nanoparticle film for chemiresistor sensor applications," Proceedings, *2004 Micro Total Analysis System (uTAS '04)*, Malmo, Sweden, Sept. 26-30, pp. 339-341, 2004.
187. A Tooker, J. Erickson, Y.C. Tai and J. Pine, "Robust and biocompatible neurocages," Proceedings, *2004 Micro Total Analysis System (uTAS '04)*, Malmo, Sweden, Sept. 26-30, pp. 64-66, 2004.
188. A Tooker, E. Meng, J. Erickson, Y.C. Tai and J. Pine, "Development of biocompatible neurocages," Technical Digest, *The 26<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS'04)*, Sept. 1-5, San Francisco, California, USA, 2004, p.307.



189. S. Miserendino, S. Boland and Y. C. Tai, "Material and Electrochemical Properties of Pyrolyzed Parylene-C", *206<sup>th</sup> Meeting of the Electrochemical Society (ECS '04)*, Honolulu, Hawaii, USA, Oct. 3-8, 2004.
190. R. Andersen, J. Burdick, S. Musallam, H. Scherberger, B. Pesaran, D. Meeker, B. Corneil, I. Fineman, Z. Nenadic, E. Branchaud, J. Cham, B. Greger, Y.C. Tai and M. Mojarri, "Recording advances for neural prosthesis," Technical Digest, *The 26<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS'04)*, Sept. 1-5, San Francisco, California, USA, 2004, p.492.
191. Q. He, J. Xie and Y.C. Tai, "Integrated silica-based separation column for on-chip LC-ESI," Technical Digest, Solid State Sensor and actuator Workshop (**SSAW'04**), Hilton Head Island, South Carolina, pp. 298-301, June 2004.
192. J. Boland and Y.C. Tai, "Liquid-rotor electret micropower generator," Technical Digest, Solid State Sensor and actuator Workshop (**SSAW'04**), Hilton Head Island, South Carolina, pp. 133-136, June 2004.
193. Y. Xu, J. Clendenen, S. Tung, F. Jiang and Y.C. Tai, "Underwater Flexible Shear-stress Sensor Skins," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 833-836, Jan. 25-29, 2004.
194. S. Konish, M. Liger, T. Harder and Y.C. Tai, "Parylene-pyrolyzed carbon for MEMS applications," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 161-164, Jan. 25-29, 2004.
195. J. Shih, S. Zheng, E. Meng, Y.C. Tai, Y. Liu and F. Stoddart, "Nano-to-micro self-assembly using shear flow devices," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 422-425, Jan. 25-29, 2004.
196. Q. He, C. Pang, Y.C. Tai and T. Lee, "Ion liquid chromatography on-a-chip with bead-packed parylene column," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 212-215, Jan. 25-29, 2004.
197. J. Xie, J. Shih, Q. He, C. Pang, Y.C. Tai, Y. Miao and T. Lee, "An integrated LC-ESI chip with electrochemical-based gradient generation," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 334-337, Jan. 25-29, 2004.
198. M. Liger, S. Konishi and Y.C. Tai, "Uncooled all-parylene bolometer," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 593-596, Jan. 25-29, 2004.
199. Y. Mizuno and Y.C. Tai, "Nanofluidic flowmeter using carbon sensing element," Proceedings, *The Seventeenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '04)*, Maastricht, the Netherlands, pp. 322-323, Jan. 25-29, 2004.

200. J. Xie, J. Shih and Y.C. Tai, "Integrated parylene electrostatic peristaltic pump," Proceedings, 2003 *Micro Total Analysis System (uTAS '03)*, Squaw Valley, California, USA, Oct. 5-9, pp. 865-869, 2003.
201. E. Meng, Y.C. Tai, J. Erickson and J. Pine, "Parylene technology for mechanically robust neuro-cages," Proceedings, 2003 *Micro Total Analysis System (uTAS '03)*, Squaw Valley, California, USA, Oct. 5-9, pp. 1109-1112, 2003.
202. S. Matsumoto, J. Xie and Y.C. Tai, "Polymer micro interface for fluidic probing," Proceedings, 2003 *Micro Total Analysis System (uTAS '03)*, Squaw Valley, California, USA, Oct. 5-9, pp. 551-554, 2003.
203. J Shih and Y.C. Tai, "Yield strength of thin-film parylene-C," DTIP, Paris, France, 2003.
204. Y.C. Tai, "Parylene MEMS: Material, Technology and Applications," The ACS Polymer MEMS Symposium, New York, 2003.
205. Y.C. Tai, "Parylene MEMS: material, technology and applications," Proceedings of the 20<sup>th</sup> **Sensor Symposium**, pp. 1-8, Tokyo, Japan, 2003.
206. J. Shih, J. Xie and Y.C. Tai, "Surface Micromachined and Integrated Capacitive Sensors for Microfluidic Applications," Technical Digest, The 12<sup>th</sup> *International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '03)*, Boston, USA, pp. 388-391, 2003.
207. E Meng and Y.C. Tai, "A Parylene MEMS Flow Sensing Array," Technical Digest, The 12<sup>th</sup> *IEEE International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '03)*, Boston, USA, pp. 686-689, 2003.
208. Q. He, E. Meng, Y.C. Tai, C. Rutherglen, J. Erickson and J. Pine, "Parylene Neuro-cages for Live Neural Networks Study," Technical Digest, The 12<sup>th</sup> *IEEE International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '03)*, Boston, USA, pp. 995-998, 2003.
209. Y. Xu and Y.C. Tai, "Selective Deposition of Parylene C for Underwater Shear-stress Sensors," Technical Digest, The 12<sup>th</sup> *IEEE International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '03)*, Boston, USA, pp. 1307-1310, 2003.
210. S. Ayogi and Y.C. Tai, "Development of Surface Micromachinable Capacitive Accelerometer Using Fringe Electrical Field," Technical Digest, The 12<sup>th</sup> *IEEE International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '03)*, Boston, USA, pp. 1383-1386, 2003.
211. V. Shih, S. Zheng, A. Chang and Y.C. Tai, "Nanometer Gaps by Feedback-controlled Electromigration," Technical Digest, The 12<sup>th</sup> *IEEE International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers '03)*, Boston, USA, pp. 1530-1533, 2003.
212. J. Xie, J. Shih and Y.C. Tai, "Integrated Surface-Micromachined Mass Flow Controller," Proceedings, *The Sixteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '03)*, Kyoto, Japan, Jan. 19-23, pp. 20-23, 2003).

213. J. Xie, Q. He, Y.C. Tai, J. Liu and T. Lee, "Electrolysis-Based On-Chip Dispensing System for ESI/MS," Proceedings, *The Sixteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '03)*, Kyoto, Japan, Jan. 19-23, pp. 443-446, 2003.
214. Y. Suzuki and Y.C. Tai, "Micromachined High-Aspect-Ratio Parylene Beam and Its Application to Low-Frequency Seismometer," Proceedings, *the Sixteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '03)*, Kyoto, Japan, Jan. 19-23, pp. 486-489, 2003.
215. J. Boland, Y.H. Chao, Y. Suzuki and Y.C. Tai, "Micro Electret Power Generator," Proceedings, *The Sixteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '03)*, Kyoto, Japan, Jan. 19-23, pp. 538-541, 2003.
216. M. Liger, D. Rodger and Y.C. Tai, "Robust Parylene-to-Silicon Mechanical Anchoring," Proceedings, *The Sixteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '03)*, Kyoto, Japan, Jan. 19-23, pp. 602-605, 2003.
217. J. Xie, Q. He, Y.C. Tai, J. Liu and T. Lee, "Integrated electrospray chip for mass spectrometry," Proceedings, *Micro Total Analysis Systems 2002 (TAS'02)*, Nara, Japan Nov. 3-7, 2002, pp. 709-711.
218. S. Ho, H. Nassef, N. Pornsin-Sirirak, Y.-C. Tai, C.-M. Ho, "Flight Dynamics of Small Vehicles," Proceedings of the 23<sup>rd</sup> Congress of the International Council for the Aeronautical Sciences (*ICAS 2002*), Toronto, Canada, September 8-13, 2002.
219. Y. Xu, Y.C. Tai, A. Huang and C.H. Ho, "IC-integrated Flexible Shear-stress Sensor Skin," Technical Digest, *Solid State Sensor and actuator Workshop (SSAW'02)*, Hilton Head Island, South Carolina, pp.247-250, June 2002.
220. M. Liger, N. Pornsinsirirak, Y.C. Tai, S. Ho and C.M. Ho, "Large-area Electrostatically-valved Skins for Adaptive Flow Control on Ornithopter Wings," Technical Digest, *Solid State Sensor and actuator Workshop (SSAW'02)*, Hilton Head Island, South Carolina, pp. 247-250, June 2002.
221. Y.C. Tai, F. Jiang, Y. Xu, M. Liger, S. Ho and C.M. Ho, "Flexible MEMS skins: technologies and applications," Proceedings, *Pacific Rim MEMS Workshop*, Xiamen, China, 2002.
222. T. N. Pornsin-Sisirak, M. Liger, Y.C. Tai, S. Ho and C.M. Ho, "Flexible Parylene-Valved Skin for Adaptive Flow Control," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 101-104, Jan. 2002.
223. C. Grosjean, X. Yang, and Y.C. Tai, "A Thermopneumatic Microfluidic System," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 24-27, Jan. 2002.
224. L.J. Yang, T.J. Yao and Y.C. Tai, "Photo-Patternable Gelatin as Protection Layers in Surface-Micromachining," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 471-474, Jan. 2002.

225. L.J. Yang, T.J. Yao, Y.L. Huang, Y. Xu and Y.C. Tai, "Marching Velocity of Capillary Menisci in Microchannels," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 471-474, Jan. 2002.
226. T.J. Yao, K. Walsh and Y.C. Tai, "Dielectrics Charging Effects on Parylene Electrostatic Actuators," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 471-474, Jan. 2002.
227. T. Harder, T.J. Yao, Q. He, C.Y. Shih and Y.C. Tai, "Residual Stress in thin-film Parylene-C," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 471-474, Jan. 2002.
228. Y. Xu, F. Jiang, Q. Lin, J. Clendenen, S. Tung and Y.C. Tai, "Underwater Shear Stress Sensor," *Fifteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '02)*, Las Vegas, USA, pp. 471-474, Jan. 2002.
229. E Meng, S. Gassmann, and Y.C. Tai, "A MEMS Body Fluid Flow Sensor," *2001 Micro Total Analysis System (uTAS '01)*, Monterey, USA, Oct. 21-25, 2001.
230. T.J. Yao, X. Yang, and Y.C. Tai, "BrF<sub>3</sub> Dry Release Technologies for Large Freestanding Parylene MEMS," *2001 International Conference on Solid-State Sensors and Actuators (Transducers '01)*, Munich, Germany, Jun. 10-14, 2001.
231. J. Xie, X. Yang, X.Q. Wang, and Y.C. Tai, "Surface Micromachined Leakage-Proof Parylene Check Valve," *Fourteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '01)*, Interlaken, Switzerland, pp. 539-542, Jan. 2001.
232. T. N. Pornsin-Sisirak, H. Nassef, Y.C. Tai, and C.M. Ho, "Flexible Parylene Actuator for Micro Adaptive Flow Control," *Fourteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '01)*, Interlaken, Switzerland, pp. 539-542, Jan. 2001.
233. K. Walsh, J. Norville and Y.C. Tai, "Dissolution of Photoresist Sacrificial Layers in Parylene Microchannels," *Fourteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '01)*, Interlaken, Switzerland, pp. 539-542, Jan. 2001.
234. T. Pornsin-Sisirak, Y.C. Tai, C.M. Ho, and M. Keennon, "Microbat- A Palm-Sized Electrically Powered Ornithopter," *2001 NASA/JPL Workshop on Biomimetic Robotics*, Pasadena, CA, USA, Aug. 14-16, 2000.
235. Chen, Y. F., Yang, J. M., Gau, J. J., Ho C.M. and Tai, Y. C., "Microfluidic Detection System for Biological Agent Detection", *The 3rd International Conference on The Interaction of Art and Fluid Mechanics*, Zurich, Switzerland, 2000.
236. Wang, T.H, Chen, Y.F, Masset, S., Ho, C.M., and Tai, Y.C., "Molecular Beacon Based Micro Biological Detection System", *Proceedings of International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences*, 2000.
237. Q. Lin, S. Wu, Y. Yuen, Y.C. Tai and C.M. Ho, "MEMS Impinging-Jet Cooling," *ASME Int. Mechanical Engineering Congress – MEMS Symposium*, pp.137-142, Orlando, FL, 2000.
238. Y. Xu, F. Jiang, Y.-C. Tai, E. Donzier, W. Loomis, and A. Liberman, "A Surface Micromachined Nitride-Diaphragm High-Pressure Sensor for Oil Well Application,"

- ASME International Mechanical Engineering Congress and Exposition, Orlando, Florida, 2000.
239. E Meng, S. Wu and Y.C. Tai, "Micromachined Fluidic Couplers," Proceedings, Micro Total Analysis Systems 2000 ( $\square$ TAS'00), The Netherlands, 14-18 May 2000. pp. 41-44.
  240. Q. Lin, F. Jiang, XQ Wang, Z. Han, Y.C. Tai, J. Lew and C.M. Ho, "MEMS Thermal Shear-Stress Sensors: Experiments, Theory and Modeling," Technical Digest, Solid State Sensor and actuator Workshop (SSAW'00), Hilton Head Island, South Carolina, pp. 304-307, June 2000.
  241. T. Pornsin-Sisirak, S.W. Lee, H. Nassef, J. Grasmeyer, Y.C. Tai, C.M. Ho, and M. Keennon, "MEMS Wing Technology for A Battery-Powered Ornithopter," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 799-804, Jan. 23-27, 2000.
  242. Y. Xu, C. Chiu, F. Jiang, Q. Lin and Y.C. Tai, "Mass Flowmeter Using a Multi-Sensor Chip," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 541-546, Jan. 23-27, 2000.
  243. X.Q. Wang and Y.C. Tai, "A Normally Closed In-Channel Micro Check Valve," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 68-73, Jan. 23-27, 2000.
  244. G Jiang, Y. Xu, T. Weng, Z. Han, Y.C. Tai, A. Huang, C.M. Ho and S. Newbern, "Flexible shear-stress sensor skin for aerodynamics applications," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 364-369, Jan. 23-27, 2000.
  245. E. Meng, X.Q. Wang, H. Mak, and Y.C. Tai, "A Check-Valved Silicone Diaphragm Pump," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 62-67, Jan. 23-27, 2000.
  246. T.J. Yao, S.W. Lee, W. Fang, and Y.C. Tai, "A Micromachined Rubber O-ring Microfluidic Coupler," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 624-627, Jan. 23-27, 2000.
  247. A Desai, S.W. Lee, and Y.C. Tai, "An Air-To-Liquid MEMS Particle Sampler," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 733-738, Jan. 23-27, 2000.
  248. S. Wu, Q. Lin, Y. Yuen and Y.C. Tai, "MEMS Flow Sensor for Nano-Fluidic Applications," Thirteenth IEEE International Conference on Micro Electro Mechanical Systems (MEMS '00), Miyazaki, Japan, pp. 745-750, Jan. 23-27, 2000.
  249. S.W. Lee, J.M. Yang, Y.C. Tai and C.M. Ho, "Electrostatically active microfilters for automated airborne particle collection," 1999 International Conference on Solid-State Sensors and Actuators (Transducers '99), Sendai, Japan, pp. 702-705, June 1999.

250. W.H. Hsieh, T.J. Yao, and Y.C. Tai," A High Performance MEMS Thin-film Teflon Electret Microphone," 1999 International Conference on Solid-State Sensors and Actuators (**Transducers '99**), Sendai, Japan, pp. 1064-1067, June 1999.
251. C. Grosjean and Y.C. Tai," A Thermopneumatic Peristaltic Micropump," 1999 International Conference on Solid-State Sensors and Actuators (**Transducers '99**), Sendai, Japan, pp. 1776-1779, June 1999.
252. X.Q. Wang, Z. Han, F. Jiang, T. Tsao, Q. Lin, Y.C. Tai, V. Koosh, R. Goodman, J. Law and C.M. Ho," A Fully Integrated Shear Stress Sensor," 1999 International Conference on Solid-State Sensors and Actuators (**Transducers '99**), Sendai, Japan, pp.1074-1077, June 1999.
253. J. Wright and Y.C. Tai, "Magnetostatic MEMS Relays for the Miniaturization of Brushless DC Motor Controllers," Proceedings, IEEE 12<sup>th</sup> International Micro Electro Mechanical Systems Conference (**MEMS'99**), Orlando, Florida, pp. 594-599, Jan 17-21, 1999.
254. X.Q. Wang, A. Desai, Y.C. Tai, L. Licklider and T.D. Lee, "Polymer-based Electrospray Chips for Mass Spectrometry," Proceedings, IEEE 12<sup>th</sup> International Micro Electro Mechanical Systems Conference (**MEMS'99**), Orlando, Florida, pp. 523-528, Jan 17-21, 1999.
255. X.Q. Wang and Y.C. Tai, "A Parylene Micro Check Valve," Proceedings, IEEE 12<sup>th</sup> International Micro Electro Mechanical Systems Conference (**MEMS'99**), Orlando, Florida, pp. 177-182, Jan 17-21, 1999.
256. S. Wu, J. Mai, Y.C. Tai and C.M. Ho, "MEMS Impinging Jet Micro Heat Exchanger," Proceedings, IEEE 12<sup>th</sup> International Micro Electro Mechanical Systems Conference (**MEMS'99**), Orlando, Florida, pp. 171-176, Jan 17-21, 1999.
257. C. Grosjean, X. Yang and Y.C. Tai, "A Practical Thermopneumatic Valve," Proceedings, IEEE 12<sup>th</sup> International Micro Electro Mechanical Systems Conference (**MEMS'99**), Orlando, Florida, pp. 147-152, Jan 17-21, 1999.
258. . M. Yang, X. Yang, S. W. Lee, A. Desai, C. M. Ho and Y. C. Tai, "Micromachined Airborne Particle Collection System", International Business Communication's (IBC) 4th Annual Conference on Microfabrication & Microfluidic Technologies, San Francisco, California, August 1999.
259. JM. Yang, X. Yang, C. M. Ho and Y. C. Tai, "Prediction of the Pressure Drop Through Micromachined Particle Filters", Technical Proceedings of International Conference on Modeling and Simulation of Microsystems (MSM '99), San Juan, Puerto Rico, pp. 546-549, April 1999.
260. C.M. Ho, P.H. Huang, J.M. Yang and Y.C. Tai, "Active Flow Control by Micro Systems", FLOWCON, International Union of Theoretical and Applied Mechanics (**IUTAM'98**) Symposium on Mechanics of Passive and Active Flow Control, Gottingen, Germany, pp.18-19, Sep. 1998.

261. X. Yang, C. Grosjean and Y.C. Tai, "A Low Power MEMS Silicone/parylene Valve," Technical Digest, Solid State Sensor and actuator Workshop (**SSAW'98**), Hilton Head Island, South Carolina, pp. 316-319, June 1998.
262. J. Wright, Y.C. Tai and G. Lilienthal, "A Magnetostatic MEMS Switch for DC Brushless Motor Commutation," Technical Digest, Solid State Sensor and actuator Workshop (**SSAW'98**), Hilton Head Island, South Carolina, pp. 304-307, June 1998.
263. X. Yang, J.M. Yang, X.Q. Wang, E. Meng, Y.C. Tai and C.M. Ho, "Micromachined Membrane Particle Filters," Proceedings, 1998 IEEE Micro Electro Mechanical Systems Workshop (**MEMS '98**), Heidelberg, Germany, pp. 137-142, Jan. 25-29, 1998.
264. S. Wu, Y. Zohar, Y.C. Tai, and C.M. Ho, "A Suspended Microchannel With Integrated Temperature Sensors for High-Pressure Flow Study," Proceedings, 1998 IEEE Micro Electro Mechanical Systems Workshop (**MEMS '98**), Heidelberg, Germany, pp. 87-92, Jan. 25-29, 1998.
265. S.W. Lee, H. Yowanto and Y.C. Tai, "A Micro Cell Lysis Device," Proceedings, 1998 IEEE Micro Electro Mechanical Systems Workshop (**MEMS '98**), Heidelberg, Germany, pp. 443-447, Jan. 25-29, 1998.
266. C. Grosjean, G. Lee, W. Hong, Y.C. Tai and C.M. Ho, "Micro Balloon Actuators for Aerodynamic Control," Proceedings, 1998 IEEE Micro Electro Mechanical Systems Workshop (**MEMS '98**), Heidelberg, Germany, pp. 166-171, Jan. 25-29, 1998.
- A. Desai, S.W. Lee, and Y.C. Tai, "A MEMS Electrostatic Particle Transportation System," Proceedings, 1998 IEEE Micro Electro Mechanical Systems Workshop (**MEMS '98**), Heidelberg, Germany, pp. 121-126, Jan. 25-29, 1998.
267. C.M. Ho, P.H. Huang, J.M. Yang, G.W. Lee and Y.C. Tai, "Active Flow Control by Micro Systems" Proceedings, IUTAM'98 Conference of Flow Control, 1998.
268. Y.C. Tai, "Magnetostatic MEMS research at Caltech," The 194<sup>th</sup> Meeting of Electrochemical Society, Boston, Nov. 1-6, 1998.
269. C.M. Ho, P.H. Huang, J. Lew, J. Mai, G.W. Lee, and Y.C. Tai, "MEMS: An Intelligent System Capable of Sensing-Computing-Actuating" Proceedings, 4th International Conference on Intelligent Materials (ICIM'98), pp. 300-303, 1998.
270. J.M. Yang, C.M. Ho, X. Yang and Y.C. Tai, "Measurement of Viscous Dissipation Through Micro Screens", Bulletin of the American Physical Society, Program of the 50th Annual Meeting of the Division of Fluid Mechanics, San Francisco, California, Nov. 1997.
271. C. Liu, T. Tsao and Y.C. Tai, "A High-Yield Drying Process for Surface Microstructures Using Active Levitation," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 1, pp. 241-244, June 16-19, 1997.
272. X.Q. Wang, X. Yang, K. Walsh and Y.C. Tai, "Gas-Phase Etching With Bromine Trifluoride," Technical Digest, 1997 IEEE International Conference on Solid State

- Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 2, pp. 1505-1508, June 16-19,1997.
273. X. Yang, Y.C. Tai, and C.M. Ho, "Micro Bellow Actuators," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 1, pp. 45-48, June 16-19, 1997.
  274. R. Miller, Y.C. Tai, G. Xu, J. Bartha and F. Lin, "An Electromagnetic MEMS 2x2 Fiber Bypass Switch," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 1, pp. 89-92, June 16-19, 1997.
  275. Desai, D. Bokenkamp, X. Yang, Y.C. Tai, E. Marzluff, and S. Mayo, "Microfluidic Sub-millisecond Mixers for the Study of Chemical Reaction Kinetics," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 1, pp. 167-170, June 16-19, 1997.
  276. T. Tsao, F. Jiang, R.A. Miller, Y.C. Tai, B. Gupta, R. Goodman, S. Tung, and C.M. Ho, "An Integrated MEMS System for Turbulent Boundary Layer Control," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 1, pp. 315-318, June 16-19, 1997.
  277. W.H. Hsieh, T.Y. Hsu, and Y.C. Tai, "A Micromachined Thin-film Teflon Electret Microphone," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 1, pp. 425-428, June 16-19, 1997.
  278. J. A. Wright, Y. C. Tai, and S. C. Chang, "A Large-Force, Fully Integrated MEMS Magnetic Actuator," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 2, pp. 793-796, Jun. 16-19 (1997).
  279. Desai, Y.C. Tai, M.T. Davis, and T.D. Lee, "A MEMS Electrospray Nozzle for Mass Spectroscopy," Technical Digest, 1997 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'97**), Chicago, IL, Vol. 2, pp. 927-930, June 16-19, 1997.
  280. G.B. Lee, F. Jiang, T. Tsao, Y.C. Tai, and C.M. Ho, "Macro Aerodynamic Devices Controlled by Micro Systems", Proceedings, 1997 IEEE Aerospace Conference, Snowmass, Colorado, Vol. 3, pp. 1-8, Feb, 1997.
  281. Gwo-Bin Lee; Jiang, F.K.; Tsao, T.; Tai, Y.C.; Ho, C.M.," Macro aerodynamic devices controlled by micro systems," Aerospace Conference, 1997. Proceedings., IEEE ,Volume: 3 , 1-8 Feb. 1997 Pages: 255 - 263 vol.3
  282. Yang, C. Grosjean, Y. C. Tai, and C. M. Ho, "A MEMS Thermopneumatic Silicone Membrane Valve," Proceedings, 1997 IEEE Micro Electro Mechanical Systems Workshop (**MEMS '97**), Nagoya, Japan, pp. 114-118, Jan. 26-30, 1997.
  283. F. Jiang, Y. C. Tai, Ken Walsh, T. Tsao, G. B. Lee, and C. M. Ho, "A Flexible MEMS Technology and Its First Application to Shear Stress Sensor Skin," Proceedings, 1997



- IEEE Micro Electro Mechanical Systems Meeting (**MEMS '97**), Nagoya, Japan, pp. 465-470, Jan. 26-30, 1997.
284. Kimura, M., Tung, S., and Ho, C.M., Jiang, F., and Tai, Y.C., "MEMS for Aerodynamic Control", *American Institute of Aeronautics and Astronautics, AIAA97-2118*, 1997.
  285. Y.C. Tai and C.M. Ho, "MEMS Devices for Flow Control," *American Institute of Aeronautics and Astronautics, AIAA 97-1787*, 1997.
  286. C.M. Ho, S. Tung, G.B. Lin, Y.C. Tai, F.K. Jiang, and T. Tsao, "MEMS – A Technology for Advancements in Aerospace Engineering," *American Institute of Aeronautics and Astronautics, AIAA 97-0545*, 1997.
  287. J. Yang, C.M. Ho, X. Yang and Y.C. Tai, "Measurement of Viscous Dissipation through Micro Screens," APS Meeting of the Division of Fluid Mechanics, San Francisco, Nov. 1997.
  288. T. Tsao, T.Y. Hsu and Y.C. Tai, "Copper sacrificial layer technology for surface micromachined structures," Micromachining Workshop III, Anaheim, California, Sept. 1996.
  289. J. A. Wright, S. Tatic-Lucic, Y. C. Tai, M. P. Maher, H. Dvorak and J. Pine, "Towards a Functional MEMS Neurowell by Physiological Experimentation," Proceedings, The 1996 International Mechanical Engineering Congress and Exposition, Atlanta, GE, pp. 333-338, Nov. 17-22, 1996.
  290. G.B. Lee, C.M. Ho, F. Jiang, C. Liu, T. Tsao, Y.C. Tai, "Control of Roll Moment by MEMS", *ASME MEMS*, ed. Ng. W., 1996.
  291. JC Shih, CM Ho, J Liu, **YC Tai**, "Monatomic and polyatomic gas flow through uniform microchannels" Proc., 1996 ASME Int. Mech. Eng. Congress and Exposition
  292. J. Pine, M. Maher, S. Potter, Y.C. Tai, S. Tatic and J. Wright, "A Cultured Neuron Probe," Proceedings, IEEE-EMBS Meeting (**EMBS96**), Amsterdam, the Nezerlands, Nov. 1996.
  293. B. Gupta, R. Goodman, F. Jiang, T. Tsao, Y.C. Tai, S. Tung, C. Ho, "Wafer Scale MEMS and Analog VLSI System For Active Drag Reduction", Proceedings of the 8th IEEE International Conference on Innovative Systems in Silicon, Austin, TX, pp. 46-52, October 1996.
  294. Ho, C.M., Tong S. and Tai., Y.C., "Interactive Control of Wall Structures by MEMS Based Transducers", Proceedings of Sixth European Turbulence Conference, Lausanne, Switzerland, July 2-5, 1996.
  295. S. Tatic-Lucic, J. A. Wright, Y.C. Tai and J. Pine, "Silicon Cultured-Neuron Prosthetic Devices for *In Vivo* and *In Vitro* Studies," *Euroensors X*, Leuven, Belgium, pp. 159-162, Sept. 1996.

296. Ho, C.M., Tong S. and Tai, Y.C., "MEMS- An Innovative Approach to Transport Phenomena", Proceedings of 9th International Symposium on Transport Phenomena, Singapore, June 25-28, 1996.
297. T.Y. Hsu, W. Hsieh and Y.C. Tai, "A Thin-Film Electret Technology for Microphone Applications," Technical Digest, Solid-State Sensor and Actuator Workshop (SSAW'96), Hilton Head Island, South Carolina, pp. 235-239, June 1996.
298. R. Miller, G. Burr, Y.C. Tai, D. Psaltis, C.M. Ho and R. Katti, "Electromagnetic MEMS Scanning Mirrors for Holographic Data Storage," Technical Digest, Solid-State Sensor and Actuator Workshop (SSAW'96), Hilton Head Island, South Carolina, pp. 183-186, June 1996.
299. F. Jiang, Y.C. Tai, B. Gupta, R. Goodman, S. Tung, J. Huang and C. M. Ho, "A Surface-Micromachined Shear-stress Imager, " Proceedings, IEEE Micro Electro mechanical Systems Meeting (MEMS'96), San Diego, California, pp. 110-115, Feb. 1996.
300. B. Gupta, R. Goodman, F. Jiang, Y.C. Tai, S. Tung, C.M. Ho, "Analog VLSI For Active Drag Reduction," Proceedings of the 5th Annual IEEE Conference on VLSI for Neural Networks, Lausanne, Switzerland, pp. 45-51, Feb. 12-14,1996.
301. R. Miller, G. Burr, Y.C. Tai and D. Psaltis, "A Magnetically Actuated MEMS Scanning Mirror," Proceedings of the SPIE, Miniaturized Systems With Micro-Optics and Micromachining, Vol. 2687, pp. 47-52, Jan. 1996.
302. F. Jiang, Y.C. Tai, J.B. Huang, and C.M. Ho, "Polysilicon Structures For Shear Stress Sensors," Proceedings, IEEE Region 10 International Conference on Microelectronics and VLSI, Hong Kong, pp. 12-15, Nov. 1995.
303. J. Huang, C. Liu, F. Jiang, S. Tung, Y.C. Tai and C.M. Ho, "Fluidic Shear-Stress Measurement Using Surface Micromachined sensors" Proceedings, IEEE Region 10 International Conference on Microelectronics and VLSI, Hong Kong, pp. 16-19, Nov. 1995.
304. M. Mischler, F. Tseng, U. Ulmanella, C.M. Ho, F. Jiang and Y.C. Tai, "A Micro Silicon Hot-Wire Anemometer" Proceedings, IEEE Region 10 International Conference on Microelectronics and VLSI, Hong Kong, pp. 20-23, Nov. 1995.
305. R. Miller, G. Burr, Y.C. Tai and D. Psaltis, "Magnetically Actuated Micromirrors For Use As Optical Deflectors," Proceedings, The Electrochemistry Society Meeting (ECSM'95), Vol. 95-18, pp. 474-480, Oct. 1995.
306. C. Liu, T. Tsao, Y.C. Tai, W. Liu, P. Will and C.M. Ho, "A Micromachined Permalloy Magnetic Actuator Array for Micro Robotics assembly Systems, " Technical Digest, 1995 International Conference on Solid State Sensors and Actuators (TRANSDUCERS'95), pp. 328-331, June 1995.
307. D. Miu and Y.C. Tai, "Silicon Microstructures and Microactuators for Compact Computer Disk drives," Proceedings, American Control Conference (ACC), Seattle, Washington, pp. 1-5, June 1995.

308. S. Tung, W. Hong, C.M. Ho, C. Liu and Y.C. Tai, "Control Of Streamwise Vortices in 2-D Channel Flow," Proceedings, The 6th Congress of Asian Fluid Mechanics, Singapore, May 1995.
309. Tung, S., Hong, W., Huang, J., Ho, CM, Liu, C., and Tai, YC, "Control of a Streamwise Vortex by a Mechanical Actuator", Tenth Symposium on Turbulent Shear Flow, Penn State U. University Park, 1995.
310. J. Huang, C.M. Ho, S. Tung, C. Liu and Y.C. Tai, "Micro Thermal Shear Stress Sensor With and Without Cavity Underneath," Proceedings, IEEE Instrumentation and Measurement Technology Conference, Waltham, Mass. U.S.A. pp. 171-174, April, 1995.
311. J. A. Wright, S. Tatic-Lucic, Y.C. Tai, W. R. McGrath, B. Bumble, and H. LeDuc, "Integrated Silicon Micromachined Waveguide Circuits For Submillimeter Wave Applications," Symposium Proceedings: Sixth International Symposium on Space Terahertz Technology, Pasadena, CA, pp. 387-396, March 1995.
312. Y.C. Tai and C.M. Ho, "Silicon Micromachining and Its Applications", Proceedings of SPIE, vol. 2448, pp. 141-151, 1995.
313. Y.C. Tai, "Silicon Micromachining and Its Applications," Proceedings, North American Conference on Smart Structures and Materials, San Diego, California, Feb. 26, 1995.
314. C. Liu, T. Tsao, Y.C. Tai, J. Leu, C.M. Ho, W.L. Tang, and D. Miu, "Out-Of-Plane Permanent Magnetic Actuators for Delta Wing Control," Proceedings, IEEE Micro Electro Mechanical Systems (**MEMS'95**), Amsterdam, the Netherlands, pp. 7-12, Jan. 1995.
315. J. Liu, Y.C. Tai, K. Pong, and C.M. Ho, "MEMS for Pressure Distribution Studies of Gaseous Flows in Microchannels," Proceedings, IEEE Micro Electro Mechanical Systems (**MEMS'95**), Amsterdam, the Netherlands, pp. 209-215, Jan. 1995.
316. Y.C. Tai, "Surface Micromachining for Flow Sensors," Proceedings, Int. Conf. on Electronic Materials, Taipei, Taiwan, Dec. 19, 1994.
317. J. Huang, S. Tung, C.M. Ho, C. Liu, F. Jiang and Y.C. Tai, "Vacuum-Insulated Micro Shear Stress Sensor," APS Meeting of the Division of Fluid Mechanics, Atlanta, GA, Nov. 1994.
318. C.M. Ho, D. Miu, and Y.C. Tai, "Control of Macro Machine by Microactuators," APS Meeting of the Division of Fluid Mechanics, Atlanta, GA, Nov. 1994.
319. S. Wu, Y.C. Tai, D. Miu, V. Temesvary, and W. Hsieh, "Silicon Micromachined Integrated Suspension Systems for 30% Read/Write Pico-Sliders," Proceedings, ISPS Symposium at the ASME WAM, Chicago, Illinois, Nov. 1994.
320. C.M. Ho, D. Miu, and Y.C. Tai, "Control of Aerodynamic Device by Micro Actuation," Proceedings, GOMAC Conference, San Diego, pp. 211-214, Nov. 1994.
321. F. Jiang, Y.C. Tai, C.M. Ho, R. Karan, and M. Garstenauer, "A Theoretical and Experimental Studies of Micromachined Hot-Wire Anemometers," Technical Digest,

- International Electron Device Meeting (**IEDM'94**), San Francisco, California, pp. 264-267, Dec. 1994.
322. F. Jiang, Y.C. Tai, C.M. Ho, and W. Li, "A Micromachined Polysilicon Hot-Wire Anemometer," Technical Digest, Solid-State Sensor and Actuator Workshop (**SSAW'94**), Hilton Head Island, South Carolina, U.S.A. pp. 264-267, June 1994.
  323. C. Liu and Y.C. Tai, "Studies on The Sealing of Surface-Micromachined Cavities Using Chemical Vapor Deposited Materials," Technical Digest, Solid-State Sensor and Actuator Workshop (**SSAW'94**), Hilton Head Island, South Carolina, U.S.A. pp. 103-106, June 1994.
  324. C. Liu, T. Tsao, Y.C. Tai, C.M. Ho, "Surface Micromachined Magnetic Actuators," Proceedings, IEEE Micro Electro Mechanical Systems (**MEMS'94**), Oiso, Japan, pp. 57-63, Jan. 25-28, 1994
  325. D. Miu and Y.C. Tai, "Silicon Micromachined SCALED Technology," Proceedings, JSME Int. Conf. on Advanced Mechatronics, Tokyo, Japan, pp. 5270532, Aug. 1993.
  326. Y.C. Tai and C.M. Ho, "Micromachined Hot-Wire Anemometers," APS Meeting of the Division of Fluid Mechanics, Florida, Nov. 1993.
  327. C. Liu and Y.C. Tai, "All-Silicon Micromachined Atomic Force Microscope Probes," Int. Conf. on Scanning Tunneling Microscopes, STM'93, Beijing, 1993.
  328. S. Tatic, Y.C. Tai, J. Wright, J. Pine, T. Denison, "Silicon-Micromachined Neurochips for In Vitro Studies of Cultured Neural Networks," Tech. Digest, 1993 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'93**), Yokohama, Japan, pp. 943-946, June, 1993.
  329. N.A. Winfree, Y.C. Tai, R. Wu, and W. Hsieh, "The Effects of Boundary Conditions on Implementing the Stoney Formula for Stress Measurements," Tech. Digest, 1993 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'93**), Yokohama, Japan, pp. 197-201, June, 1993.
  330. D. Miu, S. Wu, S. Tatic, and Y.C. Tai, "Silicon Micromachined Microstructures for Super-Compact Magnetic Recording Rigid Disk Drives," Tech. Digest, 1993 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'93**), Yokohama, Japan, pp. 771-775, June 1993.
  331. J. Liu, Y.C. Tai, K. Pong, and C.H. Ho, "Micromachined Channel/Pressure Sensor Systems for Micro Flow Studies," Tech. Digest, 1993 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'93**), Yokohama, Japan, pp. 995-999, June 1993.
  332. J.Q. Liu, Y.C. Tai, J.Lee, K. Pong, and C.M. Ho, "In-Situ Monitoring and Universal Modeling of Sacrificial PSG Etching Using Hydrofluoric Acid," Proceedings, IEEE Micro Electro Mechanical Systems Workshop (**MEMS'93**), Fort Lauderdale, Florida, pp. 71-76, Feb 7-10, 1993.

333. M. Yup, Y.C. Tai, W. R. McGrath, and C. Walker, "Silicon Micromachined Waveguides," Proceedings, Third International Symposium on Space Terahertz Technology, March 24-26, 1992.
334. Y. C. Tai and R. S. Muller, "Measurement of Young's Modulus on Microfabricated Structures Using a Surface Profiler," Digest, IEEE Micro Electro Mechanical Systems Workshop (**MEMS'90**), Napa Valley, pp. 147-152, Feb. 11-14, 1990.
335. Tai YC, Fan LS and Muller RS, "IC-processed micro-motors: design, technology, and testing" Micro Electro Mechanical Systems, 1989, Proceedings, 'An Investigation of Micro Structures, Sensors, Actuators, Machines and Robots'. IEEE Publication Date: 20-22 Feb 1989, pp. 1-6.
336. L.S. Fan, Y.C. Tai, and R.S. Muller, "IC-processed Electrostatic Micromotors," Tech. digest, IEEE International Electron Device Meeting (**IEDM'88**), San Francisco, California, pp. 666-669, Dec. 11-14, 1988.
337. Y.C. Tai and R. S. Muller, "Fracture Strain of LPCVD Polysilicon," Tech. Digest, IEEE Solid State Sensor and Actuator Workshop (**SSAW'88**), Hilton Head Island, South Carolina, pp. 88-91, June 6-9, 1988.
338. L.S. Fan, Y.C. Tai, and R.S. Muller, "Movable Silicon Microstructures," SPIE Proceedings, The Intl. Soc. for Opt. Eng., Vol. 904-04, Los Angeles, California, Jan. 10-17, 1988.
339. L.S. Fan, Y.C. Tai, and R.S. Muller, "Pin Joints, Gears, Springs, Cranks, and Other Novel Micromechanical Structures," Tech. Digest, 1987 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'87**), Tokyo, Japan, pp.849-852, June 2-5, 1987.
340. Y.C. Tai, R.S. Muller, and R.T. Howe, "Polysilicon Bridges for Anemometer Application," Tech. Digest, 1985 International Conference on Solid State Sensors and Actuators (**TRANSDUCERS'85**), Philadelphia, PA, U.S.A. pp. 354-357, June, 1985.

## **BOOK CHAPTERS**

1. Hao, Sijie, Merisa Nisic, Hongzhang He, Yu-Chong Tai, and Si-Yang Zheng. "Separable Bilayer Microfiltration Device for Label-Free Enrichment of Viable Circulating Tumor Cells." In *Circulating Tumor Cells*, pp. 81-91. Humana Press, New York, NY, 2017.
2. Williams, Anthony, Ramdane Harouaka, Siyang Zheng, Chris Albanese, Richard Schlegel, Yu-Chong Tai, Ram H. Datar, and Richard J. Cote. "Perspectives on the Functional Characterization and In Vitro Maintenance of Circulating Tumor Cells." In *Circulating Tumor Cells*, pp. 215-231. Springer New York, 2016.
3. Rodger, Damien C., Wen Li, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai. "Flexible Circuit Technologies for Biomedical Applications." *Advances in Micro/Nano Electromechanical Systems and Fabrication Technologie*, 2013.

4. Scott Miserandini and Yu-Chong Tai, "Pressure-driven microfluidics," *Micro/Nano Technologies for Bio-medical Applications*, edited by Chihming Ho, 2010.
5. H. Lin, S. Zheng, M. Balic, R. Cote, YC. Tai, and R. Datar, "Microfabricated devices for detecting circulating tumor cells in cancer patient blood samples," *Chapter 13, Nanomedicine Design of Particles, Sensors, Motors, Implants, Robots and Devices*, Edited by M.J. Schulz, V.N. Shanov and Y. Yun, 2009, Artech House.
6. Yu-Chong Tai, "Introduction to MEMS," *Microsystems and Nanotechnology*, edited by Zhaoying Zhou, 2007.
7. Chih-Ming Ho and Yu-Chong Tai, "Micro/Nano Fluidics: Mechanics and Transducers," *Microsystems and Nanotechnology*, edited by Zhaoying Zhou, 2007.
8. T. Tsao, et al., "MEMS-based active drag reduction in turbulent boundary layers," *Microengineering Aerospace Systems*, edited by H. Helvajian, the Aerispace Press, El Sigundo, California, 1999.
9. Y.C. Tai and C.J. Kim, Microelectromechanical Systems, *The Industrial Electronics Handbook*, CRC Press, 1996.