Prof. Mu CHIAO  
University of British Columbia, Canada

Selected Scholarly Contributions [Data Provided by SCOPUS]

Ou, K., Jackson, J., Burt, H., Chiao, M.

**Microspheres as resistive elements in a check valve for low pressure and low flow rate conditions**


Wan, C.P.L., Jackson, J.K., Pirmoradi, F.N., Chiao, M., Burt, H.M.

**Increased Accumulation and Retention of Micellar Paclitaxel in Drug-Sensitive and P-Glycoprotein-Expressing Cell Lines Following Ultrasound Exposure**


Huang, W.-D., Deb, S., Seo, Y.-S., Rao, S., Chiao, M., Chiao, J.C.

**A passive radio-frequency pH-Sensing tag for wireless food-quality monitoring**


Jackson, J.K., Pirmoradi, F.N., Wan, C.-P.L., Siu, T., Chiao, M., Burt, H.M.

**Increased accumulation of paclitaxel and doxorubicin in proliferating capillary cells and prostate cancer cells following ultrasound exposure**


Pirmoradi, F.N., Jackson, J.K., Burt, H.M., Chiao, M.

**A magnetically controlled MEMS device for drug delivery: Design, fabrication, and testing**

Huang, W.-D., Cao, H., Deb, S., Chiao, M., Chiao, J.C.

**A flexible pH sensor based on the iridium oxide sensing film**


Khademolhosseini, F., Chiao, M.

**Magnetically actuated cellular strain assessment tool; A study on the strain induced directional migration of human endothelial cells**


Ou, K., Chiao, M.

**A passive check valve using microspheres for low pressure and low flow rate applications**


Pirmoradi, F.N., Jackson, J., Burt, H., Chiao, M.

**Delivery of an anti-cancer drug from a magnetically controlled MEMS device show cytotoxicity in PC3 and HUVEC cells**


Pirmoradi, F.N., Jackson, J.K., Burt, H.M., Chiao, M.

**On-demand controlled release of docetaxel from a battery-less MEMS drug delivery device**

Mansoor, H., Zeng, H., Chiao, M.

*Real-time thickness measurement of biological tissues using a microfabricated magnetically-driven lens actuator*


Mansoor, H., Zeng, H., Chiao, M.

*A micro-fabricated optical scanner for rapid non-contact thickness measurement of transparent films*


Mansoor, H., Zeng, H., Chiao, M.

*A confocal fiber optic catheter for in vivo thickness measurement of biological tissues*


RamRakhyani, A.K., Mirabbasi, S., Chiao, M.

*Design and optimization of resonance-based efficient wireless power delivery systems for biomedical implants*


Mohammadi, A.R., Bennington, C.P.J., Chiao, M.

*A hybrid capacitive pressure and temperature sensor fabricated by adhesive bonding technique for harsh environment of kraft pulp digesters*

Mohammadi, A.R., Bennington, C.P.J., Chiao, M.

**Development of a combined piezoresistive pressure and temperature sensor using a chemical protective coating for Kraft pulp digester process monitoring**


Yeh, P.-Y., Kizhakkedathu, J.N., Chiao, M.

**A novel method to attenuate protein adsorption using combinations of polyethylene glycol (PEG) grafts and piezoelectric actuation**


Mohammadi, A.R., Graham, T.C.M., Bennington, C.P.J., Chiao, M.

**Development of a compensated capacitive pressure and temperature sensor using adhesive bonding and chemical-resistant coating for multiphase chemical reactors**


Yeh, P.-Y., Rossi, N.A.A., Kizhakkedathu, J.N., Chiao, M.

**A silicone-based microfluidic chip grafted with carboxyl functionalized hyperbranched polyglycerols for selective protein capture**


Kumar, A., Mirabbasi, S., Chiao, M.

**Resonance-based wireless power delivery for implantable devices**

Siu, C.-P.-B., Zeng, H., Chiao, M.

**Microfabricated out-of-plane scanning microlens for raman spectroscopy**


Song, K.-Y., Chiao, M., Stoeber, B., Häfeli, U., Gupta, M.M., Zhang, W.J.

**Formation of uniform microspheres using a perforated silicon membrane: A preliminary study**


Siu, C.P.B., Wang, H., Zeng, H., Chiao, M.

**Dual-axes confocal microlens for raman spectroscopy**


Rao, S.M.N., Pandojirao-Sunkojirao, P., Dhaubanjar, N., Chiao, M., Chiao, J.-C.

**An optical scanner based on a cantilever-type zipping actuator**


Kim, J., Jeong, B., Chiao, M., Lin, L.

**Ultrasonic bonding for MEMS sealing and packaging**


Huang, W.-D., Hsu, L.-C., Wang, J., Ativanichayaphong, T., Deb, S., Chiao, M., Chiao, J.C.

**Investigation of repeatability of sol-gel iridium oxide pH sensor on flexible substrate**

Siu, C.-P.-B., Chiao, M.

A microfabricated PDMS microbial fuel cell


Wang, J., Ativanichayaphong, T., Cai, Y., Huang, W.-D., Chiao, M., Chiao, J.-C.

New developments on polymer-based MEMS phase shifters


Rao, S.M.N., Pandojirao-Sunkojirao, P., Dhaubanjar, N., Chiao, M., Chiao, J.-C.

An optical scanner based on cantilever-type electrostatic zipping actuators


Pandojirao-S, P., Dhaubanjar, N., Phuyal, P.C., Chiao, M., Chiao, J.-C.

An electromagnetically actuated fiber optic switch using magnetized ferromagnetic materials


Huang, W.-D., Wang, J., Ativanichayaphong, T., Chiao, M., Chiao, J.C.

Development of an IrOx micro pH sensor array on flexible polymer substrate


Wang, J., Ativanichayaphong, T., Huang, W.-D., Cai, Y., Davis, A., Chiao, M., Chiao, J.-C.

A distributed MEMS phase shifter on a low-resistivity silicon substrate

Yeh, P.-Y.J., Kainthan, R.K., Zou, Y., Chiao, M., Kizhakkedathu, J.N.

*Self-assembled monothiol-terminated hyperbranched polyglycerols on a gold surface: A comparative study on the structure, morphology, and protein adsorption characteristics with linear poly(ethylene glycol)*


Yeh, P.Y., Le, Y., Kizhakkedathu, J.N., Chiao, M.

*An investigation of vibration-induced protein desorption mechanism using a micromachined membrane and PZT plate*


Siu, T., Rohling, R.N., Chiao, M.

*Power density requirement of a 4 MHz micro-ultrasonic transducer for sonodynamic therapy*


Yeh, P.-Y., Chiao, M., Kizhakkedathu, J.N.

*An investigation on a vibration-based active protein desorption mechanism for implantable MEMS-based biosensor applications*


Siu, C.-P.-B., Zeng, H., Chiao, M.

*Magnetically actuated scanning microlens for NIR Raman spectroscopy*

Siu, C.-P.-B., Zeng, H., Chiao, M.

**Magnetically actuated MEMS microlens scanner for in vivo medical imaging**


Yeh, P.-Y.J., Kizhakkedathu, J.N., Madden, J.D., Chiao, Mu.

**Electric field and vibration-assisted nanomolecule desorption and anti-biofouling for biosensor applications**


Siu, T., Rohling, R., Chiao, M.

**Microdevice-based delivery of gene products using sonoporation**


Siu, T., Jackson, J., Burt, H., Chiao, M.

**Drug uptake enhancement using sonodynamic effects at 4 MHz - A potential application for micro-ultrasonic-transducers**


Wang, J., Ativanichayaphong, T., Cai, Y., Huang, W.-D., Hsu, L.-C., Davis, W.A., Chiao, M., Chiao, J.-C.

**Fabrication processes of MEMS phase shifters on polymer-based substrates**


Dhaubanjar, N., Rao, S.M.N., Cai, Y., Popa, D., Chiao, M., Chiao, J.-C.

**A cantilever-type electrostatic zipping actuator**


*Investigation of vertical displacement thermal actuators*


Bai, J., Ma, T., Chu, W., Wang, R., Silva, L., Michal, C., Chiao, J.C., Chiao, M.

*Regenerated spider silk as a new biomaterial for MEMS*


Chiao, M., Lam, K.B., Lin, L.

*Micromachined microbial and photosynthetic fuel cells*


Bai, J., Saheb-Diawaher, R., Mg, T., Chu, W., Wang, R., Silva, L., Michal, C., Chiao, J.-C., Chiao, M.

*Spider silk as a new biomaterial for MEMS*


Lam, K.B., Johnson, E.A., Chiao, M., Lin, L.

*A MEMS photosynthetic electrochemical cell powered by subcellular plant photosystems*


Chiao, M., Lin, L.

*Device-level hermetic packaging of microresonators by RTP aluminum-to-nitride bonding*

Venugopal, S., Hsu, L.-C., Malalur-Nagaraja-Rao, S., Wang, B.P., Chiao, M., Chiao, J.-C.

*Design and modeling of a high accuracy, three degree of freedom MEMS manipulator*


Ativanichayaphong, T., Cai, Y., Wang, J., Chiao, M., Chiao, J.-C.

*Design considerations of reconfigurable antennas using MEMS switches*


Wang, J., Cai, Y., Ativanichayaphong, T., Chiao, M., Chiao, J.-C.

*Fabrication techniques and RF performances of transmission lines on polymer substrates*


Siu, T., Trivedi, D.M., Chiao, M., Rohling, R.

*MEMS-based sonoporation devices for intratumoral Gene therapy*


Chiao, M., Lin, L.

*Post-packaging frequency tuning of microresonators by pulsed laser deposition*


Lam, K.B., Chiao, M., Lin, L.

*A micro photosynthetic electrochemical cell*

Chiao, M., Lam, K.B., Lin, L.

**Micromachined microbial fuel cells**

Chiao, M., Lin, L.

**Accelerated hermeticity testing of a glass-silicon package formed by rapid thermal processing aluminum-to-silicon nitride bonding**

Chiao, M., Lin, L.

**Vacuum packaging of microresonators by rapid thermal processing**

Kim, J., Chiao, M., Lin, L.

**Ultrasonic bonding of In/Au and Al/Al for hermetic sealing of MEMS packaging**

Chiao, M., Lin, L.

**Hermetic wafer bonding based on rapid thermal processing**

Chiao, M., Lin, L.

**Self-buckling of micromachined beams under resistive heating**
Lin, L., Chiao, M.

**Electro, thermal and elastic characterizations of suspended micro beams**


Chiao, M., Lin, L.

**Microactuators based on electrothermal expansion of clamped-clamped beams**


Lin, L., Chiao, M.

**Electrothermal responses of lineshape microstructures**


Lin, Liwei, Chiao, Mu, Chu, Huey-Chi

**Thermally isolated microstructures for sensors and actuators**


Lin, Liwei, Yun, Weijie, Chu, Huey-Chi, Chiao, Mu

**Surface micromachined diaphragm pressure sensors with optimized piezoresistive sensing resistors**