

Stanford



Joseph C. Liao

Associate Professor of Urology

 Curriculum Vitae available Online

Bio

BIO

Joseph Liao is currently Associate Professor of Urology at Stanford University and Chief of Urology at the Veterans Affairs Palo Alto Health Care System. He earned his A.B. in Biology from Harvard College in 1993 and M.D. from Stanford University School of Medicine in 1997. After completing his urology residency and fellowship in endourology/minimally invasive surgery at UCLA, he joined the Department of Urology at Stanford in 2006, where he is also a member of Bio-X interdisciplinary research program, Stanford Cancer Institute, and Institute for Immunity, Transplantation, and Infection. Dr. Liao is a surgeon-scientist who maintains an active clinical practice focusing on minimally invasive surgery and urologic oncology. His laboratory focuses on development and translation of optical molecular imaging for urological cancer and urine-based molecular diagnostics. Dr. Liao has pioneered the application of confocal endomicroscopy in the urinary tract, endoscopic molecular imaging of bladder cancer, an in vitro molecular diagnostics for urinary tract infections and bladder cancer. He has served as the principal investigator on several R01 grants from the National Institutes of Health, as well as a standing member of the NIH Instrument Systems Development study section. He is an author of over 100 manuscripts and the editor of the textbook *Advances in Image-Guided Urologic Surgery*. He has been an invited speaker to numerous international meetings including the Gordon Research Conferences, IEEE-NANOMED, IEEE-NEMS, SPIE, Society of Urologic Oncology, Endourology Society, American Urological Association, and European Association of Urology.

ACADEMIC APPOINTMENTS

- Associate Professor, Urology
- Member, Bio-X
- Member, Stanford Cancer Institute

ADMINISTRATIVE APPOINTMENTS

- Standing Member, Assistant Professors Review Committee (APRC), Stanford School of Medicine, (2017- present)
- Director of Research, Department of Urology, Stanford University, (2017- present)
- Standing Member, NIH Study Section - Instrumentation and Systems Development (ISD), (2013-2017)
- Chief of Urology, VA Palo Alto Health Care System, (2006- present)

HONORS AND AWARDS

- Research Scholar, American Foundation for Urologic Disease (2003-05)
- Faculty Fellows Leadership Program, Stanford (2008)
- First Place, AUA Foundation Young Investigator Research Forum (2009)
- Scholar, AUA/CUA International Exchange Program (2012)

PROFESSIONAL EDUCATION

- Board Certification, American Board of Urology (2008)
- Fellowship, University of California, Los Angeles , Endourology / Minimally Invasive Surgery (2006)
- Residency, University of California, Los Angeles , Urology (2003)
- Internship, University of California, Los Angeles , Surgery (1998)
- M.D., Stanford , Medicine (1997)
- A.B., Harvard , Biology (1993)

LINKS

- Liao Lab Website: <http://web.stanford.edu/group/liaolab/>
- Stanford News: 3D bladder: <https://med.stanford.edu/news/all-news/2017/03/scientists-create-three-dimensional-bladder-reconstruction.html>
- Stanford News: bladder molecular imaging: <https://med.stanford.edu/news/all-news/2014/10/new-molecular-imaging-technology-could-improve-bladder-cancer-de.html>
- Stanford News: potential new bladder cancer therapy: <https://med.stanford.edu/news/all-news/2014/10/drug-may-prevent-development-of-invasive-bladder-cancer-researc.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Urologic Oncology

Minimally Invasive Surgery (Endoscopic, Laparoscopic, and Robotic-Assisted)

Optical Imaging

Image-Guided Surgery

Molecular Imaging

Urinary Tract Infections

Molecular Diagnostics

Biosensors

Lab-on-a-chip

Nanotechnology

CLINICAL TRIALS

- Fiber-Optic Confocal Microscopy of the Urinary Tract Histopathology, Recruiting

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (Phd Program)

Publications

PUBLICATIONS

- **Organoid Modeling of the Tumor Immune Microenvironment.** *Cell*
Neal, J. T., Li, X., Zhu, J., Giangarra, V., Grzeskowiak, C. L., Ju, J., Liu, I. H., Chiou, S., Salahudeen, A. A., Smith, A. R., Deutsch, B. C., Liao, L., Zemek, et al
2018; 175 (7): 1972
- **Detection and surveillance of bladder cancer using urine tumor DNA.** *Cancer discovery*

- Dudley, J. C., Schroers-Martin, J., Lazzareschi, D. V., Shi, W. Y., Chen, S. B., Esfahani, M. S., Trivedi, D., Chabon, J. J., Chaudhuri, A. A., Stehr, H., Liu, C. L., Lim, H., Costa, et al
2018
- **3D reconstruction of cystoscopy videos for comprehensive bladder records** *BIOMEDICAL OPTICS EXPRESS*
Lurie, K. L., Angst, R., Zlatev, D. V., Liao, J. C., Bowden, A. K.
2017; 8 (4): 2106-2123
 - **Integrated Biosensor Assay for Rapid Uropathogen Identification and Phenotypic Antimicrobial Susceptibility Testing.** *European urology focus*
Altobelli, E., Mohan, R., Mach, K. E., Sin, M. L., Anikst, V., Buscarini, M., Wong, P. K., Gau, V., Banaei, N., Liao, J. C.
2017; 3 (2-3): 293-99
 - **New and developing diagnostic technologies for urinary tract infections.** *Nature reviews. Urology*
Davenport, M., Mach, K. E., Shortliffe, L. M., Banaei, N., Wang, T., Liao, J. C.
2017
 - **Deep Sequencing of Urinary RNAs for Bladder Cancer Molecular Diagnostics.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Sin, M. L., Mach, K. E., Sinha, R., Wu, F., Trivedi, D., Altobelli, E., Jensen, K. C., Sahoo, D., Lu, Y., Liao, J. C.
2017
 - **Development of a 90-minute integrated non-invasive urinary assay for bladder cancer detection.** *The Journal of urology*
Wallace, E., Higuchi, R., Satya, M., McCann, L., Sin, M. L., Bridge, J. A., Wei, H., Zhang, J., Wong, E., Hiar, A., Mach, K. E., Scherr, D., Egerdie, et al
2017
 - **In vivo biodistribution and toxicity of intravesical administration of quantum dots for optical molecular imaging of bladder cancer.** *Scientific reports*
Pan, Y., Chang, T., Marcq, G., Liu, C., Kiss, B., Rouse, R., Mach, K. E., Cheng, Z., Liao, J. C.
2017; 7 (1): 9309
 - **Endoscopic molecular imaging of human bladder cancer using a CD47 antibody.** *Science translational medicine*
Pan, Y., Volkmer, J., Mach, K. E., Rouse, R. V., Liu, J., Sahoo, D., Chang, T. C., Metzner, T. J., Kang, L., van de Rijn, M., Skinner, E. C., Gambhir, S. S., Weissman, et al
2014; 6 (260): 260ra148-?
 - **Hedgehog Signaling Restrains Bladder Cancer Progression by Eliciting Stromal Production of Urothelial Differentiation Factors** *CANCER CELL*
Shin, K., Lim, A., Zhao, C., Sahoo, D., Pan, Y., Spiekerkoetter, E., Liao, J. C., Beachy, P. A.
2014; 26 (4): 521-533
 - **Surface-Enhanced Raman Scattering Nanoparticles for Multiplexed Imaging of Bladder Cancer Tissue Permeability and Molecular Phenotype.** *ACS nano*
Davis, R. M., Kiss, B., Trivedi, D. R., Metzner, T. J., Liao, J. C., Gambhir, S. S.
2018
 - **HUMANIZED ANTI-CD47 ANTIBODY (HU-5F9-G4) FOR METASTATIC BLADDER CANCER IS SUPERIOR TO CONVENTIONAL CHEMOTHERAPY WITH CISPLATIN AND GEMCITABINE IN A MURINE BLADDER CANCER MODEL.**
Kiss, B., Volkmer, A., Liao, J., Volkmer, J., Weissman, I.
ELSEVIER SCIENCE INC.2018: E864
 - **Blue light cystoscopy for the diagnosis of bladder cancer: Results from the US prospective multicenter registry.** *Urologic oncology*
Daneshmand, S., Bazargani, S. T., Bivalacqua, T. J., Holzbeierlein, J. M., Willard, B., Taylor, J. M., Liao, J. C., Pohar, K., Tierney, J., Konety, B.
2018
 - **Optical and Cross-Sectional Imaging Technologies for Bladder Cancer.** *Cancer treatment and research*
Kiss, B., Marcq, G., Liao, J. C.
2018; 175: 139-63
 - **Rapid Microbiology Screening in Pharmaceutical Workflows.** *SLAS technology*
Surette, C., Scherer, B., Corwin, A., Grossmann, G., Kaushik, A. M., Hsieh, K., Zhang, P., Liao, J. C., Wong, P. K., Wang, T. H., Puleo, C. M.
2018; 23 (4): 387-94
 - **Validation of Confocal Laser Endomicroscopy Features of Bladder Cancer: The Next Step Towards Real-time Histologic Grading.** *European urology focus*
Liem, E. I., Freund, J. E., Savci-Heijink, C. D., de la Rosette, J. J., Kamphuis, G. M., Baard, J., Liao, J. C., van Leeuwen, T. G., de Reijke, T. M., de Bruin, D. M.

2018

- **Simple and Precise Counting of Viable Bacteria by Resazurin-Amplified Picoarray Detection.** *Analytical chemistry*
Hsieh, K., Zec, H. C., Chen, L., Kaushik, A. M., Mach, K. E., Liao, J. C., Wang, T. H.
2018
- **Unplanned Emergency Department Visits and Hospital Admissions Following Ureteroscopy: Do Ureteral Stents Make a Difference?** *Urology*
Mittakanti, H. R., Conti, S. L., Pao, A. C., Chertow, G. M., Liao, J. C., Leppert, J. T., Elliott, C. S.
2018
- **Real time diagnosis of bladder cancer with probe-based confocal laser endomicroscopy** *Proc. SPIE 7902, 79021V (2011); doi:10.1117/12.874243*
Liu J-J, Wu K, Adams W, Hsiao ST, Mach KE, Beck AH, Jensen KC, Liao JC
- **Hybrid electrokinetic manipulation in high-conductivity media** *Lab Chip (DOI: 10.1039/C1LC20054B)*
Gao J, Sin MLY, Liu T, Gau V, Liao JC, Wong PK
- **Accelerating bacterial growth detection and antimicrobial susceptibility assessment in integrated picoliter droplet platform.** *Biosensors & bioelectronics*
Kaushik, A. M., Hsieh, K., Chen, L., Shin, D. J., Liao, J. C., Wang, T. H.
2017; 97: 260–66
- **Image-Guided Transurethral Resection of Bladder Tumors - Current Practice and Future Outlooks.** *Bladder cancer (Amsterdam, Netherlands)*
Chang, T. C., Marcq, G., Kiss, B., Trivedi, D. R., Mach, K. E., Liao, J. C.
2017; 3 (3): 149–59
- **Proceedings of the 3rd Annual Albert Institute for Bladder Cancer Research Symposium.** *Bladder cancer (Amsterdam, Netherlands)*
Flaig, T. W., Kamat, A. M., Hansel, D., Ingersoll, M. A., Barton Grossman, H., Mendelsohn, C., DeGraff, D., Liao, J. C., Taylor, J. A.
2017; 3 (3): 211–23
- **Redefining the Stone Belt: Precipitation is Associated with Increased Risk of Urinary Stone Disease.** *Journal of endourology*
Dallas, K. B., Conti, S. L., Liao, J. C., Sofer, M., Pao, A. C., Leppert, J. T., Elliott, C. S.
2017
- **Oncologic Procedures Amenable to Fluorescence-guided Surgery.** *Annals of surgery*
Tipirneni, K. E., Warram, J. M., Moore, L. S., Prince, A. C., de Boer, E., Jani, A. H., Wapnir, I. L., Liao, J. C., Bouvet, M., Behnke, N. K., Hawn, M. T., Poultides, G. A., Vahrmeijer, et al
2016
- **Registration of free-hand OCT daughter endoscopy to 3D organ reconstruction** *BIOMEDICAL OPTICS EXPRESS*
Lurie, K. L., Angst, R., Seibel, E. J., Liao, J. C., Bowden, A. K.
2016; 7 (12): 4995-5009
- **Long-range electrothermal fluid motion in microfluidic systems** *INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER*
Lu, Y., Ren, Q., Liu, T., Leung, S. L., Gau, V., Liao, J. C., Chan, C. L., Wong, P. K.
2016; 98: 341-349
- **Editorial Comment.** *journal of urology*
Davenport, M. T., Liao, J. C.
2016; 195 (6): 1703-?
- **Editorial Comment.** *journal of urology*
Liao, J. C.
2016; 195 (5): 1585-?
- **A Multiplex Electrochemical Biosensor for Bloodstream Infection Diagnosis.** *Journal of laboratory automation*
Gao, J., Jeffries, L., Mach, K. E., Craft, D. W., Thomas, N. J., Gau, V., Liao, J. C., Wong, P. K.
2016: 2211068216651232-?
- **A Microfiltration Device for Urogenital Schistosomiasis Diagnostics** *PLOS ONE*
Xiao, Y., Lu, Y., Hsieh, M., Liao, J., Wong, P. K.
2016; 11 (4)

- **Intraoperative Optical Biopsy during Robotic Assisted Radical Prostatectomy Using Confocal Endomicroscopy** *JOURNAL OF UROLOGY*
Lopez, A., Zlatev, D. V., Mach, K. E., Bui, D., Liu, J., Rouse, R. V., Harris, T., Leppert, J. T., Liao, J. C.
2016; 195 (4): 1110-1117
- **Fiber-Optic Confocal Laser Endomicroscopy of Small Renal Masses: Toward Real-Time Optical Diagnostic Biopsy** *JOURNAL OF UROLOGY*
Su, L., Kuo, J., Allan, R. W., Liao, J. C., Ritari, K. L., Tomeny, P. E., Carter, C. M.
2016; 195 (2): 486-492
- **Multimodal 3D cancer-mimicking optical phantom** *BIOMEDICAL OPTICS EXPRESS*
Smith, G. T., Lurie, K. L., Zlatev, D. V., Liao, J. C., Bowden, A. K.
2016; 7 (2): 648-662
- **Optical Biopsy of Bladder Cancer Using Crowd-Sourced Assessment.** *JAMA surgery*
Chen, S. P., Kirsch, S., Zlatev, D. V., Chang, T., Comstock, B., Lendvay, T. S., Liao, J. C.
2016; 151 (1): 90-93
- **Successful Translation of Fluorescence Navigation During Oncologic Surgery: A Consensus Report** *JOURNAL OF NUCLEAR MEDICINE*
Rosenthal, E. L., Warram, J. M., de Boer, E., Basilion, J. P., Biel, M. A., Bogyo, M., Bouvet, M., Brigman, B. E., Colson, Y. L., DeMeester, S. R., Gurtner, G. C., Ishizawa, T., Jacobs, et al
2016; 57 (1): 144-150
- **Ultra-thin elastomer membrane array wrinkling for bladder cancer diagnosis** *IEEE 29th International Conference on Micro Electro Mechanical Systems (MEMS)*
Appel, J. H., Sin, M. L., Liao, J. C., Chae, J.
2016: 419
- **Multimodal 3D cancer-mimicking optical phantom.** *Biomedical optics express*
Smith, G. T., Lurie, K. L., Zlatev, D. V., Liao, J. C., Ellerbee Bowden, A. K.
2016; 7 (2): 648-62
- **Rapid bladder cancer cell detection from clinical urine samples using an ultra-thin silicone membrane** *ANALYST*
Appel, J. H., Ren, H., Sin, M. L., Liao, J. C., Chae, J.
2016; 141 (2): 652-660
- **AC Electrokinetics of Physiological Fluids for Biomedical Applications** *JALA*
Lu, Y., Liu, T., Lamanda, A. C., Sin, M. L., Gau, V., Liao, J. C., Wong, P. K.
2015; 20 (6): 611-620
- **A Pilot Study of In Vivo Confocal Laser Endomicroscopy of Upper Tract Urothelial Carcinoma** *JOURNAL OF ENDOUROLOGY*
Bui, D., Mach, K. E., Zlatev, D. V., Rouse, R. V., Leppert, J. T., Liao, J. C.
2015; 29 (12): 1418-1423
- **Optical Biopsy of Peripheral Nerve Using Confocal Laser Endomicroscopy: A New Tool for Nerve Surgeons?** *Archives of plastic surgery*
Crowe, C. S., Liao, J. C., Curtin, C. M.
2015; 42 (5): 626-629
- **Role of Narrow Band Imaging in Management of Urothelial Carcinoma** *CURRENT UROLOGY REPORTS*
Altobelli, E., Zlatev, D. V., Liao, J. C.
2015; 16 (8)
- **Advances in Imaging Technologies in the Evaluation of High-Grade Bladder Cancer** *UROLOGIC CLINICS OF NORTH AMERICA*
Zlatev, D. V., Altobelli, E., Liao, J. C.
2015; 42 (2): 147-?
- **Editorial Comment.** *The Journal of urology*
Zlatev, D. V., Liao, J. C.
2015
- **Rapid Antimicrobial Susceptibility Testing with Electrokinetics Enhanced Biosensors for Diagnosis of Acute Bacterial Infections** *ANNALS OF BIOMEDICAL ENGINEERING*

- Liu, T., Lu, Y., Gau, V., Liao, J. C., Wong, P. K.
2014; 42 (11): 2314-2321
- **Confocal laser endomicroscopy of bladder and upper tract urothelial carcinoma: a new era of optical diagnosis?** *Current urology reports*
Chen, S. P., Liao, J. C.
2014; 15 (9): 437-?
 - **A Cell Phone-Based Microphotometric System for Rapid Antimicrobial Susceptibility Testing** *JALA*
Kadlec, M. W., You, D., Liao, J. C., Wong, P. K.
2014; 19 (3): 258-266
 - **Emerging endoscopic imaging technologies for bladder cancer detection.** *Current urology reports*
Lopez, A., Liao, J. C.
2014; 15 (5): 406-?
 - **Advances and challenges in biosensor-based diagnosis of infectious diseases.** *Expert review of molecular diagnostics*
Sin, M. L., Mach, K. E., Wong, P. K., Liao, J. C.
2014; 14 (2): 225-244
 - **Three-dimensional, distendable bladder phantom for optical coherence tomography and white light cystoscopy.** *Journal of biomedical optics*
Lurie, K. L., Smith, G. T., Khan, S. A., Liao, J. C., Ellerbee, A. K.
2014; 19 (3): 36009-?
 - **Intraoperative optical imaging and tissue interrogation during urologic surgery.** *Current opinion in urology*
Hsu, M., Gupta, M., Su, L., Liao, J. C.
2014; 24 (1): 66-74
 - **Electrokinetic stringency control in self-assembled monolayer-based biosensors for multiplex urinary tract infection diagnosis** *NANOMEDICINE-NANOTECHNOLOGY BIOLOGY AND MEDICINE*
Liu, T., Sin, M. L., Pyne, J. D., Gau, V., Liao, J. C., Wong, P. K.
2014; 10 (1): 159-166
 - **A Universal Electrode Approach for Automated Electrochemical Molecular Analyses** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
Sin, M. L., Gau, V., Liao, J. C., Wong, P. K.
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 - **Turning on the lights: new technologies in optical diagnostics and therapeutics.** *journal of urology*
Liao, J. C., Leppert, J. T.
2013; 190 (2): 381-382
 - **Interobserver agreement of confocal laser endomicroscopy for bladder cancer.** *Journal of endourology*
Chang, T. C., Liu, J., Hsiao, S. T., Pan, Y., Mach, K. E., Leppert, J. T., McKenney, J. K., Rouse, R. V., Liao, J. C.
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 - **Single Cell Antimicrobial Susceptibility Testing by Confined Microchannels and Electrokinetic Loading** *ANALYTICAL CHEMISTRY*
Lu, Y., Gao, J., Zhang, D. D., Gau, V., Liao, J. C., Wong, P. K.
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 - **An AC electrokinetics facilitated biosensor cassette for rapid pathogen identification** *ANALYST*
Ouyang, M., Mohan, R., Lu, Y., Liu, T., Mach, K. E., Sin, M. L., McComb, M., Joshi, J., Gau, V., Wong, P. K., Liao, J. C.
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 - **Probe-based Confocal Laser Endomicroscopy of the Urinary Tract: The Technique** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*
Chang, T. C., Liu, J., Liao, J. C.
2013
 - **A Universal Electrode Approach for Automated Electrochemical Molecular Analyses.** *Journal of microelectromechanical systems : a joint IEEE and ASME publication on microstructures, microactuators, microsensors, and microsystems*
Sin, M. L., Gau, V., Liao, J. C., Wong, P. K.
2013; 22 (5): 1126-32

- **Probe-based confocal laser endomicroscopy of the urinary tract: the technique.** *Journal of visualized experiments : JoVE*
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- **New Optical Imaging Technologies for Bladder Cancer: Considerations and Perspectives** *JOURNAL OF UROLOGY*
Liu, J., Droller, M. J., Liao, J. C.
2012; 188 (2): 361-368
- **Rapid hybridization of nucleic acids using isotachopheresis** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Bercovici, M., Han, C. M., Liao, J. C., Santiago, J. G.
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- **Endoscopic imaging of Cerenkov luminescence** *BIOMEDICAL OPTICS EXPRESS*
Kothapalli, S., Liu, H., Liao, J. C., Cheng, Z., Gambhir, S. S.
2012; 3 (6): 1215-1225
- **Seeing it through: translational validation of new medical imaging modalities** *BIOMEDICAL OPTICS EXPRESS*
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- **In Situ Electrokinetic Enhancement for Self-Assembled-Monolayer-Based Electrochemical Biosensing** *ANALYTICAL CHEMISTRY*
Sin, M. L., Liu, T., Pyne, J. D., Gau, V., Liao, J. C., Wong, P. K.
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- **A Universal Electrode Approach for Automated Electrochemical Detection of Bacterial 16S rRNA** *6th IEEE International Conference on Nano/Molecular Medicine and Engineering (IEEE-NANOMED)*
Sin, M. L., Gau, V., Liao, J. C., Wong, P. K.
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- **Clinical Validation of Integrated Nucleic Acid and Protein Detection on an Electrochemical Biosensor Array for Urinary Tract Infection Diagnosis** *PLOS ONE*
Mohan, R., Mach, K. E., Bercovici, M., Pan, Y., Dhulipala, L., Wong, P. K., Liao, J. C.
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- **Molecular Detection of Bacterial Pathogens Using Microparticle Enhanced Double-Stranded DNA Probes** *ANALYTICAL CHEMISTRY*
Riahi, R., Mach, K. E., Mohan, R., Liao, J. C., Wong, P. K.
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- **Dynamic Real-time Microscopy of the Urinary Tract Using Confocal Laser Endomicroscopy** *UROLOGY*
Wu, K., Liu, J., Adams, W., Sonn, G. A., Mach, K. E., Pan, Y., Beck, A. H., Jensen, K. C., Liao, J. C.
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Bercovici, M., Kaigala, G. V., Mach, K. E., Han, C. M., Liao, J. C., Santiago, J. G.
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Mach, K. E., Wong, P. K., Liao, J. C.
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Bjerkklund Johansen TE, Liao JC
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- **Hybrid electrokinetic manipulation in high-conductivity media** *LAB ON A CHIP*
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- **Real Time Diagnosis of Bladder Cancer with Probe-Based Confocal Laser Endomicroscopy** *Conference on Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues IX*
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- **A Biosensor Platform for Rapid Antimicrobial Susceptibility Testing Directly From Clinical Samples** *JOURNAL OF UROLOGY*
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2011; 185 (1): 148-153
- **System Integration - A Major Step toward Lab on a Chip.** *Journal of biological engineering*
Sin, M. L., Gao, J., Liao, J. C., Wong, P. K.
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- **Statistical Metamodeling for Revealing Synergistic Antimicrobial Interactions** *PLOS ONE*
Chen, C. H., Gau, V., Zhang, D. D., Liao, J. C., Wang, F., Wong, P. K.
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Pan, Y., Sonn, G. A., Sin, M. L., Mach, K. E., Shih, M., Gau, V., Wong, P. K., Liao, J. C.
2010; 26 (2): 649-654
- **DYNAMIC REAL TIME MICROSCOPY OF THE URINARY TRACT: AN IMAGING ATLAS BASED ON CONFOCAL LASER ENDOMICROSCOPY**
Adams, W., Wu, K., Sonn, G., Jensen, K., Liao, J. C.
MARY ANN LIEBERT INC.2010: A278-A278
- **Matrix Effects-A Challenge Toward Automation of Molecular Analysis** *JALA*
Chiu, M. L., Lawi, W., Snyder, S. T., Wong, P. K., Liao, J. C., Gau, V.
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- **Antimicrobial Susceptibility Testing Using High Surface-to-Volume Ratio Microchannels** *ANALYTICAL CHEMISTRY*
Chen, C. H., Lu, Y., Sin, M. L., Mach, K. E., Zhang, D. D., Gau, V., Liao, J. C., Wong, P. K.
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- **Laparoscopic Radical Nephrectomy in a Pelvic Ectopic Kidney: Keys to Success** *JSLs-JOURNAL OF THE SOCIETY OF LAPAROENDOSCOPIC SURGEONS*
Chung, B. I., Liao, J. C.
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- **Electrothermal Fluid Manipulation of High-Conductivity Samples for Laboratory Automation Applications** *Journal of the Association for Laboratory Automation*
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