

Refereed Publications

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123. *Space as a Tool for Astrobiology: Review and Recommendations for Experimentation in Earth Orbit and Beyond*, H Cottin, JM Kotler, D Billi, C Cockell, R Demets, P Ehrenfreund, A Elsaesser, L d'Hendecourt, JJWA van Loon, Z Martins, S Onofri, RC Quinn, E Rabbow, P Rettberg, AJ Ricco, K Slenzka, R de la Torre, J-P de Vera, F Westall, N Carrasco, A Fresneau, Y Kawaguchi, Y Kebukawa, D Nguyen, O Poch, K Saiagh, F Stalport, A Yamagishi, H Yano, and BA Klammer, *Space Sci Rev* 209, 83–181 (2017). [10.1007/s11214-017-0365-5]
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121. *Microgravity Validation of a Novel System for RNA Isolation and Multiplex Quantitative Real Time PCR Analysis of Gene Expression on the International Space Station*, M Parra, J Jung, TD Boone, L Tran, EA Blaber, M Brown, M Chin, T Chinn, J Cohen, R Doebler, D Hoang, E Hyde, M Lera, LT Luzod, M Mallinson, O Marcu, Y Mohamedaly, AJ Ricco, K Rubins, GD Sgarlato, RO Talavera, P Tong, E Uribe, J Williams, D Wu, R Yousuf, CS Richey, J Schonfeld, and EAC Almeida, *PLoS One*, 12, e0183480 (2017). [10.1371/journal.pone.0183480]
120. *Payload Hardware and Experimental Protocol Development to Enable Future Testing of the Effect of Space Microgravity on the Resistance to Gentamicin of Uropathogenic Escherichia coli and Its σ^H -Deficient Mutant*, AC Matin, JH Wang, M Keyhan, R Singh, M Benoit, MP Parra, MR Padgen, AJ Ricco, M Chin, CR Friedericks, TN Chinn, A Cohen, MB Henschke, TV Snyder, MP Lera, SS Ross, CM Mayberry, S Choi, DT Wu, MX Tan, TD Boone, CC Beasley, ME Piccini, and SM Spremo, *Life Sci Space Res*, 15, 1–10 (2017). [10.1016/j.lssr.2017.05.001]
119. *An Autonomous Lab on a Chip for Space Flight Calibration of Gravity-Induced Transcellular Calcium Polarization in Single-Cell Fern Spores*, J Park, ML Salmi, WWA Wan Salim, A Rademacher, B Wickizer, A Schooley, J Benton, A Cantero, PF Argote, M Ren, M Zhang, DM Porterfield, AJ Ricco, SJ Roux and JL Rickus, *Lab Chip*, 17, 1095–1103 (2017). [10.1039/C6LC01370H]
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Patents

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20. *Detection of Hydrocarbons in Aqueous Environments*, F.J. Josse, F. Bender, A.J. Ricco, R. Mohler, U. Kelmser, K. Synowiec, and R.M. Lorenz, US Pat. No. 9,244,051, issued 2016/01/26.
19. *Enhanced Microfluidic Electromagnetic Measurements*, L. Giovangrandi, A. Ricco, and G.T. Kovacs, US Pat. No. 9,170,138, issued 2015/10/12.
18. *Multilayer Microfluidic Device of Point of Care Device, has Actuator that is Operable to Incident Radiation to Rupture Surface of Valve and Transform Valve from Closed State to Open State for Allowing Passage of Fluid through Flow Path*, J.L.G. Cordero, J. Ducree, L. Lee, F.B. Lopez, and A.J. Ricco, World Pat. No. WO2010084190-A1, issued 7/29/10; UK Patent No. GB2468111-A, issued 2010/08/25.
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16. *Cuvette for Holding Liquid Sample in Milking System during Analysis has Second Elongated Portion Distally Located from Inlet and Having Transverse Cross-Sectional Area Less than Transverse Cross-Sectional Area of First Elongated Portion*, J.L.G. Cordero, R. O' Kennedy, and A.J. Ricco, UK Patent No. GB2457094-A, issued 8/05/09; World Patent No. WO2009098237-A1, issued 8/13/09; Australian Patent No. AU2009211339-A1, issued 8/13/09; Spanish Patent No. EP2240765-A1, issued 10/20/10; US Patent No. 2010317094-A1, issued 12/16/10; Indian Patent No. IN201003012-P2, issued 2011/11/25.
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14. *Microfluidic Chip Having Integrated Electrodes*, M. Zhao, P. Vanysek, A. Ricco, H.S. Lackritz, Z. Qun, U. Nguyen, and T.O. Bjornson US Pat. No. 6,939,451, issued 2005/09/06.
13. *Microfluidic Device and System with Improved Sample Handling*, A.J. Ricco and T.D. Boone, US Pat No. 6,730,206, issued 2004/05/04.
12. *Dendrimer Monolayer Films*, R.M. Crooks, A.J. Ricco, and M. Wells, US Pat. No. 6,312,809, issued 2001/11/06.
11. *Optical Apparatus for Forming Correlation Spectrometers and Optical Processors*, M.A. Butler, A.J. Ricco, M.B. Sinclair, and S.D. Senturia, US Pat. No. 5,905,571, issued 1999/05/18.
10. *Calorimetric Gas Sensor*, A.J. Ricco, R.C. Hughes, J. H. Smith, D.J. Moreno, R. P. Manginell, S.D. Senturia, and R. J. Huber, US Pat. No. 5,834,627, issued 1998/11/10.
9. *Method for Localized Deposition of Noble Metal Catalysts with Control of Morphology*, A.J. Ricco, R. J. Huber, and R. P. Manginell, US Pat. No. 5,820,922, issued 1998/10/13.
8. *Method for Preventing Micromechanical Structures from Adhering to Another Object*, J. H. Smith, A.J. Ricco, US Pat. No. 5,766,367, issued 1998/06/16.
7. *Electrically Programmable Diffraction Grating*, A.J. Ricco, M.A. Butler, M.B. Sinclair, and S.D. Senturia, US Pat. No. 5,757,536, issued 1998/05/26.
6. *Methods for Patterned Deposition on a Substrate*, R.R. Rye, A.J. Ricco, M. J. Hampden-Smith, and T. T. Kodas, US Pat. No. 5,380,474, issued 1995/01/10.
5. *Multiple-Frequency Acoustic Wave Devices for Chemical Sensing and Materials Characterization*, A.J. Ricco and S.J. Martin, US Pat. No. 5,235,235, issued 1993/08/10.
4. *Method and Apparatus for Acoustic Plate-Mode Liquid/Solid Phase-Transition Detection*, D.S. Blair, G.C. Frye, R.C. Hughes, S.J. Martin, and A.J. Ricco, US Pat. No. 5,187,980, issued 1993/02/23.
3. *Acoustic Wave Device Using Plate Modes with Surface-Parallel Displacement*, S.J. Martin and A.J. Ricco, US Pat. No. 5,117,146, issued 1992/05/26.

2. *SAW Determination of Surface Area of Thin Films*, GC Frye, SJ Martin, and AJ Ricco US Pat. No. 4,947,677, issued 1990/08/14.

1. *Methods of In Vivo Radiation Measurement*, DD Huffman, RC Hughes, CA Kelsey, R Lane AJ Ricco, JB Snelling, and TE Zipperian, US Pat. No. 4,976,266, issued 1990/12/11.

Invited Presentations

185. *O/OREOS Nanosatellite Space-Environment Effects on Microbes and Organic Biomarkers* [INVITED], A. Ricco, 3rd ACS NASA Symposium: *Chemistry for Humanity's Next Giant Leap*, ACS Spring 2019 National Meeting, Orlando, 3/31-4/5/19.
184. *Integrated Microfluidic Bioanalytical Systems: Growing and Monitoring Microbial Cultures in Outer Space* [KEYNOTE], A Ricco, 233rd ECS Meeting, Seattle, 5/13-17/18.
183. *Integrated Microfluidic Bioanalytical Systems: Monitoring Microbial Cultures in Outer Space* [INVITED], AJ Ricco, Analytical Research Forum 2017, Royal Society of Chemistry, 7/7/17, London.
182. *Deep Space Science: Role of CubeSats/Small Satellites* [INVITED], AJ Ricco, Space 2015, AIAA, 8/31-9/2/15, Pasadena.
181. *Life Science Research aboard Small Satellites: from Gene Expression in Low Earth Orbit to DNA Repair in Interplanetary Space* [INVITED], AJ Ricco, Interplanetary Small Satellite Conference 2015, 4/27-28/15, Santa Clara.
180. *BioSentinel/Mars: Interplanetary Space Radiation Biosensor Experiment in Martian Transit on Mars 2020* [INVITED], A.J. Ricco, R. Hanel, B. Lewis, and S. Bhattacharya, Mars CubeSat/NanoSat Workshop, 11/20-21/2014, Pasadena.
179. *Integrated Analytical Microsystems for Life Science Research in Outer Space Aboard Autonomous Small Satellites* [SEMI-PLENARY], A. J. Ricco, 15th International Meeting on Chemical Sensors, 3/16-19/14, Buenos Aires.
178. *Autonomous Bio/chemical Analytical Microsystems for Space Science: Development of the O/OREOS Nanosatellite and Results from Orbit* [INVITED], A.J. Ricco, P. Ehrenfreund, D. Squires, W. Nicholson, R. Quinn, A. Mattioda, A. Cook, N. Bramall, C. Kitts, Pittcon 2014, 3/2-6/14, Chicago.
177. *Integrated Bioanalytical Systems for Autonomous Science in Outer Space* [KEYNOTE], A.J. Ricco, NanoBioEurope 2011, 6/21-23/11, Cork, Ireland.
176. *O/OREOS (Organism/Organic Exposure to Orbital Stresses) Astrobiology Nanosat: Science, Technology, and Results from Orbit* [INVITED PANELIST], A. J. Ricco, P. Ehrenfreund, D. Squires, C. Kitts, C. Conley, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, N. Bramall, J. Chittenden, A. Cook, K. Bryson, IEEE Aerospace Conference, Panel on Instrument Concepts and Design for Astrobiology Investigations, Big Sky, 3/5-12/11.
175. *Life Science Research in Outer Space: New Platform Technologies for Low-Cost, Autonomous Small Satellite Missions* [INVITED/KEYNOTE], A.J. Ricco, M. Parra, D. Niesel, M. McGinnis, P. Ehrenfreund, W. Nicholson, R. Mancinelli, M. Piccini, C. Beasley, L. Timucin, R. Ricks, M. McIntyre, D. Squires, B. Yost, and J.W. Hines, International Society of Pharmaceutical Engineers (ISPE) Annual Meeting, San Diego, 11/8-11/09.
174. *O/OREOS Sat: Organism/ORganic Exposure to Orbital Stresses* [INVITED], T. Ricco, P. Ehrenfreund, D. Squires, J. Hines, C. Kitts, C. Conley, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, N. Bramall, J. Chittenden, K. Bryson, International Space University, Moffett Field, CA, 6/29-8/28/09.
173. *Microfluidic System for Whole-Blood Diagnostic Analysis of Populational Platelet Translocation Behavior* [INVITED], A.J. Ricco, N. Kent, G. Meade, B. Lincoln, L. Basabe-Desmonts, B. MacCraith, B. Corcoran, and D. Kenny, Gordon Research Conference on Physics & Chemistry of Microfluidics, Il Ciocco, Italy, 6/28-7/3/09/09.
172. *Whole-Blood Diagnostic Sensing System Based on Populational Platelet Rolling Behavior* [INVITED], A.J. Ricco, N. Kent, G. Meade, B. Lincoln, L. Basabe-Desmonts, B. MacCraith, B. Corcoran, and D. Kenny, 215th Electrochemical Society National Mtg., San Francisco, 5/24-29/09.
171. *Microfluidic System for Whole-Blood Diagnostic Analysis of Populational Platelet Rolling Behavior* [INVITED], A.J. Ricco, N. Kent, G. Meade, B. Lincoln, L. Basabe-Desmonts, B. MacCraith, B. Corcoran, and D. Kenny, 41st Annual Oak Ridge Conference on Point-of-Care Diagnostics, Baltimore, 4/16-17/09.
170. *Technologies for Autonomous Small Satellite Biological Payloads* [INVITED], A.J. Ricco, J.W. Hines, P. Ehrenfreund, M. Piccini, L. Timucin, R. Ricks, G. Defouw, M. McIntyre, M. Parra, C. Beasley, and B. Yost, Institute of Biological Engineering Annual Conference, Santa Clara, 3/19-22/09.
169. *Autonomous Free Flyers to Study Microorganisms in the Space Environment: GeneSat and PharmaSat* [INVITED], A. Ricco, M. Parra, M. McGinnis, B. Yost, J.W. Hines, Astrobiology Science Conference (AbSciCon) 2008, Santa Clara, CA, 4/14-17/08.

- I68. *Small Satellites As A Platform For Biological Research* [INVITED], T. Ricco, Cyanobacteria in a Lunar Environment, NASA Ames Research Center, Moffett Field, CA, 1/28-30/08.
- I67. *Towards A Handheld Cytokine Immunosensor using Amic 4Cast Chips*, J. Li, A. Ouellette, T. Ricco, G. Kovacs, BioDot Emerging Rapid Assay Technologies Workshop, Malahide, Ireland, 4/25-27/06.
- I66. *The Need for Speed: Emerging Rapid, Sample-to-Answer, Point-of-Need Biomedical Assays* (Keynote), A.J. Ricco, BioDot Emerging Rapid Assay Technologies Workshop, Malahide, Ireland, 4/25-27/06.
- I65. *Autonomous Analysis of the Genetic Effects of the Space Environment on Living Cells in Culture*, A.J. Ricco, E. Agasid, V. Barker, T. Fahlen, J.W. Hines, L. Levine, R. Mancinelli, P. Mrdjen, D. Oswald, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, Europt(r)ode VIII, Tübingen, 4/2-5/06.
- I64. *Integrated Fluidic System for In-Situ Molecular Analyses of the Consequences of the Space Environment*, A.J. Ricco, V. Barker, J.W. Hines, D. Oswald, C. Storment, G. Swaiss, L. Timucin, and B. Yost, The Pittsburgh Conference, Orlando, 3/12-26/06.
- I63. *A Self-Contained, Fully Autonomous Cell Culture-and-Analysis System to Study Gene Expression in Remote Environments*, A.J. Ricco, J.W. Hines, E. Agasid, V. Barker, T. Fahlen, D. Hinds, L. Levine, R. Mancinelli, M. McIntyre, D. Oswald, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, Association of Biomolecular Resource Facilities (ABRF), Long Beach, 2/11-14/06.
- I62. *Towards A Handheld Cytokine Immunosensor using Amic 4Cast Chips*, J. Li, A. Ouellette, T. Ricco, G. Kovacs, BioDot Emerging Rapid Assay Technologies Workshop, San Diego, 10/24-26/05.
- I61. *Autonomous Culture-And-Bioassay System Characterizes the Molecular Biological Consequences of Space Travel*, A.J. Ricco, Gordon Research Conference on Analytical Chemistry, Roscoff, France, 6/12-17/05.
- I60. *Microfluidic Devices with Optical Detection for Bioassay Applications* (Plenary), A.J. Ricco, Opto Ireland, Dublin, 4/3-6/05.
- I59. *In-Situ Gene Expression on Nanosatellites (ISGEN): Autonomous Genetic Assay System to Characterize Biological Consequences of Space Travel*, A.J. Ricco, E. Agasid, V. Barker, J. Hines, P. Mrdjen, D. Oswald, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, 229th American Chemical Society National Meeting, San Diego, 3/17-19/05.
- I58. *In-Situ Gene Expression on Nanosatellites (ISGEN): Autonomous Genetic Assay System to Characterize Biological Consequences of Space Travel*, A.J. Ricco, E. Agasid, V. Barker, J. Hines, P. Mrdjen, D. Oswald, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, Bay Area MEMS Journal Club Meeting, Sunnyvale, 2/10/05.
- I57. *Integrated Microfluidic Systems with On-Chip Polymerase Chain Reaction (PCR) for Pathogen Detection, Multiplexed Genomic and Proteomic Analysis, and Enzyme Assays*, A.J. Ricco, The NASA Medical Technology Summit, Pasadena, 2/11-13/03.
- I56. *Microfluidics Technologies: NASA Applications*, A.J. Ricco, American Astronautical Society National Conference, Sunnyvale, 11/19-21/02.
- I55. *Microfluidics for The Rest of Us*, A.J. Ricco, 202nd Electrochemical Society National Mtg., Salt Lake City, 10/20-25/02.
- I54. *Plastic Microfluidic Arrays Manufactured using Microfabrication Technology: Bioassay Applications*, A.J. Ricco, BIOMEMS 2002 - Advances in Medical and Analytical Applications, Cambridge, 4/25-26/02.
- I53. *Plastic BioMEMS Microfluidic Device Arrays for Bioassay Applications*, A.J. Ricco, MRS 2002 Spring Meeting, San Francisco, 4/1-5/02.
- I52. *Multiplexed Bioassays using Customized Disposable Microfluidic Systems*, A.J. Ricco, The Pittsburgh Conference, New Orleans, 3/17-22/02.
- I51. *Application of Disposable Plastic Microfluidic Device Arrays with Customized Chemistries to Multiplexed Biochemical Assays*, A.J. Ricco, Biochemical Society Joint Meeting with the Physiological Society, York, UK, 12/17-19/01.
- I50. *Disposable Plastic Microfluidic Arrays for Applications in Biotechnology*, A.J. Ricco, Applications of Microsystems and Nanotechnology to the Life Sciences (National Research Council of Canada and MicroSystem Technology Research Institute), Banff, Canada, 11/10-12/01.
- I49. *Fabrication and Applications of Highly Parallel Disposable Microfluidic Arrays*, A.J. Ricco, SmallTalk Conference and Exhibition, Society for Laboratory Automation, San Diego, 8/27-31/01.

- I48. *Disposable Plastic Microfluidic Devices for Bioanalytical Applications in High-Throughput Screening and Genetic Analysis*, A.J. Ricco, 28th Int'l. Symposium on Controlled Release of Bioactive Materials, San Diego, 6/23-27/01.
- I47. *Disposable Plastic Microfluidic Arrays for Applications in Biotechnology*, T.D. Boone, Z.H. Fan, I. Gibbons, A.J. Ricco, A. Sassi, S. Singh, D. Slomski, H. Tan, S.J. Williams, V. Xiao, and Q. Xue, 11th Int'l. Conf. on Solid-State Sensors and Actuators, Munich, 6/10-14/01.
- I46. *Disposable plastic microfluidic Arrays for Applications in Biotechnology*, A.J. Ricco, BioMEMS 2001: Nanofabrication and Analytical Techniques for Biomedical Microsystem Applications, Sunnyvale, CA, 5/17-18/01.
- I45. *High-Throughput Biochemical Analyses using Disposable Plastic Microfluidics*, A.J. Ricco, Gordon Research Conference on Chemical Sensors and Interfacial Design, Il Ciocco, Italy, 5/6-11/01.
- I44. *High-Throughput Biochemical Analyses using Disposable Plastic Microfluidics*, A.J. Ricco, The Pittsburgh Conference, New Orleans, 3/4-9/01.
- I43. *Disposable Microfluidic Arrays for Genetic Analysis, Sample Preparation, and Drug Screening Applications*, A.J. Ricco, 3rd Annual Lab-on-a-Chip and Microarrays for Biomedical and Biotechnical Applications, Cambridge Healthtech Institute, Zurich, 1/22-24/01.
- I42. *Advances in Microfluidics: Microcircuitry for the Life Sciences*, A.J. Ricco, Technology and Society Committee Monthly Meeting, Mountain View, 11/21/00.
- I41. *Plastic Microfluidic Arrays for Biotechnology Applications*, A.J. Ricco, T.D. Boone, T. Björnson, S. Singh, V. Xiao, I. Gibbons, A. Wainright, S. Williams, and H. Tan, Nanotech 2000, Montreux, 11/28-30/00.
- I40. *High-Throughput Genetic Analysis and Drug Screening using Plastic Fluidic Systems*, A.J. Ricco, AIChE Annual Meeting, Los Angeles, 11/12-17/00.
- I39. *Gas Sensor Arrays for Vapor Analysis & Microfluidic Arrays for Bioanalysis: Size Does Matter*, Sensor Division Achievement Award Address, A.J. Ricco, G.C. Osbourn, R.C. Hughes, R.M. Crooks, and T.D. Boone, 194th Electrochemical Society Mtg., Phoenix, 10/22-27/00.
- I38. *The Commercialization of Plastic Microfluidic Systems: Applications in Biotechnology*, A.J. Ricco, Commercialization of Microsystems 2000, Santa Fe, 9/5-9/00.
- I37. *Microfluidic Systems as COTS MEMS: Applications in Biotechnology*, A.J. Ricco, COTS MEMS: Advances in Applying Integrated Commercial Off-the-Shelf MicroElectroMechanical Systems, The Knowledge Foundation, Berkeley, 8/3-4/00.
- I36. *Plastic Microfluidic Devices for High-Throughput Screening and Genetic Analysis*, A.J. Ricco, 2nd Annual Conference on BioMEMS 2000: Manufacturing & Commercialization Issues for Micro & Nano Medical Devices, The Knowledge Foundation, San Francisco, 6/22-23/00.
- I35. *High-Throughput Genetic Analysis and Drug Screening using Plastic Fluidic Systems*, A.J. Ricco, Lab-Chips and Microarrays Japan, Tokyo, 5/8-9/00.
- I34. *On-Chip Separations using Disposable Plastic Microfluidic Devices*, A.J. Ricco, 219th American Chemical Society National Meeting, San Francisco, 3/26-30/00.
- I33. *Single-Use Plastic Microfluidic Systems*, A.J. Ricco, Int'l. Forum on Process Anal. Chem., Henderson, NV, 1/23-26/00.
- I32. *Plastic Microfluidic Devices for High-Throughput Screening and DNA Separations*, A.J. Ricco, LabAutomation 2000, Palm Springs, 1/22-26/00.
- I31. *Plastic Microfluidic Systems for High-Throughput Screening and DNA Analysis*, A.J. Ricco, 2nd Annual Lab-Chips and Microarrays for Biotechnical and Biomedical Applications, Cambridge Healthtech Institute, Zurich, 1/17-19/00.
- I30. *Single-Use Plastic Microfluidic Systems*, A.J. Ricco, 4th Annual Microfabrication and Microtechnologies Conference, IBC USA, San Francisco, 8/2-3/99.

- I29. *Cost-Effective, Single-Use Microfluidic Devices*, A.J. Ricco, Beyond Batch – Novel Microfabrication Options for BioMEMS: Technologies and Commercialization Strategies, The Knowledge Foundation, San Francisco, 7/15-16/99.
- I28. *New Chemically Sensitive Interfaces Combined with Novel Cluster Analysis to Detect Organic Vapors using SAW Sensor Arrays*, A.J. Ricco, R.M. Crooks, G.C. Osbourn, and W.G. Yelton, Federation of Analytical Chemical and Spectroscopy Societies, Austin, TX, 10/11-15/98.
- I27. *Surface Acoustic Wave Sensor Arrays for Safeguards Applications*, A.J. Ricco, INM/ESARDA Workshop on Science and Modern Technology for Safeguards, Albuquerque, 9/21-24/98.
- I26. *SAW Chemical Sensor Arrays using Diverse Materials and VERI Pattern Recognition*, A.J. Ricco, Gordon Research Conference on Chemical Sensors and Interfacial Design, Henniker, NH, 7/12-17/98.
- I25. *Chemical Sensor Arrays: Extracting Meaningful Information from Raw Data*, A.J. Ricco and G.C. Osbourn, American Industrial Hygiene Conference and Exposition (AIHCE), Atlanta, 5/9-15/98.
- I24. *Detektion flüchtiger organischer Mischungen mit SAW Sensor Arrays*, Tage der Begegnung USA - Sachsen - Anhalt, Otto-von-Guericke-Universität Magdeburg, Germany, 4/21-5/2/97.
- I23. *From Chemical Waste Sites to the Surface of Mars: Arrays of SAW Devices and Fiber Optic Micromirrors as Chemical Sensors*, American Physical Society/American Association of Physics Teachers Meeting, 4/20-23/97, Washington, DC.
- I22. *Volatile Organic Mixture Detection with Surface Acoustic Wave Sensor Arrays*, A.J. Ricco, G.C. Osbourn, and R.M. Crooks, Eurosensors X (The 10th European Conf. on Sol.-State Transducers), Leuven, Belgium, 9/8-11/96.
- I21. *Chemical Sensor Arrays for Mars*, A.J. Ricco, NASA/Ames Workshop on Soil Forming Processes on Mars, Mountain View, CA, 5/20 - 21/96.
- I20. *Catalytic, Micromachined Filaments for Combustible Gas Detection*, A.J. Ricco, J. H. Smith, R. P. Manginell, R.C. Hughes, D.J. Moreno, R. J. Huber, and S.D. Senturia, 189th Electrochemical Society Mtg., Los Angeles, CA, 5/5-10/96.
- I19. *Thin-Film-Based SAW Chemical Sensor Arrays*, A.J. Ricco, G.C. Osbourn, J.W. Bartholomew, R.M. Crooks, and R.E. Allred, NSF/DOE Workshop, “Basic Research Needs for Vehicles of the Future,” New Orleans, LA, 1/5-7/95.
- I18. *Thin-Film Materials for SAW and Micromirror Chemical Sensors*, A.J. Ricco, M.A. Butler, and R.M. Crooks, Materials Research Society Fall Mtg., Boston, MA, 11/28-12/2/94.
- I17. *Thin-Film-Based SAW Chemical Sensor Arrays*, A.J. Ricco, C. Xu, R.M. Crooks, and R.E. Allred, 41st National Symposium of the American Vacuum Society, Denver, CO, 10/24-28/94.
- I16. *Using Electrochemistry in Device Processing on Poly(tetrafluoroethylene) Substrates*, A.J. Howard, R.R. Rye, A.J. Ricco, D.J. Rieger, M.L. Lovejoy, L.R. Sloan, and M.A. Mitchell, 185th Electrochemical Society Mtg., Miami Beach, FL, 10/9-14/94.
- I15. *Characterization of the Copper/Poly(tetrafluoroethylene) Interface*, R.R. Rye, G.W. Arnold, and A.J. Ricco, 184th Electrochemical Society Mtg., New Orleans, LA, 10/10-15/93.
- I14. *Chemically Sensitive Interfaces on SAW Devices*, A.J. Ricco, C. Xu, R.M. Crooks, and R.E. Allred, 208th American Chemical Society National Mtg., Chicago, IL, 8/22-27/93.
- I13. *Surface Acoustic Wave Devices as Chemical Sensors*, A.J. Ricco, JASON Summer Workshop (MITRE Corp.), La Jolla, CA, 6/30/93.
- I12. *Surface Acoustic Wave Devices as Chemical Sensors*, A.J. Ricco, Prospector V Workshop (Army Research Office), Park City, UT, 3/22-25/93.
- I11. *Characterization and Chemical Sensor Applications of Monolayer Films using SAW Devices*, A.J. Ricco, L.J. Kepley, R.C. Thomas, L. Sun, and R.M. Crooks, 206th American Chemical Society National Mtg., Washington, DC, 8/23-28/92.
- I10. *Acoustic Wave and Fiber Optic Micromirror Chemical Sensors*, A.J. Ricco, M.A. Butler, and S.J. Martin, Life Support *In-Situ* Sensors Technology Meeting, Pasadena, CA, 11/6-7/91.
- I9. *Thin Metal Film Characterization & Chemical Sensors: Monitoring Electronic Conductivity, Mass Loading, and Mechanical Properties with SAW Devices*, A.J. Ricco and S.J. Martin, Int'l. Conf. on Metallurgical Coatings & Thin Films, San Diego, CA, 4/22-26/91.

18. *Multifrequency Measurement of Wave Velocity & Attenuation: Obtaining More Information from SAW Sensors*, A.J. Ricco and S.J. Martin, 178th Electrochemical Society Mtg., Seattle, WA, 10/14-19/90.
17. *SAW Gas Sensors Based on Acoustoelectric Effects*, A.J. Ricco and S.J. Martin, 201st American Chemical Society National Mtg., Boston, MA, 4/22-27/90.
16. *Acoustic Wave Devices for Chemical Sensing in Both Gas and Liquid Phase*, A.J. Ricco and S.J. Martin, Workshop on Chemical Microsensors, Lawrence Livermore National Laboratory, Livermore, CA, 10/30-31/89.
15. *Acoustoelectric Effects in Acoustic Wave Device-Based Sensors*, A.J. Ricco, S.J. Martin, and T.M. Niemczyk, 176th Electrochemical Society Mtg., Hollywood, FL, 10/15-20/89.
14. *Real-Time, Sub-Monolayer Monitoring of Electrochemical Processes using SH-Acoustic Plate-Mode Devices*, A.J. Ricco and S.J. Martin, 40th Mtg. Intl. Soc. of Electrochem., Kyoto, JAPAN, 9/17-22/89.
13. *Chemisorption-Induced Reflectivity Changes in Thin Metal Films*, A.J. Ricco and M.A. Butler, 174th Electrochemical Society Mtg., Chicago, IL, 10/9-14/88.
12. *Acoustic Plate-Mode Devices as Solution Sensors*, A.J. Ricco, S.J. Martin, T.M. Niemczyk, and G.C. Frye, Federation of Analytical Chemical and Spectroscopy Societies, Boston, MA, 10/30-11/4/88.
11. *Liquid-Phase Sensors Based on Acoustic Plate-Mode Devices*, A.J. Ricco, S.J. Martin, T.M. Niemczyk, and G.C. Frye, 198th American Chemical Society National Mtg., Los Angeles, CA, 9/25-30/88.

Academic/Corporate Seminars

- S50. *Life in Space: Microfluidic Systems Enable the Study of Terrestrial Microbes in Space and the Search for Life on the Solar System's Icy Moons*, Gilead Sciences, Foster City, 6/22/18.
- S49. *Life Science Research aboard NanoSatellites: from Gene Expression in Low Earth Orbit to DNA Repair in Interplanetary Space*, University of Bordeaux, 10/7/15.
- S48. *Integrated Analytical Microsystems for Life Science Research in Outer Space Aboard Autonomous Small Satellites*, Microsystems Seminar Series, University of Maryland, College Park, 4/21/15
- S47. *Integrated Analytical Microsystems for Life Science Research in Outer Space Aboard Autonomous Small Satellites*, Dept. of Electrical Engineering Colloquium Series, Marquette University, Milwaukee, 4/21/15.
- S46. *Integrated Analytical Microsystems for Life Science Research in Outer Space Aboard Autonomous Small Satellites*, Mechanical and Aerospace Engineering Seminar Series, University of Florida, Gainesville, 11/18/14.
- S45. *Life Science Research in Outer Space: New Payload Technologies for Autonomous Small Satellite Missions*, A.J. Ricco, J.W. Hines, and the NASA/Ames Small Spacecraft Payloads and Technologies Group, CINVESTAV (Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional), Monterrey, Mexico, 2/21/14.
- S44. *An Overview of Ames' Biological Nanosats and their Missions*, T. Ricco, Ames/ASL [Advanced Studies Laboratories] Bio Talks Seminar, NASA Ames Research Center, 2/15/13.
- S43. *Life Science Research in Outer Space: New Platform Technologies for Low-Cost, Autonomous Small Satellite Missions*, A.J. Ricco, P. Ehrenfreund, R. Mancinelli, A. Mattioda, W.L. Nicholson, R. Quinn, O. Santos, D. Squires, N. Bramall, K. Bryson, J. Chittenden, A. Cook, E. Agasid, C. Beasley, G. Defouw, C. Friedericks, C. Kitts, R. Rasay, M. Henschke, J.W. Hines, E. Luzzi, N. Mai, G. Minelli, M. McIntyre, M. Piccini, R. Rasay, A. Schooley, L. Timucin, and B. Yost, BioRad, Inc., 10/21/11.
- S42. *Life Science Research in Outer Space: New Platform Technologies for Low-Cost, Autonomous Small Satellite Missions*, A.J. Ricco, P. Ehrenfreund, R. Mancinelli, A. Mattioda, W.L. Nicholson, R. Quinn, O. Santos, D. Squires, N. Bramall, K. Bryson, J. Chittenden, A. Cook, E. Agasid, C. Beasley, G. Defouw, C. Friedericks, C. Kitts, R. Rasay, M. Henschke, J.W. Hines, E. Luzzi, N. Mai, G. Minelli, M. McIntyre, M. Piccini, R. Rasay, A. Schooley, L. Timucin, and B. Yost, University of Auckland, Institute of Chemical Sciences, 4/28/11.
- S41. *Microfluidics for Biomedical Research and Point-of-Care Diagnostics*, A.J. Ricco, University of Auckland, Dept. of Chemistry, 4/27/11.
- S40. *Bio/Chemical Analytical Platform Technologies for Low-Cost Autonomous Small Satellites & Payload Instruments*, A.J. Ricco, P. Ehrenfreund, D. Squires, C. Kitts, C. Conley, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, N. Bramall, J. Chittenden, A. Cook, K. Bryson, M. Parra, J. Hines, M. McGinnis, D. Niesel, M. Piccini, L. Timucin, C. Friedericks, E. Agasid, C. Beasley, M. Henschke, A. Kudlicki, E. Luzzi, D. Ly, I. Mas, M. McIntyre, R. Rasay, R. Ricks, K. Ronzano, J. Tucker, B. Yost, and the Small Spacecraft Payload Technologies

Engineering Team at NASA Ames Research Center, Lunar Commerce Seminar Series, NASA Ames Research Center, 3/23/11.

S39. *Fully Autonomous Bioanalytical Systems Track Microbial Gene Expression and Drug Dose Dependence in Outer Space: GeneSat and PharmaSat*, A.J. Ricco, M. Parra, M. Piccini, L. Timucin, M. McGinnis, B. Yost, and J.W. Hines, Dept. of Biosystems Science and Engineering (BSSE), ETH Zurich, Basel, 4/21/09.

S38. *Fully Autonomous Bioanalytical Systems Track Microbial Gene Expression and Drug Dose Dependence in Outer Space: GeneSat and PharmaSat*, A.J. Ricco, M. Parra, M. Piccini, L. Timucin, M. McGinnis, B. Yost, and J.W. Hines, National Centre for Sensor Research Seminar, Dublin, Ireland, 12/8/08.

S37. *Fully Autonomous Bioanalytical Systems Track Microbial Gene Expression and Drug Dose Dependence in Outer Space: GeneSat and PharmaSat*, A.J. Ricco, M. Parra, M. Piccini, L. Timucin, M. McGinnis, B. Yost, and J.W. Hines, U.C. Berkeley Bioengineering Department Seminar, Berkeley, 10/22/08.

S36. *Plastic Microfluidics: Integrated Bio/Chemical Microanalytical Systems for the Life Sciences*, Technology Directions and Challenges for Biomedical Applications Series (EE 402s), Stanford University, 4/5/07.

S35. *Plastic Microfluidics: Disposable, Integrated Bio/Chemical Microanalytical Systems for the Life Sciences*, Advances in Diagnostics Technology Lecture, Biomedical Diagnostics Institute, Dublin City University, Dublin, 3/20/07.

S34. *Plastic Microfluidics: Integrated Bio/Chemical Microanalytical Systems for the Life Sciences*, A.J. Ricco, 3M Corporate Research Center, Minneapolis, 5/8/06.

S33. *Plastic Microfluidics: Integrated Bio/Chemical Microanalytical Systems for the Life Sciences*, A.J. Ricco, Birk Nanotechnology Center, Purdue University, West Lafayette, 4/21/06.

S32. *Integrated Fluidic System for In-Situ Molecular Analyses of the Consequences of the Outer Space Environment* (Samuel M. McElvain Seminar Series), A.J. Ricco, University of Wisconsin, Madison, 4/20/06.

S31. *Plastic Microfluidics: Disposable Integrated Bio/Chemical Microanalytical Systems for the Life Sciences*, A.J. Ricco, Keck Graduate Institute, Claremont, 2/13/06.

S30. *Autonomous Integrated Microsystem for Gene Expression Analysis in Space Applications*, A.J. Ricco, Åmic, Inc. and Rudbeck Laboratory, Uppsala University, Sweden, 10/17/05.

S29. *GeneSat: Autonomous Genetic Assay System to Characterize Biological Consequences of Space Travel*, A.J. Ricco, Nitinol Development Corporation/Johnson & Johnson, Fremont, CA, 6/3/05.

S28. *GeneSat: Autonomous Genetic Assay System to Characterize Biological Consequences of Space Travel*, A.J. Ricco, Sandia National Laboratories, Livermore, CA, 4/28/05.

S27. *Applications of Integrated BioFluidic Systems: Pathogen Detection on Earth; Gene Expression in Space*, A.J. Ricco, BioDevices Group, Sunnyvale, CA, 11/9/04.

S26. *Plastic Microfluidics: Disposable Chemical Microanalytical Systems for the Life Sciences*, A.J. Ricco, National Centre for Sensor Research, Dublin City University, Dublin, Ireland, 6/29/04.

S25. *Plastic Microfluidics: Disposable Chemical Microsystems for the Life Sciences*, A.J. Ricco, Dept. of Chemistry and Pharmacology, The University of Kentucky, Lexington, 4/6/01.

S24. *Plastic Microfluidics: Disposable Chemical Microsystems for the Life Sciences*, A.J. Ricco, Dept. of Chemistry, The University of Cincinnati, 4/5/01.

S23. *Plastic Microfluidics: Disposable Chemical Microsystems for the Life Sciences*, A.J. Ricco, Dept. of Electrical, Computer, and Biomedical Engineering, Marquette University, Milwaukee, 2/20/01.

S22. *Cost-Effective, Single-Use Microfluidic Devices*, A.J. Ricco, Bay Area MEMS Journal Club Meeting, Sunnyvale, 8/11/99.

S21. *Microfabricated Chemical Sensor Systems*, A.J. Ricco, Boston Area MEMS Seminar, Cambridge, MA, 11/5/98.

S20. *Chemical Sensors: Surface Acoustic Wave Microbalance Arrays for Volatile Organics; The Microfabricated Silicon Catalytic, Calorimetric Combustible Gas Sensor*, Michigan State University, East Lansing, 10/24/97.

S19. *SAW Array Chemical Sensors*, Dept. of Chemistry, Imperial College, London, 9/12/97.

S18. *SAW Array Chemical Sensors*, Inst. of Biotechnology, Cambridge University, Cambridge, 9/11/97.

S17. *Characterization of SAMs using SAWs; Fiber Optic Micromirror Arrays for the Study of Mars Surface Chemistry and the Bolivian Jungle*, Universität der Bundeswehr, Munich, Germany, 1/24/97.

- S16. *SAW Sensor Arrays and Pattern Recognition for Sensing Volatile Organics*, Universiteit Twente, Enschede, The Netherlands, 1/16/97.
- S15. *Characterization of Thin Films with SAW Technology; Micromachined, Catalyst-Coated Microfilaments for Calorimetric Detection of Combustible Gases*, Delft University of Technology, Delft, The Netherlands, 1/15/97.
- S14. *SAW Arrays for Volatile Organic Detection; Micromachined Si Filaments for Calorimetric Detection of Combustible Species*, Paul Scherer Institute, Switzerland, 12/6/96.
- S13. *SAW Sensor Arrays and Pattern Recognition/Cluster Analysis for Sensing VOCs*, A.J. Ricco, University of Neuchâtel, Switzerland, 12/5/96.
- S12. *SAW Chemical Sensor Arrays*, A.J. Ricco, Siemens, Inc., Munich, Germany, 11/29/96.
- S11. *Chemical Sensor Arrays: SAW Devices for VOC Monitoring; Fiber Optic Micromirrors to Characterize the Reactivity of Mars*, A.J. Ricco, Kernforschungszentrum, Karlsruhe, Germany, 11/27/96.
- S10. *Chemically Sensitive Interfaces for Arrays of Surface-Acoustic Wave and Fiber-Optic Micromirror Sensors*, A.J. Ricco, University of Utah, Salt Lake City, 4/25/96.
- S9. *Chemically Sensitive Interfaces for Arrays of Surface-Acoustic Wave and Fiber-Optic Micromirror Sensors*, A.J. Ricco, New Mexico State University, Las Cruces, 3/28/96.
- S8. *Chemical Microsensor Arrays Based on Surface Acoustic Wave Devices*, A.J. Ricco, University of Arizona, Tucson, 4/20/95.
- S7. *Thin-Film-Based SAW Chemical Sensor Arrays*, A.J. Ricco, Advanced Sensor Devices Division, Catalytica, Inc., Mountain View, CA, 12/7/94.
- S6. *Chemical Sensors Based on Surface Acoustic Wave Devices*, A.J. Ricco, Texas A&M University, Dept. of Chemistry, College Station, TX, 11/22/94.
- S5. *Acoustic Wave and Fiber Optic Micromirror Chemical Sensors*, A.J. Ricco, M.A. Butler, S.J. Martin, and G.C. Frye, Hughes Corporate Headquarters, Los Angeles, CA, 10/15/91.
- S4. *Acoustic Wave Devices for Gas and Liquid Phase Sensing*, A.J. Ricco and S.J. Martin, Allied Chemical Corp., Morristown, NJ, 8/24/87.
- S3. *Chemical Microsensors at Sandia National Laboratories*, A.J. Ricco, The University of New Mexico, Albuquerque, NM, 3/13/86.
- S2. *Surface Acoustic Wave Sensor Based on Film Conductivity Changes and An Overview of Chemical Microsensors at Sandia Laboratories*, A.J. Ricco, The University of Texas at El Paso, TX, 2/6/86.
- S1. *Surface Acoustic Wave Gas Sensor Based on Film Conductivity Changes*, A.J. Ricco, S.J. Martin, and T.E. Zipperian, The University of Minnesota, St. Paul, MN, 11/12/85.

Contributed Presentations

P48. *The BioSentinel Bioanalytical Microsystem: Characterizing DNA Radiation Damage in Living Organisms beyond Earth Orbit*, A.J. Ricco, R. Hanel, S. Bhattacharya, T. Boone, M. Tan, A. Mousavi, M. Padgen, D. Gentry, A. Rademacher, A. Schooley, B. Klamm, J. Benton, C. Friedericks, G. Defouw, M. Parra, S. Santa Maria, D. Marina, B. Lewis, H. Sanchez, J. Chartres, D. McIntosh, and T. Lusby, S. Gavalas, S. Wheeler, and the Johnson Space Center Radworks Group, 2016 Solid-State Sensors, Actuators, and Microsystems Workshop, Hilton Head Island, SC, 6/5-9/16.

P47. *EcAMSat: Effect of Spaceflight on Antibiotic Resistance of a Pathogenic Bacterium and its Genetic Basis*, A.C. Matin, M. Benoit, M. Chin, T.N. Chinn, A. Cohen, C. Friedericks, M.B. Henschke, M. Keyhan, M.P. Lera, M.R. Padgen, M.P. Parra, A.J. Ricco, R. Singh, T. Snyder, S.M. Spremo, J. Wang, 31st Annual Meeting of the American Society for Gravitational and Space Research, Alexandria, 11/10-15/15.

P46. *Gravity-induced Calcium Response of C. richardii during Rotation Measured by the SporeSat bioCD System*, J. Rickus, J. Park, S. Roux, M. Salmi, A. Ricco, D. Kozarsky, B. Wickizer, A. Rademacher, A. Schooley, J. Benton, A. Sweet, and H. Tran, 31st Annual Meeting of the American Society for Gravitational and Space Research, Alexandria, 11/10-15/15.

P45. *Sensor Coatings Based on Polymer/Plasticizer Mixtures for Highly Sensitive and Selective Detection of Benzene in Water*, J. Coompon, F. Bender, R. Mohler, A. J. Ricco, and F. Josse, 15th International Meeting on Chemical Sensors, 3/16-19/14, Buenos Aires.

P44. *Small Satellite-Derived Microfluidic and Microanalytical Technologies for Mars Surface Bio/Chemical Hazards Assessment*, A.J. Ricco, J.W. Hines, E. Agasid, M. Parra, B. Bebout, S. Bhattacharya, P. Ehrenfreund, L. Jahnke, O. Marcu, W. Nicholson, R. Quinn, O. Santos, *Concepts and Approaches for Mars Exploration* (LPI Contribution No. 1679, id. 4102), Houston, 6/12-14/12.

P43. *Autonomous Microsystems for Astrobiology: Development of, and Spaceflight Results from, the O/OREOS Nanosatellite*, A.J. Ricco, P. Ehrenfreund, D. Squires, M. Piccini, C. Beasley, N. Bramall, G. Minelli, E. Agasid, L. Bica, K. Bryson, J. Chittenden, A. Cook, M. Diaz-Aguado, C. Friedericks, M. Henschke, J.W. Hines, C. Kitts, D. Landis, E. Luzzi, D. Ly, N. Mai, R. Mancinelli, A. Mattioda, M. McIntyre, M. Neumann, W. Nicholson, M. Parra, R. Quinn, R. Rasay, R. Ricks, O. Santos, A. Schooley, E. Stackpole, L. Timucin, B. Yost, and A. Young, Solid-State Sensors, Actuators, and Microsystems Workshop, Hilton Head Island, SC, 6/3-7/12.

P42. *First Spaceflight Results from the Organism/ORganics Exposure to Orbital Stresses (O/OREOS) NanoSatellite Mission*, A.J. Ricco, P. Ehrenfreund, R. Mancinelli, A. Mattioda, W.L. Nicholson, R. Quinn, O. Santos, D. Squires, N. Bramall, K. Bryson, J. Chittenden, A. Cook, E. Agasid, C. Beasley, G. Defouw, C. Friedericks, C. Kitts, M. Henschke, J.W. Hines, E. Luzzi, N. Mai, G. Minelli, M. McIntyre, M. Piccini, R. Rasay, A. Schooley, L. Timucin, and B. Yost, 18th IAA Humans in Space Symposium, Houston, 4/11-15/11.

P41. *Results from the PharmaSat Nanosatellite Mission: Dose Dependence of Growth and Metabolic Parameters for S. Cerevisiae Grown in Microgravity and Challenged by Voriconazole*, A. Ricco, M. Parra, D. Niesel, D. Ly, A. Kudlicki, M. McGinnis, J. Hines, 38th COSPAR Scientific Assembly, Bremen, 7/18-25/10.

P40. *Space Environment Survivability of Live Organisms: Results From a NASA Astrobiology Nanosatellite Mission*, O. Santos, P. Ehrenfreund, R. Mancinelli, W. Nicholson, A. Ricco, 38th COSPAR Scientific Assembly, Bremen, 7/18-25/10.

P39. *PharmaSat: Drug Dose Dependence Results from An Autonomous Microsystem-Based Small Satellite in Low Earth Orbit*, A.J. Ricco, M. Parra, M. Piccini, D. Ly, D. Niesel, M. McGinnis, A. Kudlicki, J.W. Hines, L. Timucin, C. Beasley, R. Ricks, M. McIntyre, C. Friedericks, M. Henschke, R. Leung, M. Diaz-Aguado, C. Kitts, I. Mas, R. Rasay, E. Agasid, E. Luzzi, K. Ronzano, D. Squires, and B. Yost, Solid-State Sensors, Actuators, and Microsystems Workshop, Hilton Head Island, SC, 6/6-10/10.

P38. *Autonomous Genetic Analysis System to Study Space Effects on Microorganisms: Results from Orbit*, A.J. Ricco, J.W. Hines, M. Piccini, M. Parra, L. Timucin, V. Barker, C. Storment, C. Friedericks, E. Agasid, C. Beasley, L. Giovangrandi, M. Henschke, C. Kitts, L. Levine, E. Luzzi, D. Ly, I. Mas, M. McIntyre, D. Oswell, R. Rasay, R. Ricks, K. Ronzano, D. Squires, G. Swais, J. Tucker, and B. Yost, 14th Int'l. Conf. on Solid-State Sensors, Actuators, & Microsystems (Transducers '07/EuroSensors XXI), Lyon, 6/10-14/07.

P37. *Integrated System to Analyze the Genetic Effects of the Space Environment on Living Cells in Culture: GeneSat*, A.J. Ricco, E. Agasid, V. Barker, T. Fahlen, M. Henschke, J.W. Hines, L. Levine, R. Mancinelli, D. Oswell, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swais, L. Timucin, J. Tucker, U. Udoh, and B. Yost, Solid-State Sensor, Actuator, and Microsystems Workshop, Hilton Head Island, 6/5-8/06.

- P36. *Development of a Handheld, Up-Converting Phosphor-Based Immunoassay System*, A.J. Ricco, A.L. Ouellette, J.J. Li, R.M. Wiard, D.E. Cooper, G.T.A. Kovacs, Improving Health Care Accessibility Through Point of Care Technologies (NIBIB/NHLBI/NSF Workshop), Arlington, VA, 4/11-12/06.
- P35. *Integrated System to Analyze the Genetic Effects Of the Space Environment on Living Cells in Culture: GeneSat*, A.J. Ricco, E. Agasid, V. Barker, T. Fahlen, J.W. Hines, L. Levine, R. Mancinelli, D. Oswell, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, μ TAS 2005 (Ninth International Conference on Micro Total Analysis Systems), Boston, 10/9-13/05.
- P34. *In-Situ Gene Expression on Nanosatellites (ISGEN): Autonomous Genetic Assay System to Characterize Biological Consequences of Space Travel*, A.J. Ricco, E. Agasid, V. Barker, G. Chin, T. Fahlen, J. Hines, R. Mancinelli, P. Mrdjen, D. Oswell, R. Ricks, K. Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, 3rd International Space Microbiology Workshop, Mol, Belgium, 5/22-25/05.
- P33. *Use of "Floating" Electrodes during Stacking to Increase the Sensitivity of Detection: Simulation and Experimental Results*, R.T. Kurnik, A.J. Ricco, T.D. Boone, S.J. Williams, U. Nguyen, and A. Wainright, SmallTalk Conference and Exhibition, Society for Laboratory Automation, San Diego, 7/27-31/02.
- P32. *Multiplexed Recognition and Genetically Specific Identification of Biological Hazards on A Plastic Microfluidic Device*, A.J. Ricco, Z.H. Fan, W. Tan, M. Zhao, C.-G. Koh, T.D. Boone, J. Wallweber, H. Salimi-Moosavi, T. Matray, and S. Singh, Solid-State Sensor, Actuator, and Microsystems Workshop, Hilton Head Island, 6/3-6/02.
- P31. *Plastic Microfluidic Systems for Applications in Biotechnology*, T.D. Boone, A.J. Ricco, P. Gooding, T. O. Björnson, S. Singh, V. Xiao, I. Gibbons, S.J. Williams, and H. Tan, 2000 Solid-State Sensor and Actuator Workshop, Hilton Head, SC, 6/5-8/00.
- P30. *Plastic Microfluidic Systems for High-Throughput Pharmaceutical Screening and Genetic Analysis Applications*, A.J. Ricco, 196th Electrochemical Society Mtg., Honolulu, 10/17 - 22/99.
- P29. *SAW Arrays using Dendrimers and Pattern Recognition to Detect Volatile Organics*, A.J. Ricco, G.C. Osbourn, R.M. Crooks, M. E. Garcia, R. Peez, J.W. Bartholomew, R. Martinez, R. Spindler, and M. Kaiser, 194th Electrochemical Society Mtg., Boston, 11/1 - 6/98.
- P28. *Dendrimer-Coated SAW Arrays for Volatile Organic Detection: Array Size and Signal Degradation Effects*, A.J. Ricco, G.C. Osbourn, J.W. Bartholomew, R. F. Martinez, M. E. Garcia, R. Peez, R.M. Crooks, R. Spindler and M. E. Kaiser, 1998 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/7-11/98.
- P27. *Single-Monolayer In-Situ Modulus Measurements using a SAW Device: Photocrosslinking of a Diacetylenic Thiol-Based Monolayer*, A.J. Ricco, A.W. Staton, R.M. Crooks, and T. Kim, Faraday Discussion No. 107, University of Leicester, 9/8-10/97.
- P26. *Chemical Class Specificity Using Self-Assembled Monolayers on SAW Devices: Effects of Adsorption Time and Substrate Grain Size*, R.C. Thomas, A.J. Ricco, C.R. DiRubio, H.C. Yang, and R.M. Crooks, 192nd Electrochemical Society Mtg., Paris, France, 8/31 - 9/5/97.
- P25. *Simultaneous Measurement of CO₂ and Humidity Using a Pair of SAW Devices and Cluster-Analysis Pattern Recognition*, A.E. Hoyt, A.J. Ricco, J.W. Bartholomew, and G.C. Osbourn, 1997 Int'l. Conf. on Solid-State Sensors & Actuators, Chicago, IL, 6/15-19/97.
- P24. *Mars Surface Chemistry Investigated with the MOx Probe: A 1-kg Optical Microsensor-Based Chemical Analysis Instrument*, F.J. Grunthaner, A.J. Ricco, M.A. Butler, A.L. Lane, C.P. McKay, A.P. Zent, R.C. Quinn, B. R. Murray, H.P. Klein, G.V. Levin, R.W. Terhune, M.L. Homer, A. Ksendzov, and P. Niedermann, 6th Int'l. Mtg. on Chemical Sensors, Gaithersburg, MD, 7/22-25/96.
- P23. *Combustible Gas Sensor Using Micromachined Si Filaments*, A.J. Ricco, J. H. Smith, R.C. Hughes, D.J. Moreno, S.D. Senturia, and R. J. Huber, 1995 Int'l. Chem. Congress of Pacific Basin Societies, Honolulu, HI, 12/17-22/95.
- P22. *SAW Array Chemical Sensors*, A.J. Ricco, G.C. Osbourn, J.W. Bartholomew, R.M. Crooks, C. Xu, and R.E. Allred, 185th Electrochemical Society Mtg., Miami Beach, FL, 10/9-14/94.
- P21. *SAW Chemical Sensor Arrays using New Thin-film Materials*, A.J. Ricco, C. Xu, R.E. Allred, R.M. Crooks, and S.J. Martin, 5th Int'l. Mtg. on Chemical Sensors, Rome, Italy, 7/11-14/94.
- P20. *New Materials and Multidimensional Cluster Analysis for SAW Chemical Sensor Arrays*, A.J. Ricco, G.C. Osbourn, J.W. Bartholomew, R.M. Crooks, C. Xu, and R.E. Allred, 1994 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/13-16/94.

- P19. *Multifrequency and Array SAW Chemical Sensors*, A.J. Ricco, R.M. Crooks, C. Xu, and R.E. Allred, 185th Electrochemical Society Mtg., San Francisco, CA, 5/22-27/94.
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- P5. *Acoustic Wave Devices for the Study of Electrode Reactions*, A.J. Ricco and S.J. Martin, 171st Electrochemical Soc. Mtg., Philadelphia, PA, 5/10-15/87.
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C212. *EcAMSat: Small Satellite to Examine E. coli's Response in Microgravity to the Antibiotic Gentamicin*, MR Padgen, MP Lera, MP Parra, AJ Ricco, M Chin, TN Chinn, A Cohen, CR Friedericks, MB Henschke, TV Snyder, and SM Spremo, 34th Annual Meeting of the American Society for Gravitational and Space Research, 10/31–11/3/18, Alexandria, VA; abstract no. 281.

C211. *SPLIce: A Microfluidic Sample Processor to Enable the Search for Life on Icy Worlds*, M Chin, A Lee, R Quinn, A Ricco, T Boone, T Chinn, L Radosevich, J Wang, J Harrison, P Zell, M Tan, M Padgen, G McCutcheon, M Horne, J Blaich, P Tong, J Forgione, S Heavner, D Kemp, K Bonner, and S Hu, 42nd COSPAR Scientific Assembly, Pasadena, 7/14-22/18; Paper no. F3.6-0008-18.

C210. *A Universal Approach in The Search for Life at the Molecular Level*, P Willis, WB Brinckerhoff, A Ricco, J Creamer, F Mora, ANoell, JL Eigenbrode, S Getty, D Glavin, P Mahaffy, T Hoehler, R Quinn, B Christner, K Zacny, and J Chapman, 42nd COSPAR Scientific Assembly, Pasadena, 7/14-22/18; Paper no. F3.6-0005-18.

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C206. *Gene Expression Measurement Module (GEMM) - The Door to High- Throughput in-situ Analyses of Biological Systems*, F Karouia, K Peyvan, A Ricco, and A Pohorille, 42nd COSPAR Scientific Assembly, Pasadena, 7/14-22/18; paper no. F3.1-0012-18.

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C202. *The State-of-the-Art in Capillary Electrophoresis and Microchip Electrophoresis Instrumentation for Ocean Worlds Missions Seeking Signs of Life*, P.A. Willis, M.F. Mora, J.S. Creamer, F. Kehl, E. Tavares da Costa, N. Bramall, A.J. Ricco, and R. Quinn, Astrobiology Science Conference (AbSciCon) 2017, Mesa, AZ, 4/24-28/17.

C201. *OREOcube – ORganics Exposure in Orbit: In-Situ Spectroscopy of Organic Compounds on the International Space Station*. S. Wolf, A. Elsaesser, R. Quinn, A. Mattioda, A. Ricco, F. Salama, A. Kros, H. Cottin, E. Dartois, L. d'Hendecourt, B. Foing, Z. Martins, M. Sephton, M. Spaans, Astrobiology Science Conference (AbSciCon) 2017, Mesa, AZ, 4/24-28/17.

C200. *EcAMSat: In Situ Measurements of the Antibiotic Resistance of E. coli in Microgravity*, M. Padgen, T. Chinn, M. Chin, A. Cohen, K. Jenks, C. Lorenzen, A. Neish, C. Friedericks, M. Henschke, T. Snyder, M. Rasay, C. Kitts, M. Lera, M. Piccini, AC Matin, M. Parra, A.J. Ricco, S. Spremo, 31st Annual Meeting of the American Society for Gravitational and Space Research, Alexandria, 11/10-15/15.

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C195. *Identification and Quantification of Binary Analyte Mixtures with SH-SAW Sensors Using Multi-Electrode Transducer Designs*, F. Bender, R. Mohler, A.J. Ricco, and F. Josse, 15th International Meeting on Chemical Sensors, 3/16-19/14, Buenos Aires.

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C191. *EcAMSat: Nanosatellite Microfluidic Payload Determines Spaceflight Effects on Bacterial Antibiotic Resistance and Their Genetic Basis*, A.C. Matin, A.J. Ricco, M. Parra, K. Ronzano, M. Lera, D. Wu, M. Tan, S. Ross, M. Keyhan, C. Mayberry, C. Beasley, and S. Choi, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.

C190. *Newly Modified Microfluidics Hardware with Flight Heritage Provides Platform for Conducting Inexpensive On-Orbit Microbiology Experiments*, M. Lera, M. Parra, D. Wu, M. Tan, A. J. Ricco, K. Ronzano, S. Ross, C. Mayberry, C. Beasley, S. Choi, A.C. Matin, and M. Keyhan, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.

C189. *Real Time Physiological Monitoring of Photosynthesis in *Chlorella vulgaris* on an All-Solid-State Carbonate-Selective Electrode*, M.A. Zeitchek, W.W.A. Wan Salim, J. Park, A.C. Hermann, A.J. Ricco, M. Tan, F. Selch, E. Fleming, B. Bebout, and D.M. Porterfield, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.

C188. *Development of Two-Color Fluorescent Imager and Integrated Fluidic System for Nanosatellite Biology Applications*, D. Wu, M. Tan, M. Lera, L. Timucin, A. Rademacher, G. Minelli, C. Beasley, A. Schooley, M. Piccini, M. Parra, and A. Ricco, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.

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C186. *Gene Expression Measurement Module (GEMM) – A Fully Automated, Miniaturized Instrument for Measuring Gene Expression in Space*, F. Karouia, K. Peyvan, A.J. Ricco, and A. Pohorille, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.

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C173. *Automated, Miniaturized Instrument for Measuring Gene Expression in Space - the Doors to New Biology in Space*, A. Pohorille, K. Peyvan, D. Danley, A.J. Ricco, F. Karouia, 62nd International Astronautical Congress, Capetown, 10/3-7/11.

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- C168. *Influence of Ambient Parameters on the Response of Polymer-Coated SH-Surface Acoustic Wave Sensors to Aromatic Analytes in Liquid-Phase Detection*, F. Bender, F. Josse, and A.J. Ricco, 2011 Joint Conference of the IEEE International Frequency Control Symposium and European Frequency and Time Forum, San Francisco, 5/1-5/11.
- C167. *OREOCUBE: Rapid Adaptation of Small Satellite Technologies for Future Space Applications*, P. Ehrenfreund, A. Kros, H. Cottin, E. Dartois, B. H. Foing, L. D'Hendecourt, Z. Martins, A. Mattioda, R. Quinn, A.J. Ricco, F. Salama, O. Santos, M. Sephton, M. Spaans, 18th IAA Humans in Space Symposium, Houston, 4/11-15/11.
- C166. *The Organic Experiment on Expose-R: Investigating the Stability of Organic Compounds in Low Earth Orbit*, Z. Peeters, K.L. Bryson, P. Ehrenfreund, B.H. Foing, F. Salama, A.J. Ricco, M. Breitfellner, E. Jessberger, A. Bischoff, F. Robert, M. Mumma, 18th IAA Humans in Space Symposium, Houston, 4/11-15/11.
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- C164. *Dielectric Sheath Flows in Microfluidic Impedance Cytometers*, M. Evander, B. Dura, A.J. Ricco, G.T.A. Kovacs, L. Giovangrandi, Lab Automation, Palm Springs, 1/30-2/2/11.
- C163. *O/OREOS: A Multi-Payload Technology Demonstration* (INVITED), G. Minelli, P. Ehrenfreund, A.J. Ricco, R. Quinn, Bramall, K. Bryson, J. Chittenden, A. Cook, R. Mancinelli, A. Mattioda, G. Minelli, W. Nicholson, O. Santos, D. Squires, C. Kitts, R. Rasay, A. Young and the O/OREOS-Sat Engineering Team at NASA Ames, 1st IAA Conference for University Satellites and CubeSat Workshop, Rome, 1/24-29/11.
- C162. *Disposable Bioanalytical Microdevice for Monitoring the Effect of Anti-Platelet Drugs*, L. Basabe-Desmonts, S. Ramstrom, A. Lopez-Alonso, M. Somers, A.J. Ricco, and D. Kenny, Proceedings of μ TAS 2010 (14th International Conference on Miniaturized Systems for Chemistry and Life Sciences), Groningen, 10/3-7/10.
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- C160. *An Astrobiology Small Payloads Demonstration Nanosatellite: Organism/Organics Exposure to Orbital Stresses (O/OREOS)*, C. Conley, P. Ehrenfreund, D. Squires, O. Santos, A. Ricco, R. Quinn, A. Mattioda, R. Mancinelli, 61st International Astronautical Congress, Prague, 9/27-10/1/10.
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- C156. *Nanosatellites for Astrobiology Research*, W.L. Nicholson C. Conley, P. Ehrenfreund, R. Mancinelli, A. Mattioda, R. Quinn, A. Ricco, and O. Santos, Astrobiology Science Conference (AbSciCon) 2010, League City, TX, 4/26-29/10.
- C155. *The Space Environment Viability of Organics (SEVO) Experiment on the Organisms/Organics Exposure to Orbital Stresses (O/OREOS) Nanosatellite Mission*, R. Quinn, P. Ehrenfreund, A. Mattioda, A. Ricco, N. Bramall, K. Bryson, J. Chittenden, C. Conley, Astrobiology Science Conference (AbSciCon) 2010, League City, TX, 4/26-29/10.
- C154. *The Organics Experiment on Expose-R*, K. L. Bryson, Z. Peeters, F. Salama, P. Ehrenfreund, B. Foing, A.J. Ricco, E. Monaghan, D. Willis, M. Breitfellner, E. Jessberger, F. Robert, and M. Mumma, Astrobiology Science Conference 2010 (AbSciCon), League City, TX, 4/26-29/10.

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- C151. *Enhancing Biosensor Sensitivity Using Recirculation in Microfluidic Channels by the Interplay of Capillary and Centrifugal Forces*, J. Garcia-Cordero, L. Basabe-Desmots, A.J. Ricco, C. Barry, R. O'Kennedy, The Pittsburgh Conference, Orlando, 2/28-3/5/10.
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C127. *Nanosatellites for Astrobiology Applications*, J.W. Hines, Bruce Yost, and Antonio Ricco, Astrobiology Science Conference (AbsSciCon) 2008, Santa Clara, CA, 4/14-17/08.

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- C63. *Pattern Recognition of SAW Array Responses for Distinguishing VOC Mixtures*, G.C. Osbourn, J.W. Bartholomew, R. F. Martinez, A.J. Ricco, R.M. Crooks, C. Xu, and R.E. Allred, 1995 Int'l. Chem. Congress of Pacific Basin Societies, Honolulu, HI, 12/17-22/95.

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- C56. *Using Poly(tetrafluoroethylene) as a Low-Dielectric-Constant Substrate for Microwave Circuit Fabrication*, A.J. Howard, R.R. Rye, A.J. Ricco, D.J. Rieger, M.L. Lovejoy, L.R. Sloan, and M.A. Mitchell, 41st National Symposium of the American Vacuum Society, Denver, CO, 10/24-28/94.
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- C49. *Characterization of the Copper/Poly(tetrafluoroethylene) Interface*, R.R. Rye, G.W. Arnold, and A.J. Ricco, 40th National Amer. Vac. Soc. Mtg., Orlando, FL, 11/15-19/93.
- C48. *High-Resolution Metallization of Teflon*, R.R. Rye, A.J. Ricco, M. J. Hampden-Smith, and T. T. Kodas, 183rd Electrochemical Society Mtg., Honolulu, HI, 5/16-21/93.
- C47. *Micromachined Chemical Sensor with Integrated Microelectronics*, J. Smith, J. Sniegowski, D. Koehler, A.J. Ricco, DOE Expo '93, 5/3-7/93.
- C46. *Hydrogen Bonding Interaction Between Vapor-Phase Probe Molecules and Functionalized Self-Assembled Monolayers: A Combined Study using SAW Devices, FTIR Spectroscopy, and Ellipsometry*, L. Sun, L.J. Kepley, R.M. Crooks, and A.J. Ricco, 182nd Electrochemical Society Mtg., Toronto, Ontario, Canada, 10/11-16/92.
- C45. *The Detection of Organophosphonates by Polymer Films on a SAW Device and a Micromirror fiber Optic Sensor*, R.C. Hughes, A.J. Ricco, M.A. Butler, and K. B. Pfeifer, US-Japan Seminar: Microfabrication of Biosensors, Anchorage, Alaska, 7/21-24/92.

- C44. *Three-Step Additive Deposition of Copper on Poly(tetrafluoroethylene)*, R.R. Rye, A.J. Ricco, M. J. Hampden-Smith, and T. T. Kodas, 22nd Annual DOE Adhesives Symposium, Albuquerque, NM, 6/10-11/92.
- C43. *Molecular Recognition: A New Function for Organized Monolayers on Metal Surfaces*, R.M. Crooks, R. Johnson, L. Kepley, L. Sun, and A.J. Ricco, 205th American Chemical Society National Mtg., San Francisco, CA, 4/5-10/92.
- C42. *Monitoring Jet Fuel Degradation using Quartz Crystal Microbalances*, S.J. Martin, G.C. Frye, E. E. Klavetter, and A.J. Ricco, Amer. Chem. Soc. Mtg., San Francisco, 4/5-10/92.
- C41. *Chemical Selectivity of Surface Acoustic Wave (SAW) Devices Functionalized with Composite Self-Assembling Monolayers*, L.J. Kepley, A.J. Ricco, and R.M. Crooks, Gordon Conference on Electrochemistry, Ventura, CA, 1/20-24/92.
- C40. *Formation, Structural Characterization, and Reactivity of Vapor-Deposited Polyfunctional Organic Mono- and Multilayers on Au*, R.C. Thomas, L. Sun, R.M. Crooks, and A.J. Ricco, 180th Electrochemical Society Mtg., Phoenix, AZ, 10/13-18/91.
- C39. *Acoustic Wave Devices for Sensing and Materials Characterization*, S.J. Martin, A.J. Ricco, *et al.*, Marquette Univ., 9/11/91.
- C38. *Chemical Microsensors for Remote Sensing in Treaty-Verification Applications*, R.C. Hughes, A.J. Ricco, S.J. Martin, M.A. Butler, G.C. Frye, and D.S. Blair, DOE Lager Committee Mtg., Washington, DC, 8/20/91.
- C37. *Using Quartz-Crystal Oscillators to Simultaneously Sense Mass Accumulation and Solution Properties*, S.J. Martin, V. E. Granstaff, G.C. Frye, and A.J. Ricco, 6th Int'l. Conf on Solid-State Sensors and Actuators, San Francisco, CA, 6/23-27/91.
- C36. *Structure & Stability Behavior for Multilayer Thin Films of Hg on Au(111)*, J. E. Houston, A.J. Ricco, and M.A. Butler, American Physical Society Meeting, Cincinnati, OH, 3/18-22/91.
- C35. *Molecular Recognition-Based Electrochemical Sensors*, R.M. Crooks, O. Chailapukal, B. Johnson, L. Sun, R. Thomas, and A.J. Ricco, Pittsburgh Conference on Analytical Chemistry, Chicago, IL, 3/4-7/91.
- C34. *Mechanical Properties & Formation Kinetics of Self-Assembled Monolayers*, R.M. Crooks, A.J. Ricco, and S.J. Martin, 178th Electrochemical Society Mtg., Seattle, WA, 10/14-19/90.
- C33. *In-Tank Electroless Copper Deposition Monitors*, V. E. Granstaff, A.J. Ricco, S.J. Martin, and G.C. Frye, 178th Electrochemical Society Mtg., Seattle, WA, 10/14-19/90.
- C32. *An Optical Fiber Chemical Sensor Based on Polymer Swelling*, M.A. Butler, A.J. Ricco, and R. J. Buss, 178th Electrochemical Society Mtg., Seattle, WA, 10/14-19/90.
- C31. *Utilization of Polymer Viscoelastic Properties in Acoustic Wave-Sensor Applications*, S.J. Martin, G.C. Frye, and A.J. Ricco, 1990 Solid-State Sensor & Actuator Workshop, Hilton Head, SC, 6/4-7/90.
- C30. *Micromirrors for Gas Sensing*, M.A. Butler and A.J. Ricco, 201st American Chemical Society National Mtg., Boston, MA, 4/22-27/90.
- C29. *Sol-gel Coatings on Acoustic Wave Devices: Thin Film Characterization and Chemical Sensor Development*, G.C. Frye, C.J. Brinker, A.J. Ricco, S.J. Martin, and D. H. Doughty, Materials Research Society Spring Mtg., San Francisco, CA, 4/16-21/90.
- C28. *Materials Characterization using Acoustic Wave Devices*, S.J. Martin, G.C. Frye, and A.J. Ricco, Materials Research Society Spring Mtg., San Francisco, CA, 4/16-21/90.
- C27. *Program for Intelligent Manufacturing and Control*, V. E. Granstaff, G.C. Frye, M.A. Butler, S.J. Martin, A.J. Ricco, K. J. Ward, S.H. Weissman, D. H. Doughty, and R.C. Hughes, National Laboratories Technology Exposition, Los Alamos National Laboratory, Los Alamos, NM, 3/14/90.
- C26. *Measurement of Mercury Vapor Adsorption on Gold using a Micromirror Optical Fiber Sensor*, M.A. Butler and A.J. Ricco, 176th Electrochemical Society Mtg., Hollywood, FL, 10/15-20/89.
- C25. *Effective Utilization of Acoustic Wave Sensor Responses: Simultaneous Measurement of Velocity and Attenuation*, S.J. Martin and A.J. Ricco, 1989 IEEE Ultrasonics Symposium, Montreal, Canada, 10/3-6/89.
- C24. *Sensing Mechanisms in Acoustic Wave Sensors*, S.J. Martin, A.J. Ricco, and G.C. Frye, 200th American Chemical Society National Mtg., Miami Beach, FL, 9/10-15/89.
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- C20. *Effect of Sol-gel Chemistry and Film Forming Technique on Thin Film Porosity*, G.C. Frye, C.J. Brinker, A.J. Ricco, S.J. Martin, and C. S. Ashley, 63rd Colloid and Surf. Sci. Symp., Seattle, WA, 6/18-21/89.
- C19. *Characterizing Porous Thin Films with Surface Acoustic Wave Devices*, G.C. Frye, A.J. Ricco, C.J. Brinker, and C. S. Ashley, Florida Adv. Materials Chem. Conf., St. Augustine, FL, 6/12-15/89.
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- C12. *Characterization of the Surface Area and Porosity of Sol-gel Films Using SAW Devices*, G.C. Frye, A.J. Ricco, S.J. Martin, and C.J. Brinker, Materials Research Society Spring Mtg., Reno, NV, 4/5-9/88.
- C11. *Sensing in Liquids Using Acoustic Plate-Mode Devices*, S.J. Martin and A.J. Ricco, Int'l Electron Device Mtg., Washington, DC, 12/6-9/87.
- C10. *Measuring Thin Film Properties using Saw Devices: Diffusivity and Surface Area*, S.J. Martin, A.J. Ricco and T.E. Zipperian, IEEE Ultrasonics Symp., Denver, CO, 10/14/87.
- C9. *Speed of Response of Catalytic Gate MIS-Gas Sensors on Silicon*, R.C. Hughes, A.J. Ricco and R.R. Rye, 172nd Electrochemical Society Mtg., Chemical Sensors Symp., Honolulu, HI, 10/18-23/87.
- C8. *Kinetics of Hydrogen Adsorption at the Pd/SiO₂ Interface*, R.R. Rye and A.J. Ricco, 194th Natl. American Chemical Society Meeting, New Orleans, LA, 8/20-9/4/87.
- C7. *Acoustic Wave Devices for Sensing in Liquids*, S.J. Martin, A.J. Ricco, and R.C. Hughes, 4th Intl Conf. on Solid-State Sensors and Actuators, Tokyo, JAPAN, 6/2-5/87.
- C6. *Ultrahigh-Vacuum Studies of Pd-Semiconductor Diode H₂ Sensors*, R.R. Rye and A.J. Ricco, 14th DOE Surface Studies Conf., Albuquerque, NM, 6/2-4/87.
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- C3. *Miniature Radiation Dosimeter for In-Vivo Radiation Measurements*, R.C. Hughes, D. Huffman, J.V. Snelling, T.E. Zipperian, A.J. Ricco and C.A. Kelsey, 1986 Solid-State Sensors Workshop, Hilton Head, SC, 6/2-5/86.
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