

ANTONIO J. RICCO

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Los Gatos, California, USA

Education	Massachusetts Institute of Technology, Cambridge, Ph.D., Inorganic Chemistry, 1984 Thesis w/ Prof. Mark S. Wrighton, <i>Physical Studies of the Semiconductor/Electrolyte Interface</i> University of California, Berkeley, B.S., summa cum laude, Chemistry, 1980 Research w/ Prof. W.L. Jolly and Prof. G.A. Somorjai: Organometallic chemistry; UHV surface science
Professional Appointments & Experience	2007 – present: NASA Ames Research Center : Chief Technologist, Small Payloads (on leave/Stanford U.) 2005 – present: Dublin City University : Adjunct Prof., Biomedical Diagnostics Institute/School of Biotech. 2004 – 2007: Stanford University : Director, National Center for Space Biological Technologies 2004 – 2007: NASA Ames Research Center : Chief Technologist, Astrobiology Program 2003 – 2007: Eclipse Sciences, Inc. , Los Gatos: President & co-founder 2003 – 2004: Stanford University : Consulting Professor, Electrical Engineering 2002 – 2004: NASA Ames Research Center : Director, Microtechnologies and Biosystems 1999 – 2003: ACLARA BioSciences Inc. : Sr. Director, Microtechnologies and Materials 1984 – 1998: Sandia National Laboratories : Principal Member, Technical Staff, Microsensor R&D Dept.
Honors & Awards	2019: Fellow, American Institute for Medical & Biological Engineering (AIMBE) 2018: NASA Group Achievement Award: <i>EcAMSat</i> 2011: NASA Honor Award, Organism/Organic Response to Orbital Stresses (<i>O/OREOS</i>) Mission 2010: NASA Group Achievement Award, <i>PharmaSat</i> ; Time Magazine Top 10 Scientific Discoveries, <i>LCROSS</i> 2009: NASA Group Achievement, NSS Space Pioneer, Space Foundation Swigert Awards, <i>LCROSS</i> 2004 – 2005: Science Foundation of Ireland E.T.S. Walton Visiting Fellow, Dublin City University, Ireland 2000: Outstanding Achievement Award, Sensor Division, The Electrochemical Society 1998: Fellow, The Electrochemical Society 1997: NASA Group Achievement Award, Russian Mars '96 Project 1996 – 1997: Guest Professor, University of Heidelberg, Institute of Applied Physical Chemistry 1991: Bunshah Award, Best Paper of Sympos., Int'l. Conf. on Metallurgical Coatings & Thin Films 1984: Sigma Xi; 1982 – 1983: MIT NPW Fellow in Alternative Energy Resources 1978 – 1980: Univ. of California Regents' Scholar; 1979: Bruce Howard Memorial Scholarship in Chemistry 1978: Phi Beta Kappa; 1976: Bank of America Achievement and Sons of Italy Scholarships
Professional Activities	Editorial Board, <i>IEEE/ASME Journal of Microelectromechanical Systems (JMEMS)</i> , 2000 – present Editorial Board, <i>Frontiers in Materials</i> , Translational Materials Science section (2014 – present) Editorial Board, <i>Microgravity (NPG)</i> , 2014 – 2017 Editorial Board, <i>Journal of Translational Engineering in Health and Medicine (IEEE)</i> , 2012 – 2015 Editorial Boards, <i>Sensors & Actuators B: Chemical</i> , 2003 – 2006; 2010 – 2017. <i>Sensors Update</i> , 1998 – 2003 Editorial Advisory Board, <i>Analytical Chemistry</i> , 1999 – 2001 Scientific Advisory Board, A-Line, Inc (2004 – present) Scientific Advisory Board, <i>Next-Gen. Analytical Platforms for Environ. Sensing (NAPES / EU-FP7)</i> , 2015 – 2018 Scientific Advisory Board, New Mexico Spatiotemporal Modeling Center, 2009 – 2014 Scientific Advisory Board, Microscale Immune Studies Laboratory, Sandia National Labs, 2006 – 2009 Scientific Advisory Board, Center for Integrated NanoTech., Sandia & Los Alamos National Labs, 2004 – 2009 Scientific Advisory Board, Excellin Life Sciences (2003 – 2007) Book Series Editor, <i>MEMS Reference Shelf</i> (2005-2012) and <i>Microsystems & Nanosystems</i> (2013 – present) Member, Selection and Scheduling Committee, Gordon Research Conferences, 2009 – 2012 Chief Technologist, NASA GeneSat, PharmaSat, O/OREOS, MisST, EcAMSat & SporeSat Spaceflight Missions ESA Topical Team Member, <i>Future Astrobiology Experiments in Earth Orbit and Beyond</i> , 2011 – present Facility Science Team, ESA Miller Payload Development, 2009 – 2015 Science Team, NASA Mars Oxidant Instrument, 1992 – 1996 NIR Spectrometer Lead, NASA LCROSS Lunar Impactor Mission, 2007 – 2009 Council Member at Large, Gordon Research Conferences, 2006 – 2009 Member, Selection and Scheduling Committee, Gordon Research Conferences, 2009 – 2012 Member, NASA Lunar Exploration Analysis Group (LEAG), 2005 – 2010 Panelist, World Technology Evaluation Center Study on Biosensing, 2002 – 2003 International Steering Committee, Solid-State Sensors, Actuators & Microsystems, 1999 – 2007 Transducer Research Foundation: Vice President, 2004 – present; Trustee, 1998 – present Member: American Chemical Society, The Electrochemical Society Sensor Division of The Electrochemical Society: Chairman (1994 – 1996), Secretary/Treasurer (1992 – 1994)
Publications	253 (127 refereed) <i>h-index: 54 (google scholar)</i>
Patents	21
Presentations	396 (85 invited, 50 departmental/corporate, 48 contributed, 213 coauthored)

Technical Symposia: Organization, Co-Chairmanship, Short CoursesAmerican Chemical Society

ACS Prospectives Series: *Chemical and Biological Sensors* (5/04, Santa Fe)
Chemical Sensors & Interfaces (4/95, Anaheim)

American Society for Gravitational and Space Research

Technologies for Biological Space Exploration (T4BSE) Workshop, (11/12, New Orleans)

Association for Laboratory Automation

SmallTalk 2003 (7/03, San Jose); *SmallTalk 2002* (7/02, San Diego); *SmallTalk 2001* (8/01, San Diego)

Electrochemical Society

Acoustic Wave-Based Sensors (11/98: Boston)
Chemical and Biological Sensors and Analytical Electrochemical Methods (9/97: Paris)
Applications of Sensors in Energy Technology (5/97: Montreal)
Acoustic Wave-Based Sensors (10/96: San Antonio)
Acoustic Wave-Based Sensors (10/94: Miami)
Sensors (5/94: San Francisco)
Chemical Sensors (5/93: Honolulu)
Piezoelectric Sensors (10/92: Toronto)
Acoustic Wave Sensors (10/91: Phoenix)
Corrosion Studies (10/91: Phoenix)
Optical and Piezoelectric Sensors (10/90: Seattle)
Optical Sensors (10/88: Chicago)

Federation of Analytical Chemistry & Spectroscopy Societies: *Acoustic Wave Chemical Sensors* (10/95: Cincinnati)

Gordon Research Conferences

Chemical Sensors and Interfacial Design (8/96: Colby-Sawyer College, New Hampshire) – **Cofounder**
Chemical Sensors and Interfacial Design (5/01: Il Ciocco, Italy; 8/03: Newport, Rhode Island)

Institute of Biological Engineering (IBE)

Biological Engineering Applications and Utilization using Microsatellites (3/09: Santa Clara)

International Conference on Metallurgical Coatings & Thin Films: *Sensors* (4/92: San Diego)

Materials Research Society: *Materials for Sensors & Separations* (4/90: San Francisco)

μTAS: *9th Int'l. Conf. on Micro Total Analysis Systems* (10/05: Boston) – **TRF Liaison**
7th Int'l. Conf. on Micro Total Analysis Systems (10/03: Squaw Valley, California) – **TRF Liaison**

NASA Ames Research Center

In-Situ Genetic Analysis on Nanosatellites Workshop (10/03: Mountain View, CA)
Technology for Fundamental Space Biology Workshop (10/02: Palo Alto, CA)

Pittsburgh Conference: Program Resource Committee, 2003

SmallTalk Conference, Association for Laboratory Automation: Scientific Committee, 2001, 2002, 2003

Transducer Research Foundation

Enabling Future Health Care: Role of Micro & Nano Technologies (8/15: Napa) – **General Co-Chair**
Technologies for Future Micro-Nano Manufacturing (8/11: Napa) – **Technical Program Committee**
Solid-State Sensor & Actuator Wkshp. (6/06, 6/04: Hilton Head Island, SC) – **Program Committee**
Solid-State Sensor & Actuator Workshop (6/98: Hilton Head Island, SC) – **General Chair**
Solid-State Sensor & Actuator Workshop (6/96: Hilton Head Island, SC) – **Technical Chair**
Solid-State Sensor & Actuator Wkshp. (6/94, 6/92, 6/90: Hilton Head Island, SC) – **Program Committee**

Chemical Analysis with Microsensors & Microinstruments, **Short-Course Co-Instructor** –

The Electrochemical Society National Meeting (11/99: Honolulu)
 Transducers `97 (6/97: Chicago)

Fundamentals of Ultrasonic Sensors, **Short-Course Co-Instructor** –

IEEE 1992 Ultrasonics Symposium (Tucson: 6/92)
 Transducers `91 (San Francisco: 6/91)

Refereed Publications

127. *Quantitative Detection of Complex Mixtures using a Single Chemical Sensor: Analysis of Response Transients using Multi-Stage Estimation*, K Sothivelr, F Bender, F Josse, EE Yaz, and AJ Ricco, *ACS Sensors*, *4*, 1682–1690 (2019). [10.1021/acssensors.9b00564]
126. *Blood Group Alters Platelet Binding Kinetics to von Willebrand Factor and Consequently Platelet Function*, E Dunne, QM Qi, ES Shaqfeh, JM O'Sullivan, I Schoen, AJ Ricco, JS O'Donnell, and D Kenny, *Blood*, *xx*, xxxx-xx (2019). [10.1182/blood-2018-06-855528]
125. *Obtaining Chemical Selectivity from a Single, Nonselective Sensing Film: Two-Stage Adaptive Estimation Scheme with Multiparameter Measurement to Quantify Mixture Components and Interferents*, K Sothivelr, F Bender, F Josse, EE Yaz, and AJ Ricco, *ACS Sensors*, *3*, 1656–65 (2018). [10.1021/acssensors.8b00353]
124. *Platelet Behaviour on von Willebrand Factor Changes in Pregnancy: Consequences of Haemodilution and Intrinsic Changes in Platelet Function*, J Cowman, S Müllers, E Dunne, A Ralph, AJ Ricco, FD Malone, and D Kenny, *Sci Reports*, *7*, 6354.1–6354.7 (2017). [10.1038/s41598-017-06959-6]
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]
122. *Earth as a Tool for Astrobiology—A European Perspective*, Z Martins, H Cottin, JM Kotler, N Carrasco, CS Cockell, R de la Torre Noetzel, R Demets, J-P De Vera, L d'Hendecourt, P Ehrenfreund, A Elsaesser, B Foing, S Onofri, R Quinn, E Rabbow, P Rettberg, AJ Ricco, K Slenzka, F StalportInge, IL ten Kate, JJWA van Loon, F Westall, *Space Sci Rev*, *209*, 43–81 (2017). [10.1007/s11214-017-0369-1]
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^s -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]
118. *Dynamic Platelet Function on von Willebrand Factor Is Different in Preterm Neonates and Full-Term Neonates: Changes in Neonatal Platelet Function*, J Cowman, N Quinn, S Geoghegan, S Müllers, I Oglesby, B Byrne, M Somers, A Ralph, B Voisin, AJ Ricco, EJ Molloy, and D Kenny, *J Thrombosis Haemostasis*, *14*, 2027–2035 (2016). [10.1111/jth.13414]
117. *Investigation of Polymer–Plasticizer Blends as SH-SAW Sensor Coatings for Detection of Benzene in Water with High Sensitivity and Long-Term Stability*, P Adhikari, L Alderson, F Bender, AJ Ricco, F Josse, *ACS Sensors*, *2*, 157–64 (2016) [10.1021/acssensors.6b00659].
116. *Computational Tracking of Shear-Mediated Platelet Interactions with von Willebrand Factor*, A Ralph, M Somers, J Cowman, B Voisin, E Hogan, H Dunne, E Dunne, B Byrne, N Kent, AJ Ricco, D Kenny, and S Wong, *Cardiovasc Eng Tech*, *7*, 389–405 (2016). [10.1007/s13239-016-0282-x]
115. *Click Chemistry as an Immobilization Method to Improve Oligonucleotide Hybridization Efficiency for Nucleic Acid Assays*, M McKenna, F Soberon, AJ Ricco, S Daniels, SM Kelleher, *Sensors Actuators B: Chem*, *236*, 286–293 (2016). [10.1016/j.snb.2016.05.138]

114. *Self-Powered Microfluidic Device for Rapid Assay of Antiplatelet Drugs*, B Jose, P McCluskey, N Gilmartin, M Somers, D Kenny, AJ Ricco, NJ Kent, and L Basabe-Desmonts, *Langmuir*, **32**, 2820-2828 (2016). [10.1021/acs.langmuir.5b03540]
113. *Detection and Quantification of Aromatic Hydrocarbon Compounds in Water Using SH-SAW Sensors and Estimation-Theory-Based Signal Processing*, K Sothivelr, F Bender, F Josse, AJ Ricco, EE Yaz, RE Mohler, and R Kolhatkar, *ACS Sensors*, **1**, 63-72 (2016). [10.1021/acssensors.5b00024]
112. *Online Chemical Sensor Signal Processing Using Estimation Theory: Quantification of Binary Mixtures of Organic Compounds in the Presence of Linear Baseline Drift and Outliers*, K Sothivelr, F Bender, F Josse, EE Yaz, AJ Ricco, and RE Mohler, *IEEE Sensors J*, **16**, 750 (2016). [10.1109/JSEN.2015.2485784]
111. *Age-Related Changes in Platelet Function are More Profound in Women Than in Men*, J Cowman, E Dunne, I Oglesby, B Byrne, A Ralph, B Voisin, S Müllers, AJ Ricco, and D Kenny, *Sci Rep*, **5**, 12235 (2015). [10.1038/srep12235]
110. *Examining Platelet Adhesion via Stokes flow Simulations and Microfluidic Experiments*, S Fitzgibbon, J Cowman, AJ Ricco, D Kenny, and ESG Shaqfeh, *Soft Matter*, **11**, 355 (2015). [10.1039/c4sm01450b]
109. *Fabrication and Characterisation of Spin-Coated Oxidised PMMA to Provide a Robust Surface for On-Chip Assays*, M Rowinska, SM Kelleher, F Soberon, AJ Ricco, and S Daniels, *J Mater Chem B*, **3**, 135 (2015). [10.1039/C4TB01748J]
108. *Analysis of Binary Mixtures of Aqueous Aromatic Hydrocarbons with Low-Phase-Noise Shear-Horizontal Surface Acoustic Wave Sensors Using Multielectrode Transducer Designs*, F Bender, RE Mohler, AJ Ricco, and F Josse, *Anal Chem*, **86**, 11464 (2014). [10.1021/ac503701b]
107. *Organics Exposure in Orbit (OREOcube): A Next-Generation Space Exposure Platform*, A Elsaesser, RC Quinn, P Ehrenfreund, AL Mattioda, AJ Ricco, J Alonzo, A Breitenbach, YK Chan, A Fresneau, F Salama, and O Santos, *Langmuir*, **30**, 13217-13227 (2014). [10.1021/la501203g]
106. *Three-Dimensional Wax Patterning of Paper Fluidic Devices*, C Renault, J Koehne, AJ Ricco, and RM Crooks, *Langmuir*, **30**, 7030-36 (2014). [10.1021/la501212b]
105. *Biological System Development for GraviSat: A New Platform for Studying Photosynthesis and Microalgae in Space*, ED Fleming, BM Bebout, MX Tan, F Selch, and AJ Ricco, *Life Sciences in Space Res*, **3**, 63-75 (2014). [10.1016/j.lssr.2014.09.004]
104. *The Organism/Organic Exposure to Orbital Stresses (O/OREOS) Satellite: Radiation Exposure in Low-Earth Orbit and Supporting Laboratory Studies of Iron Tetraphenylporphyrin Chloride*, AM Cook, AL Mattioda, AJ Ricco, RC Quinn, A Elsaesser, P Ehrenfreund, A Ricca, NC Jones, and SV Hoffmann, *Astrobiology*, **14**, 87-101 (2014). [10.1089/ast.2013.0998]
103. *Identification and Quantification of Aqueous Aromatic Hydrocarbons Using SH-Surface Acoustic Wave Sensors*, F Bender, RE Mohler, AJ Ricco, and F Josse, *Anal Chem*, **86**, 1794 (2014). [10.1021/ac403724f]
102. *SEVO on the Ground: Design of a Laboratory Solar Simulation in Support of the O/OREOS Mission*, AM Cook, AL Mattioda, RC Quinn, AJ Ricco, P Ehrenfreund, NE Bramall, G Minelli, E Quigley, R Walker, and R Walker, *Astrophys J Suppl Ser*, **210**:15 (8 pp) (2014). [10.1088/0067-0049/210/2/15]
101. *The O/OREOS Mission—Astrobiology in Low Earth Orbit*, P Ehrenfreund, AJ Ricco, D Squires, C Kitts, E Agasid, N Bramall, K Bryson, J Chittenden, C Conley, A Cook, R Mancinelli, A Mattioda, W Nicholson, R Quinn, O Santos, G Tahu, M Voytek, C Beasley, L Bica, M Diaz-Aguado, C Friedericks, M Henschke, D Landis, E Luzzi, D Ly, N Mai, G Minelli, M McIntyre, M Neumann, M Parra, M Piccini, R Rasay, R Ricks, A Schooley, E Stackpole, L Timucin, B Yost, A Young, *Acta Astro*, **93**, 501-08 (2014). [10.1016/j.actaastro.2012.09.009]
100. *CubeSats as Innovative Science Platforms*, P Ehrenfreund, RC Quinn, and AJ Ricco, *J Small Satellites (JOSS)*, **2**, 79-81 (2013).
99. *Individual Platelet Adhesion (iPA) Assay: Measuring Platelet Function and Anti-Platelet Therapies in Whole Blood via Digital Quantification of Cell Adhesion*, A Lopez-Alonso, B Jose, M Somers, K Egan, DP Foley, AJ Ricco, S Ramstrom, L Basabe-Desmonts, and D Kenny, *Anal Chem*, **85**, 6497 (2013). [10.1021/ac401076s]
98. *Assaying the Efficacy of Dual-Antiplatelet Therapy: Use of a Controlled-Shear-Rate Microfluidic Device with a Well-Defined Collagen Surface to Track Dynamic Platelet Adhesion*, MB Lucitt, S O'Brien, J Cowman, G Meade, L Basabe-Desmonts, M Somers, N Kent, AJ Ricco, and D Kenny, *Anal Bioanal Chem*, **405**, 4823 (2013). [10.1007/s00216-013-6897-y]

97. *Microfluidic Impedance Cytometer for Platelet Analysis*, M Evander, AJ Ricco, J Morser, GTA Kovacs, LLK Leung, and L Giovangrandi, *Lab Chip*, 13, 722 (2013). [10.1039/C2LC40896A]
96. *The O/OREOS Mission: First Science Data from the Space Environment Viability of Organics (SEVO) Payload*, A Mattioda, A Cook, P Ehrenfreund, R Quinn, AJ Ricco, D Squires, N Bramall, K Bryson, J Chittenden, G Minelli, E Agasid, L Allamandola, C Beasley, R Burton, G Defouw, M Diaz-Aguado, M Fonda, C Friedericks, C Kitts, D Landis, M McIntyre, M Neumann, M Rasay, R Ricks, F Salama, O Santos, A Schooley, B Yost, and A Young, *Astrobiology*, 12, 841-853 (2012). [10.1089/ast.2012.0861]
95. *Reactive Deposition of Nano-Films in Deep Polymeric Microcavities*, A Riaz, RP Gandhiraman, IK Dimov, L Basabe-Desmonts, J Ducreé, S Daniels, AJ Ricco, and LP Lee, *Lab Chip*, 12, 4877 (2012). [10.1039/C2LC40296C]
94. *Effective Hydrodynamic Shaping of Sample Streams in a Microfluidic Parallel-Plate Flow-Assay Device: Matching Whole Blood Dynamic Viscosity*, S O'Brien, NJ Kent, M Lucitt, AJ Ricco, C McAtamney, D Kenny, and G Meade, *IEEE Trans Biomed Eng*, 59, 374-382 (2012). [10.1109/TBME.2011.2172607]
93. *The Development of the Space Environment Viability of Organics (SEVO) Experiment Aboard the Organism/Organic Exposure to Orbital Stresses (O/OREOS) Satellite*, N.E. Bramall, R. Quinn, A. Mattioda, K. Bryson, J.D. Chittenden, A. Cook, C. Taylor, G. Minelli, P. Ehrenfreund, A.J. Ricco, D. Squires, O. Santos, C. Friedericks, D. Landis, N.C. Jones, F. Salama, L.J. Allamandola, S.V. Hoffmann, *Planetary Space Sci*, 60, 121-130 (2012). [10.1016/j.pss.2011.06.014]
92. *The ORGANIC Experiment on EXPOSE-R on the ISS: Flight Sample Preparation and Ground Control Spectroscopy*, K.L. Bryson, Z. Peeters, F. Salama, B. Foing, P. Ehrenfreund, A.J. Ricco, E. Jessberger, A. Bischoff, M. Breittellner, W. Schmidt, F. Robert, *Adv Space Res*, 48 1980 (2011). [10.1016/j.asr.2011.07.017]
91. *The O/OREOS Mission: First Science Data from the Space Environment Survivability of Living Organisms (SESLO) Payload*, W. L. Nicholson, A. J. Ricco, E. Agasid, C. Beasley, M. Diaz-Aguado, P. Ehrenfreund, C. Friedericks, S. Ghassemieh, M. Henschke, J. W. Hines, C. Kitts, E. Luzzi, D. Ly, N. Mai, R. Mancinelli, M. McIntyre, G. Minelli, M. Neumann, M. Parra, M. Piccini, R. Rasay, R. Ricks, O. Santos, A. Schooley, D. Squires, L. Timucin, B. Yost, and A. Young, *Astrobiology*, 11, 951-958 (2011). [10.1089/ast.2011.0714]
90. *Stand-Alone Self-Powered Integrated Microfluidic Blood Analysis System (SIMBAS)*, I.K. Dimov, L. Basabe-Desmonts, J.L. Garcia-Cordero, B.M. Ross, A.J. Ricco, and L.P. Lee, *Lab Chip*, 11, 845 (2011). [10.1039/c0lc00403k]
89. *Shear-Mediated Platelet Adhesion Analysis in Less Than 100 μ L of Blood: Towards a POC Platelet Diagnostic*, N.J. Kent, S. O'Brien, L. Basabe-Desmonts, G.R. Meade, B.D. MacCraith, B.G. Corcoran, D. Kenny, A.J. Ricco, *IEEE Trans Biomed Eng Lett*, special issue on Emerging Technologies in Point-of-Care Health Care, 58, 826 (2011). [10.1109/TBME.2010.2090659]
88. *Cubesats: Cost-Effective Science and Technology Platforms for Emerging and Developing Nations*, K. Woellert, P. Ehrenfreund, A.J. Ricco, H. Hertzfeld, *Adv Space Res*, 47, 663 (2011). [10.1016/j.asr.2010.10.009]
87. *Detection of Water in the LCROSS Ejecta Plume*, A. Colaprete, P. Schultz, J. Heldmann, D. Wooden, M. Shirley, K. Ennico, B. Hermalyn, W. Marshall, A. Ricco, R. C. Elphic, D. Goldstein, D. Summy, G. D. Bart, E. Asphaug, D. Korycansky, D. Landis, L. Sollitt, *Science*, 330, 463-468 (2010). [10.1126/science.1186986]
86. *Real Time Kinetic Analysis of Platelet Thrombus Formation*, M. Lucitt, S. O'Brien, G. Meade, L. Basabe-Desmonts, M. Somers, T. Ricco, D. Kenny, *Irish J Med Sci*, 179, S289 (2010).
85. *Optically Addressable Single-Use Microfluidic Valves by Laser Printer Lithography*, J.L. Garcia-Cordero, D. Kurzbuch, F. Benito-Lopez, D. Diamond, L.P. Lee, and A.J. Ricco, *Lab Chip*, 10, 2680 (2010). [10.1039/C004980H]
84. *Microfluidic Sedimentation Cytometer for Milk Quality and Bovine Mastitis Monitoring*, J.L. Garcia-Cordero, L.M. Barrett, R. O'Kennedy, and A.J. Ricco, *Biomed Microdevices*, 12, 1051 (2010). [10.1007/s10544-010-9459-5]
83. *Microfluidic Device to Study Arterial Shear-Mediated Platelet-Surface Interactions in Whole Blood: Reduced Sample Volumes and Well-Characterised Protein Surfaces*, N.J. Kent, L. Basabe-Desmonts, G. Meade, B.D. MacCraith, B.G. Corcoran, D. Kenny, and A.J. Ricco, *Biomed Microdevices*, 12, 987 (2010). [10.1007/s10544-010-9453-y]
82. *Integrated System Investigating Shear-Mediated Platelet Interactions with von Willebrand Factor using Microliters of Whole Blood*, B. Lincoln, A.J. Ricco, N.J. Kent, L. Basabe-Desmonts, L.P. Lee, B.D. MacCraith, D. Kenny, G. Meade, *Anal Biochem*, 405, 174 (2010). [10.1016/j.ab.2010.05.030]

81. *Liquid Recirculation in Microfluidic Channels by the Interplay of Capillary and Centrifugal Forces*, J.L. Garcia-Cordero, L. Basabe-Desmonts, J. Ducrée, A.J. Ricco, *Microfluidics Nanofluidics*, *9*, 695 (2010). [10.1007/s10404-010-0585-4]
80. *Single-Step Separation of Platelets from Whole Blood Coupled with Digital Quantification by Interfacial Platelet Cytometry (iPC)*, L. Basabe-Desmonts, S. Ramstrom, G. Meade, S. O'Neill, A. Riaz, L.P. Lee, A.J. Ricco, and D. Kenny, *Langmuir*, *26*, 14700 (2010). [10.1021/la9039682]
79. *Evolving Point-of-Care Diagnostics Using Up-Converting Phosphor Bioanalytical Systems*, A.L. Ouellette, J.J. Li, D.E. Cooper, A.J. Ricco, and G.T.A. Kovacs, *Anal Chem*, *81*, 3216–3221 (2009). [10.1021/ac900475u]
78. *Integrated Microfluidic tmRNA Purification and Real-Time NASBA Device for Molecular Diagnostics*, I.K. Dimov, J.L. Garcia-Cordero, J. O'Grady, C.R. Poulsen, C. Viguier, L. Kent, P. Daly, B. Lincoln, M. Maher, R. O'Kennedy, T.J. Smith, A.J. Ricco, and L.P. Lee, *Lab Chip*, *8*, 2071-2078 (2008). [10.1039/B812515E]
77. *Optical Scanner for Immunoassays with Up-Converting Phosphorescent Labels*, J.J. Li, A.L. Ouellette, L. Giovangrandi, D.E. Cooper, A.J. Ricco, and G.T.A. Kovacs, *IEEE Trans. in Biomed. Eng.*, *55*, 1560-1571 (2008). [10.1109/TBME.2007.914674]
76. *Integrating Polymerase Chain Reaction, Valving, and Electrophoresis in a Plastic Device for Bacterial Detection*, C.G. Koh, W. Tan, M. Zhao, A.J. Ricco, and Z.H. Fan, *Anal. Chem.*, *75*, 4591-4598 (2003). [10.1021/ac0343836]
75. *Mars Atmospheric Oxidant Sensor (MAOS): An in-Situ Heterogeneous Chemistry Analysis*, A.P. Zent, R.C. Quinn, F.J. Grunthaner, M.H. Hecht, M.G. Buehler, C.P. McKay, and A.J. Ricco, *Planetary and Space Science*, *51*, 167-175 (2003). [10.1016/S0032-0633(02)00204-0]
74. *Use of Floating Electrodes in Transient Isotachophoresis to Increase the Sensitivity of Detection*, R.T. Kurnik, T.D. Boone, U. Nguyen, A.J. Ricco and S.J. Williams, *Lab Chip*, *3*, 86-92 (2003). [10.1039/B212729F]
73. *Miniaturized Capillary Isoelectric Focusing in Plastic Microfluidic Devices*, W. Tan, Z.H. Fan, X.C. Qiu, A.J. Ricco, and I. Gibbons, *Electrophoresis*, *23*, 3638-3645 (2002). [10.1002/1522-2683(200210)23:20<3638::AID-ELPS3638>3.0.CO;2-Y]
72. *Plastic Advances Microfluidic Devices*, T.D. Boone, Z.H. Fan, H.H. Hooper, I. Gibbons, A.J. Ricco, H. Tan, S.J. Williams, *Anal. Chem.*, *74*, 78A–86A (2002). [10.1021/ac021943c]
71. *Use of Linear Solvation Energy Relationships for Modeling Responses from Polymer-Coated Acoustic-Wave Vapor Sensors*, A. Hierlemann, E.T. Zellers, and A.J. Ricco, *Anal. Chem.*, *73*, 3458-3466 (2001). [10.1021/ac010083h]
70. *Plastic Microfluidic Systems for High Throughput Genomic Analysis and Drug Screening*, M.T. Cronin, T. Boone, A.P. Sassi, H. Tan, Q. Xue, S.J. Williams, A.J. Ricco, and H.H. Hooper, *J. Assn. for Lab. Automation*, *6*, 74-78 (2001). [10.1016/S1535-5535-04-00120-0]
69. *Conferring Selectivity to Chemical Sensors via Polymer Side-Chain Selection: Thermodynamics of Vapor Sorption by a Set of Polysiloxanes on Thickness-Shear Mode Resonators*, A. Hierlemann, A.J. Ricco, K. Bodenhöfer, A. Dominik, and W. Göpel, *Anal. Chem.*, *72*, 3696-3708 (2000). [10.1021/ac991298i]
68. *Differentiation of Chemical Components in a Binary Solvent Vapor Mixture Using Carbon/Polymer Composite-Based Chemiresistors*, S.V. Patel, M.W. Jenkins, R.C. Hughes, W.G. Yelton, and A.J. Ricco, *Anal. Chem.*, *72*, 1532 (2000). [10.1021/ac990830z]
67. *Application of the Solubility Parameter Concept to the Design of Chemiresistor Arrays*, M.P. Eastman, R.C. Hughes, G. Yelton, A.J. Ricco, S.V. Patel, and M.W. Jenkins, *J. Electrochem. Soc.*, *146*, 3907-3913 (1999). [10.1149/1.1392571]
66. *Characteristics of Acoustic Plate Modes on Rotated Y-Cuts of Quartz Utilized for Biosensing Applications*, F. Bender, R. Dahint, F. Josse, A.J. Ricco, and S.J. Martin, *Anal. Chem.*, *71*, 5064 (1999). [10.1021/ac990559I]
65. *Reflectance Infrared Spectroscopy on Operating Surface Acoustic Wave Chemical Sensors during Exposure to Gas-Phase Analytes*, R.C. Thomas, A. Hierlemann, A.W. Staton, M. Hill, and A.J. Ricco, *Anal. Chem.*, *71*, 3615 (1999). [10.1021/ac981447h]
64. *Effective Use of Molecular Recognition in Gas Sensing: Results from Acoustic Wave and In-Situ FTIR Measurements*, A. Hierlemann, A.J. Ricco, K. Bodenhöfer and W. Göpel, *Anal. Chem.*, *71*, 3022 (1999). [10.1021/ac981311j]

63. *Structural Distortion of Dendrimers on Gold Surfaces: A Tapping-Mode AFM Investigation*, A. Hierlemann, J. K. Campbell, L. A. Baker, R.M. Crooks, and A.J. Ricco, *J. Am. Chem. Soc.*, *120*, 5323 (1998). [10.1021/ja974283f]
62. *The Mars Oxidant Experiment (MOx) for Mars '96*, C.P. McKay, F.J. Grunthaner, A.L. Lane, M. Herring, R.K. Bartman, A. Ksendzov, C.M. Manning, J.L. Lamb, R.M. Williams, A.J. Ricco, M.A. Butler, B.C. Murray, R.C. Quinn, A.P. Zent, H.P. Klein, and G.V. Levin, *Planetary Space Sci.*, *46*, 769-777 (1998). [10.1016/s0032-0633(98)00011-7]
61. *SAW Sensors for the Room-Temperature Measurement of CO₂ and Relative Humidity*, A.E. Hoyt, A.J. Ricco, J.W. Bartholomew, and G.C. Osbourn, *Anal. Chem.*, *70*, 2137 (1998). [10.1021/ac971095z]
60. *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 Discuss.*, *107*, 247 (1997).
59. *Interactions between Self-Assembled Monolayers and an Organophosphonate: Detailed Study using Surface Acoustic Wave-Based Mass Analysis, Polarization-Modulation FTIR Spectroscopy, and Ellipsometry*, R.M. Crooks, H.C. Yang, L.J. McEllistrem, R.C. Thomas, and A.J. Ricco, *Faraday Discuss.*, *107*, 285 (1997).
58. *Surface Acoustic Wave Chemical Sensor Arrays: New Chemically Sensitive Interfaces Combined with Novel Cluster Analysis to Detect Volatile Organic Compounds and Mixtures*, A.J. Ricco, R.M. Crooks, and G.C. Osbourn, *Accts. Chem. Res.*, *31*, 289 (1998).
57. *Visual-Empirical Region-of-Influence Pattern Recognition Applied to Chemical Microsensor Array Selection and Chemical Analysis*, G.C. Osbourn, J.W. Bartholomew, A.J. Ricco, and G.C. Frye, *Accts. Chem. Res.*, *31*, 297 (1998).
56. *New Organic Materials Suitable for Use in Chemical Sensor Arrays*, R.M. Crooks and A.J. Ricco, *Accts. Chem. Res.*, *31*, 219 (1998).
55. *Synthetic Infrared Spectra*, M.B. Sinclair, M.A. Butler, S.H. Kravitz, W.J. Zubrzycki, and A.J. Ricco, *Optics Lett.*, *22*, 1036 (1997).
54. *Synthetic Spectra: a New Tool for Correlation Spectroscopy*, M.B. Sinclair, M.A. Butler, S.D. Senturia, and A.J. Ricco, *Appl. Optics*, *36*, 3342 (1997).
53. *Molecular Interactions Between Organized, Surface-Confined Monolayers and Vapor-phase Probe Molecules. 9. Structure/Reactivity Relationship Between Three Surface-Confined Isomers of Mercaptobenzoic Acid and Vapor-phase Decylamine*, M. Wells, D.L. Dermody, H.C. Yang, T. Kim, R.M. Crooks, and A.J. Ricco, *Langmuir*, *12*, 1989 (1996).
52. *Molecular Interactions Between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 8. Reactions Between Acid-Terminated Self-Assembled Monolayers and Vapor-Phase Bases*, H.C. Yang, D.L. Dermody, C. Xu, A.J. Ricco, and R.M. Crooks, *Langmuir*, *12*, 726 (1996).
51. *Chemically Sensitive Surface Acoustic Wave Devices Employing A Self-Assembled Composite Monolayer Film: Molecular Specificity and Effects Due to SAM Adsorption Time and Au Surface Morphology*, R.C. Thomas, H.C. Yang, C.R. DiRubio, A.J. Ricco, and R.M. Crooks, *Langmuir*, *12*, 2239 (1996).
50. *Investigating the Surface Chemistry of Mars*, F.J. Grunthaner, A.J. Ricco, M.A. Butler, A.L. Lane, C.P. McKay, A.P. Zent, R.C. Quinn, B.C. Murray, H.P. Klein, G.V. Levin, R.W. Terhune, M.L. Homer, A. Ksendzov, and P. Niedermann, *Anal. Chem.*, *67*, 605A (1995).
49. *Speciation of Linear and Branched Hydrocarbons by a Fluorinated Polyimide Film-Based SAW Sensor*, A.E. Hoyt, A.J. Ricco, H.C. Yang, and R.M. Crooks, *J. Am. Chem. Soc.*, *117*, 8672 (1995).
48. *Photolithographic Metallization of Fluorinated Polymers*, R.R. Rye, A.J. Howard, and A.J. Ricco, *Thin Solid Films*, *262*, 73 (1995).
47. *New Methods for Circuit Fabrication 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, *J. Electrochem. Soc.*, *141*, 3556 (1994).
46. *Chemically Sensitive Interfaces on SAW Devices*, A.J. Ricco, C. Xu, R.M. Crooks, and R.E. Allred, in *Interfacial Design and Chemical Sensing*, ACS Symposium Series No. 561, American Chemical Society: Washington, DC (1994), Ch. 23, pp. 264-279.
45. *The Characterization of Organic Monolayers by Fourier-Transform Infrared External-Reflection Spectroscopy*, R.M. Crooks, L. Sun, C. Xu, S. L. Hill, and A.J. Ricco, *Spectroscopy*, *8*, 28 (1993).

44. *Characterization of the Copper/Poly(tetrafluoroethylene) Interface*, R.R. Rye, G.W. Arnold, and A.J. Ricco, *J. Electrochem. Soc.*, **140**, 3233 (1993).
43. *The Effect of Surface Roughness on the Response of Thickness-Shear Mode Resonators in Liquids*, S.J. Martin, G.C. Frye, A.J. Ricco, and S.D. Senturia, *Anal. Chem.*, **65**, 2910 (1993).
42. *Molecular Interactions Between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 6. In-situ FTIR-External Reflectance Spectroscopy of Monolayer Adsorption and Reaction Chemistry*, C. Xu, L. Sun, L.J. Kepley, R.M. Crooks, and A.J. Ricco, *Anal. Chem.*, **65**, 2102 (1993).
41. *Molecular Interactions Between Organized, Surface-Confined Monolayers and Vapor-Phase Probe Molecules. 5. Acid-Base Interactions*, L. Sun, R.M. Crooks, and A.J. Ricco, *Langmuir*, **9**, 1775 (1993).
40. *Patterned Adhesion of Electrolessly Deposited Copper on Poly(tetrafluoroethylene)*, R.R. Rye and A.J. Ricco, *J. Electrochem. Soc.*, **140**, 1763 (1993).
39. *Multiple-Frequency SAW Devices for Chemical Sensing & Materials Characterization*, A.J. Ricco and S.J. Martin, *Sensors & Actuators, B10*, 123 (1993).
38. *Real-time, Submonolayer Monitoring of Electrochemical Processes using Acoustic Plate-Mode Devices (invited)*, A.J. Ricco and S.J. Martin, in *New Trends and Approaches in Electrochemical Technology*, VCH/Kodansha Scientific, Ltd.: Tokyo (1993), Ch. 7.
37. *Selective Surface Acoustic Wave-Based Organophosphonate Chemical Sensor Employing a Self-Assembled, Composite Monolayer: A New Paradigm for Sensor Design*, L.J. Kepley, R.M. Crooks, and A.J. Ricco, *Anal. Chem.*, **64**, 3191 (1992).
36. *Fiber Optic Micromirror Studies of the Interaction of Thin Copper Films with an Organophosphonate*, M.A. Butler and A.J. Ricco, *Anal. Chem.*, **64**, 1851 (1992).
35. *Monitoring Jet Fuel Degradation using Quartz Crystal Microbalances*, S.J. Martin, G.C. Frye, E.A. Klavetter, and A.J. Ricco, *Prep. Am. Chem. Soc. Div. Pet. Chem.*, **37**, 456 (1992).
34. *Thin Metal Film Characterization & Chemical Sensors: Monitoring Electronic Conductivity, Mass Loading, and Mechanical Properties with SAW Devices*, A.J. Ricco and S.J. Martin, *Thin Solid Films*, **206**, 94 (1991).
33. *Real-Time Analysis of Chemical Reactions Occurring at a Surface-Confined Organic Monolayer*, L. Sun, R.C. Thomas, R.M. Crooks, and A.J. Ricco, *J. Am. Chem. Soc.*, **113**, 8550 (1991).
32. *Real-Time Measurements of the Gas-phase Adsorption of n-Alkanethiol Mono- and Multilayers on Gold*, R.C. Thomas, L. Sun, R.M. Crooks, and A.J. Ricco, *Langmuir*, **7**, 620 (1991).
31. *Chemical Microsensors*, R.C. Hughes, A.J. Ricco, M.A. Butler, and S.J. Martin, *Science*, **254**, 74 (1991).
30. *Hg Adsorption on Optically Thin Au Films*, M.A. Butler and A.J. Ricco, *J. Appl. Phys.*, **67**, 4320 (1990).
29. *Fiber Optic Micromirror Sensor for Volatile Organic Compounds*, M.A. Butler, A.J. Ricco, and R. Buss, *J. Electrochem. Soc.*, **137**, 1325 (1990).
28. *Monitoring Photopolymerization of Thin Films Using SH Acoustic Plate-Mode Sensors*, S.J. Martin and A.J. Ricco, *Sensors & Actuators, A21-23*, 712-18 (1990).
27. *Liquid-Solid Phase Transition Detection with Acoustic Plate-Mode Sensors: Application to Icing of Surfaces*, R.C. Hughes, S.J. Martin, G.C. Frye, and A.J. Ricco, *Sensors & Actuators, A21-A23*, 693 (1990).
26. *Characterization of SH-Acoustic Plate-Mode-Liquid Sensors*, S.J. Martin, A.J. Ricco, T.M. Niemczyk, and G.C. Frye, *Sensors & Actuators*, **20**, 253 (1990).
25. *Monitoring Diffusion in Real Time in Thin Polymer Films using SAW Devices*, G.C. Frye, S.J. Martin, and A.J. Ricco, *Sensors & Materials*, **1**, 335 (1989).
24. *Liquid-Phase Sensors Based on Acoustic Plate-Mode Devices*, A.J. Ricco, S.J. Martin, T.M. Niemczyk, and G.C. Frye, in *Chemical Sensors and Microinstrumentation*, ACS Symposium Series No. 403, American Chemical Society: Washington, DC (1989), Ch. 13.
23. *Monitoring Thin-Film Properties with Surface Acoustic Wave Devices: Diffusion, Surface Area, and Pore-Size Distributions*, G.C. Frye, S.J. Martin, and A.J. Ricco, in *Chemical Sensors and Microinstrumentation*, ACS Symposium Series No. 403, American Chemical Society: Washington, DC (1989), Ch. 14.

22. *Determination of BET Surface Areas of Porous Thin Films Using Surface Acoustic Wave Devices*, A.J. Ricco, G.C. Frye, and S.J. Martin, *Langmuir*, 5, 273 (1989).
21. *Pore-Structure Characterization of Porous Films*, C.L. Glaves, G.C. Frye, D. M. Smith, C.J. Brinker, A. Datye, A.J. Ricco, and S.J. Martin, *Langmuir*, 5, 459 (1989).
20. *Reflectivity Changes of Optically Thin Nickel Films Exposed to Oxygen*, M.A. Butler and A.J. Ricco, *Sensors & Actuators*, 19, 249 (1989).
19. *Kinetics of Hydrogen Adsorption and Absorption: Catalytic Gate MIS-Gas Sensors on Silicon*, R.C. Hughes, P.A. Taylor, A.J. Ricco, and R.R. Rye, *J. Electrochem. Soc.*, 136, 2653 (1989).
18. *Acoustoelectric Interaction of Plate Modes with Liquids*, T.M. Niemczyk, S.J. Martin, G.C. Frye, and A.J. Ricco, *J. Appl. Phys.*, 64, 5002 (1988).
17. *Chemisorption-Induced Reflectivity Changes in Optically Thin Silver Films*, M.A. Butler and A.J. Ricco, *Appl. Phys. Lett.*, 53, 1471 (1988).
16. *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, *Int'l. J. Radiation Oncology Biol. Phys.*, 14, 963 (1988).
15. *Ultrahigh-Vacuum Studies of Pd Metal/Insulator/Semiconductor Diode H₂ Sensors*, R.R. Rye and A.J. Ricco, *J. Appl. Phys.*, 62, 1084 (1987); *J. Vac. Sci. Techn.*, A5, 2755 (1987).
14. *Acoustic Wave Viscosity Sensor*, A.J. Ricco and S.J. Martin, *Appl. Phys. Lett.*, 50, 1474 (1987).
13. *Isothermal Measurements and Thermal Desorption of Organic Vapors Using SAW Devices*, S.J. Martin, A.J. Ricco, D.S. Ginley, and T.E. Zipperian, *IEEE Trans. on UFFC*, UFFC-34, 142 (1987).
12. *Surface Acoustic Wave Gas Sensor Based on Film Conductivity Changes*, A.J. Ricco, S.J. Martin, and T.E. Zipperian, *Sensors and Actuators*, 8, 319 (1985).
11. *Resistance of Polyaniline Films as a Function of Electrochemical Potential and the Fabrication Of Polyaniline--Based Microelectronic Devices*, E.W. Paul, A.J. Ricco, and M.S. Wrighton, *J. Phys. Chem.*, 89, 1441 (1985).
10. *Electrode-Confined Catalyst Systems for use in Optical-to-Chemical Energy Conversion*, K.A. Daube, D.J. Harrison, T.E. Mallouk, A.J. Ricco, S. Chao, M.S. Wrighton, W.A. Hendrickson, and A.J. Drube, *J. Photochem.*, 29, 71 (1985).
9. *XPS and AES Study of the CdTe Surface Resulting from Various Surface Pretreatments: Correlation of Photoelectrochemical and Capacitance-Potential Behavior with Surface Chemical Composition*, A.J. Ricco, H.S. White, and M.S. Wrighton, *J. Vac. Sci. Techn.*, A2, 910 (1984).
8. *Characterization of p-Type CdTe Electrodes in Acetonitrile/Electrolyte Solutions. Nearly Ideal Behavior from Reductive Surface Pretreatments*, H.S. White, A.J. Ricco, and M.S. Wrighton, *J. Phys. Chem.*, 88, 5140 (1984).
7. *Improvement of the Photoelectrochemical Oxidation of Halides by Platinization of Metal Dichalcogenide Photoanodes*, R.A. Simon, A.J. Ricco, D.J. Harrison, and M.S. Wrighton, *J. Phys. Chem.*, 87, 4446 (1983).
6. *Characterization of Intrinsic Amorphous Hydrogenated Silicon as a Thin-Film Photocathode Material. Efficient Photoreduction Processes in Aqueous Solution*, D.J. Harrison, G.S. Calabrese, A.J. Ricco, J. Dresner, and M.S. Wrighton, *J. Am. Chem. Soc.*, 105, 4212 (1983).
5. *Electrochemical Characterization of p-Type Semiconducting Tungsten Disulfide Photocathodes: Efficient Photoreduction Processes at Semiconductor/Liquid Electrolyte Interfaces*, J.A. Baglio, G.S. Calabrese, D.J. Harrison, E. Kamieniecki, A.J. Ricco, M.S. Wrighton, and G.D. Zoski, *J. Am. Chem. Soc.*, 105, 2246 (1983).
4. *Synthesis and Characterization of a New Surface Derivatizing Reagent to Promote Adhesion of Polypyrrole Films to n-Type Silicon Photoanodes: N-3(3-(trimethoxysilyl)-propyl)pyrrole*, R.A. Simon, A.J. Ricco, and M.S. Wrighton, *J. Am. Chem. Soc.*, 104, 2031 (1982).
3. *Characterization of n-Type Semiconducting Tungsten Disulfide Photoanodes in Aqueous and Nonaqueous Electrolyte Solution*, J.A. Baglio, G.S. Calabrese, E. Kamieniecki, R. Kershaw, C.P. Kubiak, A.J. Ricco, A. Wold, M.S. Wrighton, and G.D. Zoski, *J. Electrochem. Soc.*, 129, 1461 (1982).
2. *An XPS Study of Sigma and Pi-Allyl Groups*, A.J. Ricco, A.A. Bakke, and W.L. Jolly, *Organometallics*, 1, 94 (1982).

1. *Study of Charge Transfer in Back-bonding to Carbonyl and Nitrosyl Groups*, S.C. Avanzino, A.A. Bakke, H-W. Chen, C.J. Donahue, W.L. Jolly, T.H. Lee, and A.J. Ricco, *Inorg. Chem.*, *19*, 1931 (1980).

Books, Chapters, Conference Proceedings, Reports, Reviews

N126. *Exocube: A miniaturized in-situ space laboratory for astrobiological exposure experiments on the International Space Station*, A. Elsaesser, A. Perfumo, A.L. Mattioda, A.J. Ricco, C. Danelon, D. Wagner, F. Salama, F. Canganella, H.-G. Löhmannsröben, H. Linnartz, R. Fani, R.C. Quinn, V. Parro, W. L. Nicholson, Z. Martins, *Proc. 69th International Astronautical Congress*, International Astronautical Federation: Paris (2018); IAC-18.A1.6.3x44382.

N125. *OREOcube (ORganics Exposure in Orbit): in-situ UV-Vis spectroscopy of organic compounds on the International Space Station*, S. Wolf, A. Elsaessera, R. Quinn, A. Mattioda, A. Ricco, F. Salama, H. Cottin, E. Dartois, L. d'Hendecourt, B. Foing, Z. Martins, M. Sephton, M. Spaans, *Proc. 69th International Astronautical Congress*, International Astronautical Federation: Paris (2018); IAC-18.A1.6.8x44328.

N124. *Sample Processor for Life on Icy Worlds (SPLIce): Design and Test Results*, TN Chinn, AK Lee, TD Boone, MX Tan, MM Chin, GC McCutcheon, MF Horne, MR Padgen, JT Blaich, JB Forgione, PT Zell, KF Bywaters, ET Kelly, AF Davila, RC Quinn, and AJ Ricco, *Proceedings of μ TAS 2017 (21st International Conference on Miniaturized Systems for Chemistry and Life Sciences)*, Chemical and Biological Microsystems Society: San Diego (2017); pp. 1479-1480.

N123. *PowerCell Payload on Eu: CROPIS-Measuring Synthetic Biology in Space*, G McCutcheon, R Kent, I Paulino-Lima, E Pless, A Ricco, E Mazmanian, S Hu, B White, D Hoang, E Hyde, E Daley, G Trinh, B Pugh, E Tapio, K Ronzano, CS Richey, LJ Rothschild, *Proc. 30th Annual AIAA/USU Conference on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2016); SSC16-XI-04.

N122. *Design Criteria for Plasticized Polymer Coatings for Long-Term Acoustic-Wave Sensor Measurements in Aqueous Phase*, P Adhikari, F Bender, AJ Ricco, and F Josse, *Proc 2017 Joint Conf European Freq and Time Forum and IEEE Int Freq Contr Symp (EFTF/IFCS)*, IEEE: New York (2017): pp. 24-25. [10.1109/FCS.2017.8088790]

N121. *Sensor-Based Estimation of BTEX Concentrations in Water Samples using Recursive Least Squares and Kalman Filter Techniques*, K Sothivelr, F Bender, F Josse, EE Yaz, and AJ Ricco, *Proc IEEE Sensors*, IEEE: New York (2016); pp. 1-3. [10.1109/ICSENS.2016.7808535]

N120. *Platelet Interactions with Von Willebrand Factor: Comparing Platelet Function in Acute and Stable Coronary Syndromes*, E Dunne, A Ralph, D Foley, AJ Ricco, and D Kenny, *Proc. 58th Am Soc Hematol, Ann Mtg, Blood*, 128, 3829 (2016).

N119. *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, *Proc. 2016 Solid-State Sensors, Actuators, and Microsystems Workshop*, Transducer Research Foundation: San Diego (2016); pp. 352-355.

N118. *Photochemical Studies in Low Earth Orbit for Organic Compounds related to Small Bodies, Titan and Mars. Current and Future Facilities*, H. Cottin, K. Saiagh, D. Nguyen, N. Grand, Y. B'enilan, M. Cloix, P. Coll, M.-C. Gazeau, N. Fray, D. Khalaf, F. Raulin, F. Stalport, N. Carrasco, C. Szopa, D. Chaput, M. Bertrand, F. Westall, A. Mattioda, R. Quinn, A. Ricco, O. Santos, G.A. Baratta, G. Strazzulla, M.E. Palumbo, A. Le Postollec, M. Dobrijevic, G. Coussot, F. Vigier, O. Vandenabeele-Trambouze, S. Incerti, T. Berger, *Bull. Soc. Royale Sciences Liège, 84 - Année 2015, Actes de colloques, Workshop d'astrochimie expérimentale*, 60 – 73 (2015).

N117. *O/OREOS Nanosatellite*, A.J. Ricco and P. Ehrenfreund, *Encyclopedia of Astrobiology*, Springer-Verlag: Berlin (2014). [10.1007/978-3-642-27833-4_5100-1]

N116. *E. coli AntiMicrobial Satellite (EcAMSat): Science Payload System Development and Test*, T. Boone, A. Cohen, M. Chin, T. Chinn, C. Friedericks, E. Jackson, M. Keyhan, M. Lera, AC Matin, D. Mayer, C. Middour, M. Parra, A. Ricco, and S. Spremo, *Proc. 28th Annual AIAA/USU Conference on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2014); SSC14-WK-8 (5 pp.).

N115. *BioSentinel: Monitoring DNA Damage Repair Beyond Low Earth Orbit on a 6U Nanosatellite*. Lewis, B., Hanel, R., Bhattacharya, S., Ricco, A., Agasid, E., Reiss-Bubenheim, D., Straume, T., Parra, M., Boone, T., Santa Maria, S., Tan, M., R. Bowman, M. Sorgenfrei, M. Nehrenz, M. Gandlin, T. Lusby, V. Kuroda, C. Pires, A. Rademacher, J. Benton, S. Wu, B. Klamm, C. Friedericks, C. Hake, B.G. Swan, E. Semones, S. Wheeler, C.M. Ott, S. Gavalas and S. Castro, *Proc. 28th Annual AIAA/USU Conference on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2014); SSC14-VI-3.

N114. *SporeSat: A Nanosatellite Platform Lab-on-a-Chip System for Investigating Gravity Threshold of Fern-Spore Single-Cell Calcium Ion Currents*, W.W.A. Wan Salim, J. Park, J.L. Rickus, A. Rademacher, A.J. Ricco, A. Schooley, J. Benton, B. Wickizer, A. Martinez, N. Mai, M. Rasay, D.M. Porterfield, L. Brownston, M. Cote, G. Defouw, M. Henschke, C. Kitts, E. Luzzi, M. Perez, S. Roux, M. Salmi, and A. Sweet, 2014 Solid-State Sensors, Actuators, and Microsystems Workshop, Transducer Research Foundation: San Diego (2014); pp. 111-114.

N113. *Lab on A Chip – General Philosophy*, J.L. Garcia-Cordero and A.J. Ricco, “Encyclopedia of Micro- and Nano-Fluidics,” D. Li, Ed., Springer: Berlin (2013), 1-12. [10.1007/978-3-642-27758-0_780-4]

N112. *Multi-Analyte Biochip (MAB) Based on All-Solid-State Ion-Selective Electrodes (ASSISE) for Physiological Research*, W.W.A. Wan Salim, M.A. Zeitchek, A. C. Hermann, A. J. Ricco, M. Tan, F. Selch, E. Fleming, B.M. Bebout, M.M. Bader, A. ul Haque, D.M. Porterfield, *J. Vis. Exp. (JOVE)* 74, e50020 (2013) [10.3791/50020]

N111. *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, Tech. Digest 2012 Solid-State Sensors, Actuators, and Microsystems Workshop, Transducer Research Foundation: San Diego (2012); pp. 94-95.

N110. *Point of Care Diagnostics: Status and Future*, V. Gubala, L.F. Harris, A.J. Ricco, M.X. Tan, and D.E. Williams, *Anal. Chem.*, 84, 487–515 (2012) [10.1021/ac2030199].

N109. *Integrated Fluidic System for Growth and Fluorescence Imaging of Multicellular Organisms in Nanosatellite Applications*, M. X. Tan, M. Piccini, and A.J. Ricco, Proceedings of μ TAS 2011 (15th International Conference on Miniaturized Systems for Chemistry and Life Sciences), Chemical and Biological Microsystems Society: San Diego (2011); pp. 1719-1721.

N108. *O/OREOS: A Successful Mission of NASA’s Astrobiology Small Payload Program*, P. Ehrenfreund, A.J. Ricco, R. Quinn, N. Bramall, K. Bryson, J. Chittenden, A. Cook, R. Mancinelli, A. Mattioda, G. Minelli, W. Nicholson, O. Santos, D. Squires, C. Friedericks, C. Kitts, R. Rasay, and the O/OREOS-Sat Engineering Team, *Proc. 62nd International Astronautical Congress*, International Astronautical Federation: Paris (2011); IAC-11.B4.2.1.

N107. *Initial On-Orbit Engineering Results from the O/OREOS Nanosatellite*, C. Kitts, R. Rasay, L. Bica, I. Mas, M. Neumann, A. Young, G. Minelli, A. Ricco, E. Stackpole, E. Agasid, C. Beasley, C. Friedericks, D. Squires, P. Ehrenfreund, W. Nicholson, R. Mancinelli, O. Santos, R. Quinn, N. Bramall, A. Mattioda, A. Cook, J. Chittenden, K. Bryson, M. Piccini, M. Parra, *Proc. 25th Annual AIAA/USU Conference on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2011); SSC11-III-3.

N106. *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, Proc. Joint Conf. IEEE Int’l. Freq. Contr. Sympos. and Euro. Freq. and Time Forum, IEEE: New York (2011); pp. 422-427.

N105. *PharmaSat: Drug Dose Response in Microgravity from A Free-Flying Integrated Biofluidic/Optical Culture-and-Analysis Satellite*, A.J. Ricco, M. Parra, D. Niesel, M. Piccini, D. Ly, 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, M. Rasay, E. Agasid, E. Luzzi, K. Ronzano, D. Squires, B. Yost, *Proc. SPIE 7929, Microfluidics, BioMEMS, and Medical Microsystems IX*, 79290T (9 pp.), SPIE: Bellingham, WA (2011). [10.1117/12.881082]

N104. *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), Chemical and Biological Microsystems Society: San Diego (2010); pp. 1388-1390.

N103. *Signal Improvement by Dielectric Focusing in Microfluidic Impedance Cytometers*, M. Evander, B. Dura, A.J. Ricco, G.T.A. Kovacs, and L. Giovangrandi, Proceedings of μ TAS 2010 (14th International Conference on Miniaturized Systems for Chemistry and Life Sciences), Chemical and Biological Microsystems Society: San Diego (2010); pp. 1277-1279.

N102. *O/OREOS Nanosatellite: A Multi-Payload Technology Demonstration*, G. Minelli, A. Ricco, C. Beasley, J. Hines, E. Agasid, B. Yost, D. Squires, C. Friedericks, M. Piccini, G. Defouw, M. McIntyre, R. Ricks, M. Parra, M. Diaz-Aguado, L. Timucin, M. Henschke, M. Lera, M. Tan, M. Cohen, K. Ronzano, E. Luzzi, N. Mai, A. Schooley, D. Ly, E. Stackpole, J. Lin, J. Tucker, P. Ehrenfreund, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, N. Bramall, K. Bryson, J. Chittenden, C. Taylor, A. Cook, D. Landis, C. Kitts, M. Rasay, I. Mas, M.

Neumann, A. Mahacek, A. Young, and L. Bica, *Proc. 24th Annual AIAA/USU Conf. on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2010); SSC10-VI-1.

N101. *Initial Flight Results from the PharmaSat Biological Microsatellite Mission*, C Kitts, K Ronzano, R Rasay, I Mas, J Acain, M Neumann, L Bica, P Mahacek, G Minelli, E Beck, S Li, B Gamp, S Agnew, J Shepard, J Hines, E Agasid, C Friedericks, M Piccini, M Parra, L Timucin, C Beasley, M Henschke, E Luzzi, N Mai, M McIntyre, R Ricks, A Ricco, D Squires, B Yost, G Defouw, A Schooley, D Ly, M Diaz-Aguado, E Stackpole, O Diaz, T Doukas, D Niesel, and M McGinnis, *Proc. 23rd Annual AIAA/USU Conf. on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2009); SSC09-IV-10.

N100. *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, *Tech. Digest 2010 Solid-State Sensors, Actuators, and Microsystems Workshop*, Transducer Research Foundation: San Diego (2010); pp. 110-113.

N99. *The O/OREOS Sat Mission: New Science and Technologies for Autonomous Small Satellite Payloads*, P. Ehrenfreund, A. Ricco, J. Hines, D. Squires, B. Yost, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, C. Conley, *Proc. the 60th Int'l, Astronautical Congress*, International Astronautical Federation: Paris (2009); IAC-09.B4.2.11.

N98. *The PharmaSat Nanosatellite Platform for Life Science Experimentation: Effects of Space Flight on Antifungal Activity Against Saccharomyces cerevisiae*, M. Parra, D. Ly, A.J. Ricco, M.R. McGinnis and D. Niesel, *Gravitational and Space Biology*, 23, 30 (2009).

N97. *Analysis of Biopharma Raw Materials by Electrophoresis Microchips with Contactless Conductivity Detection*, M. Vazquez, F. Benito-Lopez, J. Garcia-Cordero, A. J. Ricco, and D. Diamond. *Proceedings of μ TAS 2009 (13th International Conference on Micro Total Analysis Systems)* (2009).

N96. *O/OREOS Sat: Organism/Organic Exposure to Orbital Stresses*, P. Ehrenfreund, D. Squires, J.W. Hines, A. Ricco, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, E. Agasid, C. Beasley, N. Bramall, J. Chittenden, G. Defouw, Ch. Friedericks, M. Piccini, B. Ricks, G. Minelli, *EPSC (European Planetary Science Congress) Abstracts*, 4, EPSC2009-252-1 (2009).

N95. *Thin Film Diffusion Barrier Formation in PDMS Microcavities*, A. Riaz, R.P. Gandhiraman, I.K. Dimov, L. Basabe-Desmonts, A.J. Ricco, J. Ducreé, S. Daniels, and L.P. Lee, *Proc. 15th Int'l. Conf. on Solid-State Sensors, Actuators, & Microsystems (Transducers '09)*, IEEE: New York (2009); pp. 1051-1054.

N94. *Liquid Recirculation in Microfluidic Channels by the Interplay of Capillary and Centrifugal Forces*, J.L. García-Cordero, L. Basabe-Desmonts, J. Ducreé, L.P. Lee, A.J. Ricco, *Proc. 15th Int'l. Conf. on Solid-State Sensors, Actuators, & Microsystems (Transducers '09)*, IEEE, New York (2009); pp. 1265-1268.

N93. *UV and Space Exposure of Aromatic Compounds on the EXPOSE-R Facility Onboard ISS*, K. Bryson, F. Salama, P. Ehrenfreund, A.J. Ricco, Z. Peeters, B. H. Foing, E. Monaghan, D. Wills, M. Breitfellner, E. Jessberger, F. Robert, M. Mumma, *Bull. Amer. Astron. Soc.* 41, 664 (2009).

N92. *Whole-Blood Diagnostic Sensing System Based on Populational Platelet Rolling Behavior*, A.J. Ricco, N. Kent, G. Meade, B. Lincoln, L. Basabe-Desmonts, B. MacCraith, B. Corcoran, and D. Kenny, *ECS Transactions*, 19 (6), The Electrochemical Society: Pennington, NJ (2009); pp. 73-77.

N91. *Monolithic Centrifugal Microfluidic Platform for Bacteria Capture and Concentration, Lysis, Nucleic-Acid Amplification and Real Time Detection*, J.L. Garcia-Cordero, I.K. Dimov, J. O'Grady, J. Ducree, T. Barry, and A.J. Ricco, *Proc. MEMS 2009*, IEEE: New York (2009); pp. 356-359.

N90. *Low-cost Microfluidic Single-Use Valves and On-Board Reagent Storage Using Laser-Printer Technology*, J.L. Garcia-Cordero, F. Benito-Lopez, D. Diamond, J. Ducree, and A.J. Ricco, *Proc. MEMS 2009*, IEEE: New York (2009); pp. 439-442.

N89. *Microfluidic CD-Based Somatic Cell Counter for the Early Detection of Bovine Mastitis*, J.L. Garcia-Cordero, L. Kent, I.K. Dimov, C. Viguier, L.P. Lee, and A.J. Ricco, *Proceedings of μ TAS 2008 (12th International Conference on Micro Total Analysis Systems)*, Chemical and Biological Microsystems Society: San Diego (2008); pp. 1762-1764.

N88. *Integrated Microfluidic Systems Biology Platform: Cell Culture, Drug Treatment, Lysis, Separation, and Detection*, A. Riaz, I.K. Dimov, L. Kent, C.R. Poulsen, S. O'Toole, M. Radomski, J. O'Leary, A.J. Ricco, and L.P. Lee, *Proceedings of μ TAS 2008 (12th International Conference on Micro Total Analysis Systems)*, Chemical and Biological Microsystems Society: San Diego (2008); pp. 1193-1195.

- N87. *Development of a Microfluidic Platform and Detection System for Platelet Function Analysis*, N.J. Kent, G. Meade, L. Basabe-Desmonts, B. Lincoln, D. Kenny, A.J. Ricco, B.D. MacCraith, B.G. Corcoran, Proceedings of μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), Chemical and Biological Microsystems Society: San Diego (2008); pp. 1048-1050.
- N86. *Rapid Separation and Capture of Platelets from Whole Blood*, L. Basabe-Desmonts, S. Ramstrom, G. Meade, S. O'Neill, A. Riaz, L. Kent, D. Kenny, L.P. Lee, and A.J. Ricco, Proceedings of μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), Chemical and Biological Microsystems Society: San Diego (2008); pp. 817-819.
- N85. *Analysis of Whole Blood Platelet Translocation on A vWF-Coated Microfluidic Flow Chamber*, B. Lincoln, G. Meade, N. Kent, L. Basabe-Desmonts, D. Kenny, A.J. Ricco, and L.P. Lee, Proceedings of μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), Chemical and Biological Microsystems Society: San Diego (2008); pp. 453-455.
- N84. *Studying Space Effects on Microorganisms Autonomously: GeneSat, PharmaSat and the Future of Bio-nanosatellites*. M.P. Parra, A.J. Ricco, B. Yost M.R. McGinniss, and J.W. Hines, *Gravitational and Space Biology*, 21, 9-17 (2008).
- N83. *Lab on A Chip – General Philosophy*, J.L. Garcia-Cordero and A.J. Ricco, "Encyclopedia of Micro- and Nano-Fluidics," D. Li, Ed., Springer: Berlin (2008), 962-969. [10.1007/978-0-387-48998-8_780]
- N82. *Integrated Plastic Microfluidic Devices for Bacterial Detection*, Z.H. Fan and A.J. Ricco in "Integrated Biochips for DNA Analysis," R. H. Liu and A.P. Lee, Eds., Landes Bioscience: Austin (2007); pp. 78-89.
- N81. *Small Satellite Platform for Automated Gene Expression Measurements*, A. Pohorille, A.J. Ricco, A. McShea, D. Danley and K. Schweighofer, *Gravitational and Space Biology*, 21, 2 (2007).
- N80. *SlimeSat (Space Laboratory for Investigations of Microbial Ecophysiology): A Proposal for a New Platform for the Investigation of the Effects of Variable Gravity and Space Radiation on Microbial Ecophysiology*. B.M. Bebout, E.D. Fleming, A.E. Frisbee, L.E. Prufert-Bebout, J.C. Rask, A.J. Ricco, F. Selch, S.P. Worden and B. Yost, *Gravitational and Space Biology*, 21, 38 (2007).
- N79. *Flight Results from the GeneSat-1 Biological Microsatellite Mission*, C. Kitts, K. Ronzano, R. Rasay, I. Mas, P. Williams, P. Mahacek, G. Minelli, J. Hines, E. Agasid, C. Friedericks, M. Piccini, M. Parra, L. Timucin, C. Beasley, M. Henschke, E. Luzzi, N. Mai, M. McIntyre, R. Ricks, D. Squires, C. Storment, J. Tucker, B. Yost, G. Defouw, A. Ricco, *Proc. 21st Annual AIAA/USU Conf. on Small Satellites*, Logan, UT, 2007; SSC07-XI-01.
- N78. *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. Giovannrandi, M. Henschke, C. Kitts, L. Levine, E. Luzzi, D. Ly, I. Mas, M. McIntyre, D. Oswald, R. Rasay, R. Ricks, K. Ronzano, D. Squires, G. Swaiss, J. Tucker, and B. Yost, *Proc. 14th Int'l. Conf. on Solid-State Sensors, Actuators, & Microsystems (Transducers '07/Euroensors XXI)*, IEEE, New York (2007); pp. 33-37. [10.1109/SENSOR.2007.4300065]
- N77. *The GeneSat-1 Microsatellite Mission: A Challenge in Small Satellite Design*, C. Kitts, J. Hines, E. Agasid, A. Ricco, B. Yost, K. Ronzano, J. Puig-Suari, *Proc. 20th Annual AIAA/USU Conference on Small Satellites*, The American Institute of Aeronautics and Astronautics: Reston, VA (2006); SSC06-IV-8.
- N76. *Ice on the Moon? Science Design of the Lunar Crater Observation and Sensing Satellite (LCROSS) Mission*, A. Christensen, H. Eller, J. Reuter, L. Sollitt, G. Briggs, T. Colaprete, J. Heldmann, and A. Ricco, *AIAA Space 2006 Proceedings*, 2006-7421 (2006).
- N75. *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, *Proceedings of the 8th European Conference on Optical Chemical and Biosensors*, Tübingen, Germany, April 2006, pp. 527-529.
- N74. *Plastic Microfluidic Devices for DNA and Protein Analyses*, Z.H. Fan and A.J. Ricco in "Micro/Nano Technology for Genomics and Proteomics," M. Ozkan and M. J. Heller, eds., Springer: New York (2006); pp. 311-327.
- N73. *Biosensing: International Research and Development*, J. Schultz, M. Mrksich, S. N. Bhatia, D.J. Brady, A.J. Ricco, D. R. Walt, C.L. Wilkins, Springer: Dordrecht (2006). [<http://www.wtec.org/biosensing/>]
- N72. *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. Oswald, R. Ricks, K.

Ronzano, D. Squires, C. Storment, G. Swaiss, L. Timucin, U. Udoh, and B. Yost, Proceedings of μ TAS 2005 (Ninth International Conference on Micro Total Analysis Systems), Transducer Research Foundation: Cleveland (2005); pp. 527–529.

N71. *Plastic Microfluidic Devices: Electrokinetic Manipulations, Life Science Applications, and Production Technologies*, G. Binyamin, T.D. Boone, H.S. Lackritz, A.J. Ricco, A.P. Sassi, and S.J. Williams in “Lab-on-a-Chip: Miniaturized Systems for (Bio)Chemical Analysis and Synthesis,” R.E. Oosterbroek and A. van den Berg, eds., Elsevier: Amsterdam (2003); pp. 83-112.

N70. *Integrating Multiplexed PCR with CE for Detecting Microorganisms*, Z.H. Fan, A.J. Ricco, W. Tan, M. Zhao, and C.-G. Koh, *Proceedings of μ TAS 2003 (Seventh International Conference on Micro Total Analysis Systems)*, Transducer Research Foundation: Cleveland (2003); pp. 849-852.

N69. *Application of Disposable Plastic Microfluidic Device Arrays with Customized Chemistries to Multiplexed Biochemical Assays*, A.J. Ricco, T.D. Boone, Z.H. Fan, I. Gibbons, T. Matray, S. Singh, H. Tan, T. Tian, and S.J. Williams, *Biochem. Soc. Transactions*, 30(2), 73–78 (2002).

N68. *Plastic Microfluidic Devices for DNA Sequencing and Protein Separations*, H. Z. Fan, W. Tan, H. Tan, C. X. Qiu, T.D. Boone, P. Kao, A.J. Ricco, M. Desmond, S. Bay, and K. Hennessy, *Micro Total Analysis Systems 2001*, Kluwer: Boston (2001); pp. 19-21.

N67. *Functional and Efficient Electrode-Integrated Microfluidic Plastic Devices*, M. Zhao, A.J. Ricco, U. Nguyen, R.M. Crooks, and Q. Zhu, *Micro Total Analysis Systems 2001*, Kluwer: Boston (2001); pp. 193-194.

N66. *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, *Digest of Technical Papers*, 11th Int'l. Conf. on Solid-State Sensors and Actuators, Springer-Verlag: Berlin (2001); pp. 1146-1149.

N65. *Electrode-Integrated Microfluidic Plastic Devices*, M. Zhao, R.M. Crooks, U. Nguyen, A.J. Ricco, and Q. Zhu, *Proc. Symp. on Chemical and Biological Sensors and Analytical Methods II*, M. Butler, P. Vanysek, and N. Yamazoe, Eds., Vol. 2001-18, The Electrochemical Society: Pennington, NJ (2001); pp. 388-394.

N64. *High-Throughput Drug Discovery and Genetic Analysis on Plastic Microfluidic Devices*, T. Boone, A. Ricco, T. Björnson, S. Singh, V. Xiao, I. Gibbons, A. Wainright, S. Williams, and H. Tan, *Proc. MIPTEC 2000*, Basel, 10/00.

N63. *Distribution and Mixing of Reagents on Multichannel Plastic Chips*, M. Zhao, T.D. Boone, X.C. Qiu, and A.J. Ricco, *Tech. Digest 2000 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (2000); pp. 183-186.

N62. *The Polychromator: A Programmable MEMS Diffraction Grating for Synthetic Spectra*, G. B. Hocker, D. Youngner, E. Deutsch, A. Volpicelli, S. Senturia, M. Butler, M. Sinclair, T. Plowman, A.J. Ricco, *Tech. Digest 2000 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (2000); pp. 89-92.

N61. *Sub-Microliter Assays and DNA Analysis on Plastic Microfluidics*, T.D. Boone, A.J. Ricco, P. Gooding, T. O. Björnson, S. Singh, V. Xiao, I. Gibbons, S.J. Williams, and H. Tan, *Micro Total Analysis Systems 2000*, Kluwer: Amsterdam (2000), pp. 541-544.

N60. *For Electrophoresis, Smaller Is Faster (Miniaturized Devices Speed Separations in Life Sciences)*, A.P. Sassi, A.J. Ricco, and H.H. Hooper, *Today's Chemist at Work*, 9, 44 (2000).

N59. *Shape Selectivity with Liquid Crystal and Side-Chain Liquid Crystalline Polymer SAW Sensor Interfaces*, E.T. Zellers, M. C. Oborny, R.C. Thomas, A. Ricco, G.C. Frye-Mason, G.-Z. Zhang, and C. Pugh, *Proc. 13th European Conf. on Solid-State Transducers (Euroensors XIII)*, pp. 73-74 (1999).

N58. *Chemical Sensors: A Perspective of the Present and Future*, A.J. Ricco, R.M. Crooks and J. Janata, *The Electrochem. Soc. Interface*, 7, 18-24 (1998).

N57. *Detection of Volatile Organics using a Surface Acoustic Wave Array System*, R.W. Cernosek, W.G. Yelton, C. W. Colburn, L. F. Anderson, A.W. Staton, G.C. Osbourn, J.W. Bartholomew, R. F. Martinez, A.J. Ricco, and R.M. Crooks, *Proc. SPIE Int'l Symp. on Environmental and Industrial Monitoring, Chemical Sensors and Applications II* (No. 3857), SPIE: New York (1999), pp. 146-157.

N56. *Optimizing Chemical Sensor Array Sizes*, G.C. Osbourn, R. F. Martinez, J.W. Bartholomew, W.G. Yelton, A.J. Ricco, *Proc. Symp. Chem. Sensors IV 99-23*, The Electrochemical Society: Pennington, NJ (1999); pp. 127-131.

N55. *Mass-Transport-Limited Electrodeposition of High-Surface-Area Coatings for Surface Acoustic Wave Sensor Technology*, W.G. Yelton, A.J. Ricco, and A.W. Staton, *Proc. Symp. Chem. Sensors IV 99-23*, The Electrochemical Society: Pennington, NJ (1999); pp. 301-305.

- N54. *SH SAW Sensor Platform for Chemical Detection in Aqueous Solutions*, R. Zhou, F. Josse, R. Cernosek, A. Ricco, and S. Casalnuovo, *Proc. Symp. Chem. Sensors IV 99-23*, The Electrochemical Society: Pennington, NJ (1999); pp. 326-331.
- N53. *Liquid Sensing with Acoustic Plate Modes on Rotated Quartz Substrates*, F. Bender, R. Dahint, F. Josse, A. Ricco, and S. Martin, *Proc. Symp. Chem. Sensors IV 99-23*, The Electrochemical Society: Pennington, NJ (1999); pp. 361-365.
- N52. *Chemical Sensors*, A.J. Ricco and R.M. Crooks, Guest editorial, Special Issue on Chemical Sensors, *Accts. Chem. Res.*, 31, 200 (1998).
- N51. *Dendrimer-Coated SAW Arrays for Volatile Organic Detection: Array Size and Signal Degradation Effects*, G.C. Osbourn, A.J. Ricco, J.W. Bartholomew, R. F. Martinez, M. E. Garcia, R. Peez, R.M. Crooks, R. Spindler and M. E. Kaiser, *Technical Digest of the 1998 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1998), pp. 174 - 177.
- N50. *Application of the Solubility Parameter Concept to the Design of Chemiresistor Arrays*, R.C. Hughes, M.P. Eastman, W.G. Yelton, A.J. Ricco, S.V. Patel, and M.W. Jenkins, *Technical Digest of the 1998 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1998), pp. 379 - 382.
- N49. *In-Situ Monitoring of Micro-Chemical Vapor Deposition (μ -CVD): Experimental Results and SPICE Modeling*, R. P. Manginell, J. H. Smith, A.J. Ricco, R.C. Hughes, D.J. Moreno, and R. J. Huber, *Technical Digest of the 1998 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1998), pp. 371 - 374.
- N48. *Integrated Chemiresistor and Work Function Microsensor Array with Carbon Black/Polymer Composite Materials*, K. Domansky, V. S. Zapf, A.J. Ricco, W.G. Yelton, J.W. Grate, J. Janata, *Technical Digest of the 1998 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1998), pp. 187 - 190.
- N58. *Electro-Thermal Modeling of A Microbridge Gas Sensor*, R. P. Manginell, J. H. Smith, A.J. Ricco, D.J. Moreno, R.C. Hughes, R. J. Huber, *Proc. 1997 SPIE Symposium on Micromachining and Microfabrication*, 3224, pp. 360-371 (1997).
- N47. *Microfabricated Combustible Gas Detector*, A.J. Ricco, R.C. Hughes, J. H. Smith, and R. P. Manginell, Sandia Report No. 97-2344 (1997).
- N46. *High-Resolution Metallization of Poly(tetrafluoroethylene)*, R.R. Rye, A.J. Ricco, W. Perry, M. J. Hampden-Smith, and T. T. Kodas, in *Metallized Plastics*, K. L. Mittal, ed., Marcel Dekker: New York (1997), Ch. 3, pp. 15 - 26.
- N45. *Remote Sensing (Investigating Mars Surface Chemistry with Optical Microsensors, Invited)*, A.J. Ricco M.A. Butler, and F.J. Grunthaler, *1998 Yearbook of Science and Technology*, McGraw-Hill: New York (1997), pp. 329-32.
- N44. *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, *Proc. Symp. Chem. and Biol. Sensors and Anal. Electrochem. Methods 97-19*, The Electrochemical Society: Pennington, NJ (1997); pp. 202-11.
- N43. *A Performance-Optimized Gas Sensing Array through Instrument Hybridization*, R. Quinn, M. Madou, A.J. Ricco, A. Zent, B. Chen, and R. White, *Proc. Symp. Chem. and Biol. Sensors and Anal. Electrochem. Methods 97-19*, The Electrochemical Society: Pennington, NJ (1997); pp. 126-33.
- N42. *Chemical Sensors Based on Surface-Confined Dendrimers*, R.M. Crooks, H. Tokuhisa, A.J. Ricco, G.C. Osbourn, M. Kaiser, and R. Spindler, *Proc. Symp. Chem. and Biol. Sensors and Anal. Electrochem. Methods 97-19*, The Electrochemical Society: Pennington, NJ (1997); pp. 134-40.
- N41. *Investigation of High-Sensitivity Acoustic Plate Mode Biosensors*, F. Bender, R. Dahint, M. Grunze, F. Josse, A.J. Ricco, and S.J. Martin, *Proc. Symp. Chem. and Biol. Sensors and Anal. Electrochem. Methods 97-19*, The Electrochemical Society: Pennington, NJ (1997); pp. 165-69.
- N40. *Synthetic Infrared Spectra for Correlation Spectroscopy*, M.B. Sinclair, M.A. Butler, A.J. Ricco, S.H. Kravitz, W.J. Zubrzycki, and M. E. Warren, *SPIE SD'97 Proc.* (1997).
- N39. *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, *Digest 1997 Int'l. Conf. on Solid-State Sensors & Actuators*, IEEE: New York (1997); pp. 1339-42.
- N38. *An Overview of Micromachined Platforms for Thermal Sensing and Gas Detection*, R. P. Manginell, J. H. Smith, and A.J. Ricco, *Proc. SPIE 1997 Smart Structures and Materials Conf.*, San Diego.

- N37. *Diffractive Optical Elements for the Production of Synthetic Spectra*, M.B. Sinclair, M.A. Butler, A.J. Ricco, S.H. Kravitz, and W.J. Zubrzycki, *Proc. SPIE*, 3010, pp. 2-10 (1997).
- N36. *Acoustic Wave Sensors: Theory, Design, and Physico-Chemical Applications*, D.S. Ballantine, R.M. White, S.J. Martin, A.J. Ricco, G.C. Frye, E.T. Zellers, and H. Wohltjen, Academic Press: San Diego (1997).
- N35. *Acoustic Wave-Based Chemical Sensors* (Invited), A.J. Ricco, in *The Industrial Electronics Handbook*, J. D. Irwin, ed., CRC Press: Boca Raton, FL (1997), Ch. 117.2, pp. 1519-1525.
- N34. *Sensors*, R.C. Hughes, A.J. Ricco, M.A. Butler, and S.J. Martin, *Kirk-Othmer Encyclopedia of Chemical Technology*, 4th Edn., John Wiley and Sons: New York (1997).
- N33. *Volatile Organic Mixture Detection with Surface Acoustic Wave Sensor Arrays*, A.J. Ricco, G.C. Osbourn, and R.M. Crooks, *Proc. 10th European Conf. on Sol.-State Transducers (Euroensors X)*, Leuven, Belgium, pp. 815-818 (1996).
- N32. *Versatile Materials for use as Chemically Sensitive Interfaces in SAW-based Sensor Arrays*, R.M. Crooks, D.E. Bergbreiter, M.L. Bruening, M. Wells, Y. Zhou, A.J. Ricco, and G.C. Osbourn, *Technical Digest of the 1996 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1996), pp. 19 - 22.
- N31. *Selective, Pulsed CVD of Platinum on Microfilament Gas Sensors*, R. P. Manginell, J. H. Smith, A.J. Ricco, D.J. Moreno, R.C. Hughes, R. J. Huber, and S.D. Senturia, *Technical Digest of the 1996 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1996), pp. 23 - 27.
- N30. *Chemical Class specificity using Self-Assembled Monolayers on SAW Devices*, R.C. Thomas, A.J. Ricco, H.C. Yang, D. Dermody, and R.M. Crooks, *Technical Digest of the 1996 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1996), pp. 28 - 31.
- N29. *SAW Chemical Sensors* (Invited), A.J. Ricco, *The Electrochemical Society Interface*, 3, 38 (1994).
- N28. *Micromachined Silicon-Based Analytical Microinstruments for Space Science and Planetary Exploration*, F.J. Grunthaler, R.E. Stalder, S. Boumsellek, T. R. VanZandt, T. W. Kenny, M.H. Hecht, A. Ksendzov, M.L. Homer, R.W. Terhune, A.L. Lane, M.A. Butler, and A.J. Ricco, *Ext. Abstr. 1994 Int'l. Conf. on Sol.-State Devices and Mater.*, Yokohama, Japan (1994); pp. 706 - 708.
- N27. *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, *Proc. Second Int'l. Symp. on Electrochem. Microfab.*, 94-32, The Electrochem. Soc.: Pennington, NJ (1994); Ch. 29, pp. 333 - 338.
- N26. *Review of Physics, Chemistry, and Technology of Solid-State Gas Sensor Devices* (A. Mandelis and C. Christofides, John Wiley & Sons: New York, 1993), A.J. Ricco, *J. Am. Chem. Soc.*, 116 (1994).
- N25. *SAW Chemical Sensor Arrays using New Thin-Film Materials*, A.J. Ricco, C. Xu, R.E. Allred, R.M. Crooks, and S.J. Martin, *Tech. Digest 5th Int'l. Mtg. on Chemical Sensors*, Rome, Italy, July 1994, pp. 13 - 16.
- N24. *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, *Technical Digest of the 1994 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1994), pp. 180 - 183.
- N23. *Clustering-Based Pattern Recognition Applied to Chemical Recognition Using SAW Array Signals*, G.C. Osbourn, J.W. Bartholomew, G.C. Frye, and A.J. Ricco, *Technical Digest of the 1994 Solid-State Sensor and Actuator Workshop*, Transducer Research Foundation: Cleveland (1994), pp. 193 - 196.
- N22. *Quartz Crystal Devices (Acoustic Wave-Based Sensors)*, (Invited), A.J. Ricco and S.J. Martin, *1995 Yearbook of Science and Technology*, McGraw-Hill: New York (1994), pp. 349-52.
- N21. *Fiber Optic Chemical Sensors on Mars*, M.A. Butler, A.J. Ricco, F. Grunthaler, and A.L. Lane, *Proc. Space '94 and Robotics Conf.*, Albuquerque (1994).
- N20. *Surface Acoustic Wave Sensing of VOCs in Harsh Chemical Environments*, K. B. Pfeiffer, S.J. Martin, and A.J. Ricco, *Sandia Report No. 93-0070* (1993).
- N19. *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, *Appl. Biochem. Biotechnol.*, 41, 77 (1993).
- N18. *Self-Assembling Monolayers on SAW Devices for Selective Chemical Detection*, A.J. Ricco, L.J. Kepley, R.C. Thomas, L. Sun, and R.M. Crooks, *Technical Digest of the 1992 Solid-State Sensor and Actuator Workshop*, IEEE: New York (1992), pp. 114 - 117.

- N17. *Multiple-Frequency SAW Devices for Chemical Sensing & Materials Characterization*, A.J. Ricco and S.J. Martin, *Digest of the 6th Int'l. Conf. on Solid-State Sensors & Actuators*, San Francisco, IEEE: New York (1991), pp. 385 - 388.
- N16. *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, *Digest of the 6th Int'l Conf. on Solid-State Sensors and Actuators*, San Francisco, CA, IEEE: New York (1991), pp. 785 — 788.
- N15. *Review of "Chemical Sensing with Solid-State Devices"*, A.J. Ricco, *MRS Bulletin*, 15, 74 - 75 (1990).
- N14. *Multiple-Frequency Surface Acoustic Wave Devices as Sensors*, A.J. Ricco and S.J. Martin, *Tech. Digest 1990 Sol.-State Sensor & Actuator Workshop*, IEEE: New York (1990), pp. 5 - 8.
- N13. *Utilization of Polymer Viscoelastic Properties in Acoustic Wave Sensor Applications*, S.J. Martin, A.J. Ricco, and G.C. Frye, *Tech. Digest 1990 Sol.-State Sensor & Actuator Workshop*, IEEE: New York (1990), pp. 98 - 101.
- N12. *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, *Mater. Res. Soc. Symp. Proc.*, 180 (*Better Ceramics Through Chemistry 4*), 583 (1990).
- N11. *Effective Utilization of Acoustic Wave Sensor Responses: Simultaneous Measurement of Velocity and Attenuation*, S.J. Martin and A.J. Ricco, *Proc. 1989 IEEE Ultrasonics Symp.*, 621 (1989).
- N10. *Corrosion Monitoring with Surface Acoustic Wave Devices*, N. R. Sorensen, A.J. Ricco, and S.J. Martin, *Proc. Nat'l. Assn. Corrosion Eng. Meeting* (1989).
- N10. *Chemisorption-Induced Reflectivity Changes in Thin Metal Films*, A.J. Ricco, M.A. Butler, *J. Electrochem. Soc.*, 135, C391 (1988).
- N10. *Corrosion Sensing with Acoustic-Wave Devices*, S.J. Martin, A.J. Ricco, and N.R. Sorensen, *J. Electrochem. Soc.*, 134, C109 (1987).
- N9. *Sensing in Liquids with SH-Plate-Mode Devices*, S.J. Martin, A.J. Ricco, G.C. Frye, T.M. Niemczyk, I. Adhichetty, *Proc. 1988 IEEE Ultrasonics Symp.*, 607 (1988).
- N8. *Acoustic Plate-Mode Devices as Liquid-Phase Sensors*, A.J. Ricco, S.J. Martin, T.M. Niemczyk, and G.C. Frye, *Tech. Digest 1988 Sol.-State Sensor & Actuator Workshop*, IEEE: New York (1988), pp. 23 - 26.
- N7. *Characterization of the Surface Area and Porosity of Sol-gel Films using SAW Devices*, G.C. Frye, A.J. Ricco, and S.J. Martin, *Mater. Res. Soc. Symp. Proc.*, 121 (*Better Ceramics Through Chemistry 3*), 349 (1988).
- N6. *Acoustic Wave Electroless Deposition Monitor*, A.J. Ricco and S.J. Martin, *Proc. Symp. Electroless Deposn. Met. Alloys, 88-12*, The Electrochemical Society: Pennington, NJ (1988); pp. 142 - 153.
- N6. *Acoustic-Wave Devices for the Study of Electrode Reactions*, A.J. Ricco and S.J. Martin, *J. Electrochem. Soc.*, 134, C131 (1987).
- N5. *Sensing in Liquids using Acoustic Plate-Mode Devices*, S.J. Martin and A.J. Ricco, *1987 Intl. Electron Dev. Mtg., Tech. Digest*, IEEE: New York (1987), pp. 290 - 293.
- N4. *Measuring Thin-Film Properties using SAW Devices: Diffusivity and Surface Area*, S.J. Martin, G.C. Frye, A.J. Ricco, and T.E. Zipperian, *Proc. 1987 IEEE Ultrasonics Symp.*, 563 (1987).
- N3. *Speed of Response of Catalytic Gate MIS-Gas Sensors on Silicon*, R.C. Hughes, A.J. Ricco, and R.R. Rye, *Proc. Symp. Chem. Sensors*, 87-9, The Electrochemical Society: Pennington, NJ (1987); pp. 71 - 80.
- N2. *Acoustic Wave Devices for Sensing in Liquids*, S.J. Martin, A.J. Ricco and R.C. Hughes, *Proc. 4th Intl. Conf. Sol.-St. Sensors & Actuators*, IEE of Japan: Tokyo (1987), pp. 478 - 481.
- N1. *Gas Sensing with Surface Acoustic Wave Devices*, S.J. Martin, K. S. Schweizer, A.J. Ricco and T.E. Zipperian, *Proc. 3rd Int'l Conf on Solid-State Sensors and Actuators*, IEEE: New York (1985), pp. 71 – 73.

Patents

21. *Microfluidic Device for Assessing Object/Test Material Interactions*, N. Kent, B. Lincoln, L. Basabe-Desmonts, A. Ricco, D. Kenny, G. Meade, and B. Corcoran, US Pat. No. 9,378,557, issued 2016/06/28.
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.
17. *Multilayer Microfluidic Device for Use in Point of Care Diagnostic Device, has Film having High Absorption Region which Melts When Exposed to Incident Radiation so as to Provide Fluid Communication Path between Channels*, J.L.G. Cordero, J. Ducree, L. Lee, F.B. Lopez, and A.J. Ricco, UK Patent No. GB2467298-A, issued 201/07/28.
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.
15. *Single Particle Electrochemical Sensors and Methods of Utilization*, J. Schoeniger, A.W. Flounders, R.C. Hughes, A.J. Ricco, K. Wally, S.H. Kravitz, and R. P. Janek. US Pat. No. 7,022,287, issued 2006/04/04.
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. Oswell, 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. Oswell, 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. Oswell, 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. Oswell, 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. Oswell, 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.
- P18. *Portable Acoustic Wave Sensor (PAWS) Systems for Real-Time Monitoring*, G.C. Frye, A.J. Ricco, R.W. Cernosek, D. W. Gilbert, and S.J. Martin, Chemical Weapons Verification Technology Research & Development Workshop, Washington, DC, 3/2-3/93.
- P17. *Selective Organophosphonate Detection using Self-Assembled Monolayers on SAW Devices*, A.J. Ricco, R.C. Hughes, L.J. Kepley and R.M. Crooks, Chemical Weapons Verification Technology Research & Development Workshop, Washington, DC, 3/2-3/93.
- P16. *Selective Organophosphonate Detection using Self-Assembled Monolayers on SAW Devices*, A.J. Ricco, L.J. Kepley and R.M. Crooks, 182nd Electrochemical Society Mtg., Toronto, Ontario, Canada, 10/11-16/92.
- P15. *Self-Assembling Monolayers on SAW Devices for Selective Chemical Detection*, A.J. Ricco, L.J. Kepley, R.C. Thomas, L. Sun, and R.M. Crooks, 1992 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/21-25/92.
- P14. *Patterned Electroless Deposition of Copper on Poly(tetrafluoroethylene)*, A.J. Ricco, R.R. Rye, and G.W. Arnold, 28th Annual Symposium, American Vacuum Society/New Mexico Chapter, Albuquerque, NM, 5/11-15/92.
- P13. *Real-Time SAW Measurements of the Self Assembly and Chemical Reaction of Monolayer Films*, A.J. Ricco, R.C. Thomas, L. Sun, and R.M. Crooks, Int'l. Conf. on Metallurgical Coatings & Thin Films, San Diego, CA, 4/6-10/92.
- P12. *Monitoring Corrosion in the Liquid and Gas Phases with Acoustic Wave Devices*, A.J. Ricco, S.J. Martin, and N. R. Sorensen, 180th Electrochemical Society Mtg., Phoenix, AZ, 10/13-18/91.
- P11. *Multiple-Frequency SAW Devices for Chemical Sensing & Materials Characterization*, A.J. Ricco and S.J. Martin, 6th Int'l. Conf. on Sensors & Actuators, San Francisco, CA, 6/23-27/91.
- P10. *Multiple-Frequency Surface Acoustic Wave Devices as Sensors*, A.J. Ricco and S.J. Martin, 1990 Solid-State Sensor & Actuator Workshop, Hilton Head, SC, 6/4-7/90.
- P9. *Chemical Sensors & Thin Metal Film Characterization using Acoustoelectric Effects*, A.J. Ricco and S.J. Martin, Materials Research Society Spring Mtg., San Francisco, CA, 4/16-21/90.
- P8. *Acoustic Plate-Mode Devices as Liquid Phase Sensors*, A.J. Ricco, S.J. Martin, T.M. Niemczyk, and G.C. Frye, Solid-State Sensors Workshop, Hilton Head, SC, 6/6-9/88.
- P7. *Acoustic Wave Electroless Deposition Monitor*, A.J. Ricco and S.J. Martin, 172nd Electrochemical Society Mtg., Honolulu, HI, 10/18-23/87.
- P6. *Acoustic Wave Corrosion Monitor*, A.J. Ricco and S.J. Martin, 14th DOE Surface Studies Conf., Albuquerque, NM, 6/2-4/87.
- 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.
- P4. *Acoustic Wave Viscosity Sensor*, A.J. Ricco and S.J. Martin, American Physical Soc. Mtg., New York, NY, 3/16-20/87.
- P3. *Monitoring Electrochemical Processes with Acoustic Wave Devices*, A.J. Ricco and S.J. Martin, 1987 Gordon Conf. in Electrochemistry, Santa Barbara, CA, 1/19-23/87.
- P2. *Surface Acoustic Wave Gas Sensor Based on Film Conductivity Changes*, A.J. Ricco, S.J. Martin, T.E. Zipperian, 1986 Solid-State Sensors Workshop, Hilton Head, SC, 6/2-5/86.
- P1. *AES and XPS Study of the CdTe Surface: Correlation of Photoelectrochemical and Capacitance-Potential Behavior with Surface Chemical Composition as a Function of Etch*, A.J. Ricco, H.S. White, and M.S. Wrighton, American Vacuum Society 30th National Symposium, Boston, 11/1-4/83.

Co-authored Presentations

C213. *NASA's BioSentinel Mission: an Autonomous Platform for Life Science Studies on ISS and Beyond*, S Santa Maria, L Liddell, S Tieze, A Ricco, R Hanel, and S Bhattacharya, 34th Annual Meeting of the American Society for Gravitational and Space Research, 10/31–11/3/18, Alexandria, VA; abstract no. 79.

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.

C209. *The Search for Life on Icy Worlds: Luminescence Imager for Exploration*, R Quinn, A Ricco, N Bramall, K Bywaters, M Chin, J Harrison, E Kelly, M Parenteau, L Timucin, and J Wang, 42nd COSPAR Scientific Assembly, Pasadena, 7/14-22/18; Paper no. F3.6-0004-18.

C208. *Contamination Management of Sample Collection Devices for Life Detection on Icy World Plume Fly-Through Missions*, D Willson, R Bonaccorsi, RE Gold, E Adams, A Ricco, CP McKay, 42nd COSPAR Scientific Assembly, Pasadena, 7/14-22/18; Paper no. B5.3-0064-18.

C207. *EFun: The Plume Sampling System for Enceladus*, E Adams, RE Gold, D Willson, E Hoffer, J Greenberg, A Ricco, T Boone, J Ma, R Bonaccorsi, and C McKay, 42nd COSPAR Scientific Assembly, Pasadena, 7/14-22/18; paper no. B5.3-0063-18.

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.

C205. *In-Vitro Measurement and Modelling of Shear-Induced Platelet Margination and Adhesion in Channel Flows*, QM Qi, I Oglesby, J Cowman, AJ Ricco, D Kenny, and ES Shaqfeh, 70th Ann Mtg Amer Phys Soc Divn Fluid Dynam, Denver, CO, 11/19-21/17; paper no. 62.

C204. *Determining Habitability of Icy World Oceans via Analysis of Plume Particles*, E.A. Oberlin, S.P. Kounaves, A.C. Noell, R.C. Quinn, A.J. Ricco, and R.E. Gold, Astrobiology Science Conference (AbSciCon) 2017, Mesa, AZ, 4/24-28/17.

C2003. *Microfluidic Approaches to Searching for Extant Life*, R.C. Quinn, A.J. Ricco, T.D. Boone, N. Bramall, K. Bywaters, T.N. Chinn, A. Davila, D.M. Gentry, J. Forgione, M.F. Horne, J.E. Koehne, A.K.-S. Lee, G.C. McCutcheon, C.P. McKay, M.R. Padgen, M.N. Parenteau, M.X. Tan, L. Timucin, Astrobiology Science Conference (AbSciCon) 2017, Mesa, AZ, 4/24-28/17.

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.

C199. *BioSentinel: Developing a Space Radiation Biosensor*, S.R. Santa Maria, D.B. Marina, M. Parra, T. Boone, M. Tan, A. Rademacher, B. Klamm, C. Friedericks, B. Lewis, A.J. Ricco, R. Hanel, G. Nelson, and S. Bhattacharya, 31st Annual Meeting of the American Society for Gravitational and Space Research, Alexandria, 11/10-15/15.

- C198. *Biological Validation of the Gene Expression Measurement Module (GEMM) for Microbial Gene Expression in Space*. F. Karouia, K. Peyvan, A. Ricco, and A. Pohorille, 30th Annual Meeting of the American Society for Gravitational and Space Research, Pasadena, 10/22-25/14.
- C197. *EcAMSat Fluidic System: Lessons Learned for Reduced Gravity Biological Research*, T.N. Chinn, T.D. Boone, M.M. Chin, A.J. Cohen, C.R. Friedericks, M.B. Henschke, E.M. Jackson, M.P. Lera, A.C. Matin, C.K. Middour, M.P. Parra, A.J. Ricco, and S.M. Spremo, 30th Annual Meeting of the American Society for Gravitational and Space Research, Pasadena, 10/22-25/14.
- C196. *BioSentinel: Developing a Space Radiation Biosensor*, S.R. Santa Maria, D. Marina, M. Parra, T. Boone, M. Tan, B. Lewis, A.J. Ricco, T. Straume, T. Lusby, T. Harkness, R. Hanel, D. Reiss-Bubenheim, R. Brent, and S. Bhattacharya, 30th Annual Meeting of the American Society for Gravitational and Space Research, Pasadena, 10/22-25/14.
- 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.
- C194. *Organics Exposure in Orbit (OREOcube): A Next-Generation Space Exposure Platform*, A. Elsaesser, R. Quinn, P. Ehrenfreund, A. Mattioda, A. Ricco, F. Salama, and O. Santos, 40th COSPAR Scientific Assembly Moscow, 8/2–10/14.
- C193. *OREOcube: ORganics Exposure in Orbit*, R. Quinn, A. Elsaesser, P. Ehrenfreund, A. Ricco, A. Breitenbach, J. Chan, A. Fresneau, J. Alonzo, A. Mattioda, F. Salama, O. Santos, Ella Sciamma-O'Brien, H. Cottin, E. Dartois, L. d'Hendecourt, R. Demets, B. Foing, Z. Martins, M. Sephton, M. Spaans, 44th Lunar and Planetary Science Conference, The Woodlands, TX, 3/7–11/13.
- C192. *Preliminary studies for the Organics Exposure in Orbit (OREOcube) Experiment on the International Space Station*, J. Alonzo, A. Fresneau, A. Elsaesser, J. Chan, A. Breitenbach, P. Ehrenfreund, A. Ricco, F. Salama, A. Mattioda, O. Santos, H. Cottin, E. Dartois, L. d'Hendecourt, R. Demets, B. Foing, Z. Martins, M. Sephton, M. Spaans, and R. C. Quinn, 221st American Astronomical Society Meeting, Long Beach, 1/6-10/13.
- 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.
- C187. *Micro-satellite Space Biology Research using Lab-on-a-Chip Approaches for Cell Electrophysiology*. W.W.A. Wan Salim, J. Park, M. A. Zeitchek, G. J. Telesnicki, A. C. Hermann, A. J. Ricco, A. Martinez, C. T. Weber, A. Schooley, B. Ricks, A. Rademacher, J. Benton, O. Diaz, P. Ford, G. Defouw, A. Sweet, L. Brownston, M. Cote, C. Kitts, and D.M. Porterfield, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.
- 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.
- C185. *The WetLab-2 Project: New Tools for On-orbit Analysis*, M. Parra, E. Almeida, E. Blaber, T. Boone, J. Cohen, R. Dahnlgren, J. Jung, M. Lera, T. Luzod, A. Ricco, M. Smithwick, K. Souza, O. Talavera, D. Wu, C. S. Richey, 28th Annual Meeting of the American Society for Gravitational and Space Research, New Orleans, 11/28-12/2/12.

C184. *Reactivity Analyzer for Soil, Ices, and Regolith (RASIR)*, R. C. Quinn, A. J. Ricco, P. Ehrenfreund, F. Grunthaner, O. Santos, A. Zent, J. W. Hines, E. Agasid, International Workshop on Instrumentation for Planetary Missions, Greenbelt, MD, 10/10-12/12.

C183. *Radiation Dosimetry from a Nanosat Lander System for Mars*, O. Santos, E. Benton, L. Pinsky, A. Ricco, J. Hines, E. Agasid, D. Blake, C. McKay, P. Ehrenfreund, *Concepts and Approaches for Mars Exploration* (LPI Contribution No. 1679, id.4165), Houston, 6/12-14/12.

C1782. *Methane as an Indicator of Life on Mars: Necessary Measurements and Some Possible Measurement Strategies*, B.M. Bebout, N.E. Bramall, C.A. Kelley, J.P. Chanton, A. Tazaz, J. Poole, B. Nicholson, A. Detweiler, M. Gupta, A.J. Ricco, *Concepts and Approaches for Mars Exploration* (LPI Contribution No. 1679, id. 4205), Houston, 6/12-14/12.

C181. *Microelectromechanical System (MEMS) Approaches to Chemical Sensing for Mars Exploration*, R.C. Quinn, F.J. Grunthaner, R.E. Mielke, W.W. Chun, M.C. Lee, V.W. White, P. Ehrenfreund, A.J. Ricco, A.P. Zent, *Concepts and Approaches for Mars Exploration* (LPI Contribution No. 1679, id. 4249), Houston, 6/12-14/12.

C180. *Reactivity Analyzer for Soil, Ices, and Regolith (RASIR)*, R.C. Quinn, A.J. Ricco, P. Ehrenfreund, F. Grunthaner, O. Santos, A. Zent, J. Hines, E. Agasid, *Concepts and Approaches for Mars Exploration* (LPI Contribution No. 1679, id. 4177), Houston, 6/12-14/12.

C179. *Carbon-Hydrogen-Oxygen (CHO) Biochip: Micro-Electro-Chemical-Sensor (MECS) Technology for Spaceflight Research on Photosynthetic Microalgae*, W.W.A.W. Salim, A.C. Hermann, A.J. Ricco, M. Tan, F. Selch, G. Minelli, and M. Porterfield, Biosensors 2012, Cancun, 5/15-18/12.

C178. *SEVO (Space Environment Viability of Organics) Preliminary Results*, A. Cook, P. Ehrenfreund, A.L. Mattioda, R.C. Quinn, A.J. Ricco, N. Bramall, J.D. Chittenden, K. Bryson, and G. Minelli, Astrobiology Science Conference (AbSciCon) 2012, Atlanta, 4/16-20/12.

C177. *The O/OREOS Astrobiology Nanosatellite Mission: Complete Science Data from the Space Environment Survivability of Living Organisms (SESLO) Payload*, W. L. Nicholson, A.J. Ricco, and P. Ehrenfreund, Astrobiology Science Conference (AbSciCon) 2012, Atlanta, 4/16-20/12.

C176. *The ORGANIC Experiment on EXPOSE-R on the ISS*, K. Bryson, Z. Peeters, F. Salama, B. Foing, P. Ehrenfreund, A.J. Ricco, E. Jessberger, A. Bischoff, M. Breitfellner, W. Schmidt, and F. Robert, Astrobiology Science Conference (AbSciCon) 2012, Atlanta, 4/16-20/12.

C175. *OREOcube: ORganics Exposure in Orbit*, A. Elsaesser, R.C. Quinn, A. Mattioda, A.J. Ricco, F. Salama, O. Santos, P. Ehrenfreund, H. Cottin, E. Dartois, R. Demets, L. d'Hendecourt, B. Foing, A. Kros, Z. Martins, M. Sephton, and M. Spaans, Astrobiology Science Conference (AbSciCon) 2012, Atlanta, 4/16-20/12.

C174. *O/OREOS: A Successful Mission of NASA's Astrobiology Small Payload Program*, P. Ehrenfreund, A.J. Ricco, R. Quinn, N. Bramall, K. Bryson, J. Chittenden, A. Cook, R. Mancinelli, A. Mattioda, G. Minelli, W. Nicholson, O. Santos, D. Squires, C. Friedericks, C. Kitts, R. Rasay, and the O/OREOS-Sat Engineering Team at NASA Ames, 62nd International Astronautical Congress, Capetown, 10/3-7/11.

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.

C172. *Automated, Miniaturized Instrument for Space Biology Applications and the Monitoring of the Astronaut's Health onboard the ISS*, F. Karouia, K. Peyvan, D. Danley, A.J. Ricco, O. Santos, and A. Pohorille, 62nd International Astronautical Congress, Capetown, 10/3-7/11.

C171. *Integrated Fluidic System for Growth and Fluorescence Imaging of Multicellular Organisms in Nanosatellite Applications*, M. X. Tan, M. Piccini, and A.J. Ricco, μ TAS 2011 (15th International Conference on Miniaturized Systems for Chemistry and Life Sciences), Seattle, 10/2-6/11.

C170. *Initial On-Orbit Engineering Results from the O/OREOS Nanosatellite*, C. Kitts, R. Rasay, L. Bica, I. Mas, M. Neumann, A. Young, G. Minelli, A. Ricco, E. Stackpole, E. Agasid, C. Beasley, C. Friedericks, D. Squires, P. Ehrenfreund, W. Nicholson, R. Mancinelli, O. Santos, R. Quinn, N. Bramall, A. Mattioda, A. Cook, J. Chittenden, K. Bryson, M. Piccini, M. Parra, 25th Annual AIAA/USU Conference on Small Satellites, Logan, UT, 8/8-11/11.

C169. *The SEVO Experiment Onboard NASA's O/OREOS Small Satellite*, A. Cook, A. Mattioda, N. Bramall, K. Bryson, J. Chittenden, P. Ehrenfreund, G. Minelli, R. Quinn, A. J. Ricco, The Molecular Universe (IAU Symposium 280), Toledo, Spain, 5/30-6/3/11.

- 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.
- C165. *The O/OREOs mission: Astrobiology data collected in low Earth orbit*, 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, 42nd Lunar and Planetary Science Conference, The Woodlands, TX, 3/7-11/11.
- 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.
- C161. *Signal Improvement by Dielectric Focusing in Microfluidic Impedance Cytometers*, M. Evander, B. Dura, A.J. Ricco, G.T.A. Kovacs, and L. Giovangrandi, μ TAS 2010 (14th International Conference on Miniaturized Systems for Chemistry and Life Sciences), Groningen, 10/3-7/10.
- 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.
- C159. *The O/OREOS Nanosatellite: A Multi-Payload Technology Demonstration*, G. Minelli, A.J. Ricco, C. Beasley, J. Hines, E. Agasid, B. Yost, D. Squires, C. Friedericks, M. Piccini, G. Defouw, M. McIntyre, R. Ricks, M. Parra, M. Diaz- Aguado, L. Timucin, M. Henschke, M. Lera, M. Tan, M. Cohen, K. Ronzano, E. Luzzi, N. Mai, A. Schooley, D. Ly, E. Stackpole, J. Lin, J. Tucker, P. Ehrenfreund, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, N. Bramall, K. Bryson, J. Chittenden, C. Taylor, A. Cook, D. Landis, C. Kitts, M. Rasay, I. Mas, M. Neumann, A. Mahacek, A. Young, L. Bica, 24th Annual AIAA/USU Conference on Small Satellites, Logan, UT, 8/9-12/10.
- C158. *O/OREOS Sat: Organism/Organics Exposure to Orbital Stresses*, R. Quinn, P. Ehrenfreund, A. Mattioda, N. Bramall, K. Bryson, J. Chittenden, A. Ricco, D. Squires, O. Santos, G. Minelli, G. Defouw, C. Friedericks, D. Landis, 38th COSPAR Scientific Assembly, Bremen, 7/18-25/10.
- C157. *Automated, Miniaturized Instrument for Measuring Gene Expression in Space*, A. Pohorille, D. Danley, K. Payvan, A. Ricco, 38th COSPAR Scientific Assembly, Bremen, 7/18-25/10.
- 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.

- C153. *Organism/Organic Exposure to Orbital Stresses Nanosatellite (O/OREOS): Space Environment Viability of Organics (SEVO)*, A. Mattioda, R. Quinn, P. Ehrenfreund, A. Ricco, N. Bramall, K. Bryson, J. Chittenden, C. Conley, 239th American Chemical Society National Meeting, San Francisco, 3/21-25/10.
- C152. *UV and Space Exposure of Aromatic Compounds on the EXPOSE-R Facility onboard the International Space Station*, K.L. Bryson, F. Salama, P. Ehrenfreund, A.J. Ricco, Z. Peeters, B. Foing, E. Jessberger, F. Robert, M. Mumma, 239th American Chemical Society National Meeting, San Francisco, 3/21-25/10.
- 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.
- C150. *Microfluidic System for Whole Blood Diagnostic Analysis of Populational Platelet Behavior*. N.J. Kent, G. Meade, L. Basabe-Desmots, D. Kenny, A.J. Ricco, B. MacCraith, B. Corcoran, Lab Automation, Palm Springs, 1/24-27/10.
- C149. *The PharmaSat Nanosatellite Platform for Life Science Experimentation: Effects of Space Flight on Antifungal Activity Against Saccharomyces Cerevisiae*, M. Parra, D. Ly, A.J. Ricco M.R. McGinnis, and D. Niesel, American Society for Gravitational and Space Biology 25th Annual Meeting, Charlotte, NC, 11/5-9/09.
- C148. *The O/OREOS Sat Mission: New Technologies for Autonomous Small Satellite Payloads*, P. Ehrenfreund, A.J. Ricco, J.W. Hines, D. Squires, B. Yost, C. Beasley, N. Bramall, G. Defouw, C. Friedericks, D. Landis, M. Piccini, B. Ricks, R. Mancinelli, A. Mattioda, W. Nicholson, and R. Quinn, 60th International Astronautical Congress, Daejeon, 10/12-16/09.
- C147. *Nanosatellites as a Platform for Space Life Science Research: Genesat, Pharmasat and the Future of Nanosatellites*, M. Parra, D. Ly, A.J. Ricco, B. Yost, J. Hines, M. McGinnis, D.W. Niesel, 6th International Space Life Sciences Working Group, International Workshop on Space Microbiology, Rohnert Park, CA, 8/24-26/09.
- C146. *Organism/ORganics Exposure to Orbital Stresses (O/OREOS) NanoSatellite*, P. Ehrenfreund, A.J. Ricco, R. Mancinelli, A. Mattioda, W. Nicholson, R. Quinn, O. Santos, J.W. Hines, D. Squires, XXVII General Assembly of the International Astronomical Union, Rio de Janeiro, 8/3-14/09.
- C145. *Thin Film Diffusion Barrier Formation in PDMS Microcavities*, A. Riaz, R.P. Gandhiraman, I.K. Dimov, L. Basabe-Desmots, A.J. Ricco, J. Ducreé, S. Daniels, and L.P. Lee, Proc. 15th Int'l. Conf. on Solid-State Sensors, Actuators, & Microsystems ('09), Denver, 6/21-25/09.
- C144. *Liquid Recirculation in Microfluidic Channels by the Interplay of Capillary and Centrifugal Forces*, J.L. García-Cordero, L. Basabe-Desmots, J. Ducreé, L.P. Lee, A.J. Ricco, Proc. 15th Int'l. Conf. on Solid-State Sensors, Actuators, & Microsystems ('09), Denver, 6/21-25/09.
- C143. *Blood Volume Is Significantly Reduced In A Novel Parallel Plate Flow Chamber*, S. O'Brien, G. Meade, D. Kenny, A. Ricco, N. Kent, ISTH 2009 - XXII Congress of The International Society on Thrombosis and Haemostasis, Boston, 7/11-16/09.
- C142. *Capture And Assay Of Individual Adhering Platelets*, S. Ramstrom, D. Kenny, A. Ricco, J. O'Donnell, A. Lopez-Alonso, L. Basabe-Desmots, ISTH 2009 - XXII Congress of The International Society on Thrombosis and Haemostasis, Boston, 7/11-16/09.
- C141. *A Novel Analysis Of Initial Platelet-Adhesion In Flowing Blood*, G. Meade, S. O'Brien, B. Lincoln, A. Ricco, N. Kent, L. Basabe-Desmots, L. Lee, B. MacCraith, D. Kenny, ISTH 2009 - XXII Congress of The International Society on Thrombosis and Haemostasis, Boston, 7/11-16/09.
- C140. *Nanosatellite for Astrobiology Research Outside Earth's Magnetosphere: NASA's O/OREOS Demonstration Satellite*, W.L. Nicholson, C. Conley, P. Ehrenfreund, R. Mancinelli, A. Mattioda, R. Quinn, A. Ricco, and O. Santos, Heavy Ions in Therapy and Space Symposium 2009, Cologne, 7/6-10/2009; Abstract L-126.
- C139. *UV And Space Exposure Of Aromatic Compounds On The EXPOSE-R Facility Onboard ISS*, K. Bryson, F. Salama, P. Ehrenfreund, A.J. Ricco, Z. Peeters, B. H. Foing, E. Monaghan, D. Wills, M. Breitfellner, E. Jessberger, F. Robert, M. Mumma, 214th American Astronomical Society Meeting, Pasadena, 6/7-11/09.
- C138. *Automated Biological Sample Management and Handling System for the PharmaSat Spaceflight Mission*, M. E. Piccini, C. Beasley, A.J. Ricco, R.W. Leung, and J.W. Hines, Institute of Biological Engineering Annual Conference, Santa Clara, 3/19-22/09.
- C137. *Optical Systems for Autonomous Small-Satellite Biological Payloads*, L. Timucin, R. Ricks, A. Ricco, and J. Hines, Institute of Biological Engineering Annual Conference, Santa Clara, 3/19-22/09.

C136. *Materials Biocompatibility Studies for Autonomous Small-Satellite Biological Payloads*, M. Parra, D. Ly, M. Piccini, R. Leung, C. Beasley, K. Ronzano, A. Ricco, and J. Hines, Institute of Biological Engineering Annual Conference, Santa Clara, 3/19-22/09.

C135. *Monolithic Centrifugal Microfluidic Platform for Bacteria Capture and Concentration, Lysis, Nucleic-Acid Amplification and Real Time Detection*, J.L. Garcia-Cordero, I.K. Dimov, J. O'Grady, J. Ducree, T. Barry, and A.J. Ricco, IEEE MEMS 2009, Sorrento, Italy, 1/25-29/09.

C134. *Low-cost Microfluidic Single-Use Valves and On-Board Reagent Storage Using Laser-Printer Technology*, J.L. Garcia-Cordero, F. Benito-Lopez, D. Diamond, J. Ducree, and A.J. Ricco, IEEE MEMS 2009, Sorrento, Italy, 1/25-29/09.

C133. *Protein Patterned Surfaces for Single Platelet Studies, a Diagnostics Platform*, L. Basabe-Desmonts, S. Ramstrom, G. Meade, S. O'Neill, A. Riaz, L. Kent, J. Ducree, D. Kenny, L.P. Lee, and A.J. Ricco, Int'l. Conf. on Trends in Bioanal. Sciences and Biosensors (ICTBSB), Dublin, 1/26-28/09.

C132. *Microfluidic CD-Based Somatic Cell Counter for the Early Detection of Bovine Mastitis*, J.L. Garcia-Cordero, L. Kent, I.K. Dimov, C. Viguier, L.P. Lee, and A.J. Ricco, μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), San Diego, 10/12-16/08.

C131. *Integrated Microfluidic Systems Biology Platform: Cell Culture, Drug Treatment, Lysis, Separation, and Detection*, A. Riaz, I.K. Dimov, L. Kent, C.R. Poulsen, S. O'Toole, M. Radomski, J. O'Leary, A.J. Ricco, and L.P. Lee, μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), San Diego, 10/12-16/08.

C130. *Development of a Microfluidic Platform and Detection System for Platelet Function Analysis*, N.J. Kent, G. Meade, L. Basabe-Desmonts, B. Lincoln, D. Kenny, A.J. Ricco, B.D. MacCraith, B.G. Corcoran, μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), San Diego, 10/12-16/08.

C129. *Rapid Separation and Capture of Platelets from Whole Blood*, L. Basabe-Desmonts, S. Ramstrom, G. Meade, S. O'Neill, A. Riaz, L. Kent, D. Kenny, L.P. Lee, and A.J. Ricco, μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), San Diego, 10/12-16/08.

C128. *Analysis of Whole Blood Platelet Translocation on A vWF-Coated Microfluidic Flow Chamber*, B. Lincoln, G. Meade, N. Kent, L. Basabe-Desmonts, D. Kenny, A.J. Ricco, and L.P. Lee, μ TAS 2008 (12th International Conference on Micro Total Analysis Systems), San Diego, 10/12-16/08.

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.

C126. *SLIMESat (Space Laboratory for Investigations of Microbial Ecophysiology): A Proposal for a New Platform for the Investigation of the Effects of Variable Gravity and Space Radiation on Microbial Ecophysiology*, E. Fleming, B. Bebout, A. Frisbee, L. Prufert-Bebout, J. Rask, A. Ricco, F. Selch, P. Worden, B. Yost, Astrobiology Science Conference (AbsSciCon) 2008, Santa Clara, CA, 4/14-17/08.

C125. *Small Satellite Platform for Automated Gene Expression Measurements*, A. Pohorille, D. Danley, K. Roth, A. Ricco, Astrobiology Science Conference 2008 (AbsSciCon), Santa Clara, CA, 4/14-17/08.

C124. *Maltose Detection using a Maltose Binding Protein Monolayer and an Inexpensive Platform Based on Supercritical Angle Fluorescence Collection*, L. Basabe-Desmonts, D. Kurzbuch, V. Gubala, A.J. Ricco, L.P. Lee, B. Pitner, B. MacCraith, Europtrode IX, Dublin, 3/30-4/2/08.

C123. *Development of Hybrid Microfluidic Platform and Detection System for Platelet Function Analysis*, N.J. Kent, G. Meade, L. Basabe-Desmonts, B. Lincoln, A.J. Ricco, D. Kenny, B. D. MacCraith, B. Corcoran, Europtrode IX, Dublin, 3/30-4/2/08.

C122. *Studying Space Effects on Microorganisms Autonomously: GeneSat, PharmaSat and the Future of Bio-nanosatellites*. M. Parra, M.R. McGinnis, A.J. Ricco, B. Yost and J.W. Hines, American Society for Gravitational and Space Biology 24th Annual Meeting, Mountain View, CA, 10/25-28/07.

C121. *SlimeSat (Space Laboratory for Investigations of Microbial Ecophysiology): A Proposal for a New Platform for the Investigation of the Effects of Variable Gravity and Space Radiation on Microbial Ecophysiology*. B.M. Bebout, E.D. Fleming, A.E. Frisbee, L.E. Prufert-Bebout, J.C. Rask, A.J. Ricco, F. Selch, S.P. Worden and B. Yost, American Society for Gravitational and Space Biology Annual Meeting, Mountain View, CA, 10/25-28/07.

C120. *Small Satellite Platform for Automated Gene Expression Measurements*, A. Pohorille, A.J. Ricco, A. McShea, D. Danley and K. Schweighofer, American Society for Gravitational and Space Biology Annual Meeting, Mountain View, CA, 10/25-28/07.

- C119. *Small Spacecraft Mission Concepts to Achieve Lunar Science and Exploration Goals*, J. Heldmann, C. Stoker, S. Cox, L., O'Leary, J. Hines, P. Klupar, T. Ricco, L. Fenton, and T. Svitek, 21st Annual AIAA Conference on Small Satellites, Logan, UT, 8/13-16/07.
- C118. *Flight Results from the GeneSat-1 Biological Microsatellite Mission*, C. Kitts, K. Ronzano, R. Rasay, I. Mas, P. Williams, P. Mahacek, G. Minelli, J. Hines, E. Agasid, C. Friedericks, M. Piccini, M. Parra, L. Timucin, C. Beasley, M. Henschke, E. Luzzi, N. Mai, M. McIntyre, R. Ricks, D. Squires, C. Storment, J. Tucker, B. Yost, G. Defouw, A. Ricco, 21st Annual AIAA Conference on Small Satellites, Logan, UT, 8/13-16/07.
- C117. *The Lunar Explorer for Elements and Hazards (LEEAH) Mission: Characterizing Lunar- Heliospheric Interactions for Both Science and Exploration*, S.D. Bale, G.T. Delory, R.P. Lin, J.W. Hines, B. Yost, W.M. Farrell, J. Halekas, T.J. Stubbs, T. Zurbuchen, J.W. Keller, M.R. Collier, A.J. Ricco, J. Bonnell, V. Angelopoulos, and R.R. Vondrak, American Geophysical Union Fall Meeting, San Francisco, 12/11-15/06.
- C116. *Ice on the Moon? Science Design of the Lunar Crater Observation and Sensing Satellite (LCROSS) Mission*, A. Christensen, H. Eller, J. Reuter, L. Sollitt, G. Briggs, T. Colaprete, J. Heldmann, and A. Ricco, AIAA Space 2006, San Jose, 9/19-21/06.
- C115. *The GeneSat-1 Microsatellite Mission: A Challenge in Small Satellite Design*, C. Kitts, J. Hines, E. Agasid, A. Ricco, B. Yost, K. Ronzano, J. Puig-Suari, 20th Annual AIAA Conference on Small Satellites, Logan, UT, 8/14-17/06.
- C114. *The GeneSat-1 Test Demonstration Project: A Unique Use of Smallsats*, B. Yost, J. Hines, E. Agasid, D. Engelbert, A. Ricco, C. Kitts, 19th Annual AIAA Conference on Small Satellites, Logan, UT, 8/8-11/05.
- C113. *Autonomous Biological Genetic Assays as Exploration Trailblazers*, B.D. Yost, J.W. Hines, and A.J. Ricco, NASA Cell Science Conference, Galveston, 2/23-25/05.
- C112. *Robotic Autonomous Genetics Technologies Demonstrations on Nanosatellites*, B. Yost, J. Hines, and A.J. Ricco, Astrobiology Science Conference (AbSciCon), Moffett Field (CA), 3/28-4/1/04.
- C111. *Overview of Biology-Specific Hardware Systems and Spacecraft Concepts for In-Situ Genetics Experiments on Nanosatellites (ISGEN)*, B. Yost, J. Hines, A. Ricco, NASA Cell Science Conference, Palo Alto, 2/26-28/04.
- C110. *Integrating Multiplexed PCR with CE for Detecting Microorganisms*, Z.H. Fan, A.J. Ricco, W. Tan, M. Zhao, and C.-G. Koh, *Micro Total Analysis Systems 2003*, Squaw Valley, 10/5-9/03.
- C109. *Plastic Microfluidic Devices for DNA Sequencing and Protein Separations*, H. Z. Fan, W. Tan, H. Tan, C. X. Qiu, T.D. Boone, P. Kao, A.J. Ricco, M. Desmond, S. Bay, and K. Hennessy, *Fifth International Conference on Miniaturized Chemical and Biochemical Analysis Systems (μTAS 2001)*, Monterey, 10/21-25/01.
- C108. *Functional and Efficient Electrode-Integrated Microfluidic Plastic Devices*, M. Zhao, A.J. Ricco, U. Nguyen, R.M. Crooks, and Q. Zhu, *Fifth International Conference on Miniaturized Chemical and Biochemical Analysis Systems (μTAS 2001)*, Monterey, 10/21-25/01.
- C107. *High-Throughput Drug Discovery and Genetic Analysis on Plastic Microfluidic Devices*, T. Boone, A. Ricco, T. Björnson, S. Singh, V. Xiao, I. Gibbons, A. Wainright, S. Williams, and H. Tan, 3rd International Conference on Microplate Technology, Laboratory Automation and Robotics (MipTec-ICAR), Basel, 10/30-11/2/00.
- C106. *Integrating Cell-Tissue Engineering with Microfluidics: The CellChip™ System for Live Cell-Screening Applications in Drug Discovery, and Toxicology*, R. Kapur, S. Kain, V. Abraham, H.S. Lackritz, A.J. Ricco, T.D. Boone and D.L. Taylor, *Biomed Micro*, 2000.
- C105. *Chips-to-Leads: The CellChip™ System for Compound Screening and Lead Optimization*, S. R. Kain, R. Kapur, D.L. Taylor, A.J. Ricco, H.S. Lackritz, and T.D. Boone, The Society for Biomolecular Screening, 6th Annual Conference and Exhibition, Vancouver, Canada, 9/00.
- C104. *A Chip off the Old Block: The CellChip™ System for Live Cell Applications in Drug Discovery and Development*, S. R. Kain, R. Kapur, D.L. Taylor, A. Ricco, H.S. Lackritz, and T. Boone, *SmallTalk 2000*, San Diego, 7/8-12/00.
- C103. *Distribution and Mixing of Reagents on Multichannel Plastic Chips*, M. Zhao, T.D. Boone, X.C. Qiu, and A.J. Ricco, 2000 Solid-State Sensor and Actuator Workshop, Hilton Head, SC, 6/5-8/00.
- C102. *The Polychromator: A Programmable MEMS Diffraction Grating for Synthetic Spectra*, G. B. Hocker, D. Youngner, E. Deutsch, A. Volpicelli, S. Senturia, M. Butler, M. Sinclair, T. Plowman, A.J. Ricco, 2000 Solid-State Sensor and Actuator Workshop, Hilton Head, SC, 6/5-8/00.

- C101. *Sub-Microliter Assays and DNA Analysis on Plastic Microfluidics*, T.D. Boone, A.J. Ricco, P. Gooding, T. O. Björnson, S. Singh, V. Xiao, I. Gibbons, S.J. Williams, and H. Tan, *Fourth International Conference on Miniaturized Chemical and Biochemical Analysis Systems* (μ TAS 2000), Enschede, 5/14-18/00.
- C100. *Optimizing Chemical Sensor Array Sizes*, G.C. Osbourn, R. F. Martinez, J.W. Bartholomew, W.G. Yelton, A.J. Ricco, 196th Electrochemical Society Mtg., Honolulu, 10/17-22/99.
- C99. *Mass-Transport-Limited Electrodeposition of High-Surface-Area Coatings for Surface Acoustic Wave Sensor Technology*, W.G. Yelton, A.J. Ricco, and A.W. Staton, 196th Electrochemical Society Mtg., Honolulu, 10/17-22/99.
- C98. *SH SAW Sensor Platform for Chemical Detection in Aqueous Solutions*, R. Zhou, F. Josse, R. Cernosek, A. Ricco, and S. Casalnuovo, 196th Electrochemical Society Mtg., Honolulu, 10/17-22/99.
- C97. *Liquid Sensing with Acoustic Plate Modes on Rotated Quartz Substrates*, F. Bender, R. Dahint, F. Josse, A. Ricco, and S. Martin, 196th Electrochemical Society Mtg., Honolulu, 10/17-22/99.
- C96. *Shape Selectivity with Liquid Crystal and Side-Chain Liquid Crystalline Polymer SAW Sensor Interfaces*, E.T. Zellers, M. C. Oborny, R.C. Thomas, A. Ricco, G.C. Frye-Mason, G.-Z. Zhang, and C. Pugh, Eurosenors XIII, The Hague, 9/16-19/99.
- C95. *Detection of Volatile Organics using a Surface Acoustic Wave Array System*, R.W. Cernosek, W.G. Yelton, C. W. Colburn, L. F. Anderson, A.W. Staton, G.C. Osbourn, J.W. Bartholomew, R. F. Martinez, A.J. Ricco, and R.M. Crooks, SPIE Int'l Symp. on Environmental and Industrial Monitoring, Chemical Sensors and Applications II (No. 3857), Boston, MA, 9/19-22/99.
- C94. *Acoustic Wave and In-Situ FTIR Characterization of Molecular Recognition in Gas Sensors*, A. Hierlemann, A.J. Ricco, K. Bodenhöfer, and W. Göpel, 194th Electrochemical Society Mtg., Boston, 11/1 - 6/98.
- C93. *Design of Chemically Sensitive Interfaces Based on Hydrophilic and Hydrophobic Dendrimers*, R.M. Crooks, M. E. Garcia, R. Peez, A.J. Ricco, M. Kaiser, and R. Spindler, 194th Electrochemical Society Mtg., Boston, 11/1 - 6/98.
- C92. *A Forest Without Trees: Development of High-Surface-Area Materials For Enhanced-Sensitivity SAW Arrays*, W.G. Yelton, A.J. Ricco, and A.W. Staton, 194th Electrochemical Society Mtg., Boston, 11/1 - 6/98.
- C91. *The Polychromator: Correlation Spectroscopy for Remote Detection of Chemical Agents*, M.B. Sinclair, M.A. Butler, A.J. Ricco, A. Chu, Infrared Information Symposium Specialty Group Meeting on Materials and Detectors, Boulder, CO 8/10-13/98).
- C90. *Application of the Solubility Parameter Concept to the Design of Chemiresistor Arrays*, R.C. Hughes, M.P. Eastman, W.G. Yelton, A.J. Ricco, S.V. Patel, and M.W. Jenkins, 1998 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/7-11/98.
- C89. *In-Situ Monitoring of Micro-Chemical Vapor Deposition (μ -CVD): Experimental Results and SPICE Modeling*, R. P. Manginell, J. H. Smith, A.J. Ricco, R.C. Hughes, D.J. Moreno, and R. J. Huber, 1998 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/7-11/98.
- C88. *Integrated Chemiresistor and Work Function Microsensor Array with Carbon Black/Polymer Composite Materials*, K. Domansky, V. S. Zapf, A.J. Ricco, W.G. Yelton, J.W. Grate, J. Janata, 1998 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/7-11/98.
- C87. *Electro-Thermal Modeling of A Microbridge Gas Sensor*, R. P. Manginell, J. H. Smith, A.J. Ricco, D.J. Moreno, R.C. Hughes, R. J. Huber, SPIE's 1997 Symposium on Micromachining and Microfabrication, Austin, TX, 9/29-30/97.
- C86. *Interaction of Self-Assembled Monolayers with an Organophosphonate: a Detailed Study using Surface Acoustic Wave-Based Mass Analysis, Polarization-Modulation FTIR Spectroscopy, and Ellipsometry*, R.M. Crooks, H.C. Yang, L.J. McEllistrem, R.C. Thomas, and A.J. Ricco, Faraday Discussion No. 107, University of Leicester, 9/8-10/97.
- C85. *A Performance-Optimized Gas Sensing Array Through Instrument Hybridization*, R. Quinn, M. Madou, A.J. Ricco, A. Zent, B. Chen, and R. White, 192nd Electrochemical Society Mtg., Paris, France, 8/31 - 9/5/97.
- C84. *Investigation of High-Sensitivity Acoustic Plate Mode Biosensors*, F. Bender, R. Dahint, M. Grunze, F. Josse, A.J. Ricco, and S.J. Martin, 192nd Electrochemical Society Mtg., Paris, France, 8/31 - 9/5/97.
- C83. *Chemical Sensors Based on Surface-Confined Dendrimers*, H. Tokuhisa, R.M. Crooks, A.J. Ricco, G.C. Osbourn, M. Kaiser, and R. Spindler, 192nd Electrochemical Society Mtg., Paris, France, 8/31 - 9/5/97.

- C82. *Synthetic Infrared Spectra for Correlation Spectroscopy*, M.B. Sinclair, M.A. Butler, A.J. Ricco, S.H. Kravitz, W.J. Zubrzycki, and M. E. Warren, Mtg. Soc. Photo-Opt. Instr. Engineers, San Diego, 8/1/97.
- C81. *Interfacial Design for Chemical Sensor Arrays*, H. Tokuhisa, R. Peez, D.L. Dermody, R.M. Crooks, T. Kim, A.J. Ricco, and G.C. Osbourn, 1997 American Society of Photobiology Meeting, St. Louis, MO, 7/6-10/97.
- C80. *Synthetic Molecular Spectra and Correlation Spectroscopy*, M.A. Butler, M.B. Sinclair, S.H. Kravitz, A.J. Ricco, and W.J. Zubrzycki, 191st Electrochemical Society Mtg., Montreal, Quebec, Canada, 5/4-9/97.
- C79. *An Overview of Micromachined Platforms for Thermal Sensing and Gas Detection*, R. P. Manginell, J. H. Smith, and A.J. Ricco, Proc. SPIE 1997 Smart Structures and Materials Conf., San Diego, 3/3-6/97.
- C78. *Diffraction Optical Elements for the Production of Synthetic Spectra*, M.B. Sinclair, M.A. Butler, A.J. Ricco, S.H. Kravitz, and W.J. Zubrzycki, SPIE Photonics West, San Jose, 2/10-15/97.
- C77. *Gas Sensing with Acoustic Devices*, S.J. Martin, G.C. Frye, A.J. Ricco, and G.C. Osbourn, IEEE International Ultrasonics Symposium, San Antonio, TX, 11/3/96.
- C76. *Relative Merits of Rubbery and Glassy Polymers as Selective Interfaces on Surface Acoustic Wave (SAW) Chemical Sensors*, A.E. Hoyt and A.J. Ricco, 190th Electrochemical Society Mtg., San Antonio, TX, 10/6-11/96.
- C75. *VERI Pattern Recognition for Analyzing Sensor Array Data*, G.C. Osbourn, J.W. Bartholomew, R. Martinez, A.J. Ricco, G.C. Frye, R.M. Crooks, and R.C. Hughes, Gordon Research Conference on Chemical Sensors and Interfacial Design, New London, NH, 7/28 - 8-1/96.
- C74. *Chemical Class Specificity using Self-Assembled Monolayers on SAW Devices* (Invited), R.C. Thomas, A.J. Ricco, C.R. DiRubio, H.C. Yang, and R.M. Crooks, Gordon Research Conference on Chemical Sensors and Interfacial Design, New London, NH, 7/28 - 8-1/96.
- C73. *The Detection of Mixtures of Hydrogen and Nitrous Oxide (N₂O) with Catalyst-Based Sensors*, R.C. Hughes, D.J. Moreno, J. H. Smith, and A.J. Ricco, 6th Int'l. Mtg. on Chemical Sensors, Gaithersburg, MD, 7/22-25/96.
- C72. *Humidity Detection Using Polymer-coated Surface Acoustic Wave (SAW) Devices*, A.E. Hoyt, A.J. Ricco, and G.C. Osbourn, 6th Int'l. Mtg. on Chemical Sensors, Gaithersburg, MD, 7/22-25/96.
- C71. *Versatile Materials for use as Chemically Sensitive Interfaces in SAW-based Sensor Arrays*, R.M. Crooks, D.E. Bergbreiter, M.L. Bruening, M. Wells, Y. Zhou, A.J. Ricco, and G.C. Osbourn, 1996 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/2-6/96.
- C70. *Selective, Pulsed CVD of Platinum on Microfilament Gas Sensors*, R. P. Manginell, J. H. Smith, A.J. Ricco, D.J. Moreno, R.C. Hughes, R. J. Huber, and S.D. Senturia, 1996 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/2-6/96.
- C69. *Chemical Class specificity using Self-Assembled Monolayers on SAW Devices*, R.C. Thomas, A.J. Ricco, H.C. Yang, D. Dermody, and R.M. Crooks, 1996 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/2-6/96.
- C68. *Diffusion Behavior and Identification of Volatile Organic Compounds (VOCs) Using Polyimide-coated Surface Acoustic Wave (SAW) Devices*, A.E. Hoyt, A.J. Ricco, and G.C. Osbourn, 1996 Annual Technical Conf. Soc. Plastics Engineers (SPE), Indianapolis, 5/5-9/96.
- C67. *Viscoelastic Properties of Self-assembled Diacetylene Films*, N. D. Shinn, A.J. Ricco, S.J. Martin, T. A. Michalske, T. Kim, H. Yang, R.M. Crooks, C.L. Daly and J. Krim, Materials Research Society Spring Mtg., San Francisco, CA, 4/8-12/96.
- C66. *Interactions Between Surface-Confined Acids and a Vapor-Phase Base: Structure/Reactivity Relationships*, M. Wells, D.L. Dermody, H.C. Yang, T. Kim, R.M. Crooks, and A.J. Ricco, 213th American Chemical Society National Mtg., New Orleans, LA, 3/24-28/96.
- C65. *Nanomechanics of Self-Assembled Diacetylene Films*, N. D. Shinn, T. A. Michalske, S.J. Martin, A.J. Ricco, C.L. Daly, J. Krim, T. Kim, H. Yang, R.M. Crooks, 1996 March Meeting, American Physical Soc. Mtg., St. Louis, MO, 3/18/96.
- C64. *Carbon Dioxide Sensors Based on Polyimide-Coated Surface Acoustic Wave (SAW) Devices*, A.E. Hoyt and A.J. Ricco, 1995 Int'l. Chem. Congress of Pacific Basin Societies, Honolulu, HI, 12/17-22/95.
- 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.

- C62. *Viscoelastic Properties of Molecular Films Measured by Acoustic Wave Damping*, N. D. Shinn, T. W. Schneider, A.J. Ricco, S.J. Martin, T. A. Michalske, J.A. Mann, T. Kim, H. Yang, and R.M. Crooks, 43rd National Symposium of the American Vacuum Society, Fall 1995.
- C61. *Selective Molecular Adsorption at the Self-Assembled Monolayer/Vapor Phase Interface*, R.M. Crooks, H.C. Yang, D.L. Dermody, M. Wells, and A.J. Ricco, 211th American Chemical Society National Mtg., Anaheim, CA, 4/2-7/95.
- C60. *Chemical Sensing SAW Arrays Modified by Self-Assembling Monolayer Films*, R.C. Thomas, A.J. Ricco, G.C. Osbourn, J.W. Bartholomew, H.C. Yang, and R.M. Crooks, 211th American Chemical Society National Mtg., Anaheim, CA, 4/2-7/95.
- C59. *Differentiation of Linear and Branched Hydrocarbons by a Fluorinated Polyimide Film*, A.E. Hoyt, A.J. Ricco, H.C. Yang, and R.M. Crooks, 211th American Chemical Society National Mtg., Anaheim, CA, 4/2-7/95.
- C58. *Distinguishing Binary Mixtures of VOCs by Pattern Recognition of SAW Array Responses* (Invited), G.C. Osbourn, J.W. Bartholomew, R. F. Martinez, and A.J. Ricco, 211th American Chemical Society National Mtg., Anaheim, CA, 4/2-7/95.
- C57. *Viscoelastic Properties of Molecular Films Measured by Acoustic Wave Damping*, N. D. Shinn, T. W. Schneider, A.J. Ricco, S.J. Martin, T. A. Michalske, J.A. Mann, T. Kim, H. Yang, and R.M. Crooks, American Physical Soc. Mtg., San Jose, CA, 3/20-24/95.
- 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.
- C55. *Determination of the Diffusion Constant in Thin Polymer Films Using Surface Acoustic Wave (SAW) Devices*, A.E. Hoyt and A.J. Ricco, Polymer Surfaces and Interfaces Interdisciplinary Workshop, Cape Cod Bay, MA, 10/2-5/94.
- C54. *Chemical Classification of Microsensor Array Responses by an Empirical Clustering Technique*, G.C. Osbourn, J.W. Bartholomew, G.C. Frye, and A.J. Ricco, International Chemometrics Internet Conference, Internet Computer Network, 9/26/94.
- C53. *Micromachined Silicon-Based Analytical Microinstruments for Space Science and Planetary Exploration*, F.J. Grunthner, R.E. Stalder, S. Boumsellek, T. R. VanZandt, T. W. Kenny, M.H. Hecht, A. Ksendzov, M.L. Homer, R.W. Terhune, A.L. Lane, M.A. Butler, and A.J. Ricco, 1994 Int'l. Conf. on Sol.-State Devices and Mater., 8/23-26/94, Yokohama, Japan.
- C52. *Clustering-Based Pattern Recognition Applied to Chemical Recognition Using SAW Array Signals*, G.C. Osbourn, J.W. Bartholomew, G.C. Frye, and A.J. Ricco, 1994 Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, 6/13-16/94.
- C51. *Hybrid Microwave Device Processing Directly on Poly(tetrafluoroethylene)*, A.J. Howard, R.R. Rye, A.J. Ricco, D.J. Rieger, M.L. Lovejoy, L.R. Sloan, and M.A. Mitchell, 30th Ann. Sympos. of the NM Chapter, Amer. Vac. Soc., Albuquerque, NM, 4/19-21/94.
- C50. *Fiber Optic Chemical Sensors on Mars*, M.A. Butler, A.J. Ricco, F. Grunthner, and A.L. Lane, Space '94 and Robotics Conf., Albuquerque, NM, 2/26 - 3/3/94.
- 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. Kopley, 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.
- C23. *Materials Characterization using Surface Acoustic Wave Devices*, G.C. Frye, A.J. Ricco, and S.J. Martin, 200th American Chemical Society National Mtg., Miami Beach, FL, 9/10-15/89.

- C22. *Acoustic Wave Sensors for the Characterization of Thin Film Properties*, S.J. Martin and A.J. Ricco, 5th Intl. Conf. on Solid-State Sensors and Actuators, Montreux, Switzerland, 6/25-30/89.
- C21. *Liquid-Solid Phase Transition Detection with Acoustic Plate-Mode Sensors: Application to Icing of Surfaces*, R.C. Hughes, S.J. Martin, G.C. Frye, and A.J. Ricco, 5th Intl. Conf. on Solid-State Sensors and Actuators, Montreux, Switzerland, 6/25-30/89.
- 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.
- C18. *Corrosion Monitoring with Surface Acoustic Wave Devices*, N. R. Sorensen, A.J. Ricco, and S.J. Martin, Natl. Assn. of Corr. Eng. Mtg., New Orleans, LA, 4/17-21/89.
- C17. *Sensing in Liquids with SH Plate-Mode Devices*, S.J. Martin, A.J. Ricco, G.C. Frye, T.M. Niemczyk, I. Adhietty, 1988 IEEE Ultrasonics Symposium, Chicago, IL, 10/2-5/88.
- C16. *Monitoring Thin Film Properties with Surface Acoustic Wave Devices: Diffusion, Surface Area, and Pore-Size Distributions*, G.C. Frye, S.J. Martin, and A.J. Ricco, 198th American Chemical Society National Mtg., Los Angeles, CA, 9/25-30/88.
- C15. *Characterization of Porous Thin Films using SAW Devices*, G.C. Frye, A.J. Ricco, and S.J. Martin, and D. M. Smith, 19th Annual Mtg. of the Fine Particle Soc., Santa Clara, CA, 7/19-22/88.
- C14. *A Novel Technique for Obtaining Nitrogen Adsorption Isotherms on Thin Porous Films*, G.C. Frye, A.J. Ricco, and S.J. Martin, 62nd Colloid Surface Science Symp., Penn. State U., 6/19-22/88.
- C13. *Real-Time Monitoring of Adsorption of Surfactants onto Solids using Acoustic Devices*, G.C. Frye, S.J. Martin, and A.J. Ricco, 62nd Colloid Surface Science Symp., Penn. State U., 6/19-22/88.
- 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.
- C5. *Corrosion Sensing with Acoustic Wave Devices*, S.J. Martin, A.J. Ricco and N. R. Sorensen, 171st Electrochemical Soc. Mtg., Phil. PA, 5/10-15/87.
- C4. *Hydrogen Sensitivity Over 9 Orders of Magnitude with a Palladium MIS Device*, R.R. Rye and A.J. Ricco, 33rd Natl. Symp. of the American Vacuum Soc., Baltimore, MD, 10/26-31/86.
- 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.
- C2. *Isothermal Measurement and Thermal Desorption using SAW Devices*, S.J. Martin, A.J. Ricco and T.E. Zipperian, 1986 Solid-State Sensors Workshop, Hilton Head, SC, 6/2-5/86.
- C1. *Gas Sensing with Surface Acoustic Wave Devices*, S.J. Martin, K. S. Schweizer, A.J. Ricco, and T.E. Zipperian, 3rd Intl. Conf. on Solid-State Sensors and Actuators, Philadelphia, PA, 6/10-14/85.