Stanford



Christopher Chidsey

Associate Professor of Chemistry, Emeritus

CONTACT INFORMATION

- **Administrative Contact**

  Nancy McCarthy

  Email nancylm@stanford.edu

  Tel (650) 736-8120

Bio

BIO

Professor Chidsey's research interests lie in electrochemistry and electrocatalysis, and in building the chemical base for molecular electronics. He has investigated the role of chemical bonding in promoting long-distance electron tunneling across interfaces and contributed to the development of silicon and germanium surface chemistry, including the self-assembly of complex molecular monolayers on silicon. Today his lab develops molecular systems, analytical tools and theoretical approaches to understand electron transfer between electrodes and among redox species, with applications in sustainable battery technology, fuel chemistry, and biochemical analysis.

Born in 1957, Christopher Chidsey studied chemistry at Dartmouth College (A.B. 1978) and physical chemistry at Stanford University (Ph.D. 1983). After postdoctoral work in electrochemistry with Royce Murray at the University of North Carolina, he joined the technical staff at AT&T Bell Laboratories, where he probed long-distance electron transfer across interfaces and contributed to developments in scanning tunneling microscopy, nonlinear optical materials and optical materials processing. He joined the Stanford Department of Chemistry as Associate Professor in 1992, and in 2009 was also appointed Senior Fellow at the Precourt Institute for Energy. He has received the Dreyfus Teacher-Scholar Award and Bing and Hertz Foundation fellowships, and was elected a fellow of the American Association for the Advancement of Science.

The Chidsey Lab at Stanford uses surface chemistry and electrochemistry to control and investigate a number of important interfacial phenomena.

Water Oxidation

The group has shown that a 2 nm film of TiO2, created by atomic layer deposition, protects otherwise unstable semiconductor surfaces to achieve efficient and stable photoelectrolysis of water to produce hydrogen and oxygen fuels. Current work involves tailoring alloyed RuO2/TiO2 catalyst layers to optimize the turnover frequency for oxygen evolution, with the aim of achieving comparable electrocatalytic activity at a fraction of prior noble metal usage.

Electrocatalysis for Fuel Cells and CO2 Reduction

A major effort involves covalent attachment of electrocatalysts to carbon electrodes and other oxidation-resistant conductive substrates for use in ambient-temperature fuel cells and related energy- and chemical-conversion systems. A new covalent chemistry on graphitic carbon surfaces, based on the ‘click’ reaction of azides and alkynes, has been developed. Another effort involves the formation of electroactive self-assembled thiol monolayers on gold surfaces – an area Professor Chidsey pioneered beginning 15 years ago.

Another project employs transfer hydrogenation catalyts as alcohol oxidation electocatalysts for fuel cells. Lab members study the thermodynamics and kinetics of metal hydride formation from a metal precatalyst and an alcohol fuel, and examine the electro-oxidation of the formed metal hydrides. Running this cycle in the microscopic reverse direction leads to a strategy for CO2 reduction. The aim is to extend this knowledge from working examples to catalyst design for such transformations.

Battery Technology

Many of the electrolyte components used in lithium-ion batteries are not electrochemically stable at the low potentials reached by the anode when the battery charges. However, with the right electrolyte mixture, the decomposition products on the first charge create a solid electrolyte interphase that acts as a lithium-ion conductive, but otherwise passivating layer, slowing electrolyte degradation. Chidsey group members study the formation and useful contributions of this layer.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Chemistry
- Senior Fellow, Precourt Institute for Energy

ADMINISTRATIVE APPOINTMENTS

- Associate Professor by Courtesy, Department of Chemical Engineering Stanford University, (2008-2011)
- Associate Professor, Department of Photon Science SLAC, Stanford University, (1997-2010)
- Member of Technical Staff, AT&T Bell Laboratories, (1984-1992)

HONORS AND AWARDS

- Fellow, National Science Foundation (1978-1981)
- Fellow, Fanny and John Hertz Foundation (1982-1983)
- Teacher-Scholar, Camille and Henry Dreyfus (1993)
- Bing Fellow, Stanford University (1995)
- Fellow, AAAS (2007)

PROFESSIONAL EDUCATION

- Postdoctoral Fellow, University of North Carolina , Electrochemistsry (1983)
- Ph.D., Stanford University , Physical Chemistry (1983)
- A.B., Dartmouth College , Chemistry (1978)

LINKS

- The Chidsey Lab: http://chidseylab.stanford.edu
- Chemistry Site: http://chemistry.stanford.edu/faculty/christopher-chidsey

- Precourt Institute for Energy: https://energy.stanford.edu

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The Chidsey group research interest is to build the chemical base for molecular electronics. To accomplish this, we synthesize the molecular and nanoscopic systems, build the analytical tools and develop the theoretical understanding with which to study electron transfer between electrodes and among redox species through insulating molecular bridges. Members of the group have synthesized several series of saturated and conjugated oligomers with which we have studied the fundamental aspects of electron tunneling through well-defined molecular bridges. The oligophenylenevinylene bridge of these molecules promotes rapid tunneling over remarkably long distances compared with other unsaturated and saturated bridges we have studied. For instance, starting in the activated complex, the tunneling rate between a gold electrode and an appended ferrocene through 3.5nm of an oligophenylenevinylene (OPV) bridge is 8 x 109 s-1 whereas the tunneling rate through an alkane bridge of the same length is expected to be slower than 1s-1.

To date our electron-tunneling studies have largely focused on what we casually denote as a "one-electrode" measurement with the molecular bridge connecting one electrode to a redox species which acts as a molecular capacitor to an ionically conducting solution. The other electrodes necessary to measure the tunneling conduction are remotely located in an electrochemical cell. We are currently embarked on a broad based effort to make conduction measurements with two electrodes, one on each end of a single molecule. We are also developing strategies to include one or more additional electrodes so that molecular circuits with electrical power gain can be assembled. This effort is leading us to develop nanostructured wiring schemes and self-assembly methods for the construction of whole circuits of wired molecules. We will be examining nanowires formed from doped silicon and other substances. This emerging effort in nanowiring will be greatly aided by the previous work in the Chidsey lab on the surface chemistry of silicon, particularly the self-assembly of complex molecular monolayers on silicon surfaces.

Publications

PUBLICATIONS

- **Bromomethylation of high-surface area carbons as a versatile synthon: adjusting the electrode-electrolyte interface in lithium-sulfur batteries** *JOURNAL OF MATERIALS CHEMISTRY A*
  Fretz, S. J., Lyons, C. T., Levin, E., Chidsey, C. E. D., Palmgvist, A. E. C., Stack, T. P.
  2019; 7 (34): 20013–25
- **Mapping free energy regimes in electrocatalytic reductions to screen transition metal-based catalysts.** *Chemical science*
  Ramakrishnan, S., Moretti, R. A., Chidsey, C. E.
  2019; 10 (32): 7649-7658
- **Mapping free energy regimes in electrocatalytic reductions to screen transition metal-based catalysts** *CHEMICAL SCIENCE*
  Ramakrishnan, S., Moretti, R. A., Chidsey, C. E. D.
  2019; 10 (32): 7649–58
- **Atomic Layer Deposited TiO2-IrOx Alloys Enable Corrosion Resistant Water Oxidation on Silicon at High Photovoltage** *CHEMISTRY OF MATERIALS*
  Hendricks, O. L., Tang-Kong, R., Babadi, A. S., McIntyre, P. C., Chidsey, C. E. D.
  2019; 31 (1): 90–100
- **Atomic Layer Deposited TiO2-IrOx Alloy as a Hole Transport Material for Perovskite Solar Cells** *ADVANCED MATERIALS INTERFACES*
  Tan, W., Hendricks, O. L., Meng, A. C., Braun, M. R., McGehee, M. D., Chidsey, C. E. D., McIntyre, P. C.
  2018; 5 (16)
- **Electrocatalytic alcohol oxidation with molecular catalysts**
  Waymouth, R., Waldie, K., McLoughlin, E., Chidsey, C.

AMER CHEMICAL SOC.2018

- **Initiation of the Electrochemical Reduction of CO2 by a Singly Reduced Ruthenium(II) Bipyridine Complex.** *Inorganic chemistry*
  Ramakrishnan, S., Chidsey, C. E.
  2017; 56 (14): 8326-8333
- **Multielectron Transfer at Cobalt: Influence of the Phenylazopyridine Ligand** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Waldie, K. M., Ramakrishnan, S., Kim, S., Maclaren, J. K., Chidsey, C. E., Waymouth, R. M.
  2017; 139 (12): 4540-4550
- **Electrocatalytic Alcohol Oxidation with Ruthenium Transfer Hydrogenation Catalysts** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Waldie, K. M., Flajslik, K. R., McLoughlin, E., Chidsey, C. E., Waymouth, R. M.
  2017; 139 (2): 738-748
- **Initiation of the Electrochemical Reduction of CO2 by a Singly Reduced Ruthenium(II) Bipyridine Complex** *Inorganic Chemistry*
  Ramakrishnan, S., Chidsey, C. E.
  2017: 8326–33
- **Isolating the Photovoltaic Junction: Atomic Layer Deposited TiO2-RuO2 Alloy Schottky Contacts for Silicon Photoanodes** *ACS APPLIED MATERIALS & INTERFACES*
  Hendricks, O. L., Scheuermann, A. G., Schmidt, M., Hurley, P. K., McIntyre, P. C., Chidsey, C. E.
  2016; 8 (36): 23763-23773
- **Titanium Oxide Crystallization and Interface Defect Passivation for High Performance Insulator-Protected Schottky Junction MIS Photoanodes** *ACS APPLIED MATERIALS & INTERFACES*
  Scheuermann, A. G., Lawrence, J. P., Meng, A. C., Tang, K., Hendricks, O. L., Chidsey, C. E., McIntyre, P. C.
  2016; 8 (23): 14596-14603
- **Engineering Interfacial Silicon Dioxide for Improved Metal-Insulator-Semiconductor Silicon Photoanode Water Splitting Performance** *ACS APPLIED MATERIALS & INTERFACES*
  Satterthwaite, P. F., Scheuermann, A. G., Hurley, P. K., Chidsey, C. E., McIntyre, P. C.
  2016; 8 (20): 13140-13149
- **Experimental and Theoretical Study of CO2 Insertion into Ruthenium Hydride Complexes.** *Inorganic chemistry*
  Ramakrishnan, S., Waldie, K. M., Warnke, I., De Crisci, A. G., Batista, V. S., Waymouth, R. M., Chidsey, C. E.
  2016; 55 (4): 1623-1632
- **Conductance and capacitance of bilayer protective oxides for silicon water splitting anodes** *ENERGY & ENVIRONMENTAL SCIENCE*
  Scheuermann, A. G., Kemp, K. W., Tang, K., Lu, D. Q., Satterthwaite, P. F., Ito, T., Chidsey, C. E., McIntyre, P. C.
  2016; 9 (2): 504-516
- **Rapid oxidative hydrogen evolution from a family of square-planar nickel hydride complexes.** *Chemical science*
  Ramakrishnan, S., Chakraborty, S., Brennessel, W. W., Chidsey, C. E., Jones, W. D.
  2016; 7 (1): 117-127
- **Design principles for maximizing photovoltage in metal-oxide-protected water-splitting photoanodes** *NATURE MATERIALS*
  Scheuermann, A. G., Lawrence, J. P., Kemp, K. W., Ito, T., Walsh, A., Chidsey, C. E., Hurley, P. K., McIntyre, P. C.
  2016; 15 (1): 99-?
- **Understanding Photovoltage in Insulator-Protected Water Oxidation Half-Cells** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*
  Scheuermann, A. G., Chidsey, C. E., McIntyre, P. C.
  2016; 163 (3): H192-H200
- **Rapid oxidative hydrogen evolution from a family of square-planar nickel hydride complexes** *CHEMICAL SCIENCE*
  Ramakrishnan, S., Chakraborty, S., Brennessel, W. W., Chidsey, C. E., Jones, W. D.
  2016; 7 (1): 117-127
- **The Effect of SPA-SiO2 Tunnel Oxide Thickness for Metal-Insulator-Silicon Photoelectrochemical Cells**
  Scheuermann, A. G., Lu, D. Q., Ito, T., Chidsey, C. E. D., McIntyre, P. C.
  edited by Roozeboom, F., DeGendt, S., Delabie, A., Elam, J. W., Londergan, A., VanDerStraten, O.
  ELECTROCHEMICAL SOC INC.2014: 265–76

- **Electrooxidation of alcohols catalyzed by amino alcohol ligated ruthenium complexes.** *Journal of the American Chemical Society*
  Brownell, K. R., McCrory, C. C., Chidsey, C. E., Perry, R. H., Zare, R. N., Waymouth, R. M.
  2013; 135 (38): 14299-14305
- **Effects of catalyst material and atomic layer deposited TiO2 oxide thickness on the water oxidation performance of metal-insulator-silicon anodes** *ENERGY & ENVIRONMENTAL SCIENCE*
  Scheuermann, A. G., Prange, J. D., Gunji, M., Chidsey, C. E., McIntyre, P. C.
  2013; 6 (8): 2487-2496
- **Squish and CuAAC: Additive-Free Covalent Mono layers of Discrete Molecules in Seconds** *LANGMUIR*
  Pellow, M. A., Stack, T. D., Chidsey, C. E.
  2013; 29 (18): 5383-5387
- **Gas-Phase Azide Functionalization of Carbon** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Stenehjem, E. D., Ziatdinov, V. R., Stack, T. D., Chidsey, C. E.
  2013; 135 (3): 1110-1116
- **ALD-TiO2 Preparation and Characterization for Metal-Insulator-Silicon Photoelectrochemical Applications** *9th International Symposium on Atomic Layer Deposition Applications held during the 224th Meeting of the Electrochemical-Society (ECS)*
  Scheuermann, A. G., Lawrence, J. P., Gunji, M., Chidsey, C. E., McIntyre, P. C.
  ELECTROCHEMICAL SOC INC.2013: 75–86
- **Molecular Junctions of Self-Assembled Monolayers with Conducting Polymer Contacts** *ACS NANO*
  Neuhausen, A. B., Hosseini, A., Sulpizio, J. A., Chidsey, C. E., Goldhaber-Gordon, D.
  2012; 6 (11): 9920-9931
- **Deposition of Dense Siloxane Monolayers from Water and Trimethoxyorganosilane Vapor** *LANGMUIR*
  Lowe, R. D., Pellow, M. A., Stack, T. D., Chidsey, C. E.
  2011; 27 (16): 9928-9935
- **Atomic layer-deposited tunnel oxide stabilizes silicon photoanodes for water oxidation** *NATURE MATERIALS*
  Chen, Y. W., Prange, J. D., Duehnen, S., Park, Y., Gunji, M., Chidsey, C. E., McIntyre, P. C.
  2011; 10 (7): 539-544
- **Electrocatalytic O-2 Reduction by Covalently Immobilized Mononuclear Copper(I) Complexes: Evidence for a Binuclear Cu2O2 Intermediate** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  McCrory, C. C., Devadoss, A., Ottenwaelder, X., Lowe, R. D., Stack, T. D., Chidsey, C. E.
  2011; 133 (11): 3696-3699
- **Redox Catalysis for Dehydrogenation of Liquid Hydrogen Carrier Fuels for Energy Storage and Conversion**
  Driscoll, P. F., Deunf, E., Rubin, L., Luca, O., Crabtree, R., Chidsey, C., Arnold, J., Kerr, J. B.
  edited by Brisard, G., Wieckowski, A.
  ELECTROCHEMICAL SOC INC.2011: 3–17
- **Group IV semiconductor nanowire arrays: epitaxy in different contexts** *SEMICONDUCTOR SCIENCE AND TECHNOLOGY*
  McIntyre, P. C., Adhikari, H., Goldthorpe, I. A., Hu, S., Leu, P. W., Marshall, A. F., Chidsey, C. E.
  2010; 25 (2)
- **Gold Removal from Germanium Nanowires** *LANGMUIR*
  Ratchford, J. B., Goldthorpe, I. A., Sun, Y., McIntyre, P. C., Pianetta, P. A., Chidsey, C. E.
  2009; 25 (16): 9473-9479
- **Selective Anodic Desorption for Assembly of Different Thiol Monolayers on the Individual Electrodes of an Array** *LANGMUIR*
  Collman, J. P., Hosseini, A., Eberspacher, T. A., Chidsey, C. E.
  2009; 25 (11): 6517-6521
- **Growth of germanium crystals from electrodeposited gold in local crucibles** *APPLIED PHYSICS LETTERS*
  Ratchford, J. B., Goldthorpe, I. A., McIntyre, P. C., Chidsey, C. E.
  2009; 94 (4)

- **Oxide-encapsulated vertical germanium nanowire structures and their DC transport properties** *NANOTECHNOLOGY*
  Leu, P. W., Adhikari, H., Koto, M., Kim, K., de Rouffignac, P., Marshall, A. F., Gordon, R. G., Chidsey, C. E., McIntyre, P. C.
  2008; 19 (48)
- **Kinetic and mechanistic studies of the electrocatalytic reduction of O-2 to H2O with mononuclear Cu complexes of substituted 1,10-phenanthrolines** *JOURNAL OF PHYSICAL CHEMISTRY A*
  McCrory, C. C., Ottenwaelder, X., Stack, T. D., Chidsey, C. E.
  2007; 111 (49): 12641-12650
- **Metastability of Au-Ge liquid nanocatalysts: Ge vapor-liquid-solid nanowire growth far below the bulk eutectic temperature** *ACS NANO*
  Adhikari, H., Marshall, A. F., Goldthorpe, I. A., Chidsey, C. E., McIntyre, P. C.
  2007; 1 (5): 415-422
- **Conditions for subeutectic growth of Ge nanowires by the vapor-liquid-solid mechanism** *JOURNAL OF APPLIED PHYSICS*
  Adhikari, H., McIntyre, P. C., Marshall, A. F., Chidsey, C. E.
  2007; 102 (9)
- **Vertically oriented germanium nanowires grown from gold colloids on silicon substrates and subsequent gold removal** *NANO LETTERS*
  Woodruff, J. H., Ratchford, J. B., Goldthorpe, I. A., McIntyre, P. C., Chidsey, C. E.
  2007; 7 (6): 1637-1642
- **Azide-modified graphitic surfaces for covalent attachment of alkyne-terminated molecules by "click" chemistry** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Devadoss, A., Chidsey, C. E.
  2007; 129 (17): 5370-?
- **A cytochrome c oxidase model catalyzes oxygen to water reduction under rate-limiting electron flux** *SCIENCE*
  Collman, J. P., Devaraj, N. K., Decreau, R. A., Yang, Y., Yan, Y., Ebina, W., Eberspacher, T. A., Chidsey, C. E.
  2007; 315 (5818): 1565-1568
- **An integrated phase change memory cell with Ge nanowire diode for cross-point memory** *Symposium on VLSI Technology 2007*
  Zhang, Y., Kim, S., McVittie, J. P., Jagannathan, H., Ratchford, J. B., Chidsey, C. E., Nishi, Y., Wong, H. P.
  JAPAN SOCIETY APPLIED PHYSICS.2007: 98–99
- **Rate of interfacial electron transfer through the 1,2,3-triazole linkage** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Devaraj, N. K., Decreau, R. A., Ebina, W., Collman, J. P., Chidsey, C. E.
  2006; 110 (32): 15955-15962
- **Nature of germanium nanowire heteroepitaxy on silicon substrates** *JOURNAL OF APPLIED PHYSICS*
  Jagannathan, H., Deal, M., Nishi, Y., Woodruff, J., Chidsey, C., McIntyre, P. C.
  2006; 100 (2)
- **Mixed azide-terminated monolayers: A platform for modifying electrode surfaces** *LANGMUIR*
  Collman, J. P., Devaraj, N. K., Eberspacher, T. P., Chidsey, C. E.
  2006; 22 (6): 2457-2464
- **Selective functionalization of independently addressed microelectrodes by electrochemical activation and deactivation of a coupling catalyst** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Devaraj, N. K., Dinolfo, P. H., Chidsey, C. E., Collman, J. P.
  2006; 128 (6): 1794-1795
- **Germanium nanowire epitaxy: Shape and orientation control** *NANO LETTERS*
  Adhikari, H., Marshall, A. F., Chidsey, C. E., McIntyre, P. C.
  2006; 6 (2): 318-323
- **Photoemission studies of passivation of germanium nanowires** *APPLIED PHYSICS LETTERS*
  Adhikari, H., McIntyre, P. C., Sun, S. Y., Pianetta, P., Chidsey, C. E.
  2005; 87 (26)
- **Chemoselective covalent coupling of oligonucleotide probes to self-assembled monolayers** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*

Devaraj, N. K., Miller, G. P., Ebina, W., Kakaradov, B., Collman, J. P., Kool, E. T., Chidsey, C. E.
2005; 127 (24): 8600-8601

- **Role of O-3 and OH. radicals in ozonated aqueous solution for the photoresist removal of semiconductor fabrication** *OZONE-SCIENCE & ENGINEERING*
  Lim, S. W., Chidsey, C. E.
  2005; 27 (2): 139-146

- **Interfacial electron-transfer kinetics of ferrocene through oligophenyleneethynylene bridges attached to gold electrodes as constituents of self-assembled monolayers: Observation of a nonmonotonic distance dependence** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Smalley, J. F., Sachs, S. B., Chidsey, C. E., Dudek, S. P., Sikes, H. D., Creager, S. E., Yu, C. J., Feldberg, S. W., Newton, M. D.
  2004; 126 (44): 14620-14630

- **"Clicking" functionality onto electrode surfaces** *LANGMUIR*
  Collman, J. P., Devaraj, N. K., Chidsey, C. E.
  2004; 20 (4): 1051-1053

- **Charge transfer on the nanoscale: Current status** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Adams, D. M., Brus, L., Chidsey, C. E., Creager, S., Creutz, C., Kagan, C. R., Kamat, P. V., Lieberman, M., Lindsay, S., Marcus, R. A., Metzger, R. M., Michel-Beyerle, M. E., Miller, et al
  2003; 107 (28): 6668-6697

- **Modular assembly and air-stable electrochemistry of ruthenium porphyrin monolayers** *LANGMUIR*
  Eberspacher, T. A., Collman, J. P., Chidsey, C. E., Donohue, D. L., Van Ryswyk, H.
  2003; 19 (9): 3814-3821

- **Heterogeneous electron-transfer kinetics for ruthenium and ferrocene redox moieties through alkanethiol monolayers on gold** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Smalley, J. F., Finklea, H. O., Chidsey, C. E., Linford, M. R., Creager, S. E., Ferraris, J. P., Chalfant, K., Zawodzinsk, T., Feldberg, S. W., Newton, M. D.
  2003; 125 (7): 2004-2013

- **Photoelectron spectroscopy to probe the mechanism of electron transfer through oligo(phenylene vinylene) bridges** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Sikes, H. D., Sun, Y., Dudek, S. P., Chidsey, C. E., Pianetta, P.
  2003; 107 (5): 1170-1173

- **Submicrosecond electron transfer to monolayer-bound redox species on gold electrodes at large overpotentials** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Robinson, D. B., Chidsey, C. E.
  2002; 106 (41): 10706-10713

- **Surface functionalization of alkyl monolayers by free-radical activation: Gas-phase photochlorination with Cl-2** *LANGMUIR*
  Linford, M. R., Chidsey, C. E.
  2002; 18 (16): 6217-6221

- **Olefin additions on H-Si(111): Evidence for a surface chain reaction initiated at isolated dangling bonds** *LANGMUIR*
  Cicero, R. L., Chidsey, C. E., Lopinski, G. P., Wayner, D. D., Wolkow, R. A.
  2002; 18 (2): 305-307

- **Future directions in solid state chemistry: report of the NSF-sponsored workshop** *PROGRESS IN SOLID STATE CHEMISTRY*
  Cava, R. J., DiSalvo, F. J., Brus, L. E., Dunbar, K. R., Gorman, C. B., Haile, S. M., Interrante, L. V., Musfeldt, J. L., NAVROTSKY, A., Nuzzo, R. G., Pickett, W. E., Wilkinson, A. P., Ahn, et al
  2002; 30 (1-2): 1-101

- **Distance dependence of the electron-transfer rate across covalently bonded monolayers on silicon** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Cheng, J., Robinson, D. B., Cicero, R. L., Eberspacher, T., Barrelet, C. J., Chidsey, C. E.
  2001; 105 (44): 10900-10904

- **Synthesis of ferrocenethiols containing oligo(phenylenevinylene) bridges and their characterization on gold electrodes** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*

Dudek, S. P., Sikes, H. D., Chidsey, C. E.
2001; 123 (33): 8033-8038

- **Surface characterization and electrochemical properties of alkyl, fluorinated alkyl, and alkoxy monolayers on silicon** *LANGMUIR*
  Barrelet, C. J., Robinson, D. B., Cheng, J., Hunt, T. P., Quate, C. F., Chidsey, C. E.
  2001; 17 (11): 3460-3465
- **Rapid electron tunneling through oligophenylenevinylene bridges** *SCIENCE*
  Sikes, H. D., Smalley, J. F., Dudek, S. P., Cook, A. R., Newton, M. D., Chidsey, C. E., Feldberg, S. W.
  2001; 291 (5508): 1519-1523
- **Effect of silicon surface termination on copper deposition in deionized water** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*
  Lim, S. W., Mo, R. T., Pianetta, P. A., Chidsey, C. E.
  2001; 148 (1): C16-C20
- **Control of ozonated water cleaning process for photoresist removal** *5th International Symposium on Ultra Clean Processing of Silicon Surfaces (UCPSS 2000)*
  Lim, S. W., Chidsey, C. E.
  SCITEC PUBLICATIONS LTD.2001: 215–218
- **Photoreactivity of unsaturated compounds with hydrogen-terminated silicon(111)** *LANGMUIR*
  Cicero, R. L., Linford, M. R., Chidsey, C. E.
  2000; 16 (13): 5688-5695
- **Atomic-scale mechanistic study of iodine/alcohol passivated Si(100)** *6th International Symposium on Cleaning Technology in Semiconductor Device Manufacturing*
  Mo, R. T., Burr, T. A., Merklin, G. T., Machuca, F., Pianetta, P. A., Kimerling, L. C., Chiarello, R. P., Chidsey, C. E.
  ELECTROCHEMICAL SOCIETY INC.2000: 545–52
- **Defect states at silicon surfaces** *20th International Conference on Defects in Semiconductors (ICDS-20)*
  Reddy, A. J., Chan, J. V., Burr, T. A., Mo, R., Wade, C. P., Chidsey, C. E., Michel, J., Kimerling, L. C.
  ELSEVIER SCIENCE BV.1999: 468–472
- **Hole limited recombination in polymer light-emitting diodes** *APPLIED PHYSICS LETTERS*
  Scott, J. C., Malliaras, G. G., Chen, W. D., Breach, J. C., Salem, J. R., Brock, P. J., Sachs, S. B., Chidsey, C. E.
  1999; 74 (11): 1510-1512
- **Alkyl-terminated Si(111) surfaces: A high-resolution, core level photoelectron spectroscopy study** *JOURNAL OF APPLIED PHYSICS*
  Terry, J., Linford, M. R., Wigren, C., Cao, R. Y., Pianetta, P., Chidsey, C. E.
  1999; 85 (1): 213-221
- **Electronic desorption of alkyl monolayers from silicon by very highly charged ions** *42nd International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*
  Schenkel, T., Schneider, M., Hattass, M., Newman, M. W., Barnes, A. V., Hamza, A. V., Schneider, D. H., Cicero, R. L., Chidsey, C. E.
  A V S AMER INST PHYSICS.1998: 3298–3300
- **Nucleation of trace copper on the H-Si(111) surface in aqueous fluoride solutions** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Homma, T., Wade, C. P., Chidsey, C. E.
  1998; 102 (41): 7919-7923
- **Synthesis and properties of metalloporphyrin monolayers and stacked multilayers bound to an electrode via site specific axial ligation to a self-assembled monolayer** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Offord, D. A., Sachs, S. B., Ennis, M. S., Eberspacher, T. A., Griffin, J. H., Chidsey, C. E., Collman, J. P.
  1998; 120 (18): 4478-4487
- **D-Si(111)(1x1) surface for the study of silicon etching in aqueous solutions** *APPLIED PHYSICS LETTERS*
  Luo, H. H., Chidsey, C. E.
  1998; 72 (4): 477-479
- **Etch-pit initiation by dissolved oxygen on terraces of H-Si(111) (vol 71, pg 1679, 1997)** *APPLIED PHYSICS LETTERS*
  Wade, C. P., Chidsey, C. E.

1998; 72 (1): 133-133

- **Selective nucleation mechanism of trace metal contaminants at surface defects of silicon wafers in aqueous fluoride solution** *5th Symposium on High Purity Silicon at the 194th Meeting of the Electrochemical-Society*
  Homma, T., Chidsey, C. E., Watanabe, M., Nagai, K.
  ELECTROCHEMICAL SOCIETY INC.1998: 250–57
- **Reactivity of the H-Si (111) surface** *1st International Conference on Synchrotron Radiation in Materials Science (ICSRMS 96)*
  Terry, J., Mo, R., Wigren, C., Cao, R. Y., Mount, G., Pianetta, P., Linford, M. R., Chidsey, C. E.
  ELSEVIER SCIENCE BV.1997: 94–101
- **Rates of interfacial electron transfer through pi-conjugated spacers** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Sachs, S. B., Dudek, S. P., Hsung, R. P., Sita, L. R., Smalley, J. F., Newton, M. D., Feldberg, S. W., Chidsey, C. E.
  1997; 119 (43): 10563-10564
- **Etch-pit initiation by dissolved oxygen on terraces of H-Si(111)** *APPLIED PHYSICS LETTERS*
  Wade, C. P., Chidsey, C. E.
  1997; 71 (12): 1679-1681
- **Determination of the bonding of alkyl monolayers to the Si(111) surface using chemical-shift, scanned-energy photoelectron diffraction** *APPLIED PHYSICS LETTERS*
  Terry, J., Linford, M. R., Wigren, C., Cao, R. Y., Pianetta, P., Chidsey, C. E.
  1997; 71 (8): 1056-1058
- **The bulge blister test as a probe of adhesion at the polymer/solid interface.**
  Chidsey, C. E., Luo, H. H., Limburg, W. H., Nix, W. D., Hohlfelder, R. J.
  AMER CHEMICAL SOC.1997: 485-POLY
- **Comparison of stresses in Al lines under various passivations** *Symposium on Materials Reliability in Microelectronics, at the 1997 MRS Spring Meeting*
  Lee, S., Bravman, J. C., Flinn, P. A., Marieb, T. N.
  MATERIALS RESEARCH SOCIETY.1997: 415–420
- **Discussion of the Ebbesen and Scuseria lectures** *Conference of the NATO Advanced Research Workshop on Modular Chemistry*
  Smalley, R. E., Michl, Scuseria, Prinzbach, Ebbesen, Mullen, Kahn, Tolbert, Janata, Mallouk, WUEST, Chidsey
  SPRINGER.1997: 275–286
- **Discussion of the Ward and Zaworotko lectures** *Conference of the NATO Advanced Research Workshop on Modular Chemistry*
  Wuest, J. D., Zaworotko, Ward, Chidsey, Mullen, Kahn, Wegner, Seddon, Palacin, Stupp, Tolbert, Ozin, Michl
  SPRINGER.1997: 423–432
- **Discussion of the Kahn and Brus lectures** *Conference of the NATO Advanced Research Workshop on Modular Chemistry*
  Michl, J., Coleman, A. W., Kaszynski, Kahn, Chidsey, Ward, Seddon, KUKI, Stupp, Mallouk, Brus, Ozin, Tilley, Tolbert, Zaworotko, PORT, Sita
  SPRINGER.1997: 309–321
- **Mechanism for the chemisorption of contaminants on hydrogen-terminated silicon surfaces** *Mater. Res. Soc. Proc.*
  Hohlfelder, R. J., Luo, H., Vlassak, J. J., Chidsey, C. E., Nix, W. D.
  1997; 436: 115-120
- **Using self-assembled monolayers to modify electrode interfaces in organic light-emitting diodes** *Polymer Preprints, Division of Polymer Chemistry*
  Chen, W., Burnham, S., Chidsey, C. E., Scott, J. C.
  1997; 38: 936-936
- **Infrared spectroscopy of covalently bonded species on silicon surfaces: Deuterium, chlorine, and cobalt tetracarbonyl** *Symposium on Science and Technology of Semiconductor Surface Preparation, at the 1997 MRS Spring Meeting*
  Luo, H. H., Chidsey, C. E., Chabal, Y.
  MATERIALS RESEARCH SOCIETY.1997: 415–420
- **Preparation of pit-free hydrogen-terminated Si(111) in deoxygenated ammonium fluoride** *Symposium on Science and Technology of Semiconductor Surface Preparation, at the 1997 MRS Spring Meeting*

Wade, C. P., Chidsey, C. E.
MATERIALS RESEARCH SOCIETY.1997: 299–304

- **Measuring interfacial fracture toughness with the blister test** *Symposium on Thin Films - Stresses and Mechanical Properties VI, at the 1996 MRS Spring Meeting*
  Hohlfelder, R. J., Luo, H., Vlassak, J. J., Chidsey, C. E., Nix, W. D.
  MATERIALS RESEARCH SOCIETY.1997: 115–120
- **An analysis of infrared spectroscopic geometries** *Symposium on Science and Technology of Semiconductor Surface Preparation, at the 1997 MRS Spring Meeting*
  Merklin, G. T., Luo, H. H., Chidsey, C. E.
  MATERIALS RESEARCH SOCIETY.1997: 353–358
- **Discussion of the Mallouk and Fox lectures** *Conference of the NATO Advanced Research Workshop on Modular Chemistry*
  Chidsey, C. E., Ward, Mallouk, Kubiak, Ozin, MORTIMER, Fox, Tolbert, Balzani
  SPRINGER.1997: 69–73
- **STM studies of electrode/electrolyte interfaces and silicon surface reactions in controlled atmospheres** *Symposium on Electrochemical Synthesis and Modification of Materials, at the 1996 MRS Fall Meeting*
  Wade, C. P., Luo, H. H., Dunbar, W. L., Linford, M. R., Chidsey, C. E.
  MATERIALS RESEARCH SOCIETY.1997: 173–183
- **Bioreactive self-assembled monolayers on hydrogen-passivated Si(111) as a new class of atomically flat substrates for biological scanning probe microscopy** *JOURNAL OF STRUCTURAL BIOLOGY*
  Wagner, P., Nock, S., Spudich, J. A., VOLKMUTH, W. D., Chu, S., Cicero, R. L., Wade, C. P., Linford, M. R., Chidsey, C. E.
  1997; 119 (2): 189-201
- **SYNTHESIS AND CHARACTERIZATION OF UNSYMMETRIC FERROCENE-TERMINATED PHENYLETHYNYL OLIGOMERS CP(2)FE-[C-C-C6H4](N),-X(X=SH, SME, SOME, AND SO(2)ME)** *ORGANOMETALLICS*
  Hsung, R. P., Chidsey, C. E., Sita, L. R.
  1995; 14 (10): 4808-4815
- **THE KINETICS OF ELECTRON-TRANSFER THROUGH FERROCENE-TERMINATED ALKANETHIOL MONOLAYERS ON GOLD** *JOURNAL OF PHYSICAL CHEMISTRY*
  Smalley, J. F., Feldberg, S. W., Chidsey, C. E., Linford, M. R., Newton, M. D., Liu, Y. P.
  1995; 99 (35): 13141-13149
- **THIOPHENOL PROTECTING GROUPS FOR THE PALLADIUM-CATALYZED HECK REACTION - EFFICIENT SYNTHESES OF CONJUGATED ARYLTHIOLS** *TETRAHEDRON LETTERS*
  Hsung, R. P., Babcock, J. R., Chidsey, C. E., Sita, L. R.
  1995; 36 (26): 4525-4528
- **ALKYL MONOLAYERS ON SILICON PREPARED FROM 1-ALKENES AND HYDROGEN-TERMINATED SILICON** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Linford, M. R., Fenter, P., EISENBERGER, P. M., Chidsey, C. E.
  1995; 117 (11): 3145-3155
- **Blister test analysis methods** *Symposium on Thin Films - Stresses and Mechanical Properties V, at the 1994 Fall Meeting of the Materials-Research-Society*
  Hohlfelder, R. J., Vlassak, J. J., Nix, W. D., Luo, H. H., Chidsey, C. E.
  MATERIALS RESEARCH SOCIETY.1995: 585–590
- **Alkyl Monolayers on Silicon Prepared from 1-Alkenes and Hydrogen-Terminated Silicon** *J. Am. Chem. Soc.*
  Linford, M. R., Fenter, P., Eisenberger, P. M., Chidsey, C. E.
  1995; 117 (11): 3145-3155
- **The Kinetics of Electron Transfer Through Ferrocene-Terminated Alkanethiol Monolayers on Gold** *J. Phys. Chem.*
  Smalley, J. F., Feldberg, S. W., Chidsey, C. E., Linford, M. R., Newton, M. D., Liu, Y.
  1995; 99 (35): 13141-13149
- **Synthesis and Characterization of Unsymmetric Ferrocene-Terminated Phenylethynyl Oligomers Cp2Fe-[C.tplbond.C-C6H4]n-X, (X = SH, SMe, SOMe, and SO2Me)** *Organometallics*

Hsung, R. P., Chidsey, C. E., Sita, L. R.
1995; 14: 4808-4815

- **AN UNEXPECTED PACKING OF FLUORINATED N-ALKANE THIOLS ON AU(111) - A COMBINED ATOMIC-FORCE MICROSCOPY AND X-RAY-DIFFRACTION STUDY** *JOURNAL OF CHEMICAL PHYSICS*
  Liu, G. Y., Fenter, P., Chidsey, C. E., Ogletree, D. F., Eisenberger, P., Salmeron, M.
  1994; 101 (5): 4301-4306

- **PROTECTIVE TREATMENTS FOR NICKEL-BASED CONTACT MATERIALS** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*
  LAW, H. H., Sapjeta, J., Chidsey, C. E., PUTVINSKI, T. M.
  1994; 141 (7): 1977-1982

- **STRUCTURAL STUDIES OF ZIRCONIUM ALKYLPHOSPHONATE MONOLAYERS AND MULTILAYER ASSEMBLIES** *LANGMUIR*
  Schilling, M. L., Katz, H. E., Stein, S. M., SHANE, S. F., Wilson, W. L., Buratto, S., UNGASHE, S. B., Taylor, G. N., PUTVINSKI, T. M., Chidsey, C. E.
  1993; 9 (8): 2156-2160

- **THE ELECTRODE-ELECTROLYTE INTERFACE - A STATUS-REPORT** *JOURNAL OF PHYSICAL CHEMISTRY*
  Bard, A. J., Abruna, H. D., CHIDSEY, C. E., Faulkner, L. R., Feldberg, S. W., Itaya, K., Majda, M., MELROY, O., MURRAY, R. W., Porter, M. D., Soriaga, M. P., White, H. S.
  1993; 97 (28): 7147-7173

- **SUBSTRATE DEPENDENCE OF THE SURFACE-STRUCTURE AND CHAIN PACKING OF DOCOSYL MERCAPTAN SELF-ASSEMBLED ON THE (111), (110), AND (100) FACES OF SINGLE-CRYSTAL GOLD** *JOURNAL OF CHEMICAL PHYSICS*
  Camillone, N., Chidsey, C. E., Liu, G., Scoles, G.
  1993; 98 (5): 4234-4245

- **SUPERLATTICE STRUCTURE AT THE SURFACE OF A MONOLAYER OF OCTADECANETHIOL SELF-ASSEMBLED ON AU(111)** *JOURNAL OF CHEMICAL PHYSICS*
  Camillone, N., Chidsey, C. E., Liu, G. Y., Scoles, G.
  1993; 98 (4): 3503-3511

- **ION SURFACE COLLISIONS AT FUNCTIONALIZED SELF-ASSEMBLED MONOLAYER SURFACES** *INTERNATIONAL JOURNAL OF MASS SPECTROMETRY*
  Morris, M. R., Riederer, D. E., Winger, B. E., Cooks, R. G., Ast, T., Chidsey, C. E.
  1992; 122: 181-217

- **SYNTHESIS AND DEPOSITION OF ELECTRON-DONORS, ACCEPTORS, AND INSULATORS AS COMPONENTS OF ZIRCONIUM DIPHOSPHONATE MULTILAYER FILMS** *ACS SYMPOSIUM SERIES*
  Katz, H. E., Schilling, M. L., Ungashe, S., PUTVINSKI, T. M., CHIDSEY, C. E.
  1992; 499: 24-32

- **SYNTHESIS AND DEPOSITION OF ELECTRON-DONORS, ACCEPTORS, AND INSULATORS AS COMPONENTS OF ZIRCONIUM DIPHOSPHONATE MULTILAYER FILMS** *SYMP ON SUPRAMOLECULAR ARCHITECTURE, AT THE 201ST NATIONAL MEETING OF THE AMERICAN CHEMICAL SOC*
  Katz, H. E., Schilling, M. L., Ungashe, S., PUTVINSKI, T. M., CHIDSEY, C. E.
  AMER CHEMICAL SOC.1992: 24–32

- **POLAR ORIENTATION OF DYES IN ROBUST MULTILAYERS BY ZIRCONIUM PHOSPHATE-PHOSPHONATE INTERLAYERS** *SCIENCE*
  Katz, H. E., Scheller, G., PUTVINSKI, T. M., Schilling, M. L., Wilson, W. L., Chidsey, C. E.
  1991; 254 (5037): 1485-1487

- **SURFACE-REACTIONS AND SURFACE-INDUCED DISSOCIATION OF POLYATOMIC IONS AT SELF-ASSEMBLED ORGANIC MONOLAYER SURFACES** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Winger, B. E., Julian, R. K., Cooks, R. G., Chidsey, C. E.
  1991; 113 (23): 8967-8969

- **INSITU SCANNING TUNNELING MICROSCOPY OF CORROSION OF SILVER-GOLD ALLOYS** *SCIENCE*
  Oppenheim, I. C., Trevor, D. J., Chidsey, C. E., TREVOR, P. L., Sieradzki, K.
  1991; 254 (5032): 687-689

- **QUATERTHIOPHENEDIPHOSPHONIC ACID (QDP) - A RIGID, ELECTRON-RICH BUILDING BLOCK FOR ZIRCONIUM-BASED MULTILAYERS** *CHEMISTRY OF MATERIALS*

Katz, H. E., Schilling, M. L., Chidsey, C. E., PUTVINSKI, T. M., HUTTON, R. S.
1991; 3 (4): 699-703

- **SURFACE-STRUCTURE AND THERMAL MOTION OF NORMAL-ALKANE THIOLS SELF-ASSEMBLED ON AU(111) STUDIED BY LOW-ENERGY HELIUM DIFFRACTION** *JOURNAL OF CHEMICAL PHYSICS*
  Camillone, N., Chidsey, C. E., Liu, G. Y., PUTVINSKI, T. M., Scoles, G.
  1991; 94 (12): 8493-8502

- **ROOM-TEMPERATURE SURFACE-DIFFUSION MECHANISMS OBSERVED BY SCANNING TUNNELING MICROSCOPY** *5TH INTERNATIONAL CONF ON SCANNING TUNNELING MICROSCOPY/SPECTROSCOPY (STM 90) / 1ST INTERNATIONAL CONF ON NANOMETER SCALE SCIENCE AND TECHNOLOGY (NANO 1)*
  Trevor, D. J., Chidsey, C. E.
  A V S AMER INST PHYSICS.1991: 964–68

- **FREE-ENERGY AND TEMPERATURE-DEPENDENCE OF ELECTRON-TRANSFER AT THE METAL-ELECTROLYTE INTERFACE** *SCIENCE*
  Chidsey, C. E.
  1991; 251 (4996): 919-922

- **ELECTRICAL AND NONLINEAR OPTICAL-PROPERTIES OF ZIRCONIUM PHOSPHONATE MULTILAYER ASSEMBLIES** *CONF ON NONLINEAR OPTICAL PROPERTIES OF ORGANIC MATERIALS 4*
  Katz, H. E., Schilling, M. L., Ungashe, S., PUTVINSKI, T. M., Scheller, G., Chidsey, C. E., Wilson, W. L.
  SPIE - INT SOC OPTICAL ENGINEERING.1991: 370–376

- **HELIUM DIFFRACTION FROM OVERLAYERS PHYSISORBED ON A SELF-ASSEMBLED ORGANIC MONOLAYER** *LANGMUIR*
  Chidsey, C. E., Liu, G. Y., Scoles, G., Wang, J.
  1990; 6 (12): 1804-1806

- **SELF-ASSEMBLY OF ORGANIC MULTILAYERS WITH POLAR ORDER USING ZIRCONIUM-PHOSPHATE BONDING BETWEEN LAYERS** *LANGMUIR*
  PUTVINSKI, T. M., Schilling, M. L., Katz, H. E., Chidsey, C. E., Mujsce, A. M., Emerson, A. B.
  1990; 6 (10): 1567-1571

- **COADSORPTION OF FERROCENE-TERMINATED AND UNSUBSTITUTED ALKANETHIOLS ON GOLD - ELECTROACTIVE SELF-ASSEMBLED MONOLAYERS** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Chidsey, C. E., Bertozzi, C. R., PUTVINSKI, T. M., Mujsce, A. M.
  1990; 112 (11): 4301-4306

- **CHEMICAL FUNCTIONALITY IN SELF-ASSEMBLED MONOLAYERS - STRUCTURAL AND ELECTROCHEMICAL PROPERTIES** *LANGMUIR*
  Chidsey, C. E., Loiacono, D. N.
  1990; 6 (3): 682-691

- **MOLECULAR ORDER AT THE SURFACE OF AN ORGANIC MONOLAYER STUDIED BY LOW-ENERGY HELIUM DIFFRACTION** *JOURNAL OF CHEMICAL PHYSICS*
  Chidsey, C. E., Liu, G. Y., Rowntree, P., Scoles, G.
  1989; 91 (7): 4421-4423

- **INSITU SCANNING-TUNNELING-MICROSCOPE OBSERVATION OF ROUGHENING, ANNEALING, AND DISSOLUTION OF GOLD(111) IN AN ELECTROCHEMICAL-CELL** *PHYSICAL REVIEW LETTERS*
  Trevor, D. J., Chidsey, C. E., Loiacono, D. N.
  1989; 62 (8): 929-932

- **STM STUDY OF THE SURFACE-MORPHOLOGY OF GOLD ON MICA** *SURFACE SCIENCE*
  Chidsey, C. E., Loiacono, D. N., Sleator, T., Nakahara, S.
  1988; 200 (1): 45-66

- **MONOLAYER VIBRATIONAL SPECTROSCOPY BY INFRARED-VISIBLE SUM GENERATION AT METAL AND SEMICONDUCTOR SURFACES** *CHEMICAL PHYSICS LETTERS*
  Harris, A. L., Chidsey, C. E., Levinos, N. J., Loiacono, D. N.
  1987; 141 (4): 350-356

- **SPONTANEOUSLY ORGANIZED MOLECULAR ASSEMBLIES .4. STRUCTURAL CHARACTERIZATION OF NORMAL-ALKYL THIOL MONOLAYERS ON GOLD BY OPTICAL ELLIPSOMETRY, INFRARED-SPECTROSCOPY, AND ELECTROCHEMISTRY** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Porter, M. D., Bright, T. B., Allara, D. L., Chidsey, C. E.
  1987; 109 (12): 3559-3568
- **REDOX CAPACITY AND DIRECT-CURRENT ELECTRON CONDUCTIVITY IN ELECTROACTIVE MATERIALS** *JOURNAL OF PHYSICAL CHEMISTRY*
  Chidsey, C. E., MURRAY, R. W.
  1986; 90 (7): 1479-1484
- **MICROMETER-SPACED PLATINUM INTERDIGITATED ARRAY ELECTRODE - FABRICATION, THEORY, AND INITIAL USE** *ANALYTICAL CHEMISTRY*
  CHIDSEY, C. E., Feldman, B. J., Lundgren, C., MURRAY, R. W.
  1986; 58 (3): 601-607
- **ELECTROACTIVE POLYMERS AND MACROMOLECULAR ELECTRONICS** *SCIENCE*
  Chidsey, C. E., MURRAY, R. W.
  1986; 231 (4733): 25-31
- **EFFECT OF MAGNETIC-FIELDS ON THE TRIPLET-STATE LIFETIME IN PHOTOSYNTHETIC REACTION CENTERS - EVIDENCE FOR THERMAL REPOPULATION OF THE INITIAL RADICAL PAIR** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Chidsey, C. E., Takiff, L., Goldstein, R. A., Boxer, S. G.
  1985; 82 (20): 6850-6854
- **ELECTROCHEMISTRY OF POLYMER-FILMS NOT IMMERSED IN SOLUTION - ELECTRON-TRANSFER ON AN ION BUDGET** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Jernigan, J. C., Chidsey, C. E., MURRAY, R. W.
  1985; 107 (9): 2824-2826
- **MAGNETIC-FIELD DEPENDENCE OF RADICAL-PAIR DECAY KINETICS AND MOLECULAR TRIPLET QUANTUM YIELD IN QUINONE-DEPLETED REACTION CENTERS** *BIOCHIMICA ET BIOPHYSICA ACTA*
  Chidsey, C. E., Kirmaier, C., HOLTEN, D., Boxer, S. G.
  1984; 766 (2): 424-437
- **MAGNETIC-FIELD EFFECTS ON REACTION YIELDS IN THE SOLID-STATE - AN EXAMPLE FROM PHOTOSYNTHETIC REACTION CENTERS** *ANNUAL REVIEW OF PHYSICAL CHEMISTRY*
  Boxer, S. G., Chidsey, C. E., Roelofs, M. G.
  1983; 34: 389-417
- **ANISOTROPIC MAGNETIC-INTERACTIONS IN THE PRIMARY RADICAL ION-PAIR OF PHOTOSYNTHETIC REACTION CENTERS** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA-BIOLOGICAL SCIENCES*
  Boxer, S. G., Chidsey, C. E., Roelofs, M. G.
  1982; 79 (15): 4632-4636
- **CONTRIBUTIONS OF SPIN SPIN INTERACTIONS TO THE MAGNETIC-FIELD DEPENDENCE OF THE TRIPLET QUANTUM YIELD IN PHOTOSYNTHETIC REACTION CENTERS** *CHEMICAL PHYSICS LETTERS*
  Roelofs, M. G., Chidsey, C. E., Boxer, S. G.
  1982; 87 (6): 582-588
- **USE OF LARGE MAGNETIC-FIELDS TO PROBE PHOTOINDUCED ELECTRON-TRANSFER REACTIONS - AN EXAMPLE FROM PHOTOSYNTHETIC REACTION CENTERS** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Boxer, S. G., Chidsey, C. E., Roelofs, M. G.
  1982; 104 (5): 1452-1454
- **DEPENDENCE OF THE YIELD OF A RADICAL-PAIR REACTION IN THE SOLID-STATE ON ORIENTATION IN A MAGNETIC-FIELD** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Boxer, S. G., Chidsey, C. E., Roelofs, M. G.
  1982; 104 (9): 2674-2675

- **THE EFFECT OF LARGE MAGNETIC-FIELDS AND THE G-FACTOR DIFFERENCE ON THE TRIPLET POPULATION IN PHOTOSYNTHETIC REACTION CENTERS** *CHEMICAL PHYSICS LETTERS*
  Chidsey, C. E., Roelofs, M. G., Boxer, S. G.
  1980; 74 (1): 113-118

- **INTERACTIONS OF SMALL ORGANIC RINGS WITH TRANSITION-METALS - FORMATION OF ETA-3-CYCLOBUTENONYL COMPLEXES BY THE RING EXPANSION OF 2-CYCLOPROPENE-1-CARBONYL METAL SPECIES** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  CHIDSEY, C. E., Donaldson, W. A., Hughes, R. P., Sherwin, P. F.
  1979; 101 (1): 233-235

- **CATIONIC COBALT(I) CARBONYL-COMPOUNDS CONTAINING COMPLEXED CYCLOBUTADIENES** *JOURNAL OF ORGANOMETALLIC CHEMISTRY*
  CHIDSEY, C. E., Donaldson, W. A., Hughes, R. P.
  1979; 169 (1): C12-C14