Arthur B. Ellis, Ph.D.

Dr. Arthur B. Ellis's broad career in public higher education features distinguished performance as a teacher-scholar; curricular transformation as an undergraduate educational innovator; dynamic leadership fostering excellence and inclusion as an administrator; and persuasive advocacy in local, state and federal public policy.

• In his most recent vp post within the University of California Office of the President (UCOP), from which he retired last fall, Dr. Ellis reinvigorated research and graduate education collaborations across the UC system, facilitated knowledge transfer, promoted diversity, and advocated for public policy recommendations at state and federal levels.

• Before joining UCOP, Dr. Ellis served as provost at City University of Hong Kong, where he inspired and mobilized the campus to implement a novel curriculum giving all undergraduates the chance to create new knowledge in their fields of study. He enhanced student, staff and faculty opportunities for international exchanges. And he led early development of Hong Kong's first school of veterinary medicine, in partnership with Cornell University.

• As vice chancellor for research at the University of California, San Diego (UCSD), Dr. Ellis and his team guided efforts to strengthen the campus's infrastructure for research, resulting in fruitful cross-campus collaborations and a major increase in R&D funding. Initiatives sponsored by his office included use of analytical tools to inform research investments within and between departments, and creation of new global partnerships. Dr. Ellis helped lead campus-wide initiatives in sustainability, stem cell research, and research cyber-infrastructure.

• Prior to joining UCSD, Dr. Ellis was director of the Division of Chemistry at the National Science Foundation (NSF). He and his colleagues increased investments in individual investigator projects, in team-based interdisciplinary programs, and in research resources; broadened participation of underserved segments of the chemistry community to enhance diversity; and promoted integration of research and education across the chemical sciences.

Dr. Ellis began his faculty career at the University of Wisconsin-Madison. He taught thousands of undergraduates, and mentored scores of graduate students, postdoctoral scholars, undergraduates, and pre-college co-workers. Dr. Ellis and his research group published books, patents, and approximately 200 research papers in leading scientific journals in the fields of inorganic chemistry, materials science, and science education.

Dr. Ellis's scholarly contributions focused on interdisciplinary fields such as solar energy conversion, chemical sensors, and smart materials. He and his co-workers also created a suite of instructional materials – kits, software, demonstrations, laboratory experiments, and websites – based on cutting-edge research in materials science and nanotechnology. Recognition of Dr. Ellis's work includes Sloan and Guggenheim Fellowships and a NSF Director's Distinguished Teaching Scholar Award.

Dr. Ellis received his PhD degree from the Massachusetts Institute of Technology and his BS degree from the California Institute of Technology.

Arthur B. Ellis

Professional Experience

2016-19 Vice President for Research and Graduate Studies, Univ. of California Office of the President
2010-16 Provost; Chair Professor of Chemistry, City University of Hong Kong
2006-10 Vice Chancellor for Research; Distinguished Professor of Chemistry, Univ. of California, San Diego
2002-06 Director, Division of Chemistry, U.S. National Science Foundation
1990-93 Chair, UW-Madison Graduate Materials Science Program
1986-06 Meloche-Bascom Professor of Chemistry, UW-Madison
1984-86 Professor of Chemistry, UW-Madison
1982-84 Associate Professor of Chemistry, UW-Madison
1977-82 Assistant Professor of Chemistry, UW-Madison

Selected Activities/Recognition

Presentations to the University of California (UC) Board of Regents on graduate student wellness and diversity; UC astronomical and ecological observatories; faculty research; undergraduate research; innovation and entrepreneurship, 2017-19
Hong Kong's University Grants Committee's Research Grants Council (RGC), 2013-16
NSF Director's Meritorious Service Award, 2004
NSF Director's Distinguished Teaching Scholar Award, 2001 (inaugural class)
American Chemical Society George C. Pimentel Award in Chemical Education, 1997
Alliant Energy/University of Wisconsin System Underkofler Excellence in Teaching Award, 1996
Editorial Boards, *Chemistry of Materials*, 1991-96; and *Inorganic Chemistry*, 1990-92; 2001-02
American Association for the Advancement of Science (AAAS) Fellow, 1990
Guggenheim Fellowship, 1989
UW-Madison H.I. Romnes Faculty Fellowship, 1985
Alfred P. Sloan Research Fellowship, 1981-83
American Chemical Society Exxon Solid-State Faculty Fellowship, 1980

Selected Professional Service

Bay Area Science and Innovation Consortium (BASIC) Board of Directors, 2016-19
Invited Speaker, U.S. National Academies (NASEM) Colloquium on *National Reflection through Local Action: A Colloquium on Implementing Systemic Change*, 2018
Invited Speaker, U.S. National Academies Convocation on *Integrating Discovery-Based Research into the Undergraduate Curriculum*, 2015
Invited Panelist, NSF Science of Science Policy Program, 2008; and NSF IGERT Program, 2009
Consultant, U.S. Army Science Board, 2008-10
CONNECT and Cleantech San Diego Boards of Directors, 2007-10
Organizer, NSF Workshop on Technology in Mathematical and Physical Sciences Education, 1999
Research Corporation Awards Advisory Board, 1994-98

Selected Institutional Service

Co-Chair, Associate Vice President National Laboratories Search Committee, UC Office of the President, 2018
Co-Chair, Senior Vice Chancellor Search Committee, UC San Diego, 2007
Steering Committee, UW-Madison Reaccreditation Project (North Central Assoc.), 1997-99
Search Committees, UW-Madison Chancellor, 1993, and UW-Madison Provost, 1989
Faculty exchange with Oakwood College, Huntsville, to promote diversity as part of the Madison Plan, 1989
UW-Madison Physical Sciences Divisional Committee, 1984-87; chair, 1986-87

Education

Ph.D., 1977, Massachusetts Institute of Technology, Inorganic Chemistry; Fannie and John Hertz Foundation Fellow
B.S., 1973, California Institute of Technology, Chemistry; with honors

List of Publications - Arthur B. Ellis

A. Work conducted at the Massachusetts Institute of Technology

1. "Photoassisted Electrolysis of Water by Irradiation of a Titanium Dioxide Electrode." M.S. Wrighton, D.S. Ginley, P.T. Wolczanski, A.B. Ellis, D.L. Morse and A. Linz, *Proc. Nat. Acad. Sci. U.S.A.*, **72**, 1518 (1975).

2. "Photoassisted Electrolysis of Water by Ultraviolet Irradiation of an Antimony Doped Stannic Oxide Electrode", M.S. Wrighton, D.L. Morse, A.B. Ellis, D.S. Ginley, and H.B. Abrahamson, *J. Am. Chem. Soc.*, **98**, 44 (1976).

3. "Strontium Titanate Photoelectrodes. Efficient Photoassisted Electrolysis of Water at Zero Applied Potential", M.S. Wrighton, A.B. Ellis, P.T. Wolczanski, D.L. Morse, H.B. Abrahamson, and D.S. Ginley, *J.Am. Chem. Soc.*, **98,** 2774 (1976).

4. "Semiconducting Potassium Tantalate Electrodes: Photoassistance Agents for the Efficient Electrolysis of Water", A.B. Ellis, S.W. Kaiser, and M.S. Wrighton, *J. Phys. Chem.*, **80**, 1325 (1976).

5. "Visible Light to Electrical Energy Conversion. Stable Cadmium Sulfide- and Cadmium Selenide-Based Photoelectrochemical Cells," A.B. Ellis, S.W. Kaiser, and M.S. Wrighton, *J. Am. Chem. Soc.*, **98**, 1635 (1976).

6. "Optical to Electrical Energy Conversion: Characterization of Cadmium Sulfide- and Cadmium Selenide-Based Photoelectrochemical Cells", A. B. Ellis, S. W. Kaiser, and M. S. Wrighton, *J. Am. Chem. Soc.*, **98,** 6855 (1976).

7. "Photoelectrochemical Cells: Conversion of Intense Optical Energy," M. S. Wrighton, A. B. Ellis, and S. W. Kaiser, Proceedings of International Symposium on Solar Energy, Electrochemical Society, Inc., Princeton, New Jersey, 1976.

8. "Photoassisted Electrolysis of Water: Conversion of Optical to Chemical Energy", M. S. Wrighton, J. M. Bolts, A. B. Ellis, and S. W. Kaiser, Proceedings of the Eleventh Intersociety Energy Conversion Engineering Conference, September, 1976.

9. "Visible Light to Electrical Energy Conversion: Stable Cadmium Selenide Photoelectrodes in Aqueous Electrolytes", A. B. Ellis, S. W. Kaiser, and M. S. Wrighton, *Adv. Chem. Ser.*, **163**, 71 (1977).

10. "Optical to Electrical Energy Conversion: Cadmium Telluride-Based Photoelectrochemical Cells Employing Telluride/Ditelluride Electrolytes", A. B. Ellis, S. W. Kaiser, and M. S. Wrighton, *J. Am. Chem. Soc.*, **98,** 6418, (1976).

11. "Stabilization of Cadmium Chalcogenide-Based Photoelectrochemical Cells by Polychalcogenide Electrolytes", A. B. Ellis, S. W. Kaiser, J.M. Bolts, and M. S. Wrighton, *J.Am. Chem. Soc.*, **99**, 2839 (1977).

12. "Highlights in the Literature: Inorganic and Organometallic Photochemistry, 1973-1975", A. B. Ellis, D. S. Ginley, D. L. Morse, M. A. Schroeder, and M. S. Wrighton, *Mol. Photochem.*, **7**, 263 (1976).

13. "Photoelectrolysis of Water by Irradiation of Platinized n-Type Semiconducting Metal Oxides", M. S. Wrighton, P. T. Wolczanski, and A. B. Ellis, *J. Solid State Chem.*, **22**, 17 (1977).

14. "Study of n-Type Gallium Arsenide- and Gallium Phosphide-Based Photoelectrochemical Cells. Stabilization by Kinetic Control and Conversion of Optical Energy to Electricity", A. B. Ellis, J. M. Bolts, S. W. Kaiser, and M. S. Wrighton, *J. Am. Chem. Soc.*, **99**, 2848 (1977).

15. "A Double Photoelectrode-Based Cell for the Conversion of Light to Electricity: p-Type CdTe and n-Type CdSe Photoelectrodes in a Polysulfide Electrolyte", J. M. Bolts, A. B. Ellis, K. D. Legg, and M. S. Wrighton, *J. Am. Chem. Soc.*, **99,** 4826 (1977).

16. "Characterization of n-Type Semiconducting Indium Phosphide Photoelectrodes: Stabilization to Photoanodic Dissolution in Aqueous Solutions of Telluride and Ditelluride Ions", A. B. Ellis, J.M. Bolts, and M. S. Wrighton, *J. Electrochem.Soc*., **124,** 1603 (1977).

17. "An n-Type Si-Based Photoelectrochemical Cell: A New Liquid Junction Photocell Employing a Non-Aqueous Ferricenium/Ferrocene Electrolyte", K. D. Legg, A. B. Ellis, J. M. Bolts, and M. S. Wrighton, *Proc. Nat. Acad. Sci., U.S.A*., **74,** 4116 (1977).

18. "Stabilization of n-Type Semiconductors to Photoanodic Dissolution by Competitive Electron Transfer Processes", M. S. Wrighton, A. B. Bocarsly, J.M. Bolts, A. B. Ellis, and K. D. Legg, in "Semiconductor Liquid-Junction Solar Cells", A. Heller, Ed., Proc. Vol. 77-3, Electrochemical Society, Princeton, N.J., 1977, p. 138.

B. Work conducted at the University of Wisconsin-Madison

Co-workers included 54 students who earned UW-Madison doctoral degrees and 9 postdoctoral scholars.

19. "Luminescent Photoelectrochemical Cells: Use of Tellurium-Doped Cadmium Sulfide Photoelectrodes to Probe Surface Recombination during the Conversion of Optical Energy to Electricity", A. B. Ellis and B. R. Karas, *J. Amer. Chem. Soc.,* **101,** 236 (1979).

20. "Luminescent Properties of Semiconductor Photoelectrodes", A. B. Ellis and B. R. Karas, *Adv. Chem. Ser*., **184,** 185 (1980).

21. "Luminescent Photoelectrochemical Cells. 2. Doped Cadmium Sulfide Photoelectrodes as Probes of Excited-State Processes which Influence Optical to Electrical Energy Conversion", B. R. Karas and A. B. Ellis, *J. Amer. Chem. Soc*. **102**, 968 (1980).

22. "Thermal Manipulation of Deactivation Processes in Luminescent Photoelectrochemical Cells Employing Tellurium-Doped Cadmium Sulfide Photoelectrodes", B. R. Karas, D. J. Morano, D. K. Bilich, and A. B. Ellis, *J. Electrochem. Soc*., **127**, 1144 (1980).

23. "Luminescent Photoelectrochemical Cells. 4. Electroluminescent Properties of Undoped and Tellurium-Doped Cadmium Sulfide Electrodes", H. H. Streckert, B. R. Karas, D. J. Morano and A. B. Ellis, *J. Phys. Chem*., **84,** 3232 (1980).

24. "Luminescent Tellurium-Doped Cadmium Sulfide Electrodes as Probes of Semiconductor Excited-State Deactivation Processes in Photoelectrochemical Cells", A. B. Ellis, B. R. Karas, and H. H. Streckert, *Farday Soc. Chem. Discuss*., **No. 70** on Photoelectrochemistry, 165 (1980).

25. "Luminescent Photoelectrochemical Cells. 5. Multiple Emission from Tellurium-Doped Cadmium Sulfide Photoelectrodes and Implications Regarding Excited-State Communication," B. R. Karas, H. H. Streckert, R. Schreiner, and A. B. Ellis, *J. Amer. Chem. Soc*., **103,** 1648 (1981).

26. "Effects of Temperature on Excited-State Descriptions of Luminescent Photelectrochemical Cells Employing Tellurium-Doped Cadmium Sulfide Electrodes", A. B. Ellis and B. R. Karas, *ACS Symposium,* "Photoeffects at Semiconductor-Electrolyte Interfaces", **146**, 295 (1981).

27. "Mediation of Retinal Photoisomerization by Adduct Formation with Tris(6,6,7,7,8,8,8-heptafluoro-2-2-dimethyl-3,5-octanedionato)- europium (III)", A. B. Ellis, R. Schreiner, and R. A. Ulkus, *Proc. Natl.Acad. Sci.,U.S.A*., **78,** 3993 (1981).

28. "Bis(2,2'-biquinoline)copper(I) Nitrate as an In-Situ Spectrophotometric Probe of Heterojunction Formation for Cadmium Sulfide/Cuprous Sulfide Photovoltaic Cells", C. J.Schlesener, H. H. Streckert, and A. B. Ellis, *Anal.Chem*., **53**, 2283 (1981).

29. "Luminescent Photoelectrochemical Cells. 6. Spatial Aspects of the Photoluminescence and Electroluminescence of Cadmium Selenide Electrodes", H. H. Streckert, J. Tong, and A. B. Ellis, *J. Amer. Chem. Soc.*, **104,** 581 (1982).

30. "Luminescent Photoelectrochemical Cells. 7. Photoluminescent and Electroluminescent Properties of Cadmium Sulfo-Selenide Electrodes," H. H. Streckert, J. Tong, M. K. Carpenter, and A. B. Ellis, *J. Electrochem.Soc.*, **129**, 772 (1982).

31. "Photoluminescence and Electroluminescence as Probes of Interfacial Charge-Transfer Processes Relevant to Cadmium Sulfo-Selenide-Based Photoelectrochemical Cells", H. H. Streckert, J. Tong, M. K. Carpenter, and A. B. Ellis, in "Photochemistry: Fundamental Processes and Measurement Techniques", W. L. Wallace, A. J. Nozik, S. K. Deb, and R. H. Wilson, Eds., Electrochemical Society: Pennington, N.J., Vol. 82-3, 633 (1982).

32. "Adduct-Mediated Photochemistry. Evidence for Excited-State Reordering in Acetophenonetricarbonylchromium(0) upon Adduct _Formation with Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato)europium(III)", R. Schreiner and A. B. Ellis, *J. Amer. Chem. Soc.*, **104**, 3374 (1982).

33. "Photoluminescence and Electroluminescence in Graded Cadmium Sulfoselenide Electrodes: Applications to Photoelectrochemical Cells", M. K. Carpenter, H. H. Streckert, and A. B. Ellis, *J. Solid State Chem.*, **45,** 51 (1982).

34. "Mapping the Efficiency of Electron-Hole Pair Separation for a Semiconductor Electrode. Luminescent Properties of Graded Cadmium Sulfoselenide Electrodes", H. H. Streckert and A. B. Ellis, *J. Phys. Chem.,* **86**, 4921 (1982).

35. "Photoelectrochemical Cells Based on GaAs0.6P0.4 Epilayers. Stabilization and Luminescent Properties", W. S. Hobson and A. B. Ellis, *Appl. Phys. Lett.,* **41,** 891 (1982).

36. "Excited-State Processes of Relevance to Photoelectrochemistry", A. B. Ellis, *J. Chem. Ed.*, **60**, 332 (1983).

37. "Ground-State and Excited-State Properties of Adducts Derived from Tris(eta-5-cyclopentadienyl) ytterbium (III)", C. J. Schlesener and A. B. Ellis, *Organometallics,* **2,** 529 (1983).

38. "Silica-Gel-Mediated Photoisomerization of Retinal Isomers and Comparisons with Other Forms of Environmental Perturbation", M. E. Zawadzki and A. B. Ellis, *J. Org. Chem.*, **48,** 3156 (1983).

39. "Excited-State Properties of Lamellar Solids Derived from Hydrogen Uranyl Phosphate", M.M. Olken, R. N. Biagioni, and A. B. Ellis, *Inorg. Chem.*, **22**, 4128 (1983).

40. "Photoluminescent Properties of n-GaAs Electrodes: Applications of the Dead-Layer Model to Photoelectrochemical Cells," W. S. Hobson and A. B. Ellis, *J. Appl. Phys.*, **54**, 5956 (1983).

41. "Silica-Gel-Mediated Photoreactivity of (η^6-Arene) tricarbonylchromium Complexes", M. E. Zawadzki and A. B. Ellis, *Organometallics*, **3,** 192 (1984).

42. "Polarization Effects in the Luminescence of Cadmium Selenide Electrodes", H. H. Streckert, H. Van Ryswyk, R. N. Biagioni, and A. B. Ellis, *J. Phys. Chem.*, **88**, 1544 (1984).

43. "Zinc Selenide Photoelectrodes. Efficient Radiative Recombination in a Stable Photoelectrochemical Cell", P. M. Smiley, R. N. Biagioni, and A. B. Ellis, *J. Electrochem. Soc.*, **131**, 1068 (1984).

44. "Photoluminescent and Electroluminescent Properties of GaAs(1-x)Px-GaAs(1-y)Py Isotype Heterojunction Electrodes," W. S. Hobson, P. B. Johnson, A. B. Ellis, and R. M. Biefeld, *Appl. Phys. Lett.*, **45**, 150 (1984).

45. "Chemiluminescent Reactions of Bis(η^5-pentamethylcyclopentadienyl)ytterbium Derivatives", A.C. Thomas and A.B. Ellis, *J. Chem. Soc., Chem. Commun.*, **1984,** 1270.

46. "Photoluminescent and Electroluminescent Properties of $Cd_{0.95}Mn_{0.05}Se$ Electrodes", A. A. Burk, Jr., A. B. Ellis, D. Ridgley, and A. Wold, *J. Lumin.* **31/32**, 969 (1984).

47. "Luminescent Properties of Adducts of Bis(η^5-pentamethylcyclopentadienyl)ytterbium(II), A.C. Thomas and A.B. Ellis,*J. Lumin.*, **31/32**, 564 (1984).

48. "Efficient Host-to-Guest Excited-State Energy Transfer in a Lamellar Solid: Photoluminescence and Photoaquation of Hexaamminechromium (III)-Substituted Hydrogen Uranyl Phosphate", M. M. Olken and A. B. Ellis, *J. Am. Chem. Soc.*, **106**, 7468 (1984).

49. "Luminescent Properties of Lamellar Solids Derived from Hydrogen Uranyl Phosphate and Cr (III) Werner Complexes", M. M. Olken, C. M. Verschoor, and A. B. Ellis, *J. Lumin.*, **31/32,** 552 (1984).

50. "Luminescent Properties of Graded Cadmium Sulfoselenide Electrodes Prepared from Cadmium Sulfide Substrates," M. K. Carpenter and A. B. Ellis, *J. Electroanal. Chem.*, **184**, 289 (1985).

51. "Photoluminescent Response of Palladium Cadmium Sulfide and Palladium Cadmium Sulfoselenide Schottky Diodes to Molecular Hydrogen," M. K. Carpenter and A. B. Ellis, *Langmuir,* **1**, 605 (1985).

52. "Perturbation of the Excited-State Properties of *trans,trans*-1,5-(4-(dimethylamino)phenyl)-1,4-pentadien-3-one through Adduct Formation and Silica Gel Adsorption", J. M. Eisenhart and A. B. Ellis, *J. Org. Chem.*, **50**, 4108 (1985).

53. "Stabilization and Luminescent Properties of GaP/GaAs0.4P0.6 Strained-Layer Superlattice Electrodes", P. B. Johnson, A. B. Ellis, R. M. Biefeld, and D. S. Ginley, *Appl. Phys. Lett.*, **47**, 877 (1985).

54. "Diethyl Ether Adducts of Bis(pentamethylcyclopentadienyl)europium(II) and -ytterbium(II): Excited-State Energy Transfer with Organolanthanoid Complexes", A. C. Thomas and A. B. Ellis, *Organometallics*, **4**, 2223 (1985).

55. "Host-to-Guest, Excited-State Energy Transfer in Lamellar Solids. Photoluminescent Properties of Hydrated Europium Uranyl Phosphate", M. M. Olken, C. M. Verschoor, and A. B. Ellis, *Inorg. Chem.*, **25**, 80 (1986).

56. "Luminescent Properties of Semiconductor Electrodes", A. B. Ellis in "Chemistry and Structure at Interfaces: New Laser and Optical Techniques", R. B. Hall and A. B. Ellis, Eds., VCH Pub. 1986, Ch. 6.

57. "Photoluminescent Properties of n-GaAs Electrodes: Simultaneous Determination of Depletion Widths and Surface Hole-Capture Velocities in Photoelectrochemical Cells", A. A. Burk, Jr., P. B. Johnson, W. S. Hobson, and A. B. Ellis, *J. Appl. Phys.*, **59,** 1621 (1986).

58. "Optical Coupling of Surface Chemistry. Photoluminescent Properties of a Derivatized Gallium Arsenide Surface Undergoing Redox Chemistry", H. Van Ryswyk and A. B. Ellis. *J. Am. Chem. Soc.,* **108**, 2454 (1986).

59. "Excited-State Properties of Lamellar Solids Derived from Hydrogen Uranyl Phosphate and Lanthanon Ions", C. M. Verschoor, M. M. Olken, and A. B. Ellis, *J. Less Common Met.*, **126**, 221 (1986).

60. "Optical Probes of Interlamellar Redox Chemistry: Intercalation of the Creutz-Taube Complex into Hydrogen Uranyl Phosphate", C. M. Verschoor and A. B. Ellis, *Solid State Ionics*, **22**, 65 (1986).

61. "Zeolite-Supported Tetramethyl-1,2-Dioxetane: New Pathways to Chemiluminescence", B. L. Benedict and A. B. Ellis, *Tetrahedron*, **43**, 1625 (1987).

62. "Synthesis, Structure, and Photochemistry of a Rhenium(I)Enolate Complex", L. U. Gron, K. J. Haller, and A. B. Ellis, *J. Organomet. Chem.*, **323**, 207 (1987).

63. "Comparison of Reactivity Based on Intercalation and Host Lattice Reconstruction. Two Routes for the Conversion of the Lamellar Solid Hydrogen Uranyl Phosphate to a Lamellar Hydrate of Uranyl Phosphate," G. L. Rosenthal and A. B. Ellis, *J. Am. Chem. Soc.* **109**, 3157 (1987).

64. "Photoluminescent Properties of p-GaAs Electrodes Related to the "Photocurrent Anomaly": Determination of Surface Electron-Capture Velocities and Depletion Widths in Photoelectrochemical Cells," P. B. Johnson, C. S. McMillan, A. B. Ellis, and W. S. Hobson, *J. Appl. Phys.*, **62**, 4903 (1987).

65. "A New Class of Chemical Sensors for Gases Based on Photoluminescence from Semiconductor-Derived Interfaces," G. J. Meyer, G. C. Lisensky, and A. B. Ellis, *Proceedings of the Electrochemical Society*, **87**, 438 (1987).

66. "Superconductors: Better Levitation through Chemistry", A. B. Ellis, *J. Chem. Ed.*, **64**, 836 (1987).

67. "Levitating a Magnet Using a Superconductive Material: An Overhead-Projector Demonstration", F. H. Juergens, A. B. Ellis, G. H. Dieckmann, and R. I. Perkins, *J. Chem. Ed.*, **64**, 851 (1987).

68. "Solid Solutions of Hydrogen Uranyl Phosphate and Hydrogen Uranyl Arsenate. A Family of Luminescent, Lamellar Hosts", P. K. Dorhout, G. L. Rosenthal, and A. B. Ellis, *Inorg. Chem.*, **27**, 1159 (1988).

69. "An Interlamellar Liebig Titration Based on Photoluminescence. The Reaction of Silver Uranyl Phosphate with Hydrogen Cyanide Gas", G. H. Dieckmann and A. B. Ellis, *Inorg. Chem.*, **26**, 4147 (1987)

70. "Evidence for Adduct Formation at the Semiconductor-Gas Interface. Photoluminescent Properties of Cadmium Selenide in the Presence of Amines", G. J. Meyer, G. C. Lisensky, and A. B. Ellis, *J. Am. Chem. Soc.*, **110**, 4914 (1988).

71. "Luminescent Properties of Cadmium Sulfoselenide Electrodes Prepared by Ion Implantation", L. R. Sharpe, A. B. Ellis, and H. Kalweit, *J. Electrochem. Soc.*, **135**, 2243, (l988).

72. "Gallium Phosphide/Gallium Arsenide Phosphide Strained-Layer Super-Lattice Electrodes. Effect of the Terminating Layer on Photoelectrochemical Properties", S. P. Zuhoski, P. B. Johnson, A. B. Ellis, R. M. Biefeld, and D. S. Ginley, *J. Phys.Chem.*, **92**, 3961 (1988).

73. "Structural and Photoluminescent Properties of Fully-Hydrated Lanthanon Uranyl Phosphates," G.L. Rosenthal and A.B. Ellis, *J. Less Common Met.* **139**, 299 (1988).

74. "Photoluminescent Properties of Cadmium Sulfide with Gaseous Lewis Acids and Bases," G. J. Meyer, E. R. M. Luebker, G. C. Lisensky, and A .B. Ellis in "Photochemistry on Solid Surfaces," M. Anpo and T. Matsuura, Eds. Elsevier, Vol. **47** of "Studies in Surface Science and Catalysis," Ch. 7.3, p. 388 (1989).

75. "Superconducting Bi-Ca-Sr-Cu Oxide Thin Films by Spray Pyrolysis of Metal Acetates," D. F. Vaslow, G. H. Dieckmann, D. Dawson Elli, A. B. Ellis, D. S. Holmes, A. Lefkow, M. MacGregor, J. E. Nordman, M. F. Petras, and Y. Yang, *Appl. Phys. Lett.*, **53**, 324 (1988).

76. "Two Families of Lamellar, Luminescent Solid Solutions: The Intercalative Conversion of Hydrogen Uranyl Phosphate Arsenates to Uranyl Phosphate Arsenates," P. K. Dorhout, G. L. Rosenthal, and A. B. Ellis, *Solid State Ionics,* **32**, 50 (1989).

77. "Photoelectrochemical Properties of III-V Isotype Heterojunction Electrodes," A. B. Ellis, L. R. Sharpe, S. P. Zuhoski, R. M. Biefeld, and D. S. Ginley, *Proc. of the Seventh Int'l. Conf. on Photochemical Conversion and Storage of Solar Energy*, J.R. Norris and D. Meisel, Eds., 255 (1989).

78. "New Strategies for Display Devices Based on II-VI Materials", E. R. M. Luebker, A. B. Ellis, and H. Kalweit, *Proc. of the Society of Photographic Scientists and Engineers*, 37 (1989).

79. "A Selective Detector for Gas Chromatography Based on Adduct-Modulated Semiconductor Photoluminescence," G. C. Lisensky, G. J. Meyer, and A. B. Ellis, *Anal. Chem.*, **60**, 253l (l988).

80. "A Double-Decker Levitation Experiment Using a Sandwich of Superconductors", A. T. Jacob, C. I. Pechmann, and A. B. Ellis, *J. Chem. Ed.*, **65**, 1094 (1988).

81. "Semiconductor-Olefin Adducts. Photoluminescent Properties of Cadmium Sulfide and Cadmium Selenide in the Presence of Butenes", G. J. Meyer, L. K. Leung, J. C. Yu, G. C. Lisensky, and A. B. Ellis, *J. Am. Chem. Soc.* **111**, 5146 (1989).

82. "Intercalation Reactions of the Neptunyl (VI) Dication with Hydrogen Uranyl Phosphate and Hydrogen Neptunyl Phosphate Host Lattices," P.K. Dorhout, R.J. Kissane, K.D. Abney, L.R. Avens, P.G. Eller, and A.B. Ellis, *Inorg.Chem.* **28**, 2926 (1989).

83. "Structural, Optical, and Redox Properties of Lamellar Solids Derived from Copper (I) Complexes and *n*-Butylammonium Uranyl Phosphate and Arsenate," A.T. Jacob and A.B. Ellis, *Inorg. Chem.* **28**, 3896 (1989).

84. "Dramatizing Isotopes. Deuterated Ice Cubes Sink," A.B. Ellis, E.A. Adler, and F.H. Juergens, *J. Chem. Ed.* **67**, 159 (1990)

85. "Excited-State Properties of Lamellar Solids Derived from Metal Complexes and Hydrogen Uranyl Phosphate," L.R. Hunsberger and A.B. Ellis, *Coor. Chem. Rev.* **97**, 209 (1990).

86. "Structural and Optical Properties of Hydrated, Lanthanon Uranyl Arsenates," P.K. Dorhout, D.M. Sabel, A.B. Ellis, M. Martinez-Lara, S. Bruque-Gamez, J.L. Sanchez-Reina, and L. Moreno-Real, *J. Less Common Metal* **156**, 439 (1990).

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