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RESEARCH INTERESTS

Interface and 2D physics; surface, interface, and thin film electronic and magnetic structures; nanoscale material fluctuations and emergent complexity; soft x-ray science and technology.

ACADEMIC TRAINING

1976-80	Ph.D. Physical Chemistry, University of California, Berkeley, Thesis: Surface Structure Determination by Photoelectron Diffraction.
1972-76	B.A., Chemistry, Wesleyan University, Middletown, Ct.

HONORS AND AWARDS

1975&76	Wesleyan Chemistry Department Awards
1975	Phi Beta Kappa
1976	Summa Cum Laude
1976-77	University of California, University Fellowship
1978-79	University of California, Regents Fellowship
1979-80	Amoco Graduate Fellowship
1984	Bell Laboratories Internal Award
1986	Presidential Young Investigator Award
1986	IR 100 Award for New Product Design
1987	Alfred P. Sloan Foundation Research Fellowship
1995	American Physical Society Fellow
1998	ALS Science Prize (the Shirley Prize)
2001	Fellow of the American Association for the Advancement of Science

PROFESSIONAL APPOINTMENTS

1991-	Professor of Physics, University of Oregon
1986-91	Associate Professor of Physics, University of Oregon
1980-86	Member of Technical Staff, AT&T Bell Laboratories, Murray Hill, NJ

PROFESSIONAL SOCIETIES, AFFILIATIONS, AND COMMITTEES

American Physical Society
American Vacuum Society
American Association for the Advancement of Science
Physical Electronics Conference, Organizing Committee, 1986-89
Chairperson, Physical Electronics Conference Organizing Committee, 1993-6
Advanced Light Source Users Executive Committee, 1987-90, 1997-99
Institute for Defense Analysis, Defense Sciences Study Group, 1994-95
Chairperson, Advanced Light Source Users Executive Committee, 1988-90, 1999
Chairperson, Advanced Light Source Science Advisory Committee, 2000-3

POSTDOCTORAL ASSOCIATES SUPERVISED:

1. Richard Gaylord, 1986 - 88, currently at IBM Burlington, VT.
2. Gregory Elliott, 1987 - 90, currently Prof of Physics, University of the Puget Sound.
3. Kevin Smith, 1988 - 91, currently Associate Professor of Physics, Boston University.
4. A. Ballard Andrews, 1991 - 93, currently at Schlumberger-Doll Research, Ridgefield, CT.
5. Eli Rotenberg, 1993-96, currently a staff scientist at the Advanced Light Source.
6. Matthias Schabel, 1997, currently Remote Sensing Systems, Santa Rosa, CA.
7. Joerg Schaefer, 1998 - 2000, currently at the University of Augsburg
8. Boris Krenzer, 2000 – 2001, currently at the University of Essen
9. Karine Chesnel, 2002-06
10. Oleg Krupin, 2005-
11. Mark Pfeiffer, 2005-

GRADUATE STUDENTS SUPERVISED:

1. Lisa Peterson, Ph.D. August, 1991. Thesis: "A Study of Molecular Interactions on Surfaces by Time-Resolved Electron Energy Loss Spectroscopy".
2. Kuang Jen Wu, Ph.D. August, 1991. Thesis: "Time-Resolved Electron Energy :Loss Spectroscopy of Molecular Interactions on Metal Surfaces - Kinetic and Thermodynamic Properties", currently a staff member at Charles Evans Associates.
3. Safwan Arekat, Ph.D., March, 1992. Thesis: "Second Harmonic Generation and the Metallization of the Surface of Silicon by Alkali Metal Adsorbates", currently Professor of Physics at the University of Bahrain.
4. Zizhou Tang, Ph.D. December, 1992. Thesis: "VUV and Soft X-ray Properties of Solids and Synthetic Layered Materials".
5. Zengli Xu, Ph.D. December, 1992. Thesis: "The Study of Synthetic Layered Materials by X-ray Diffraction".
6. Eric Kneedler, Ph.D. March, 1994. Thesis: "The Electronic Structure of Clean Ta(011) and of Chemisorbed Monovalent Atoms on Ta(011)", currently at FEI Inc, Beaverton, OR.
7. Wei Di, Ph.D. March, 1994. Thesis: "Angle-Resolved Photoemission Study of Several Transition Metal Surfaces".
8. Dean Skelton, Ph.D. March, 1996. Thesis: "Interactions between Adsorbed and Coadsorbed Molecules on Transition Metal Surfaces", currently at Kimball Physics.
9. Der-Hsin Wei, Ph.D. June, 1996. Thesis: “Interactions between Molecules Adsorbed on Transition Metal Surfaces”, currently a staff member at SRRC, the Taiwan National Synchrotron Radiation Facility.
10. Kristen McCutcheon, Ph.D. December, 1997. Thesis: “Reactions in Multilayered Thin Films of Tantalum and Selenium”, current at Agilant, Fort Collins, CO.
11. Thomas Hughes, Ph.D. November, 1998. Thesis: “Synthesis and Structure of Transition Metal Dichalcogenide Superlattices”.
12. Abed Khooli, masters degree, 1998.
13. Hsiumin Huang, M.S. awarded March, 1995. Thesis: “A Study of Interfacial Reactions in Niobium/Selenium Multilayers”.

14. Momadoo Barry, M.S. December, 1996. Thesis: “Polystyrene Thin Films Studied with Low-Angle X-ray Reflectometry”.
15. Matthew Porter, Ph.D., 1999. Thesis: "Soft X-ray Speckle Patterns from Rough Surfaces"
16. Dan Deponte, Ph.D. 2004. Thesis: “Optimizing an Apparatus for Coherent Helium Atom Scattering”
17. Matthew Rocha, Ph.D. 2003. Thesis: “Angle-Resolved Photoemission Study of the Elelctronic Structure of $NbSe_3$”
18. Forest Patton, PhD 2005.. Thesis: “Coherent Atom Beam Diffraction”
19. Joshua Turner, started Winter, 2003.

UNDERGRADUATE STUDENTS SUPERVISED:

1. Dean Skelton, NSF/REU student, summer 1989.
2. Thomas Hughes, NSF/REU student, summer 1990.
3. Laura Peticolas, NSF/REU student, summer 1990 - fall 1992.
4. Debra Ritter, NSF/REU student, summer, 1992.
5. Travis Abshere, NSF/REU student, summmer 1992 - spring 1993.
6. Cristy Story, NSF/REU student, summer 1996.
7. Arwyn Moilanen, NSF-REU student, summer 1997.
8. Eric Abel, UO Physics major, summer 1998
9. Gabe Gus, UO Physics Major, summer - fall 1999
10. Kiyoshi Sahiraish, NSF-REU student, summer, 1999.
11. Travis Shaw, summer 2000
12. Kazuto Usui, fall 2000 –summer 2001.
13. Laurie Kelly, NSF-REU student, summer 2001.
14. David Haskell, fall 2001

MAJOR INVITED RESEARCH SEMINARS

1. "Photoelectron diffraction: a new structural probe for adsorbed species", Gordon Conference on Synchrotron Radiation Research, July, 1979.
2. "Photoelectron diffraction", topical conference on Photoemission from Metals, Les Houches, France, March, 1980.
3. "Photoelectron diffraction studies at SSRL", Sixth International Conference on Vacuum Ultraviolet Radiation, University of Virginia, June, 1980.
4. "Photoelectron diffraction: current applications and future prospects", SPIE conference on Science with Soft X-rays, Brookhaven National Laboratory, October, 1983.
5. "Angle dependent photoemission with high momentum resolution", March meeting of the American Physical Society, Detroit, March, 1984.
6. "Metal-insulator transition on Ge(001)", NSLS users meeting, Brookhaven National Laboratory, June, 1984.

7. "Surface states and coherence", Invited talk at the International Conference on Synchrotron Radiation, Trieste, Italy, April, 1986.

8. "Surface states and coherence", invited talk at the International Workshop on the Physics of Interfaces by Synchrotron Radiation and other High Energy Probes, Bad Honneff, West Germany, April, 1986.

9. "Angle-resolved photoemission", invited talk at the Gordon Conference on Electron Spectroscopy, Wolfeboro, N.H., July, 1986.

10. "Surface states and reconstruction on W(011)", Oregon Materials Science Symposium, Corvallis, April 18, 1987.

11. "Free electron laser applications in high resolution photoemission", Conference on Applications of Free Electron Lasers in the VUV, Cloudcroft, N.M., March, 1988.

12. "Intuition and surface electronic structure", Annual meeting of the New Mexico Division of the AVS, Albuquerque, April 20, 1988.

13. "Electronic structure of chemisorbed hydrogen", invited talk at the Northwest Regional ACS Meeting, Spokane, WA., June, 1988.

14. "ALS scientific opportunities: smaller, faster, and more unusual", Advanced Light Source Groundbreaking Ceremonies, Berkeley, July 28, 1988.

15. "Fermi surfaces and chemisorption phenomena", March meeting of the American Physical Society, St. Louis, March, 1989.

16. "Surface physics and chemistry on the NSLS UV ring", NSLS Annual Users' Meeting, May 18, 1989.

17. "Surface fermi surfaces", Ninth International Conference on Vacuum Ultraviolet Radiation Physics, Honolulu, Hawaii, July, 1989.

18. "Desorption and molecular interactions on surfaces", Western Spectroscopy Association Meeting, Asilomar, January, 1990.

19. "Non-adiabatic effects at surfaces", Gordon Conference on Electron Spectroscopy, Wolfeboro, N.H., July 17, 1990.

20. "Molecular interactions on surfaces", topical conference on Chemistry at Surfaces, University of California, Irvine, October, 1990.

21. "Energy and time scales at surfaces", workshop on Surface Science on the UV Ring, Brookhaven National Laboratory, May 20, 1991.

22. "Molecular Interactions on Surfaces", 203rd National Meeting of the American Chemical Society, San Francisco, April, 1992.

23. "Surface Fermi Contours", October 28, 1992, Seoul National University, Seoul, Korea.

24. "Molecular Interactions on Surfaces", October 28, 1992, Yonsei University, Seoul, Korea.

25. "Roughness and Interdiffusion in Synthetic Multilayers", October 29, 1992, Pohang Institute of Science and Technology, Pohang, Korea.

26. "Photoemission Energy Analyzers", invited talk at a user's meeting of the Pohang Light Source, Pohang, Korea, October 30, 1992, the previous three invited talks were organized around this invited visit to a new synchrotron radiation light source in Pohang, Korea

27. "Fermi Contours and Surface Dynamical Phenomena", invited talk at a Symposium on Angle-Resolved Photoemission, Tegernsee, Germany, May, 1993.

28. "Fermi Contours and Surface Dynamical Phenomena", invited talk at the 13th European Conference on Surface Science, Univ. of Warwick, UK, September 1993.

29. "Molecular Interactions on Surfaces", invited talk at the 40th National Symposium of the American Vacuum Society, November, 1993, Orlando, Fl.

30. "Are Surface States Important?", WE-Heraues Seminar on Electronic Surface States and Interface States on Metallic Systems, Bad Honnef, Germany, October, 1994.

31. "Photoelectron Diffraction on Beamline 7.0", invited talk delivered by Eli Rotenberg at the Advanced Light Source Users Meeting, October, 1995.

32. "Are Surface States Important?", Invited talk at a symposium in honor of G.K. Wertheim at Bell Laboratories, Murray Hill, N.J., September, 1995.

33. "Dynamic Soft X-ray Scattering", invited talk delivered by S. Kevan at the Advanced Light Source Users Meeting, October, 1996.

34. "Desorption Kinetics and RIB Sources", invited talk at the Annual Accelerator Conference in Denton, TX., November 6, 1996.

35. “Fermi Contours and Surface Dynamical Phenomena”, invited talk delivered at the 1997 User’s meeting of the the Synchrotron Radiation Research Center, Hsinchu, Taiwan, November, 1997.

36. “Fermi Contours and Surface Dynamical Phenomena”, invited talk delivered at Academia Sinica, Taipei, Taiwan, November, 1997.

37. "Dynamic Soft X-ray Scattering at the ALS", invited talk at the Synchrotron Radiation Research Center, Hsinchu, Taiwan, November, 1997.

38. "Dynamic Soft X-Ray Scattering Study of Thermal Fluctuations in Free-Standing Smectic Liquid Crystal Films", A.C. Price, L.B. Sorensen, and S.D. Kevan, invited talk delivered by L.B. Sorensen at the 12th International Conference on Vacuum Ultraviolet Radiation Physics, San Francisco, August, 1998.

39. "Dynamic Soft X-ray Scattering and Fluctuations in Smectic Liquid Crystals", invited talk delivered by Kevan at the X-ray Physics Gordon Conference, August, 1999.

40. "Probing Diverse Length and Time Scales with Soft X-rays", invited talk delivered by Kevan at a retirement symposium for David Shirley (his thesis advisor), Berkeley, March 29, 1999.

41. "Coherent Magnetic Soft X-ray Scattering", invited talk at the Advanced Light Source Users Meeting, October, 2001.

42. “How Magnets Forget: Microscopic Return Point Memory Probed with Coherent Soft X-

ray Scattering", Workshop "Exploiting the Coherence of X-rays" in Motzen by Berlin, September 23th - 24th, 2002.

43. "How Magnets Forget: Microscopic Return Point Memory Probed with Coherent Soft X-ray Scattering", The 5th Synchrotron Radiation Theory Network (SRRTNet) Workshop at SPring-8, Japan, October 15-16, 2002.

44. "Are Surfaces and Thin Films 'Complex' Materials?", Memorial Symposium for Eric Jensen, SRC/Univ. of Wisconsin, October 26, 2002.

45. "How Magnets Forget: Microscopic Return Point Memory Probed with Coherent Soft X-ray Scattering", EU Workshop of 4th Generation Light Sources, Daresbury Lab, UK, February, 2003.

46. "Return Point Memory Probed with Soft X-ray Speckle Metrology" Workshop on "Resonant elastic and inelastic soft X-ray scattering", UBC, 4-5 April, 2003.

47. "How Magnets Forget: Microscopic Return Point Memory Probed with Coherent Soft X-ray Scattering", 12th International Conference on X-ray Absorption Fine Structure, Lund, Sweden, July, 2003.

48. "Coherent Soft X-Ray Magnetic Scattering", 11th International Conference of Vacuum Ultraviolet Radiation Physics, Cairns, Australia, July, 2004.

49. "Planning the ALS Scientific Program", ALS Users Meeting, October, 2004.

50. "Coherent Soft X-Ray Magnetic Scattering", Users Meeting of the Canadian Light Source, Saskatoon, November, 2004.

51. "Coherent Soft X-Ray Magnetic Scattering", Workshop on the Frontiers of Soft X-ray Science, Madison, WI., September, 2004.

52. "Coherent Soft X-Ray Magnetic Scattering", Workshop on the Frontiers of Soft X-ray Science, Argonne National Lab. August, 2004.

53. "Spin Density Wave Phase Diagram in Cr(110) Films", memorial symposium in honour of William Spicer, SSRL/SLAC, October, 2004.

54. "Spin Density Wave Phase Diagram in Cr(110) Films", ARPES – 2005 New Frontiers Workshop at UBC, April 29-30, 2005.

55. "Bands and Fermi Surface Mapping: The New Age of Valence Band Photoemission", summer school on synchrotron radiation, Madrid, September, 2005.

CONFERENCES AND WORKSHOPS ORGANIZED

1) Interface and Materials Science section of the workshop on the 1-2 GeV Berkeley Advanced Light Source, October, 1985 (with Franz Himpsel).

2) Topical Conference on New Opportunities in Interface and Materials Science using Ultrabright Synchrotron Radiation Sources, National Academy of Sciences, October, 1987 (with Franz Himpsel).

3) Oregon Materials Science Symposium, Corvallis, OR., April, 1988 (with Henri Janssen).

4) Advanced Light Source Annual Users Meeting, Berkeley, June 2-3, 1988 (with D. Attwood and F. Himpsel).

5) Advanced Light Source Annual Users Meeting, Berkeley, August 7, 1989 (with F. Schlachter).

6) Physical Electronics Conference, June 18-21, 1997, Eugene, OR.

7) Advanced Light Source Annual Users Meeting, Berkeley, October, 1999 (in collaboration with the Users Executive Committee).

8) Working group on Spatial and Temporal Properties of Materials at a workshop entitled "Soft X-Ray Science in the Next Millennium", held in Pikeville, Tennessee, March 15-18, 2000.

9) Workshop on "Soft X-ray Speckles: Nanoscale Dynamics in Liquids and Solids", held on October 18, 2000 at the Stanford Synchrotron Radiation Laboratory, SLAC, co-organized with Jan Luning of SSRL.

10) Workshop on Frontiers of Magnetism at the ALS, Advanced Light Source, Berkeley, October 24, 2004.

11) Workshop on Science with Coherent Soft X-rays, Advanced Light Source, Berkeley, May 13, 2005.

PUBLICATIONS

1. "Identification of a Surface State on Cu(211)", R.S. Williams, P.S. Wehner,S.D. Kevan, R.F. Davis, and D.A. Shirley, Phys. Rev. Lett. **41**, 323 (1978).

2. "Evidence for the Itinerant Electron Model of Ferromagnetism from Angle-Resolved Photoemission Studies of Iron", S.D. Kevan, P.S. Wehner, and D.A. Shirley, Solid St. Commun. **28**, 517 (1978).

3. "Adsorbate Sensitivity Enhancement in Photoemission: CO on Pd", P.S. Wehner, S.D. Kevan, R.S. Williams, R.F. Davis, and D.A. Shirley, Chem. Phys. Lett. **57**, 335 (1978).

4. "Normal Photoelectron Diffraction of the Se 3d Core Level in Se Overlayers on Ni(001)", S.D. Kevan, D.H. Rosenblatt, D. Denley, B.-C. Lu, and D.A. Shirley, Phys. Rev. Lett. **41**, 1565 (1978).

5. "The Valence Band Structure of Silver along ? from Angle- Resolved Photoemission", P.S. Wehner, R.S. Williams, S.D. Kevan, D. Denley, and D.A. Shirley, Phys. Rev. B **19**, 6164 (1979).

6. "Photoelectron Diffraction Measurements of Sulfur and Selenium Adsorbed on Ni(001)", S.D. Kevan, D.H. Rosenblatt, R.F. Davis, and D.A. Shirley, Phys. Rev. B **20**, 4133 (1979).

7. "Photoelectron Diffraction Studies at SSRL", S.D. Kevan, Applied Optics **19**, 3974 (1980).

8. "Temperature Dependence of Normal-Emission Photoelectron Diffraction and Analogies to Extended X-ray Absorption Fine Structure",S.D. Kevan,J.G. Tobin, D.H. Rosenblatt,R.F. Davis, and D.A. Shirley, Phys. Rev. B **23** 493 (1981).

9. "Normal Photoelectron Diffraction of c(2x2) O(1s) and c(2x2) S(2p)-Ni(001) with Fourier Transform Analysis", D.H. Rosenblatt, J.G. Tobin, M.G. Mason, R.F. Davis, S.D. Kevan, D.A. Shirley, C.H. Li, and S.Y. Tong, Phys. Rev. B **23**, 3828 (1981).

10. "Normal Photoelectron Diffraction Studies of Sulfur and Selenium Adsorbed on Ni(111) and Ni(011)", D.H. Rosenblatt, S.D. Kevan, J.G. Tobin, R.F. Davis, M.G. Mason, D.R. Denley, D.A. Shirley, Y. Huang, and S.Y. Tong, Phys. Rev. B **26**, 1812 (1982).

11. "Off-Normal Photoelectron Diffraction Studies of the c(2x2) Se Overlayer on Ni(001)", D.H. Rosenblatt, S.D. Kevan, J.G. Tobin, R.F. Davis, M.G. Mason, D.A. Shirley, J.C. Tang, and S.Y. Tong, Phys. Rev. B **26**, 3181 (1982).

12. "Angle-resolved Photoemission Studies of the Valence Band Structure of Stepped Crystal Surfaces", R.F. Davis, R.S. Williams, S.D. Kevan, P.S. Wehner, and D.A. Shirley, Phys. Rev. B **31**, 1997 (1985).

13. "Angle-Resolved Photoemission Determination of ?-Line Valence Bands in Au and Pt using Synchrotron Radiation", K.A. Mills, R.F. Davis, S.D. Kevan,G. Thornton, and D.A. Shirley, Phys. Rev. B **22**, 581 (1980).

14. "Structural Determination of Molecular Overlayer Systems with Normal Photoelectron Diffraction", S.D. Kevan, R.F. Davis, D. H. Rosenblatt, J.G. Tobin, M.G. Mason, D.A. Shirley, C.H. Li, and S.Y. Tong, Phys. Rev. Lett. **46**, 1629 (1981).

15. "Substrate-Dependent C(1s) Shape Resonance in CO Overlayers on Ni(111) and Ni(001)", R.F. Davis, S.D. Kevan, D.H. Rosenblatt, M.G. Mason, J.G. Tobin, and D.A. Shirley, Phys. Rev. Lett. **45**, 1877 (1980).

16. "High Resolution Angle-Resolved Photoemission Studies of the M-point SurfaceState on Cu(001)", S.D. Kevan and D.A. Shirley, Phys. Rev. B **22**, 542 (1980).

17. "Condensed Phase Photoelectron Asymmetry", R.F. Davis, S.D. Kevan, B.C. Lu, J.G. Tobin, and D.A. Shirley, Chem. Phys. Lett. **71**, 448 (1980).

18. "Photoelectron Diffraction: Present Applications and Future Prospects",S.D. Kevan, SPIE Conference on Science with Soft X- rays, Proceedings, 1983.

19. "General Instrumentation Considerations in Electron and Ion Spectroscopies Using Synchrotron Radiation", N.V. Smith and S.D. Kevan, Nuc. Inst. and Meth. **195**, 309 (1982).

20. "Evidence for a New Broadening Mechanism in Angle-Resolved Photoemission", S.D. Kevan, Phys. Rev. Lett. **50**, 526 (1983).

21. "Design of a High Resolution Angle-Resolving Electron Energy Analyzer", S.D. Kevan, Rev. Sci. Inst. **54**, 1441 (1983).

22. "Observation of a New Surface State on Cu(001)", S.D. Kevan, Phys. Rev. B **28**, 2268 (1983).

23. "High Resolution Angle-Resolved Photoemission Study of the Cu(011) Surface State", S.D. Kevan, Phys. Rev. B **28**, 4822 (1983).

24. "Nonlifetime Effects in Photoemission Linewidths", J. Tersoff and S.D. Kevan, Phys. Rev. B **28**, 4267 (1983).

25. "A 6-m Toroidal-Grating-Monochromator Beam Line for High Momentum Resolution Photoelectron Spectroscopy", P. Thiry, P.A. Bennett, S.D. Kevan, W.A. Royer, E.E. Chaban, J.E. Rowe, and N.V. Smith, Nuc. Inst. and Meth. **222**, 85 (1984).

26. "Band Structure of the Layer Compounds 1T-TaS_2 and 2H-$TaSe_2$ in the Presence of Commensurate Charge Density Waves", N.V. Smith and S.D. Kevan, J. Phys. C **18**, 3175

(1985).

27. "Surface States on the Low Miller Index Surfaces of Copper", S.D. Kevan, N.G. Stoffel, and N.V. Smith, Phys. Rev. B **31**, 3348 (1985).

28. "Electronic Coherence Length Following Pulsed Laser Annealing of Cu(001)", S.D. Kevan, Phys. Rev. B **31**, 3356 (1985).

29. "High Resolution Angle-Resolved Photoemission Studies of the Surface States on Al(111) and Al(001)", S.D. Kevan, N.G. Stoffel, and N.V. Smith, Phys. Rev. B **31**, 1788 (1985).

30. "Development of Dispersion Compensation for Use in High Resolution Electron Energy Loss Spectroscopy", S.D. Kevan and L.H. Dubois, Rev. Sci. Inst. **55**, 1604 (1984).

31. "Metal-Insulator Transition on the Ge(001) Surface", S.D. Kevan and N.G. Stoffel, Phys. Rev. Lett. **53**, 702 (1984).

32. "Experimental Band Structure of 1T-$TiSe_2$ in the Normal and Charge-Density-Wave Phases", N.G. Stoffel, S.D. Kevan, and N.V. Smith, Phys. Rev. B **31**, 8049 (1985).

33. "Experimental Band Structure of Ordered Copper Overlayers on Ag(001)", N.G. Stoffel, S.D. Kevan, and N.V. Smith, Phys. Rev. B **32**, 5038 (1985).

34. "Surface States and Reconstruction on Ge(001)", S.D. Kevan, Phys. Rev. B **32**, 2344 (1985).

35. "Spin-Orbit Efects on the Bulk Penetration and Energy Shift of Tamm States on Cu(001) and Ag(001)", S.D. Kevan, N.G. Stoffel, and N.V. Smith, Phys. Rev. B **32**, 4956 (1985).

36. "Time-Resolved Electron Energy Loss Spectroscopy: A New Approach to Surface Studies", T.H. Ellis, L.H. Dubois, S.D. Kevan, and M.J. Cardillo, Science **230**, 256 (1985).

37. "New Insights into the Kinetics of Formic Acid Decomposition on Copper Surfaces", L.H. Dubois, T.H. Ellis, and S.D. Kevan, Surface Science **172**, 385 (1986).

38. "Direct Measure of Impurity Scattering by Angle-Resolved Photoemission", S.D. Kevan, Phys. Rev. B **33**, 4364 (1986).

39. "Anomalous Surface State Penetration on Cu(111)", S.D. Kevan and R.H. Gaylord, Phys. Rev. Lett. **57**, 2975 (1986).

40. "The Electronic Structure of Graphitic Overlayers on Ni(001)", C.F. McConville, D.P. Woodruff, and S.D. Kevan, Surface Science **171**, L447 (1986).

41. "The Electronic Structure of Carbidic Overlayers on Ni(001)", C.F. McConville, D.P. Woodruff, S.D. Kevan, M. Weinert, and J.W. Davenport, Phys. Rev. B **34**, 2199 (1986).

42. "Perturbations on Surface Electronic Structure Induced by Trace Impurities: K on Cu(111)", S.D. Kevan, Surface Science **178**, 229 (1986).

43. "Effective Mass Theory of Simple Surface States", S.D. Kevan, Phys. Rev. B **34**, 6713 (1986).

44. "High Resolution Photoemission of the Electronic Structure of the (111) Noble Metal Surfaces", S.D. Kevan and R.H. Gaylord, Phys. Rev. B **36**, 5809 (1987).

45. "Spin-orbit Induced Surface Resonance on W(011)", R.H. Gaylord and S.D. Kevan, Phys. Rev. B **36**, 9337 (1987).

46. "Electronic Contributions to the Hydrogen Induced Reconstruction of W(011)", R.H. Gaylord and S.D. Kevan, Phys. Rev. B **37**, 8491 (1988).

47. "Relativistic Effects on the Surface Electronic Structure of Mo(011)", K. Jeong, R.H. Gaylord, and S.D. Kevan, Phys. Rev. B **38**, 10302 (1988).

48. "Experimental Fermi Surface for Clean and Hydrogen-Covered W(011)", R.H. Gaylord, K. Jeong, and S.D. Kevan, Phys. Rev. Lett. **62**, 2036 (1989).

49. "Experimental Fermi Surface of Mo(011)", K. Jeong, R.H. Gaylord, and S.D. Kevan, Phys. Rev. B **39**, 2973 (1989).

50. "Experimental Fermi Surface for W(011)", R.H. Gaylord, K. Jeong, and S.D. Kevan, J. Vac. Sci. Technol. **A7**, 2203 (1989).

51. "Symmetry Effects in Hydrogen Chemisorption Electronic Structure", K. Jeong, R.H. Gaylord, and S.D. Kevan, J. Vac. Sci. Technol. **A7**, 2199 (1989).

52. "Time-Resolved EELS Study of Water Desorption from Ag(011)", K.J. Wu, L.D. Peterson, G. Elliott, and S.D. Kevan, J. Chem Phys. **91**, 7964 (1989).

53. "Anomalous Photoemission Linewidths for W(011)", S. Dhar and S.D. Kevan, Phys. Rev. B **41**, 8516 (1990).

54. "Surface State-Surface Resonance Transition on Ta(011)", E. Kneedler, D. Skelton, K.E. Smith, and S.D. Kevan, Phys. Rev. Lett. **64**, 3151 (1990).

55. "Non-Adiabatic Adsorbate Vibrational Damping and Surface Electronic Structure: W(001)-2H", K. E. Smith and S.D. Kevan, Phys. Rev. Lett. **64**, 567 (1990).

56. "Reconstruction and Surface Fermi Surface of W(001)", K.E. Smith, G.S. Elliott, and S.D. Kevan, Phys. Rev. B **42**, 5385, (1990).

57. "Coverage-Dependent Desorption of CO from Cu(001)", L.D. Peterson and S.D. Kevan, Surface Science Letters **235**, L285 (1990).

58. "Comparison of the Second Harmonic Response from Ag(111) in UHV and Solution", R.A. Bradley, S. Arekat, R. Georgiadis, J.M. Robinson, S.D. Kevan, and G.L. Richmond, Chem. Phys. Lett. **168**, 468 (1990).

59. "Surface Fermi Surfaces", S.D. Kevan, Physica Scripta **T31**, 32 (1990).

60. "Lattice Gas Virial Coeffiients from Isothermal Desorption Measurements: CO/Cu(001) and Cu(011)", L.D. Peterson and S.D. Kevan, Phys. Rev. Lett. **65**, 2563 (1990).

61. "Electronic Effects in the Mo(001) Surface Reconstruction: Two Dimensional Fermi Surfaces and Non-Adiabaticity", K.E. Smith and S.D. Kevan, Phys. Rev. B **43**, 3986 (1991).

62. "Electronic Structure of (1x1) H/Mo(001): Two Dimensional Fermi Surfaces and Non-adiabatic Adsorbate Vibrational Damping", K.E. Smith and S.D. Kevan, Phys. Rev. B **43**, 1831 (1991).

63. "Unified Kinetic and Thermodynamic Treatment of a Two-Dimensional Gas-Liquid Phase Transition: CH_4 on Ag(011)", G.S. Elliott, K.-J. Wu, and S.D. Kevan, Phys. Rev. Lett. **66**, 433, (1991).

64. "Surface Localized States and the Fermi Contours of Pd(001)", G.S. Elliott, K.E. Smith, and S.D. Kevan, Phys. Rev. B **43**, 3893 (1991).

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66. "Surface Electronic Structure and Dynamical Interactions on Ta(011) and H/Ta(011)", E. Kneedler, K. Smith, D. Skelton, and S.D. Kevan, Phys. Rev. B **44**, 8233 (1991).

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SUMMARY OF CURRENT RESEARCH SUPPORT

2001 – 2006 National Science Foundation
IGERT: TRAINING AT THE INTERFACE OF CHEMISTRY AND PHYSICS
Principal Investigator: D.C. Johnson (14 co-PI's)
Amount: $3.37M/60 months

2004 - 2007 Department of Energy, Division of Materials Science
MANYBODY EFFECTS IN CHROMIUM FILMS
Principal Investigators: S.D. Kevan and Eli Rotenberg
Amount: $450K/36 months

2005 – 2008 National Science Foundation
SPATIOTEMPORAL FLUCTUATIONS IN TRANSITION METAL OXIDES
Principal Investigator: S.D. Kevan
Amount: $360K/36 months