Curriculum Vitae - Kevin E. Smith

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EDUCATION:

- Ph.D. (Applied Physics), Yale University, New Haven, CT. December, 1988.
- M.Phil. (Applied Physics), Yale University, New Haven, CT. May, 1987
- M.S. (Applied Physics), Yale University, New Haven, CT. May, 1985
- B.A. Moderatorship, First Class. (Experimental Physics), Trinity College Dublin, Ireland. July 1983.

PROFESSIONAL EXPERIENCE:

- 2002 - date: Professor, Department of Physics, Boston University
- 2003 - date: Professor, Department of Chemistry, Boston University
- 2012 - date: Professor, Materials Science and Engineering, Boston University
- 2014 - 2016: Professor and Head, School of Chemical Sciences, University of Auckland
- 2007 - 2011: Special Faculty Assistant to the Provost, Boston University
- 2004 -2005: Visiting Researcher (*sabbatical*), Advanced Light Source.
- 2004 - 2012: Academic Director, Trustee Scholars Program, Boston University.
- 2001 - 2003: Special Faculty Assistant to the Provost, Boston University.
- 2001 - 2003: Academic Director, Center for Excellence in Teaching, Boston University
- 1997 - 2002: Associate Professor (tenured), Department of Physics, Boston University
- 1998 - 2001: Associate Chairman, Department of Physics, Boston University
- 1991 - 1997: Assistant Professor, Department of Physics, Boston University
- 1988 - 1991: Research Associate, Department of Physics, University of Oregon

AWARDS:

- **Fellow**, American Physical Society;
- **Fellow**, American Vacuum Society.
- **Massachusetts Professor of the Year**, Carnegie Foundation for the Advancement of Teaching, Washington DC, 2001.
- **Fellow**, Institute of Advanced Study, University of Warwick, U.K.
- **Honorary Member, Phi Beta Kappa**, Boston University, May 2002.
- **Metcalf Cup and Prize for Excellence in Teaching**, Boston University, May 1999.
  Awarded annually to one of the approximately 3600 faculty at the university.
- **National Science Foundation CAREER Award**, 1995 - 2001
- **Henry Prentiss Becton Prize**, *Yale University*. May 1989.
  Awarded for the best Ph.D. thesis in Engineering and Applied Science.
- **Student Prize**, *American Vacuum Society*. November 1987.
- **Gold Medal** (Natural Sciences), *Trinity College Dublin*. July 1983.
  Awarded for the best undergraduate degree performance in the natural sciences.

- **Hackett Prize**, *Trinity College Dublin*. July 1983.
  Awarded for the best undergraduate degree performance in applied science.
- **Fitzgerald Medal and Prize**, *Trinity College Dublin*. July 1983.
  Awarded for the best undergraduate degree performance in physics.

PROFESSIONAL ACTIVITIES:

Member,

Panel of Experts, Chief Scientific Advisor to the Government, Ireland; 2009 - 2012.

Member,

1. American Physical Society
2. American Chemical Society,
3. Materials Research Society,
4. Royal Society of New Zealand,
5. New Zealand Institute of Chemistry,
6. New Zealand Institute of Physics.

Manuscript reviewer for the following journals:

1. Nature Communications
2. Physical Review Letters,
3. Physical Review B - Condensed Matter Physics,
4. Surface Science,
5. Applied Surface Science
6. Applied Physics Letters,
7. The Journal of Applied Physics,
8. Journal of Physical Chemistry
9. Chemical Physics Letters,
10. The Journal of Electron Spectroscopy and Related Phenomena,
11. The Journal of Physics and Chemistry of Solids,
12. The Journal of Vacuum Science and Technology
13. The Journal of Cluster Science
14. The Journal of Chemical Physics
15. The Journal of Physics; Condensed Matter
16. Thin Solid Films
17. Nuclear Instruments and Methods
18. Review of Scientific Instruments

Grant Proposal Reviewer for the following organizations:

1. The National Science Foundation,
2. The National Research Council,
3. The U.S. Department of Energy
4. The U.S. Army Research Office
5. The Research Corporation
6. The Petroleum Research Fund
7. The U.S. Civilian Research and Development Foundation

8. Swedish Research Council
9. National Science and Engineering Research Council (Canada)
10. Canada Foundation for Innovation
11. Austrian Science Fund
12. European Research Council

External Ph.D. Examiner for students from the following universities:

1. Linköping University, Linköping, Sweden; 2014
2. Tufts University, Medford, Massachusetts, 2008
3. KTH, Stockholm, Sweden, 2007
4. Karlstad University, Karlstad, Sweden; 2005
5. Uppsala University, Uppsala, Sweden; 2004 and 2009
6. Yale University, New Haven, Connecticut; 2000
7. La Trobe University, Bundoora, Australia; 1998
8. Brandeis University, Waltham, Massachusetts; 1998

Beamtime Proposal Reviewer for:

1. Australian National Synchrotron
2. Stanford Synchrotron Radiation Laboratory
3. Advanced Light Source, Lawrence Berkeley National Laboratory

Tenure and/or Promotion Evaluator for faculty/academic staff at the following universities:

1. University of Bristol, UK, 2014
2. Victoria University of Wellington, Wellington, New Zealand, 2012
3. Montana State University, Bozeman, Montana, 2011, 2005
4. Paul Scherrer Institute, Switzerland, 2009
5. University of Wisconsin, Milwaukee, Wisconsin, 2007, 2001
6. Lawrence Berkeley National Laboratory, 2006
7. Southern Illinois University, Carbondale, Illinois, 2006
8. University of New Hampshire, Durham, New Hampshire, 2005
9. Boston College, Newton, Massachusetts, 2002
10. Tufts University, Medford, Massachusetts, 2001
11. Georgia State University, Atlanta, Georgia, 2000
12. Utah State University, Ogden, Utah, 1998

Book Reviewer for the publishers:

Academic Press, Cambridge University Press, and John Wiley & Sons

Member, *Department of Energy Review Committees for the evaluation of the following programs*:

1. Advanced Light Source, Lawrence Berkeley National Laboratory, 2011;
2. Materials Physics and Chemistry, Lawrence Berkeley National Laboratory, 2009;
3. Stanford Synchrotron Radiation Laboratory, 2001 and 2008.
4. Stanford University Materials Physics and Chemistry, 2005
5. Materials Physics and Chemistry Program, Ames Laboratory, 2004.

Member,

Proposal Study Panel, Advanced Light Source, LBNL, 2000 – 2016

Member,

International Advisory Committee, International Workshop on Resonant Inelastic X-ray Scattering (RIXS 2011).

Elected Member,

American Vacuum Society, Surface Science Division, 2006 - 2008.

Elected Member,

User Executive Committee, National Synchrotron Light Source; 1991-1992; 1994-1996.

Chairman,

Local Organizing Committee, 56th Annual Physical Electronics Conference, 1996.

Elected Member,

Conference Committee, Physical Electronics Conference, 1998 - 2000.

Elected Member,

Board, International Conference on Electron Spectroscopy and Structure. 2003 – date

External Evaluator,

City University of New York Research Award Program, 1997, 1998

Spokesman,

NSLS-II Soft X-Ray Scattering Beamline (SIXS) team, 2010 - 2012;

Member,

NSLS X1B Participating Research Team, 1998 - date.

Co-organizer,

Symposium on Rare Earth Nitrides, Fall 2010 Meeting of the Materials Research Society.

TEACHING EXPERIENCE (BOSTON UNIVERSITY):

- PY212 - General Physics 2 - Electricity & Magnetism (Sophomores); 3 semesters.
- PY252 - Principles of Physics II (Freshman physics majors); 1 semester.
- PY313 - Modern Physics (Sophomore engineers); 9 semesters.
- PY451 - Quantum Physics 1. (Senior physics majors); 2 semesters.
- PY452 - Quantum Physics 2. (Senior physics majors); 2 semesters.
- PY482 - Junior/Senior Seminars in Physics (physics majors); 2 semester.
- PY543 - Intro. to Solid State Physics. (Graduate students & physics majors); 4 semesters.
- PY745 - Expt. Surface Physics and Chemistry. (Graduate students); 1 semester
- PY898 - Expt. Surface Physics. (Graduate students & physics majors); 3 semesters
- PY699 - Teaching College Physics (Graduate students); 12 semesters.
- CH801 - Graduate Research Methods and Scholarly Writing; 1 semester, team taught.

ACADEMIC SERVICE:

- Head, School of Chemical Sciences, University of Auckland, 2014 – 2016.
- Member, University of Auckland Health and Safety Steering Committee, 2014 - 2015
- Special Faculty Assistant to the Provost, Boston University, 2001 - 2003, 2007 – 2011.
- Chair, Trustee Scholars Program Selection Committee, Boston University, 2004 - 2012.
- Academic Director, Trustee Scholars Program, Boston University, 2004 - 2012.
- Director of Graduate Admissions, Department of Physics, 2006 - 2009.
- Member, Provost's Faculty Advisory Board on Distance Education, 2007 - 2008.
- Academic Director, Boston University Center for Excellence in Teaching, 2001 - 2003.
- Associate Chairman (Graduate Studies), Department of Physics, 1998 - 2001.
- College Appointment, Promotion, and Tenure Committee, 1998 - 1999.
- College Natural Sciences Curriculum Committee, 1992 - 1995; Chairman 1995.
- College Academic Conduct Committee, 1994 - 1997.
- University Pre-Medical Advisory Board, 1992 - 1994.
- Physics Department Graduate Committee, 1991 - 1995.
- Physics Department Faculty Search Committees, 1993, 1995, 1998, 2003 - 2006.
- Chemistry Department Faculty Search Committee, 2005.
- Physics Department Graduate Admissions Committee, 1993 - 1998; Chairman, 1998.
- Academic Review Boards, US Navy ROTC, 1994 and 1995.
- Summer Advisor for Incoming Freshmen, 1993 - 2001.
- Off-Campus University Undergraduate Faculty Recruiter, 1996 - date.
- Advisory Committee, Undergraduate Research Opportunities Program, 1997 - 1998.
- University Metcalf Teaching Award Selection Committee, 1999 - 2000.
- Case and Melville Scholarship Selection Committee, 2003.
- Invited speaker at University events: 1999 University Matriculation, 1999 President's Dinner with Student Leaders, 2000 Foreign Student Orientation Banquet, 2000 "Food for Thought" Lecture, Marsh Chapel, 2002 Induction Lecture, Phi Beta Kappa

RESEARCH INTERESTS:

My research interests are in the physics and chemistry of novel materials. I use synchrotron radiation-based spectroscopies to probe bulk, surface and interface electronic phenomena relevant to issues of physical and technological importance. The primary techniques I use are photoemission spectroscopy and x-ray emission spectroscopy. At present, I am studying low dimensional and highly correlated solids, thin film organic semiconductors, transparent conducting oxides, narrow band gap semiconductor thin films, solid oxide fuel cell cathodes, and rare-earth nitrides.

PhD. Theses Supervised:

1. "***Electronic Structure of Quasi-Low Dimensional Oxide Conductors***"
   Klaus Breuer, Boston University, 1996

2. "***Soft X-Ray Emission and Absorption Studies of Semiconductors and Organic Molecular Solids***"
   Cristian B. Stagarescu, Boston University, 1999.

3. "***Electronic Structure of Semiconductor Surfaces***"
   Philip Ryan, Dublin City University, 2001. Primary Advisor: Professor Greg Hughes.

4. "***Soft X-Ray Spectroscopic studies of the Electronic Structure of Organic Molecular Superconductors and Semiconductors***"
   James Downes, Boston University, 2003.

5. "***Electronic Structure in Low Dimensional and Correlated Solids***"
   Timothy Learmonth, Boston University, 2008.

6. "***Spectroscopic studies of the Electronic Structure in Thin Film Organic Semiconductors***"
   Yufeng Zhang, Boston University, 2008.

7. "***Electronic Structure and Quantized Electron Accumulation of Narrow Band Gap Semiconductors***"
   Leyla Colakerol, Boston University, 2008.

8. "***Synchrotron-Based Soft X-Ray Spectroscopic Studies of the Electronic Structure of Organic Semiconducting Molecules***"
   Alex DeMasi, Boston University, 2010.

9. ***"Soft X-Ray Spectroscopy Studies of Novel Electronic Materials using Synchrotron Radiation"***
   David Newby, Jr, Boston University, 2014

10. "***Study of the Electronic Structure of Transition-Metal Oxides by Synchrotron-Based X-Ray Spectroscopies***"
    Bo Chen, Boston University, 2014

Two Ph.D. students are presently under my supervision: Dana Goodacre (UoA) and Emma Anquillare (BU).

Postdoctoral Research Associates Supervised:

1. **Sarnjeet Dhesi**, Ph.D. University of Liverpool, U.K., 1993
2. **Laurent Duda**, Ph.D. Uppsala University, Sweden, 1996
3. **Yu-Cheng Chao**, Ph.D. Linköping University, Sweden, 1996
4. **Jinyu Xue**, Ph.D. La Trobe University, Australia, 1998.
5. **Xilin Wu**, Ph.D. Iowa State University, Ames, IA, 1994.
6. **Cormac McGuinness**, Ph.D. University College Dublin, Ireland, 1997.
7. **Per-Anders Glans**, Ph.D. Linköping University, Sweden, 2001
8. **Lukasz Plucinski**, Ph.D. Hamburg University, Germany, 2003
9. **Hae-Kyung Jeong**, Ph.D. University of Nebraska, 2004
10. **Shancai Wang**, Ph.D. Boston College, MA, USA, 2004
11. **Louis Piper**, Ph.D. University of Warwick, U.K., 2006
12. **Zhiguo Ge**, Ph.D University of Notre Dame, South Bend, IN, 2007.
13. **Sang Wan Cho**, Ph.D., Yonsei University, Korea, 2008
14. **Andrew Preston**, Ph.D., Victoria University of Wellington, New Zealand, 2009
15. **Jude Laverock**, Ph.D. University of Bristol, U.K, 2006
16. **Jithesh Kuyyalil**, Ph.D. JNCASR, Bangalore, India, 2012.
17. **Vedran Jovic**, Ph.D., University of Auckland, New Zealand, 2014
18. **Yijay Singh,** Ph.D., University of Tokyo, Japan, 2011.

Dr. Jovic and Dr. Singh are presently working under my supervision.

PUBLICATIONS:

Synopsis: 173 peer reviewed publications (published or in press), including 10 invited papers. 19 papers were published in letters journals. 2 other manuscripts are presently under review.

CONTRIBUTED JOURNAL ARTICLES

1. "Structural and Electronic Properties of Thermally Evaporated V_2O_5 Epitaxial Thin Films", B. Lamoureux, V.R. Singh, V. Jovic, J. Kuyyalil, T.-Y. Su, K.E. Smith, Thin Solid Films **615**, 409 (2016)

2. "An X-Ray Spectroscopic Perspective of Electron Localization and Transport in Tungsten Doped Bismuth Vanadate Single Crystals", V. Jovic, A.J. Rettie, V.R. Singh, J.-S. Zhou, C.B. Mullins, T.-Y. Su, B. Lamoureux, H. Bluhm, J. Laverock, K.E. Smith, Phys. Chem. Chem. Phys. (*in press*)

3. "Observation of Surface States on Heavily Indium Doped SnTe(111), a Superconducting Topological Crystalline Insulator", C.M. Polley, V. Jovic, T-Y. Su, M. Saghir, T. Balasubramanian, G. Balakrishnan, J. Laverock, and K.E. Smith, Phys. Rev. B **93**, 075132 (2016)

4. "Interfacial electronic structure of C_{60}/ZnPc/AZO on photoemission spectroscopy for organic photovoltaic applications" N. Heo, Y. Kim, Y. Jung, S. Cheon, S. Cho, S.W. Cho, S. Park, Y. Yi, K.E. Smith, Chem. Phys. (*in press*)

5. "Electron Accumulation in InN Thin Films and Nanowires", L. Colakerol Arslan and K.E. Smith, in "Low-Dimensional and Nanostructured Materials and Devices Properties, Synthesis, Characterization, Modelling and Applications", Editors: Hilmi Ünlü, Norman J. M. Horing, Jaroslaw Dabowski. Springer 2016

6. "Soft X-Ray Spectroscopic Studies of the Electronic Structure in *M*-$BiVO_4$ (*M* = Mo, W)." V. Jovic, J. Laverock, A.J.E. Rettie, J. Zhou, C. Buddie Mullins, V.R. Singh, T-Yi Su, B. Lamoureux, D. Wilson, T. Söhnel, B. Jovic, and K.E. Smith, J. Mater. Chem. A **3**, 23743 (2015)

7. "Vacancy assisted SrO formation on $La_{0.8}Sr_{0.2}Co_{0.2}Fe_{0.8}O_{3-\delta}$ surfaces - a synchrotron photoemission study" J. Kuyyalil, D. Newby, J. Laverock, Y. Yu, D. Cetin, S. Basu, K. Ludwig, and K.E. Smith, Surf. Sci. **642**, 33 (2015)

8. "Surface evolution of lanthanum strontium cobalt ferrite thin films at low temperatures", D. Newby Jr., J. Kuyyalil, J. Laverock, K.E. Smith, Y. Yu, J. Davis, and S. Basu, Thin Solid Films **589**, 655 (2015).

9. "Heterojunction Synergies in Au/TiO_2 Photocatalysts; Implications for Solar Hydrogen Production", V. Jovic, K.E. Smith, Z.H. Al-Azri, H. Idriss, and G.I.N. Waterhouse, Chem. Sus. Chem. **8**, 2551 (2015)

10. "Enhanced Electron Correlations at the $Sr_xCa_{1-x}VO_3$ surface", J. Laverock, J. Kuyyalil, B. Chen, R.P. Singh, B. Karlin, J.C. Woicik, G. Balakrishnan, and K.E. Smith, Phys. Rev. B **91**, 165123 (2015)

11. "Simultaneous Spectroscopic, Diffraction and Microscopic Study of the Metal-Insulator Transition of VO_2", J. Laverock, S. Kittiwatanakul, A.A. Zakharov, Y.R. Niu, B. Chen, J. Kuyyalil, S A. Wolf, J.W. Lu, and K.E. Smith, Mater. Res. Soc. Symp. Proc. **1730**, 480 (2015)

12. "Evolution of correlated electron behavior from the surface to the bulk in $Sr_xCa_{1-x}VO_3$"
J. Laverock, B. Chen, J. Kuyyalil, R.P. Singh, G. Balakrishnan, R.M. Qiao, W.L. Yang, J. Adell, B. Karlin, J.C. Woicik, and K.E. Smith, Proc. Mater. Res. Soc. **1730,** 265 (2015)

13. "Effects of rare-earth size on the electronic structure of $La_{1-x}Lu_xVO_3$"
B. Chen, J. Laverock, D. Newby Jr., J.F. McNulty, K.E. Smith, P.-A. Glans, J.-H. Guo, R.M. Qiao, W. Yang, M.R. Lees, L.D. Tung, R.P. Singh, and G. Balakrishnan, J. Phys. Cond. Mat. **27**, 105503 (2015)

14. "Direct Observation of Decoupled Structural and Electronic Transitions and an Ambient Pressure Monoclinic-Like Metallic Phase of VO_2", J. Laverock, S. Kittiwatanakul, A.A. Zhakarov, Y. Niu, B. Chen, S.A. Wolf, J.W. Lu and K.E. Smith, Phys. Rev. Lett. **113**, 216402 (2014)

15. "Potassium and Ion Beam induced Electron Accumulation in InN"
L. Colakerol, L.F.J. Piper, A. Fedorov, T. Chen, T.D. Moustakas, and K.E. Smith, Surf. Sci. **632**, 154 (2014)

16. "Observation of low-energy V t_{2g} orbital excitations in $NdVO_3$",
J. Laverock, B. Chen, A.R.H. Preston, D. Newby, Jr., L.F.J. Piper, L.D. Tung, G. Balakrishnan, P.-A. Glans, J.-H. Guo and K.E. Smith, J. Phys. Cond. Mat. **26**, 455603 (2014)

17. "Electronic Structure of ClAlPc/Pentacene/ITO Interfaces Studied by Using Soft X -ray Spectroscopy"
S.W. Cho, S. Lee, M. Kim, N. Heo, G. Lee, and K.E. Smith, J. Korean Phys. Soc., **65**, 1629 (2014)

18. "X-ray absorption spectroscopy and resonant inelastic x-ray scattering study of the first lithiation cycle of the Li-ion battery cathode $Li_{2-x}MnSiO_4$",
P.T. Kristiansen, M. Dahbi, T. Gustafsson, K. Edström, D. Newby, K.E. Smith, and L.C. Duda, Phys. Chem. Chem. Phys., **16**, 3846 (2014).

19. "Electronic structure of β-$Na_xV_2O_5$ ($x \approx 0.33$) polycrystalline films: growth, spectroscopy, and theory",
B. Chen, J. Laverock, D. Newby, Jr., T.-Y. Su, K.E. Smith, W. Wu, L.H. Doerrer, N.F. Quackenbush, S. Sallis, L.F.J. Piper, D.A. Fischer, and J.C. Woicik, J. Phys. Chem. C 118, 1081 (2014)

20. "Determination of individual atomic site contribution to the electronic structure of 3,4,9,10-perylene-tetracarboxylic-dianhydride (PTCDA)",
S.W. Cho, A. DeMasi, A.R.H. Preston, K.E. Smith, L.F.J. Piper, K.V. Chauhan, and T.S. Jones, J. Chem. Phys. **139**, 184711 (2013)

21. "Resonant soft x-ray emission as a bulk probe of correlated electron behavior in metallic $Sr_xCa_{1-x}VO_3$",
J. Laverock, B. Chen, K.E. Smith, G. Balakrishnan, M. Gu, J.W. Lu, S A. Wolf, R.M. Qiao, W. Yang, J. Adell, and T. Balasubramanian, Phys. Rev. Lett. **111**, 047402 (2013)

22. "Origin of the Bipolar Doping Behavior of SnO from X-ray Spectroscopy and Density Functional Theory",
L.F.J. Piper, J.P. Allen, D.O. Scanlon, N.F. Quackenbush, S. Sallis, J.A. Hewlett, A.S. Nandur, K.E. Smith, C. Weiland, D.A. Fischer, B.E. White, and G.W. Watson, Chem. Mat. **25**, 3114 (2013)

23. "Determination of the *k*-resolved susceptibility function of 2*H*-$TaSe_2$ from angle-resolved photoemission measurements",
J. Laverock, D. Newby Jr., E. Abreu, R. Averitt, K.E. Smith, R.P. Singh, G. Balakrishnan, J. Adell, and T. Balasubramanian, Phys. Rev. B. **88**, 035108 (2013)

24. "Transport behavior and electronic structure of phase pure VO_2 thin films grown on *c*-plane sapphire under different O_2 partial pressure"
S. Kittiwatanakul, J. Laverock, D. Newby, K.E. Smith, S.A. Wolf, and J. Lu, J. Appl. Phys. **114**, 053703 (2013)

25. "Elucidating the nature of pseudo Jahn-Teller distortions in Li_xMnPO_4: Combining density functional theory with soft and hard x-ray spectroscopy",
L.F.J. Piper, N.F. Quackenbush, S. Sallis, D.O. Scanlon, G.W. Watson, K.-W. Nam, X.-Q. Yang, K.E. Smith, F. Omenya, N.A. Chernova, and M.S. Whittingham, J. Phys. Chem. C **117**, 10383 (2013)

26. "Electronic Structure of Boron Doped Diamond: An X-Ray Spectroscopic Study"
P.-A. Glans, T. Learmonth, K.E. Smith, S. Ferro, A. De Battisti, M. Mattesini, R. Ahuja, and J.-H. Guo, Appl. Phys. Lett. **102**, 162103 (2013)

27. "Electronic structure of the Kagomé staircase compounds $Ni_3V_2O_8$ and $Co_3V_2O_8$"
J. Laverock, B. Chen, A.R.H. Preston, K.E. Smith, N.R. Wilson, G. Balakrishnan, P.-A. Glans and J.-H. Guo, Phys. Rev. B **87**, 125133 (2013)

28. "Electronic structure of WO_3 and $Na_{0.667}WO_3$ from soft x-ray spectroscopy and density functional theory"
B. Chen, A.R.H. Preston, J. Laverock, L.F.J. Piper, S.W. Cho, A. DeMasi, K.E. Smith, P.-A. Glans, J.-H. Guo, D. O. Scanlon, G.W. Watson, and R.G. Egdell, J. Phys. Cond. Mat. **25**, 165501 (2013).

29. "Analysis of Visible-Light-Active Sn(II)-TiO_2 Photocatalysts"
V.B.R. Boppana, F. Jiao, D. Newby, Jr., J. Laverock, K.E Smith, J.C. Jumas, G. Hutchings, and R.F. Lobo, Phys. Chem. Chem. Phys., **15**, 6185 (2013)

30. "Metal-Insulator Transition Induced in $CaVO_3$ Ultrathin Films",
M. Gu, J. Laverock, B. Chen, K.E. Smith, S.A. Wolf, and J. Lu, J. Appl. Phys. **113**, 133704 (2013)

31. "Photoemission evidence for crossover from Peierls-like to Mott-like transition in highly strained VO_2",
J. Laverock, A.R.H. Preston, D. Newby, Jr., K.E. Smith, S. Sallis, L.F.J. Piper, S. Kittiwatanakul, J. Lu, S.A. Wolf, M. Leandersson, and T. Balasubramanian, Phys. Rev. B. **86**, 195124 (2012)

32. "Probing the effect of relative molecular orientation on the photovoltaic device performance of an organic bilayer heterojunction using soft x-ray spectroscopies",
S.W. Cho, A. DeMasi, A.R.H. Preston, K.E. Smith, L.F.J. Piper, K.V. Chauhan and T.S. Jones, App. Phys. Lett. **100**, 263302 (2012)

33. "Strain dependence of bonding and hybridization across the metal-insulator transition of VO_2",
J. Laverock, L.F.J. Piper, A.R.H. Preston, B. Chen, J. McNulty, K.E. Smith, S. Kittiwatanakul, J. Lu, S.A. Wolf, P.-A. Glans, J.-H. Guo, Phys. Rev. B, (Rapid Communications) **85**, 081104 (2012)

34. "Boron Subpthalocyanine Chloride as an Electron Acceptor for High Voltage Fullerene Free Organic Photovoltaics."
N. Beaumont, S.W. Cho, P. Sullivan, D. Newby, R.A. Hatton, K.E. Smith, and T.S. Jones, Adv. Func. Mat. **22**, 561 (2012)

35. "Maximum entropy deconvolution of resonant inelastic x-ray scattering spectra",
J. Laverock, A.R.H. Preston, K.E. Smith, and S.B. Dugdale, Phys. Rev. B. **84**, 235111 (2011)

36. "Electronic structure of EuN: growth, spectroscopy, and theory",
J.H. Richter, B.J. Ruck, M. Simpson, F. Natali, N.O.V. Plank, M. Azeem, H.J. Trodahl, A.R.H. Preston, B. Chen, J. McNulty, K.E. Smith, A. Tadich, B. Cowie, A. Svane, M. van Schilfgaarde, and W.R.L. Lambrecht, Phys. Rev. B **84**, 235120 (2011).

37. "Orbital anisotropy and low-energy excitations of the quasi one-dimensional conductor β-$Sr_{0.17}V_2O_5$"
J. Laverock, A.R.H. Preston, B. Chen, J. McNulty, L.F.J. Piper, K.E. Smith, P.A. Glans, J.H. Guo, C. Marin, E. Janod, and V. Ta Phuoc, Phys. Rev. B **84**, 155103 (2011)

38. “First Principles Calculation of Resonant X-Ray Emission Spectra applied to ZnO”
A.R.H. Preston, A. DeMasi, L.F.J. Piper, K.E. Smith, W.R.L. Lambrecht, A. Boonchun, T. Cheiwchanchamnangij, J. Arnemann, M. van Schilfgaarde, and B.J. Ruck, Phys. Rev. B. **83**, 205106 (2011)

39. "The Nature of the Lone-Pair in $BiVO_4$",
D.J. Payne, M. Robinson, R.G. Egdell, A. Walsh, J. McNulty, K.E. Smith, and L.F.J. Piper, Appl. Phys. Lett. **98**, 212110 (2011)

40. "Soft X-ray Spectroscopic Study of Strontium-doped Lanthanum Manganite ($La_{0.8}Sr_{0.2}MnO_3$) Cathodes for Solid Oxide Fuel Cells",
L.F.J. Piper, A.R.H. Preston, S.W. Cho, A. DeMasi, B. Chen, J. Laverock, K.E. Smith, L. Miara, J.N. Davis, S.N. Basu, U. Pal, S. Gopalan, L. Saraf, T. Kaspar, A.Y. Matsuura, P.A. Glans, and J.H. Guo, J. Electrochem. Soc. **158**, B99 (2011)

41. “Resonant Soft X-Ray Emission and X-Ray Absorption Studies on $Ga_{1-x}Mn_xN$ grown by pulsed laser deposition.”
S. Krishnamurthy, B. Kennedy, F. McGee, M. Venkatesan, J.M.D. Coey, J.G. Lunney, T. Learmonth, K.E. Smith, T. Schmitt and C. McGuinness, Physica Status Solidi C **8**, 1608 (2011)

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INVITED REVIEW ARTICLES

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Kevin. E. Smith, J. Elec. Spec. Rel. Phenom. **190**, 25 (2013).

2. "Studies of the Electronic Structure in Complex Materials Using Synchrotron Radiation-Excited Soft X-Ray Emission Spectroscopy at the NSLS"
K. E. Smith, C. McGuinness, J. Downes, L. Duda, P. Ryan, C. Stagarescu, J. Guo, J. Nordgren, and S. D. Hulbert, Synchrotron Radiation News **15**, 11 (2002)

3. "Electronic Structure in Low Dimensional and Correlated Transition Metal Oxides: High Resolution Photoemission and X-ray Emission Studies"
Kevin E. Smith, Solid State Sciences **4**, 359 (2002).

4. "High Resolution Photoemission Studies of Electronic Structure in Quasi-One Dimensional Conductors"
K.E. Smith, J. Xue, L.-C. Duda, A.V. Fedorov, P.D. Johnson, S.L. Hulbert, W.H. McCarroll and M. Greenblatt, Journal of Electron Spectroscopy and Related Phenomena **117**, 517 (2001)

5. "Spectroscopic Studies of the Electronic Structure of Wurtzite GaN and $Al_xGa_{1-x}N$"
K.E. Smith, L. -C. Duda, C.B. Stagarescu, S.S. Dhesi, J. Downes, R. Singh, D. Doppalapudi, T.D. Moustakas, J.H. Guo, Joseph Nordgren, T. Valla and P.D. Johnson; Proceedings of the 194th Electrochemical Society Meeting, PV-98-18, 50 (1999)

6. "Metal to Non-metal Transition in Solids and at Surfaces Studied by Photoemission Spectroscopy"
Kevin E. Smith, Annual Reports of Progress in Chemistry, C **92**, 253 (1997).

7. "Angle Resolved Photoemission and Resonant Photoemission studies of Quasi-Low Dimensional Oxide Conductors: Fermi Surfaces and Defects",
Kevin E. Smith, Physics and Chemistry of Low Dimensional Inorganic Conductors, Edited by C. Schlenker, J. Dumas, M. Greenblatt, and S. van Smaalen, NATO ASI Series B **354**, 313 (1996)

8. "Defects in Quasi-One Dimensional Oxide Conductors: $K_{0.3}MoO_3$"
Kevin E. Smith, Klaus Breuer, David M. Goldberg, Martha Greenblatt, William McCarroll, and Steve L. Hulbert, Materials Research Society Proceedings **375**, 133 (1995).

9. "Photoemission Studies of Electronic Structure in Low Dimensional Conductors",
Kevin E. Smith, Annual Reports of Progress in Chemistry, C **90**, 115 (1995).

10. "The Electronic Structure of Solids studied using Angle Resolved Photoemission Spectroscopy"
Kevin E. Smith and Stephen D. Kevan, Progress in Solid State Chemistry **21**, 49 (1991).

SUBMITTED ARTICLES UNDERGOING PEER REVIEW.

1. "Oxygen *K*-edge spectroscopic studies of IrO_2: the roles of final state lifetime broadening and the Hubbard U parameter",
M. Kahk, J. Laverock, C.G. Poll, K.E. Smith, D.O. Scanlon, E. Plekhanov, S. Picozzi, G. Panaccione, and D.J. Payne, Phys. Rev. Lett. (*submitted*)

2. "Determination on the increased interfacial energy gap with a non-fullerene acceptor Cl_6SubPc in organic photovoltaics",
H. Lee, S.W. Cho, D. Newby, Jr., K.E. Smith, N. Beaumont, T.S. Jones, Appl. Phys. Lett. (*submitted*)

3. "Large-Area 2D/3D MoS_2-MoO_2 Heterostructures with Thermally Stable Exciton and Controlled Electrical Transport Behaviors",
D.W. Li, Z.Y. Xiao, H.R. Golgir, L. Jiang, V.R. Singh, K. Keramatnejad, K.E. Smith, X. Hong, L. Jiang, J.-F. Silvain, and Y.F. Lu, ACS Nano (*submitted*)

4. "Nano-engineering electron correlations in oxide superlattices"
J. Laverock, M. Gu, V. Jovic, J.W. Lu, S.A. Wolf, R.M. Qiao, W. Yang, and K.E. Smith, Adv. Mater. (*submitted*)

ARTICLES IN PREPARATION.

Existing manuscripts undergoing revision. The intended journal is listed.

1. "Electronic reconstructions at the interface in $SrVO_3$/$SrTiO_3$ superlattices"
J. Laverock, M. Gu, V. Jovic, J.W. Lu, S.A. Wolf, R.M. Qiao, W. Yang, and K.E. Smith, Phys. Rev. Lett (*in preparation*)

PRESENTATIONS:

Synopsis: 166 invited talks and 52 contributed talks or posters.

INVITED TALKS

1. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   2017 APS March Meeting, (March 14st, 2017)

2. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   Department of Chemistry, University of Hawaii, HI; (August 31st, 2016)

3. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
   Department of Physics, Macquarie University, Sydney, Australia; (August 16th, 2016)

4. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
   School of Chemistry, University of Sydney, Sydney, Australia; (May 16th, 2016)

5. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; (February 24th, 2016)

6. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   The 2015 International Chemical Congress of Pacific Basin Societies, PACIFICHEM, Honolulu, HI; (December 19th, 2015)

7. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   School of Mathematical and Physical Sciences, University of Technology, Sydney; (August 17th, 2015)

8. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   Workshop on Competing Interactions and Colossal Responses in Transition Metal Oxides, Telluride, CO; (June 8th, 2015)

9. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
   Department of Physics, University of Canterbury, Christchurch, New Zealand; (March 27th, 2015)

10. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
    Department of Chemistry, Stockholm University. Stockholm, Sweden; (March 2nd, 2015)

11. "The Importance of Interfaces in Organic Photovoltaic Materials"
    Department of Chemistry, University of Hawaii, Honolulu; (February 23rd, 2015)

12. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
    Advanced Materials and Nanotechnology Conference (AMN7), Nelson, New Zealand; (February 9, 2015)

13. "The Importance of Interfaces in Organic Photovoltaic Materials"
    MAXLab, Lund University, Lund, Sweden; (November 11, 2014)

14. "The Importance of Interfaces in Organic Photovoltaic Materials"
    Department of Chemistry, University of Canterbury, Christchurch, New Zealand; (October 14, 2014)

15. "The Importance of Interfaces in Organic Photovoltaic Materials"
    Department of Chemistry, University of Otago, Dunedin, New Zealand; (October 10, 2014)

16. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
Schools of Physics and Chemistry, University of Bristol, UK.; (July 25, 2014)

17. "Stress Controlled Metal to Insulator Transitions in Thin Film Vanadium Oxides"
Department of Physics, Chemistry and Biology, Linköping University, Linköping, Sweden; (April 3, 2014)

18. "Stress Controlled Metal to Insulator Transitions in Thin Film Vanadium Oxides"
Department of Physics, Uppsala University, Uppsala, Sweden; (April 1, 2014)

19. "Stress Controlled Metal to Insulator Transitions in Thin Film Vanadium Oxides"
38th Annual Condensed Matter and Materials Meeting, Waiheke Island, Auckland, New Zealand; (Feb. 6, 2014)

20. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
Fritz Haber Institute, Berlin, Germany. (May 28, 2013)

21. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
Department of Physics, Victoria University, Wellington, New Zealand; (February 8th, 2013)

22. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
Karlsruhe Institute of Technology, Karlsruhe, Germany; (November 19th, 2012)

23. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
Department of Materials, Imperial College, London, UK; (November 15th, 2012)

24. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
MAX-Lab synchrotron radiation center User Meeting, Lund University, Lund, Sweden; (September 26th, 2012)

25. "Interface Electronic Structure in Organic Photovoltaic Materials"
Department of Materials Physics, KTH - Kungliga Tekniska Högskolan [Royal Institute of Technology], Stockholm, Sweden; (June 19th, 2012)

26. "Spectroscopic Studies of Strain Controlled Metal-to-Insulator Transitions in Vanadium Oxide."
Department of Physics, Uppsala University, Sweden; (June 13th, 2012)

27. "Intrinsic Quantum Well States in Solids."
Department of Physics, Norwegian University of Science and Technology, Trondheim, Norway; (December 9th, 2011)

28. "Intrinsic Quantum Well States in Solids."
Department of Physics, Linköping University, Linköping, Sweden; (November 17th, 2011)

29. "X-Ray Spectroscopic Studies of Mechanically and Chemically Modified Metal-to-Insulator Transitions in Vanadium Oxides."
Department of Chemistry, Trinity College Dublin, Ireland; (November 3rd, 2011)

30. "Intrinsic Quantum Well States in Solids."
Department of Physics, Boston College, Boston, MA (October 12th, 2011)

31. "Intrinsic Quantum Well States in Solids."
Department of Physics, Karlstad University, Karlstad, Sweden; (October 4th, 2011)

32. "X-Ray Spectroscopic Studies of Mechanically and Chemically Modified Metal-to-Insulator Transitions in Vanadium Oxides."
Department of Materials Physics, KTH - Kungliga Tekniska Högskolan [Royal Institute of Technology], Stockholm, Sweden; (September 30th, 2011)

33. "Bulk and Interface Electronic Structure in Organic Photovoltaic Materials"
Department of Physics, Dublin City University, Ireland; (September 28th, 2011).

34. "X-Ray Spectroscopic Studies of Mechanically and Chemically Modified Metal-to-Insulator Transitions in Vanadium Oxides."
Department of Physics, Uppsala University, Sweden; (September 23rd, 2011)

35. "Bulk and Interface Electronic Structure in Organic Photovoltaic Materials"
Department of Physics, Uppsala University, Uppsala, Sweden; (May 5th, 2011).

36. "Soft X-Ray Spectroscopic Studies of Electronic Structure in Solid Oxide Fuel Cell Cathodes"
Department of Physics, Uppsala University, Uppsala, Sweden; (March 11, 2011).

37. "Intrinsic Quantum Well States in Solids."
MAXLab Synchrotron Radiation Light Source, Lund, Sweden; (March 6, 2011)

38. "Intrinsic Quantum Well States in Solids."
Department of Chemistry, University of Auckland, Auckland, New Zealand; (February 14, 2011)

39. "X-Ray Spectroscopic Studies of Mechanically and Chemically Modified Metal-to-Insulator Transitions in Thin Film Vanadium Oxides",
Advanced Materials and Nanotechnology Conference (AMN5), Victoria University, Wellington, New Zealand; (February 9, 2011)

40. "Electronic Structure in Rare Earth Nitrides: X-Ray Spectroscopic Studies of Novel Spintronic Materials"
2010 Advanced Light Source User Meeting, Berkeley, CA; (October 14th, 2010)

41. "X-ray Spectroscopic Studies of Bulk and Interface Electronic Structure in Organic Photovoltaic Materials"
Department of Chemistry, University of Auckland, New Zealand; (July 14, 2010)

42. "X-ray Spectroscopic Studies of Bulk and Interface Electronic Structure in Organic Photovoltaic Materials"
Industrial Research Limited, Wellington, New Zealand; (July 12, 2010)

43. "Intrinsic Quantum Well States in Electron Accumulation Layers"
Department of Physics, University of Canterbury, Christchurch, New Zealand; (July 8, 2010)

44. "Exploring the Many-Body Physics of Low Dimensional Solids with Soft X-Ray Spectroscopy"
Department of Physics, University of Warwick, Warwick, U.K.; (November 24, 2009)

45. "Spectroscopic Study of Electronic Structure in Organic Superconductors and Semiconductors."
Department of Chemistry, University of Warwick, Warwick, U.K.; (November 25, 2009)

46. "Physics Research and Teaching in the U.S. - A Guide to the System, from a European Perspective"
Department of Physics, University of Warwick, U.K. (November 26, 2009)

47. "Applications of Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering in Materials Physics and Chemistry"
Cross-cutting Review of Photon In/Photon Out Science, Advanced Light Source, Lawrence Berkeley National Laboratory, September 18th, 2009.

48. "Observation of Intrinsic Quantum Effects in Electron Accumulation Layers"
Department of Chemistry, University of Nevada, Las Vegas; (May 29, 2009)

49. "New Insight on Hybridization, Bonding and Structural Distortions in Metal Oxides from Soft X-Ray Emission and Photoemission Spectroscopies"
Department of Materials Physics, KTH - Kungliga Tekniska Högskolan [Royal Institute of Technology], Stockholm, Sweden; (March 13, 2009)

50. "Observation of Intrinsic Quantum Effects in Electron Accumulation Layers"
Centre for Research on Adaptive Nanostructures and Nanodevices, Trinity College Dublin, Ireland; (March 10, 2009)

51. "Observation of Intrinsic Quantum Well States and an Inverted Band Structure in InN"
Department of Physics, Victoria University, Wellington, New Zealand; (February 16, 2009)

52. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Advanced Materials and Nanotechnology Conference (AMN4), University of Otago, Dunedin, New Zealand; (February 9, 2009)

53. "New Insight on Hybridization, Bonding and Structural Distortions in Metal Oxides from Soft X-Ray Emission and Photoemission Spectroscopies"
Department of Chemical and Materials Engineering, University of Auckland, Auckland, New Zealand; (February 5, 2009)

54. "An Introduction to Resonant Inelastic Soft X-Ray Scattering and Soft X-Ray Emission Spectroscopy as Probes of Electronic Structure in Solids, at Interfaces, and at Surfaces"
RIXS-08 Conference, Uppsala University, Uppsala, Sweden; (June13/14, 2008)

55. "Observation of Intrinsic Quantum Well States and an Inverted Band Structure in InN"
Department of Materials Physics, KTH - Kungliga Tekniska Högskolan [Royal Institute of Technology], Stockholm, Sweden; (March 11, 2008)

56. "Observation of Intrinsic Quantum Well States and an Inverted Band Structure in InN"
Department of Physics, Uppsala University, Uppsala, Sweden; (March 10, 2008)

57. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
DARPA Workshop on Correlated Electronic Oxides, Arlington, VA. (February 12th, 2008)

58. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Departments of Physics and Chemistry, University of Warwick, U.K. (January 9th, 2008).

59. "Observation of Intrinsic Quantum Well States in InN"
17th International Vacuum Congress, Stockholm, Sweden; (July 5th, 2007)

60. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Department of Physics, Case Western Reserve University, Cleveland, OH; (October 16, 2006).

61. "New Insight on Hybridization, Bonding and Structural Distortions in Metal Oxides from Soft X-Ray Emission and Photoemission Spectroscopies"
Symposium on Applications of Resonant Inelastic X-ray Scattering, Department of Physics, Uppsala University, Sweden; (September 21, 2006)

62. "Recent Soft X-Ray Studies of Correlated Solids"
Department of Physics, Uppsala University, Sweden; (May 19, 2006)

63. "Electronic Structure in Thin Film Organic Semiconductors studied using Soft X-Ray Emission and Resonant Inelastic Soft X-Ray Scattering"
Department of Physics, Karlstad University, Karlstad, Sweden; (Dec. 12, 2005)

64. "Electronic Structure in Thin Film Organic Semiconductors studied using Soft X-Ray Emission and Resonant Inelastic Soft X-Ray Scattering"
Department of Physics, Linköping University, Linköping, Sweden; (Nov. 24, 2005)

65. "Quantum Well Electron Accumulation States on InN"
Department of Physics, Uppsala University, Sweden; (Nov. 22, 2005)

66. "New Insight on the Electronic Structure of Metal Oxides: High Resolution Photoemission Spectroscopy and X-Ray Emission Spectroscopy Results"
National Centre for Electron Spectroscopy and Surface Analysis (NCESS), Daresbury, UK; (Oct. 25, 2005)

67. "Electronic Structure in Thin Film Organic Semiconductors studied using Soft X-Ray Emission and Resonant Inelastic Soft X-Ray Scattering"
Department of Theoretical Chemistry, KTH - Kungliga Tekniska högskolan [Royal Institute of Technology], Stockholm, Sweden; (September 29, 2005)

68. "Physics Research and Teaching in the U.S. - A Guide to the System, from a European Perspective"
Department of Physics, Uppsala University, Sweden; (June 27, 2005)

69. "Spectroscopic Studies of Electronic Structure in Thin Film Organic Semiconductors"
13th International Congress on Thin Films / 8th International Conference on Atomically Controlled Surfaces, Interfaces, and Nanostructures, Stockholm, Sweden; (June 21, 2005)

70. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy: Lecture 2 - Quasiparticle Self Energies"
Department of Physics, Uppsala University, Sweden; (May 18, 2005)

71. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy: Lecture 1 - Fermi Surfaces"
Department of Physics, Uppsala University, Sweden; (May 12, 2005)

72. "Surface and Bulk Electronic Structure in Wide Band Gap Nitride Semiconductors: Photoemission and Inverse Photoemission Studies"
Department of Physics, Uppsala University, Sweden; (March 14, 2005)

73. "Electronic Structure in Correlated Solids: Spectroscopic studies of Bonding, Hybridization, and Low Energy Excitations"
BESSY Synchrotron Radiation Facility, Berlin, Germany; (Feb. 23, 2005)

74. "Electronic Structure in Correlated Solids: Spectroscopic studies of Bonding, Hybridization, and Low Energy Excitations"
Department of Physics, Uppsala University, Sweden; (Feb. 1, 2005)

75. "Soft X-Ray Emission Studies of Electronic Materials: Wide Band Gap Semiconductors and High Dielectric Solids"
Department of Physics, Uppsala University, Sweden; (December 16, 2004)

76. "Spectroscopic Study of Electronic Structure in Organic Superconductors and Semiconductors."
MAXLab, Lund University, Sweden; (December 10, 2004)

77. "Soft X-Ray Emission and Resonant Inelastic Soft X-Ray Scattering Studies of Electronic Structure in Solids"
Department of Chemistry, Oxford University, U.K. (Nov. 23, 2004)

78. "Spectroscopic Study of Electronic Structure in Organic Superconductors and Semiconductors
Department of Physics, Uppsala University, Sweden; (Nov. 11, 2004)

79. "Resonant Inelastic X-Ray Scattering Studies of Organic Semiconductors"
Annual Users Meeting, Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; Oct. 20, 2004.

80. "Spectroscopic Study of Electronic Structure in Organic Superconductors"
Workshop on Correlated Materials and Mesoscale Science, Department of Physics, Boston College, MA; (March 19, 2004)

81. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
NSLS-II Workshop, National Synchrotron Light Source, Brookhaven National Laboratory; (March 15, 2004)

82. "Spectroscopic Study of Electronic Structure in Organic Superconductors and Semiconductors"
Department of Physics, Dublin City University, Dublin, Ireland; (March 10, 2004)

83. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
11th Annual NSF Workshop on Materials Chemistry, Tempe, AZ; (October 17, 2003)

84. "Spectroscopic Study of Electronic Structure in Organic Superconductors and Semiconductors"
Advanced Light Source, Lawrence Berkeley National Laboratory; (August 14, 2003)

85. "Spectroscopic Study of Electronic Structure in Organic Superconductors and Semiconductors"
9th International Conference on Electron Spectroscopy and Structure, Uppsala, Sweden; (June 30 2003)

86. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Department of Physics, Trinity College Dublin, Ireland; (May 19, 2003)

87. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Department of Physics, University of California San Diego; (April 30, 2003)

88. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
Department of Physics, University of Hawaii, Honolulu, HI (April 23, 2003)

89. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
Department of Physics, University of Washington, Seattle, WA (April 8, 2003)

90. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Department of Physics, Boston College, Newton, MA (January 22, 2003)

91. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: Novel Probes of Electronic Structure in Complex Materials"
Department of Chemistry, Boston University, Boston, MA (January 13, 2003)

92. "Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering Studies of Transition Metal Oxides"
2002 Materials Research Society Fall Symposium, Boston, MA; (December 2, 2002)

93. "Recent Resonant Inelastic X-Ray Scattering and Soft X-Ray Emission Studies of Electronic Structure in Correlated Transition Metal Oxides"
Workshop on "Future Scientific Opportunities with Ultra High Resolution Soft X-Rays", Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; (October 11, 2002)

94. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
MAXLab, Lünd University, Lünd, Sweden; (October 4, 2002)

95. "Many Body Phenomena in Low Dimensional Solids Probed with Photoemission Spectroscopy"
Department of Physics, University of California San Diego; (April 15, 2002)

96. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
Department of Physics, University of Rhode Island; (April 5, 2002)

97. "Spectroscopic Studies of Electronic Structure in Wide Band Gap Nitride Semiconductors"
Department of Physics, Chalmers University, Goteborg, Sweden; (February 11, 2002)

98. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
Department of Physics, University College Dublin, Ireland; (January 22, 2002)

99. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
Department of Physics, University of Warwick, Warwick, U.K.; (February 26, 2001)

100. "Exploring the Many-Body Physics of Low Dimensional Solids with Photoemission Spectroscopy"
Department of Physics, Uppsala University, Sweden; (January 23, 2001)

101. "Electronic Structure in Low Dimensional and Correlated Solids Studied with Very High Resolution Photoemission and Soft X-Ray Emission Spectroscopies."
Workshop on "New Scientific Opportunities in Ultra High Resolution Spectroscopy: from Nano Materials to Complex Quantum Systems", Stanford Synchrotron Radiation Laboratory, Stanford University, CA; (October 21, 2000).

102. "Recent Photoemission Studies of Quasi-1D Solids"
47th International Symposium of the American Vacuum Society, Boston, MA; (October 2, 2000)

103. "Electronic Structure in Quasi-1D Solids"
Department of Physics, University of California, Riverside, CA; (April 27 2000)

104. "Teaching and Research on the Far Side - an Ex-Pat's report from the United States"
Millennium Meeting of the Institute of Physics in Ireland, Adare, Co. Limerick, Ireland; (April 15 2000)

105. "Electronic Structure of Novel Materials studied using Soft X-Ray Emission"
Workshop on "Soft X-Ray Science in the Next Millennium:The Future of Photon-In/Photon-Out Experiments", Pikeville, TN (March 16, 2000).

106. "Photoemission Studies of the Electronic Structure of Quasi-1D Solids"
Freie Universität Berlin, Institut für Experimentalphysik. (December 14, 1999)

107. "Photoemission Studies of the Electronic Structure of Quasi-1D Solids"
Fritz Haber Institute, Berlin, Germany. (December 13, 1999)

108. "Recent Advances in Photoemission Studies of the Electronic Structure of Quasi-1D Solids"
Department of Physics, Uppsala University, Uppsala, Sweden. (December 10, 1999)

109. "Photoemission Studies of the Electronic Structure of Quasi-1D Solids"
Department of Physics, Lund University, Lund, Sweden. (December 7, 1999).

110. "Recent Advances in Photoemission Studies of the Electronic Structure of Quasi-1D Solids"
Department of Physics, University of Bristol, Bristol, U.K. (November 5, 1999)

111. "Electronic Structure in Quasi-1D Solids"
Department of Physics, University of Oxford, Oxford, U.K. (November 3, 1999)

112. "Synchrotron Radiation Excited Soft X-Ray Emission: a New Probe of Electronic Structure in Complex Materials"
Department of Chemistry, University of Oxford, Oxford, U.K. (November 2, 1999)

113. "Electronic Structure in Quasi-1D Solids Studied with Very High Energy and Momentum Resolution Photoemission Spectroscopy"
Workshop on Future Directions in Ultra-High Resolution Spectroscopy for the Study of Complex and Correlated Phenomena, Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA (October 20, 1999)

114. "High Resolution X-Ray Emission Studies of the Element- and Site-Specific Electronic Structure of Organic Superconductors"
Workshop on Electronic Phenomena in Layered Molecular Conductors and Superconductors, Argonne National Laboratory, Argonne, IL (February 15, 1999)

115. "Electronic Structure in Wide Band Gap Semiconductors"
Department of Physics, Tulane University, New Orleans, LA (January 28, 1999)

116. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Department of Physics, Louisiana State University, Baton Rouge, LA (December 10, 1998)

117. "Photoemission Studies of Bulk and Surface Electronic Structure in GaN"
194th Meeting of the Electrochemical Society, Boston, MA (November 2, 1998)

118. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Department of Chemistry, Boston University, Boston, MA (October 28, 1998)

119. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Naval Research Laboratory, Washington DC (October 16, 1998)

120. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Fritz Haber Institute, Berlin, Germany. (July 24, 1998)

121. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Paul Drude Institute, Berlin, Germany. (July 23, 1998)

122. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Division of Engineering and Applied Science, Harvard University, Cambridge, MA (May 27, 1998).

123. "Electronic Structure in 1D and 2D Conductors"
Workshop on Electronic Correlations in Low Dimensional Systems, Boston College, Boston, MA (Mar 27 1998)

124. "Surface Electronic Structure of GaN"
1998 March Meeting of the American Physical Society, Los Angeles, CA. (March 17, 1998).

125. "Bulk and Surface Electronic Structure of Wide Band Gap Nitride Semiconductors"
National Synchrotron Light Source, Brookhaven National Laboratory, Upton NY. (February 13, 1998)

126. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Department of Physics, Chalmers University of Technology, Göteborg, Sweden (November 22, 1997).

127. "Surface and Bulk Electronic Structure of GaN and Related Wide Gap Semiconductors"
Department of Physics, Lund University, Lund, Sweden. (November 19, 1997).

128. "Surface and Bulk Electronic Structure of GaN and Related Wide Band Gap Semiconductors"
Department of Physics, Linköping University, Linköping, Sweden. (November 17, 1997).

129. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Gap Semiconductors"
Department of Physics, Uppsala University, Uppsala, Sweden, (November 14, 1997).

130. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Band Gap Semiconductors"
Department of Physics, Tufts University, Medford, MA. (October 10, 1997).

131. "Surface and Bulk Electronic Structure of GaN and Related Wide Gap Semiconductors"
Department of Physics, Dublin City University, Dublin, Ireland. (September 30, 1997).

132. "Surface and Bulk Electronic Structure of GaN and Related Wide Band Gap Semiconductors"
Department of Physics, Trinity College, Dublin, Ireland. (September 29, 1997).

133. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Gap Semiconductors"
Department of Physics, University of Bristol, UK (September 19, 1997).

134. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Gap Semiconductors"
Advanced Light Source, Lawrence Berkeley Laboratory, Berkeley, CA (September 5, 1997).

135. "Spectroscopic Studies of Electronic Structure in GaN and Related Wide Gap Semiconductors"
Stanford Synchrotron Radiation Laboratory, Stanford University, Palo Alto, CA (September 4, 1997).

136. "Electronic Structure in One and Two Dimensional Solids"
Department of Physics, University of Washington, Seattle, (April 16, 1997)

137. "Electronic Structure in One and Two Dimensional Solids"
Department of Physics, University of Massachusetts Lowell. (February 26, 1997)

138. "Surface and Bulk Electronic Structure of GaN"
Army Research Office Workshop on Wide Band Gap Semiconductors: Defects and Fundamental Parameters, Research Triangle Park, NC. (January 15, 1997)

139. "Electronic Structure in Low-Dimensional Metals"
Department of Physics, University of North Carolina, Chapel Hill, NC (January 16, 1997).

140. "Surface and Bulk Electronic Structure of GaN"
Department of Chemistry, University of North Carolina, Chapel Hill, NC (January 16, 1997).

141. “Exploring the Physics of Low-Dimensional Metals”
Department of Physics, Clark University, Worster, MA (September 12, 1996).

142. "Electronic Structure of Low Dimensional Metals"
Department of Physics, Uppsala University, Uppsala, Sweden (May 22, 1996).

143. “Exploring the Electronic Structure of Low-Dimensional Conductors”
Department of Applied Physics, Yale University, New Haven, CT (April 26, 1996).

144. “Exploring the Physics of Low-Dimensional Metals”
Department of Physics, Boston College, Boston, MA (April 18, 1996).

145. “Exploring the Fermi Surface of Low-Dimensional Metals”
Department of Physics, Northeastern University, Boston, MA (February 29, 1996).

146. “Exploring the Fermi Surface of Low-Dimensional Metals”
Department of Physics, Florida State University, Tallahassee, FL. (December 7, 1995).

147. "Photoemission Studies of the Electronic Structure of Low Dimensional Solids"
NATO Advanced Study Institute: June 13 -23, 1995 Les Houches, France.

148. "Electronic Structure in Quasi-One Dimensional Conductors"
Naval Research Laboratory, Washington DC. (March 30, 1995)

149. “Physics and Chemistry of 1D Solids"
Department of Chemistry, Georgetown University, Washington DC. (March 31, 1995)

150. "Spectroscopic Studies of Electronic Structure in One Dimension"
Department of Physics, University of Massachusetts, Amherst, MA. (March 16, 1995)

151. "Electronic Structure in Quasi-One Dimensional Conductors"
1994 Fall Meeting of the Materials Research Society, Boston, MA. (Nov 30, 1994).

152. "Spectroscopic Studies of Electronic Structure in One Dimensional Oxides"
Department of Chemistry, The George Washington University, Washington DC. (Oct. 14, 1994).

153. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Department of Physics, University of Maine. (December 17, 1993).

154. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Department of Physics, University of Rhode Island. (December 1, 1993).

155. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Departments of Physics and Chemistry, North Carolina State University. (Nov 2, 1993).

156. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors" (poster),
Office of Naval Research Workshop on Surface Dynamics, Vanderbilt University. (Oct 28, 1993).

157. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Department of Chemistry, Oxford University, UK. (September 9, 1993).

158. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Department of Physics, University of Liverpool, UK. (September 6, 1993).

159. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Department of Physics, Trinity College Dublin, Ireland. (August 27, 1993).

160. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
National Synchrotron Light Source, Brookhaven National Laboratory. (August 6, 1993).

161. "Electronic Structure in Quasi-Low Dimensional Oxide Conductors"
Workshop on New Scientific Opportunities with Undulator Radiation from 5 - 30 eV, National Synchrotron Light Source, Brookhaven National Laboratory. (May 19, 1993).

162. "Fermi Surfaces in Quasi-Low Dimensional Solids"
Department of Physics, Rutgers University. (March 12, 1993).

163. "Non-Adiabaticity and Two Dimensional Fermi Surfaces: How Electronic Structure Influences Surface Atomic Vibrations and Crystal Structure"
Department of Physics, Brown University. (October 10, 1991).

164. "Non-Adiabatic Surface Electronic Phenomena: Surface Reconstruction and Adsorbate Vibrational Damping"
Department of Physics, Brandeis University. (February 14, 1990)

165. "Non-Adiabatic Surface Electronic Phenomena: Surface Reconstruction and Adsorbate Vibrational Damping"
Department of Physics, University of Rhode Island. (November 30, 1989)

166. "Interaction of SO_2 with Titanium Oxides"
Department of Physics, University of Dublin, Trinity College. (January 8, 1986).

CONTRIBUTED TALKS

1. "Tunable Electron Correlation in $SrVO_3/SrTiO_3$ Superlattices"
Materials Research Society Fall Symposium, Boston, MA (Nov. 29, 2016)

2. "New Insight into the Metal-Insulator Transition in Vanadium Oxide"
International Conference on Electronic Structure and Spectroscopy-15, State University of New York – Stony Brook; (September 28th, 2015)

3. "Evolution of correlated electron behavior from the surface to the bulk in $Sr_xCa_{1-x}VO_3$"
Materials Research Society Fall Symposium, Boston, MA (Dec. 2, 2014)

4. "Soft X-Ray Spectroscopic Studies of Electronic Structure in Solid Oxide Fuel Cell Cathodes"
Advanced Materials and Nanotechnology Conference (AMN5), University of Auckland, New Zealand; (February 12, 2013)

5. "Probing the Origin of the Metal-to-Insulator Transition in Thin Film Vanadium Oxides."
Advanced Materials and Nanotechnology Conference (AMN5), University of Auckland, New Zealand; (February 11, 2013)

6. "X-Ray Spectroscopic Studies of Mechanically and Chemically Modified Metal-to-Insulator Transitions in Thin Film Vanadium Oxides"
18th Interdisciplinary Surface Science Conference (ISSC-18), University of Warwick; (April 4, 2011)

7. Understanding the Role of Transition Metal Oxide Interlayers in Improving the Performance of Organic Photovoltaic Devices: Soft X-Ray Spectroscopic Studies of the Electronic Properties of C_{60}/Copper Phthalocyanine/MoO_3/ITO Interfaces.
18th Interdisciplinary Surface Science Conference (ISSC-18), University of Warwick; (April 5, 2011)

8. "Understanding the Role of Transition Metal Oxide Interlayers in Improving the Performance of Organic Photovoltaic Devices: Soft X-Ray Spectroscopic Studies of the Electronic Properties of C_{60}/Copper Phthalocyanine/MoO_3/ITO Interfaces"
Advanced Materials and Nanotechnology Conference (AMN5), Victoria University, Wellington, New Zealand; (February 9, 2011)

9. "Soft X-Ray Spectroscopic Studies of the Electronic Structure of GdN"
Advanced Materials and Nanotechnology Conference (AMN5), Victoria University, Wellington, New Zealand; (February 9, 2011)

10. "Observation of Intrinsic Quantum Well States in InN"
2007 AVS National Symposium, Seattle, WA; (October 15, 2007)

11. "Observation of Intrinsic Quantum Well States in InN"
15th Vacuum Ultraviolet Conference, Berlin, Germany; (August 5th, 2007)

12. "Resonant Soft X-Ray Emission and Resonant Inelastic X-Ray Scattering: New Probes of Electronic Structure in Organic Semiconductors"
2006 AVS National Symposium, San Francisco, CA. (November 15, 2006)

13. "Resonant Soft X-ray Emission study of the Electronic Structure of Vanadium Oxide Phthalocyanine (VO-Pc)"
2005 March Meeting of the American Physical Society, Los Angeles, CA. (March 23, 2005)

14. "Influence of Shallow Core Level Hybridization on the Electronic Structure of Metal Oxides"
2005 March Meeting of the American Physical Society, Los Angeles, CA. (March 22, 2005)

15. "Resonant shake-up satellites in photoemission at the Ga 3*p* photothreshold in GaN"
2005 March Meeting of the American Physical Society, Los Angeles, CA. (March 21, 2005)

16. "Resonant Soft X-Ray Emission and Inelastic X-Ray Scattering Study of Electronic Structure near the Fermi Level in the Organic Semiconductor Copper Phthalocyanine"
2004 Fall Meeting of the Materials Research Society, Boston, MA. (November 30, 2004)

17. "Electronic Structure near the Fermi Level in the Organic Semiconductor CuPc"
2004 March Meeting of the American Physical Society, Montreal, Canada. (March 22, 2004)

18. "Influence of Shallow Core Level Hybridization on the Electronic Structure of Post-Transition Metal Oxides"
International Conference on Electronic Spectroscopy and Structure-9, Uppsala, Sweden. (June 28, 2003)

19. "Band Gap Evolution, Hybridization, and Thermal Stability of $In_xGa_{1-x}N$ Alloys Measured by Soft X-Ray Emission and Absorption"
International Conference on Electronic Spectroscopy and Structure-9, Uppsala, Sweden. (June 28, 2003)

20. "High Resolution Soft X-ray Emission and Absorption Studies of Thin Film Organic Electronic Materials"
7th International Conference on Nanometer-scale Science and Technology (NANO-7) / 21st European Conference on Surface Science (ECOSS-21), Malmo, Sweden. (June 27, 2002)

21. "Soft X-ray Emission Studies at the O *K*-edge and V $L_{2,3}$-edge of Cr-doped V_2O_3"
2001 March Meeting of the American Physical Society, Seattle, WA. (March 12, 2001)

22. "Surface Electronic Structure of GaN(0001)"
46th American Vacuum Society National Symposium, Seattle, WA. (October 26, 1999).

23. "High Resolution X-Ray Emission Studies of Thin Film and Bulk AlN, and GaN_xAs_{1-x}"
1999 Conference on Physics and Chemistry of Semiconductor Interfaces, San Diego, CA (Jan. 18, 1999)

24. "Characterization of Different Surface States on Wurtzite GaN Grown by MBE and MOCVD"
1998 Fall Meeting of the Materials Research Society, Boston, MA (December 1998)

25. "Unoccupied Band Structure of GaN(0001)"
1998 Fall Meeting of the Materials Research Society, Boston, MA (December 1998)

26. "Experimental Studies of Electronic Structure in GaN and $Al_xGa_{1-x}N$"
Conference on Physics and Chemistry of Semiconductor Interfaces, Salt Lake City, UT. (Jan. 18, 1998)

27. "Electronic Structure of GaN and $Al_xGa_{1-x}N$"
1997 Fall Meeting of the Materials Research Society, Boston, MA. (Dec. 3, 1997).

28. "Spectroscopic Studies of Electronic Structure in Transition Metal Oxides, III-V Nitride Semiconductors, and Organic Superconductors"
Solid State Chemistry Gordon Conference, Oxford University, Oxford, UK (September 21 - 26, 1997)

29. "Surface Electronic Structure of GaN(0001)"
1996 Fall Meeting of the Materials Research Society, Boston, MA. (Dec. 5, 1996).

30. "High Resolution X-Ray Emission Spectroscopy study of the Valence Band Electronic Structure of GaN"
1996 March Meeting of the American Physical Society, St Louis, MO. (March 18, 1996).

31. "Observation of Hidden Fermi Surface Nesting in a Two-Dimensional Conductor"
1996 March Meeting of the American Physical Society, St Louis, MO. (March 18, 1996).

32. "Surface Electronic Structure in One Dimension"
54th Annual Conference on Physical Electronics, Knoxville, TN. (June 11, 1994).

33. "Resonant Photoemission Study of Defects in the Quasi-1D Oxide Conductor $K_{0.3}MoO_3$"
1994 March Meeting of the American Physical Society, Pittsburgh, PA. (March 21, 1994).

34. "Photoemission Study of Composition- and Temperature-Induced Metal-Insulator Transitions in Cr-Doped V_2O_3".
1994 March Meeting of the American Physical Society, Pittsburgh, PA. (March 21, 1994).

35. "Electronic Structure in Quasi-Low Dimensional Oxides"
13th European Conference on Surface Science, University of Warwick, UK. (Sept 2. 1993).

36. "Fermi Surfaces in Quasi-Low Dimensional Oxides"
1993 March Meeting of the American Physical Society, Seattle, WA (March 22, 1993).

37. "Surface Structure of Quasi-Low Dimensional Oxides"
1993 March Meeting of the American Physical Society, Seattle, WA (March 22, 1993).

38. "Electronic Effects in the Vibrational Structure and Lattice Stability of Pt(111)"
38th American Vacuum Society National Symposium, Seattle, WA. (November 13, 1991).

39. "Electronic Origins of Reconstruction in Metals"
1991 Users Meeting, National Synchrotron Light Source, Brookhaven National Lab. (May 21, 1991).

40. "Electronic Effects in the Mo(001) Surface Reconstruction"
1991 March Meeting of the American Physical Society, Cincinnati, OH. (March 18, 1991).

41. "Non-Adiabatic Adsorbate Interactions on Mo and W Surfaces"
37th American Vacuum Society National Symposium, Toronto, Ontario. (October 10, 1990).

42. "The Role of Non-Adiabaticity and Two Dimensional Fermi Surfaces in the Reconstruction of Mo(001) and W(001)"
5th International Conference on Solid Films and Surfaces, Providence, RI. (August 13, 1990).

43. "Reconstruction and Surface Fermi Surface of W(001)"
1990 Users Meeting, National Synchrotron Light Source, Brookhaven National Lab. (May 17, 1990).

44. "Reconstruction and Surface Fermi Surface of W(001)"
1990 March Meeting of the American Physical Society, Anaheim, CA. (March 12, 1990).

45. "Hydrogen on W(001): Extrinsic Surface States and Electronic Damping of Adsorbate Vibrations"
36th American Vacuum Society National Symposium, Boston, MA. (October 23, 1989).

46. "H-Induced Surface States on W(001): Surface Fermi Surfaces and Electronic Damping of Adsorbate Vibrations"
49th Annual Conference on Physical Electronics, Seattle, WA. (June 24, 1989).

47. "Photoemission Study of the Interaction of SO_2 and H_2S with Titanium and Vanadium Oxides"
35th American Vacuum Society National Symposium, Atlanta, GA. (October 6, 1988).

48. "Resonant Photoemission in Ti_2O_3 and V_2O_3"
1988 March Meeting of the American Physical Society, New Orleans, LA. (March 24, 1988).

49. "Valence Band Structure of $V_2O_3(1012)$"
34th American Vacuum Society National Symposium, Anaheim, CA. (November 4, 1987).

50. "Adsorption and Reaction of SO_2 with Titanium Oxide Surfaces"
33rd American Vacuum Society National Symposium/10th International Vacuum Congress/ 6th International Conference on Solid Surfaces, Baltimore, MD. (October 28, 1986).

51. "Interaction of SO_2 with Titanium Oxide Surfaces"
46th Annual Conference on Physical Electronics, Austin, TX. (June 18, 1986).

52. "Interaction of SO_2 with Nearly Perfect and Defect $TiO_2(110)$ Surfaces"
1986 March Meeting of the American Physical Society, Las Vegas, NV. (April 2, 1986).

53. "CO and SO_2 Chemisorption on $Ti_2O_3(047)$"
1985 March Meeting of the American Physical Society, Baltimore, MD. (March 27, 1985).

Students and/or postdoctoral research associates under my supervision have made presentations at the following conferences (I was co-author on all such presentations):

- The American Physical Society March Meeting, 1993-1996, 1999, 2001, 2003, 2005, 2006, 2009- 2011.
- The National Symposium of the American Vacuum Society, 1994, 1996, 1998, 2000, 2005
- The American Chemical Society Annual Symposium, Boston, 2015.
- The Annual Users Meeting of the National Synchrotron Light Source, Brookhaven, 1992 - 2000.
- The Annual Users Meeting of the Advanced Light Source, Berkeley, 2004, 2005, 2007, 2015.
- The Annual Users Meeting of the Australian Synchrotron, Melbourne, 2015.

- The European Physical Society, Condensed Matter Physics Division, General Conference 1996.
- NATO Advanced Study Institute on The Physics and Chemistry of Low Dimensional Conductors, 1995.
- The Physical Electronics Conference, 1996 and 2007
- The Fall Symposium of the Materials Research Society, 1997, 2001, 2002, 2004, 2008, 2009, 2010, 2014, 2016
- The 12th International Conference Vacuum Ultraviolet Radiation Physics (VUV-12), 1998.
- 14th International Conference on Solid Films and Surfaces, 2008.
- Advanced Materials and Nanotechnology Conference (AMN4), University of Otago, Dunedin, New Zealand; 2009
- The 2015 International Chemical Congress of Pacific Basin Societies, PACIFICHEM, Honolulu, HI;

RESEARCH FUNDING HISTORY:

This table lists all funded research proposals since taking up my faculty position at Boston University. Unless noted, all awards and grants are single investigator. For collaborative awards, the total number of investigators is listed and the Project Director (PD) is identified. **Award 31 is current**.

Project Title	Funding Source	Amount	Duration
1. Low Dimensional Electronic Structure of Novel Metal Oxides	**Petroleum Research Fund** American Chemical Society	$20,000	02/01/93 - 08/31/95
2. High Resolution Soft X-ray Fluorescence Spectrometer	**U.S. Army Research Office** Defense University Research Instrumentation Program	$80,000 (including matching funds)	12/01/94 - 11/31/96
3. Electronic Structure and Interface Phenomena in Organic Metals and Superconductors	**National Science Foundation CAREER** Award	$312,500	07/01/95 - 06/30/01
4. Research Experience for Undergraduates (REU)	**National Science Foundation** Supplement to CAREER Award	$10,000	07/01/95 - 06/30/01
5. Electronic Structure of Interfaces, Defects and Dopants in Wide Band Gap Nitride Semiconductors	**National Science Foundation**	$298,911	08/01/95 - 07/31/98
6. Development of a Novel He Beam Scattering Multi-technique/Multi-detection facility to study Surface Lattice and Spin-wave Dynamics, and Spin Electronic Structure	**National Science Foundation** Academic Research Infrastructure (ARI) Program. *Total of three investigators, PI: Michael El-Batanouny*	$190,000 (including matching funds)	09/01/95 - 08/31/96
7. Spin Polarized Coincidence Spectroscopies	**Brookhaven National Laboratory**, Laboratory Directed Research and Development Program. *Total of two investigators, PI: Peter Johnson, BNL*	$160,000	10/01/95 - 9/30/97
8. Soft X-Ray Fluorescence Studies of Electronic Structure in Organic Solids	**National Science Foundation** International Programs	$18,000	05/15/96 - 05/14/00
9. Ultra High Resolution ARP Spectrometer System for the NSLS Beamline U13	**Department of Energy** Basic Energy Sciences *Total of two funded investigators, PI: Eric Jensen, Brandeis University*	$486,250 (including matching funds)	08/01/96 - 07/31/99
10. Electronic Structure in Quasi-Low Dimensional Oxide Conductors	**Department of Energy** Basic Energy Sciences	$240,000	12/15/97 - 12/14/00
11. Surface and Overlayer Electronic Structure of Wide Band Gap Nitride Semiconductors	**National Science Foundation** (Condensed Matter Physics) and **US Army Research Office**	$300,000	08/01/00 - 07/31/03
12. Electronic Structure in Low Dimensional and Correlated Solids	**Department of Energy** Basic Energy Sciences	$300,000	12/15/00 - 12/14/03
13. Multi-technique Spectrometer System for the Study of Electronic Structure in Novel Materials	**U.S. Army Research Office** Defense University Research Instrumentation Program	$220,000 (including matching funds)	04/01/01 - 03/31/03

Project Title	Funding Source	Amount	Duration
14. Photoelectron Microscopy Studies of Wide Band Gap Nitride Semiconductors	**National Science Foundation** International Programs	$25,000	06/01/01 - 05/31/05
15. Soft X-Ray Spectroscopic Investigations of Electronic Structure in Thin Film Organic Semiconductors	**American Chemical Society**, Petroleum Research Fund	$80,000	06/01/03 - 08/31/06
16. Synchrotron Radiation Spectroscopic Study of Surface and Bulk Electronic Structure of Wide Band Gap Semiconductors	**National Science Foundation** (Condensed Matter Physics), **Army Research Office**, and **Air Force Office of Scientific Research**	$360,000	08/01/03 - 07/31/07
17. Electronic Properties of Thin Film Organic Superconductors studied using Synchrotron Radiation-based Soft X-Ray Spectroscopies	**National Science Foundation**, Division of Materials Research, Solid State Chemistry	$299,998	12/01/03 - 11/30/07
18. Electronic Structure in Low Dimensional and Correlated Solids	**Department of Energy** Basic Energy Sciences	$300,000	12/15/03 - 12/14/06
19. Hybrid Ion/Atom Plasma System for use in the study of Surface and Interface Electronic Structure of Novel Materials	**U.S. Army Research Office** Defense University Research Instrumentation Program	$50,000	04/01/04 - 08/31/05
20. Electronic Structure in Thin Film Organic Semiconductors	**U.S. Air Force Office of Scientific Research**	$120,000	03/01/06 - 05/31/09
21. Cryogenic Sample Manipulation System for use in the study of the Electronic Structure of Novel Materials	**U.S. Army Research Office** Defense University Research Instrumentation Program	$53,000	08/01/06 - 09/30/08
22. Electronic Structure in Low Dimensional and Correlated Solids	**Department of Energy** Basic Energy Sciences	$525,000	12/15/06 - 12/14/10
23. Soft X-Ray Spectroscopic Study of Surface and Bulk Electronic Structure in Wind Band Gap Nitride Semiconductors	**Department of Energy** (subcontract from the University of Nevada, Las Vegas; PI: Clemens Heske.	$30,000	01/01/07 - 06/30/07
24. Materials World Network on Rare Earth and Transition Metal Nitrides	**National Science Foundation**, Division of Materials Research, Special Programs (PI: Walter Lambrecht, Case Western)	$271,500	09/01/07 - 08/31/10
25. Surface and Bulk Electronic Structure of Transparent Conducting Oxides	**American Chemical Society**, Petroleum Research Fund	$90,000	09/01/07 - 08/31/09
26. Synchrotron Radiation Spectroscopic Studies of Niobium Oxides	**Department of Energy** Jefferson National Laboratory	$40,000	01/01/07 - 12/31/08
27. Surface, Interface, and Bulk Electronic Structure of Nano-Scale Thin Film Organic Semiconductors	**National Science Foundation**, Chemistry Division	$362,924	06/01/08 - 05/31/11
28. Solid Oxide Fuel Cell Cathodes: Unraveling the Relationship Between Structure, Surface Chemistry and Oxygen Reduction	**Department of Energy** National Energy Technology Laboratory (PI: Srikanth Gopalan)	$75,000	06/01/08 - 05/31/09

Project Title	Funding Source	Amount	Duration
29. Probing the Origins of Conductivity Transitions in Correlated Solids: Experimental Studies of Electronic Structure in Vanadium Oxides.	**Department of Energy** Basic Energy Sciences	$450,000	12/15/10 - 12/14/13
30. Surface Chemistry of Complex Multi-Element Metal Oxides	**National Science Foundation** Division of Chemistry	$396,750	09/01/12 – 3/1/16
31. Controlling Conductivity Transitions in Correlated Solids: Electronic Structure in Vanadates	**Department of Energy** Basic Energy Sciences	$660,000	12/15/13 – 12/14/17

The following proposals are pending:

Project Title	Funding Source	Amount	Duration
1. X-Ray Spectroscopic Studies of Low Dimensional Correlated Oxides.	**National Science Foundation**, Division of Materials Research, Condensed Matter Physics	$650,000	07/01/17 – 06/31/20