March 2024

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Professional Appointments

- **University of Washington, Seattle.**
  - Associate Vice Provost, Office of Academic Personnel: 2023 – present.
  - Professor of Physics and Adjunct Professor of Chemistry: 1997 – present.
  - Associate Chair of Physics for Undergraduate Affairs: 2009 – 2023.
  - Undergraduate Faculty Advisor for Department of Physics: 2016 – 2023.
  - Director, Nanotechnology and Molecular Engineering Dual-Titled Ph.D. Program: 2013 – 2017.
  - Director, Nanotechnology Dual-Titled Ph.D. Program: 2004 – 2013.
  - Associate Professor of Physics and Adjunct Associate Professor of Chemistry: 1993 – 1997.
  - Assistant Professor of Physics and Adjunct Assistant Professor of Chemistry: 1991 – 1993.
- **University of California, Berkeley.**
  - Assistant Professor of Physics: 1986 – 1990.
  - Faculty Scientist, Lawrence Berkeley Laboratory: 1988 – 1992.
- **Xerox Corporation, Palo Alto Research Center.**
  - Member of Research Staff, General Sciences Laboratory: 1985 – 1986.
  - Consultant, General Sciences Laboratory: 1986 – 1992.

Education

- Ph.D. in Physics, University of California, Berkeley: 1985.
- M.A. in Physics, University of California, Berkeley: 1982.
- B.A. in Physics with Highest Honors, Swarthmore College: 1979.

Professional Awards

- UW Seattle Society of Physics Students Undergraduate Teaching Award: 1999, 2003 and 2017.
- American Physical Society Fellow: 2003.
  Citation: "For innovative studies of interface formation between dissimilar materials, especially the competition between thermodynamic and kinetic constraints in controlling morphologies and properties of heterostructures."
- Alexander von Humboldt Research Award: 1999 – 2000.
  Institute for Solid State Physics, Research Center Jülich, Germany: Oct 1999 – Mar 2000.
  Materials Science Department, Technical University Darmstadt, Germany: Apr 2000 – Jul 2000.
- American Physical Society Maria Goeppert-Mayer Award: 1996 (to recognize and enhance outstanding achievement by a woman physicist in the early years of her career)
  Citation: "For her innovative application of electron spectroscopies to surfaces and interfaces that has elucidated the importance of interfacial reactions on the structure, properties and morphology of both the interface and growing film in systems involving dissimilar materials, especially when heteroepitaxy is involved"
- American Vacuum Society Fellow: 1994.
- American Vacuum Society Peter Mark Memorial Award: 1994 (to recognize outstanding theoretical or experimental work by a young scientist or engineer)
  Citation: "For elucidating the nature of semiconductor surfaces and the heteroepitaxial growth of insulating materials on these surfaces."
- National Science Foundation Presidential Young Investigator Award: 1987.
- IBM Faculty Development Award: 1986 and 1987.

Professional Activities: University Leadership, Integrative Learning, and Community Engagement

- **University and College Leadership**
  - *Associate Vice Provost for Academic Personnel*
    (May 2023 – present)
    - Provide strategic advice to the Provost and the Vice Provost for Academic Personnel on matters related to tri-campus faculty and other academic personnel (librarians, postdoctoral fellows, residents, educators), with focus on promotion & tenure, hiring plans, retention, and academic policy.
    - Create and lead faculty development activities, including both workshops and new reference materials.
    - Analyze institutional data on faculty activity disaggregated by unit, track, demographics, and other relevant factors to inform tri-campus policy, administrative guidelines, and Senate legislation.
    - Serve as UW liaison to Big Ten Academic Alliance for Department Executive Officers program.
    - Serve as liaison between the Office of Academic Personnel and the UW Faculty Senate, Secretary of the Faculty, and Faculty Liaisons.
  - *College of Arts and Sciences College Council*
    Elected Natural Sciences representative (Sept 2022 – Apr 2023)
    - Provide advice to Dean of Arts and Sciences on promotion and tenure, budget and other issues.
    - Prepare summaries detailing process, career trajectory, accomplishments and outside evaluations of Natural Sciences candidates for promotion to present to council, divisional dean and dean.
  - *Faculty Sub-Committee on Admissions and Graduation*
    Chair (Jan 2020 – Apr 2023); Member (Sept 2019 – Apr 2023)
    - Provide faculty oversight of UW Seattle undergraduate admissions process and graduation requirements.
    - Researched and wrote Class B legislation to eliminate standardized test scores as a minimum requirement for admission to UW on a permanent basis. Passed by tri-campus faculty in May 2020. Led faculty input on its implementation and impact.
    - Led Working Group and wrote Class B legislation to eliminate the requirement that transfer applicants to the University of Washington who have completed as least 40 transferable credits at the time of application must supply a high school transcript and prove they have met the Washington Student Achievement Council College Academic Distribution Requirements (essentially Washington state requirements for high school graduation). Passed by tri-campus faculty in May 2022.
    - Oversee SCAG and FCAS consideration and approval of new policies for admissions and graduation:
      - Revised policy for conditional admission of athletes and the process by which admission may be rescinded in collaboration with by the Advisory Committee on Intercollegiate Athletics (ACIA)
      - Led working group to assess and revise process for special and priority admission of athletes given that neither NCAA nor UW now require SAT scores.
      - Revised S/NS policy regarding graduation requirements during extraordinary circumstances (passed by tri-campus faculty in May 2020); Revised S/NS policy in quarters that are not designated as extraordinary circumstance quarters to allow students to elect S/NS as late as the last day of finals week instead of week 7 (passed by tri-campus faculty in December 2021).
      - Temporary suspension of English Language Proficiency Requirement due to absence of Standardized Test Scores (Jan 2021) and worked with Vice Provost to mitigate of the impact on both students and the Academic English Program through improved communications.
      - Temporary suspension of use of standardized test scores for the line between "priority admission" and "special admission" for recruited athletes (October 2020). Convened Working Group to review policy going forward (January 2022).
    - Served on appeals committee for ACIA rescission of athlete conditional admission to the UW.
  - *Faculty Council on Academic Standards*
    Member (Sept 2019 – Apr 2023)
    - Review and approve academic policy for Seattle Campus, including major requirements, major admissions, writing credits, diversity requirement, standardized test scores, admissions, and graduation.
  - *Faculty Senate Committee on Planning and Budgeting*.
    Member (2015 – 2021)
    - Advise the Provost weekly on a wide variety of budgetary and planning issues.

- *Activity-Based Budgeting (ABB) Phase III Supplement Sub-Committee*
  Co-Chair (Autumn 2019)
  - Led and assembled joint administration-faculty sub-committee on potential mechanisms to redistribute non-formulaic "supplement" distribution of general operating funds to academic units.
  - Sub-committee model for distribution of "Cutover" funds initially distributed at the change from incremental to activity-based budgeting was adopted rather than those initially proposed by provost in the committee charge.
- *Enrollment Management Advisory Council*
  Member (Jan 2021 – pr.)
  - Faculty representative on council that advises the Vice Provost quarterly on the interrelated factors governing enrollment management: admissions, financial aid, advising, student life.
- *English Language Proficiency Requirement Task Force*
  Member (2022)
  - Review and make recommendations to the Vice Provost about ways to ensure English language proficiency without imposing an undue burden on students. Proposing a focus on student agency, resource access and advising rather than specific enforced requirements.
- *Special Committee on SCPB Membership*
  Member (2021-22)
  - Developed guidelines for appointing the membership of the Senate Committee on Planning and Budgeting in response to legislation that expanded the committee and designated reserved seats for some schools and colleges (appointed by the Chair of the Faculty Senate).
- *Astronomy Chair Review Committee*
  Chair (2021)
  - Led 5-year review of chair of the Department of Astronomy for the College of Arts and Sciences. Interviewed faculty, staff and students and wrote reports for both the department and the deans. Recommended candidates when current chair resigned to move to another institution.
- *Biophysical Structure and Design Decadal Review Committee*
  Member (2019)
  - Reviewed the interdisciplinary *Biophysical Structure and Design* graduate program for the Graduate School as part of the decadal review process.
- *Faculty Senate Chair Cabinet*
  Member (O'Neill 2014 – 15; Barsness 2016 – 17; Way 2017 – 18)
  - Advise the Senate Chair weekly on a wide variety of issues
- *Faculty Senate Executive Committee*
  Member (2012 – 13)
  - Brought the diversity requirement legislation to the Senate Executive Committee at the request of the Faculty Council for Multicultural Affairs and the Graduate Student Council group developing the requirement. This legislation established the requirement of a 3-credit diversity class for students entering the university starting Autumn 2014.
  - Analyzed faculty demographic data to support Faculty Senate resolution on faculty demographics that passed Senate in November 2012. Participated in developing resolution, collected relevant web resources for the Senate website, and made presentation to Faculty Senate.
- *Faculty Council for Women in Academia*
  Chair (2011 – 2013); Member (2005 – 13)
  - Primary author of 2011 *Report on the FCWA Survey of Non-Ladder UW Faculty*, which highlighted significant issues facing this population on all three campuses and the diversity of roles played by non-ladder faculty. Brought survey results to UW Leadership and advocated for recent changes to the status of lecturers, including recommendations for improved voting rights, wider application of competitive recruitment, and appointments to the longest term that budget considerations warrant.

- Co-author (with Sandra Silberstein) of the 2009 *Baseline Report for the FCWA Career Cycle of Female Faculty Project* and Report on the 2008 *FCWA Survey of UW Faculty Careers and Workload*, Analyzed survey data, disaggregating data by gender and area of the university, finding the largest gender differences at the School of Medicine and in requests for increased mentoring across the university. Led FCWA to research faculty mentoring programs at peer institutions in 2011 and presented results to Board of Deans.
- Coordinated 2012 collection by FCWA of information on childcare facilities at peer institutions. This project eventually led to a joint resolution from the faculty councils on facilities, women, and minority affairs that was passed by the Senate Executive Committee. President Cauce and Provost Baldasty subsequently approved creation of a new childcare facility on campus.

o *ADVANCE Center for Institutional Change*
Member of Leadership Team (2002 – pr.)

- Advise on policy and support to increase leadership skills and opportunities for women faculty. Served for several years as the only non-administrator from the natural sciences on the leadership team.
- Advise on topics and structure for quarterly workshops for department chairs and emerging leaders. Attend workshops.
- Presented analysis and recommendations for recruiting and retaining diverse faculty in STEM at workshops for department chairs.

o *UW Seattle Department of Physics*
Associate Chair for Undergraduate Affairs (2009 – 2023)

- Serve on departmental executive committee, meeting weekly to advise the chair.
Participate in annual merit review of roughly forty faculty members.
- Responsible for oversight of the physics undergraduate program as the number of graduating majors has grown from about 60, peaking at over 200 per year (the largest in the country).
- Conduct regular review of requirements for the physics major.
- Set time schedule, room assignments and capacity limits for all lecture and seminar courses, plus upper division laboratories and tutorial sections.
- Spearheaded revisions to the departmental honors program in 2021-22, creating a thesis requirement and increasing the grade requirements, leading to an increased number of students pursuing honors.
- Established criteria for satisfactory progress continuation policy in the major, first implemented in Spring 2019. Piloted this process by instituting review of the quarterly grade report of majors in AY17, and inaugurating contacting of students whose academic performance was lagging.
- Developed and implemented change to capacity-constrained major during AY 2020. Designed admissions application and website.
- Chaired the committee that designed four new degree options (applied physics, comprehensive physics, biological physics and teaching of physics) that better serve the diversity of interests among our majors; led the approval and implementation process for these changes at the department, college and university level.
- Developed evidence-based admissions standards to the physics major during AY16 based on my review of transcripts, major history and degree status of students who took our core 200-level course over a four-year period, disaggregated by gender, ethnicity and community college attendance; shepherded the requirements through the approval process and led their implementation.
- Collected, analyzed and made available to faculty the grade history data for physics courses and wrote grading guidelines for core majors classes in physics.
- Collect and analyze surveys from graduating physics undergraduates. Shared their opinions on the proposed change in engineering admissions with both the FCAS chair and Assoc. Dean Riskin, which helped guide the new direct-to-college process.
- Collect information from faculty on teaching preferences and consult student and peer evaluations to match faculty to roughly 43 courses each quarter (2009 – 2019).

o *UW Seattle Department of Physics*
Undergraduate Faculty Advisor (2016 – 2023)

- Serve as primary faculty advisor for over 400 physics majors, as well as faculty contact for interested pre-majors and those seeking equivalency of physics courses taken elsewhere.

- Responsible for Quarterly Satisfactory Progress Review of all majors. Determine current status of all students. Meet with all students who are on either Probation or Dismissal Status in the major. Email all students whose status (Standard, Warning, Probation, Dismissal) has changed.
- Chair the process of Undergraduate Admissions. Review applications for Capacity Constraint process (starting Winter 2020) and rule on appeals of admissions decisions. Previously, evaluated and ruled on petitions of pre-majors who did not meet standards-based departmental admissions standards.
- Advise students on how either to develop their skill sets to match those required for a physics degree or to find a degree path that matches their current skills.
- Approve substitutions of physics degree requirements, including evaluating research done outside the department for application to the capstone requirement.
- Developed advising checklist for students to review both causes for academic difficulty and resources for overcoming these difficulties
- Instituted and host semi-annual information sessions for prospective majors and annual orientation for new majors as well as a career panel for those seeking employment immediately after graduation. Host annual meeting for graduate-school bound students (since 2011).
- Supervise Undergraduate Academic Counselor and Physics Student Services Office (until Dec 2019); oversaw change to establish a Director of Student Services who reports to the chair, with academic counselors reporting to that Director.

- *Center for Nanotechnology*
  Member, Executive Board (2004 – 2013)
  Member, Director Search Committee (2004 – 06)
  Member, Steering Committee UW-PNNL Joint Institute for Nanoscience (2004 – 08)
- *Nanotechnology (and Molecular Engineering) Dual-Titled Ph.D. Program*
  Director (2004 – 17); Chair, Standards Committee (2001 – 17); Chair, Steering Committee (2001 – 17)
  - Co-founder of the nation's first interdisciplinary doctoral program in nanotechnology, which established a dual-titled degree wherein students meet departmental requirements for a Ph.D. in one of ten participating departments (in three colleges) as well as additional interdisciplinary requirements for the dual-titled degree.
  - Directed the dual-titled Ph.D. program, acting as Graduate Program Coordinator, including approving admission to the program, updating and enforcing degree requirements, and maintaining coordination among the participating departments. Worked with graduate school to add new departments to the program. Co-wrote the revisions that amended the program to include molecular engineering (name change in 2013), including obtaining approval from all ten participating departments and the graduate school.
  - Oversaw transition to the stand-alone PhD program in Molecular Engineering and Sciences.
- *Molecular Engineering and Sciences Institute*
  Member, Molecular Engineering Planning Committee (2006 – 08)
  Member, Educational Planning Committee (2012-13); Advisory Board (2013 – 2017)
  - Advised the provost on the optimal educational and research structure of the Molecular Engineering and Sciences Institute and its relationship to the Center for Nanotechnology. Provided input for the design of the MolES building.
  - Advised on the structure and standards for the stand-alone Ph.D. program in Molecular Engineering and Science.

- **Integrative Learning**
  - *Cross-disciplinary course development: Issues for Ethnic Minorities and Women in Science & Engineering*
    Co-instructor (1999, 2002, 2004, 2006, 2009, 2014)
    - Developed course in collaboration with Angela Ginorio (GWSS) offered jointly by the departments of physics and women studies (now GWSS) covering the historical and current status of women and minorities in STEM, climate and interventions, and policies impacting these issues.
    - Obtained funding for and hosted coordinated public lecture series bringing outside expertise to campus on issues for minorities and women in STEM.
    - Utilized course and lecture series as a platform to increase awareness of these issues on campus and to advocate for policy changes.

- *Cross-disciplinary course development: Frontiers in Nanotechnology (and Molecular Engineering)*
  Instructor (Nanotechnology: 2006 – 13; Nanotechnology and Molecular Engineering: 2014 – 17)
  - Developed and taught the core interdisciplinary course required of all Dual-Titled Ph.D. recipients including basic tutorial information on quantum mechanics, interface chemistry and molecular biology, talks by a diverse set of faculty, tours of the user facility, discussions of ethical issues in NTME, entrepreneurship, and intellectual property, and student presentations on societal impact of nanotechnology at the product, policy and environmental level.
- *Cross-disciplinary course development: Ethics in Nanotechnology*
  Co-instructor (2009); Instructor (2010, 2012)
  - Developed and taught a course on Ethics in Nanotechnology in collaboration with social scientist Deborah Bassett as co-PI on an NSF grant *Nanoethics on the World Wide Web: Helping Faculty Enhance Graduate Education*. Edited case studies developed by students for use in subsequent courses (including the core course described above). Presented information about the course at a national workshop on Graduate Education in Nanotechnology.
- *NSF IGERT: Building Leadership for the Nanotechnology Workforce of Tomorrow*
  Principal Investigator (2004 – 2012); co-PI (2000 – 2004)
  - Co-developed criteria and chaired selection committee for Integrative Graduate Education and Research Traineeships that spawned an interdisciplinary, collaborative research culture in nanotechnology by requiring that trainees work on collaborative projects that crossed departmental lines. By using tiebreakers supporting seed funding for interdisciplinary collaborations involving junior faculty, this program played a significant role in institutionalizing this culture so that it continues to this day.
  - Oversaw budget supporting ten trainees annually, wrote successful renewal proposal, and chaired and organized interdisciplinary workshops and annual trainee presentation symposium.
- *NSF NUE: NME Minor: Minor in Nanoscience and Molecular Engineering*
  Co-Principal Investigator (2010 – 2012); Member Advisory Committee (2010 – 2015)
  - Co-developed interdisciplinary curricular standards for the College of Engineering undergraduate degree option in Nanoscience and Molecular Engineering and explored the potential options for an interdisciplinary minor within the College of Arts and Sciences. Taught quantum mechanics and ethics modules for the inaugural offerings of the interdisciplinary course developed.

- **Community Engagement**
  - *UWS Chapter of the Society of Physics Students*
    Faculty Liaison (2015 – pr.)
    - Mentor student leadership, foster community, and advocate for departmental resources for our Society of Physics Students chapter, which has been designated "Outstanding Chapter" by the national organization during three of these years.
  - *Women+ in Physics at the University of Washington*
    Faculty Liaison (2019 – pr.)
    - Mentor student leadership; facilitate rebooting of organization when it stopped during the COVID pandemic.
  - *Physics Diversity and Climate Committee*
    Chair (2005 – 09); Member (2012 – 2019)
    - Primary editor of the department Code of Conduct adopted in June 2019 (and being updated in 2023).
    - Founding chair of committee formed in response to site visit by the American Physical Society Committee on the Status of Women in Physics. Implemented recommendations of CSWP visit report, including adding student members to departmental committees, departmental vote to support diversity-related colloquia on an at least annual basis. Drafted departmental diversity plan to meet GO-MAP requirements.
    - Collected, analyzed and presented local and national data on gender and ethnic diversity for students and faculty, including reports in response to Department of Energy Title IX Audit and Graduate School 10 Year Review.
  - *American Physical Society Committee on the Status of Women in Physics*
    Chair (1999); Member (1998 – 2000)
    - Organized three symposia highlighting remarkable women in physics at the centennial meeting of the American Physical Society.

- *University of Washington Women in Science and Engineering Bridge Program*
  Presenter (2001 – 2019)
  - Introduce female and ethnic minority freshmen to strategies for success in introductory physics classes. Work with physics education graduate students to engage students in a participatory tutorial similar to those embedded in the first-year courses.
- *University of Washington – Tohoku University: Academic Open Space*
  Co-Director for Education and Outreach (2016 – 2021)
  - Promote collaborative interactions between the University of Washington, Seattle, and Tohoku University, Sendai, on a wide variety of areas of common interest, with the most recent workshop connecting both academic researchers and public utility representatives from Seattle and Japan to share the lessons of the Great Eastern Japan Earthquake.
- *Gender in Nanotechnology Advisory Board*
  Member (2010-12)
  - Served as the only practicing nanotechnology researcher on the advisory board for an NSF-sponsored study of issues related to gender in nanotechnology. Vetted the survey developed by collaborators, which was sent to 200 female faculty connected with NSF-funded nanotechnology centers, helped analyze the data from this survey and put it into context with other national data, and helped plan a 2011 workshop.
- *Math and Engineering Club, Wedgwood Elementary School*
  Mentor (2011 – 19)
  - Mentor high school (and later college) students to run a weekly after school Math and Engineering Club for 3rd to 5th graders. Teach young students the connections between math and engineering by combining enjoyable math activities with using inexpensive, household materials to pose engineering challenges. All high school students are now enrolled in or graduated from college with a STEM major or minor, including the 2017 UW Junior Medalist.
- *Conferences for Undergraduate Women in Physics, Northwest Regional Conference*.
  Organizer (2012); Member organizing committee (2019, 2022, 2023)
  - 2012: Led an organizing committee of undergraduates and faculty from UW, Seattle University and Green River Community College. Coordinated with the 5 simultaneous conferences across the country. Raised funds necessary to house and feed the attendees and bring in a broad range of invited speakers as over 80 undergraduate women came to campus for two days to learn about physics and its career options.
  - 2019, 2022, 2023: Served on local organizing committee for conferences held at UW (2019, 2023) and planned for Central Washington University (2022). Actively involved in programming and inviting/hosting plenary speakers and workshop leaders. Co-chaired 2023 *Panels and Workshops* subcommittee, which organized 25 separate break-out sessions.
- *Celebrating Nanotechnology at the UW: Small Steps to a Big Future*.
  Conference Organizer (2011)
  - Organized celebratory conference celebrating the 15th anniversary of the founding of the UW Center for Nanotechnology, with over 200 alumni and current members of the interdisciplinary educational and research programs. Researched current status of alumni of both Dual-Titled PhD and IGERT traineeship programs.
- *Joint UW-CNT/Japan NIMS Workshop*
  Organizing Committee Co-Chair (2009)
  - Co-hosted joint workshop with over 150 participants that opened lines of communication and established new collaborations between UW's Center for Nanotechnology and the Japanese National Institute for Materials Science in Tsukuba.

- **Additional Professional Service Not Described Above**
  - *National Level*
    - Climate Evaluator, American Physical Society Committee on the Status of Women Site Visit Program, National Renewable Energy Laboratory, Golden (2019)
    - External Evaluator, University of Texas at Austin Physics Department (2011).

- American Physical Society Prize Committees: Davisson-Germer (Surface Physics, 94-96); Goeppert-Mayer (1997); Research at Undergraduate Institutions (1999-2000); Katherine E. Wiemer (Plasma Physics, 2005).
- Conference on Non-Contact Atomic Force Microscopy Organizing Committee (2004).
- Northwest Chapter of the American Physical Society Symposium Planning Committee (2000-01); Nominating Committee (2003-04).
- American Vacuum Society Electronic Materials Division Program Committee (95-96).
- Spectromicroscopy Participating Research Team (Beamline 7.0), Advanced Light Source, Lawrence Berkeley Laboratory (1989–95).
- External Evaluator, Pomona College Physics Department (1991).
- Advanced Light Source Users Executive Committee (1994-96)
- Gordon Conference on Inorganic Interfaces and Thin Films, Chair (1991).
- Surface/Interface Research Meeting, Northern California Chapter of the American Vacuum Society. Co-Chair (1985); Steering Committee (1985–1990). Pacific Northwest Chapter: Vice-Chair (1997); Chair (1998); Ex-chair (1999); Steering Committee (1994 – 99).
- National Physical Science Consortium Graduate Fellowship Program Review Panel (1988).
- Stanford Synchrotron Radiation Laboratory User Executive Committee: Chair (1988-89); Member (1987–90).

o *University Level*

- Accelerating Quantum-Enabled Technologies (AQET) NSF Research Traineeship, Internal Advisory Board (2020 – pr.).
- Data Intensive Research Enabling Clean Technologies (DIRECT) NSF Research Traineeship, Internal Advisory Board (2017 – 2021).
- UW Diversity Council (2011 – 2015).
- Graduate School Adjudication Panel (1994, 2012).
- Independent expert to evaluate a scientific misconduct allegation (2011).
- Graduate School Diversity Group (2005 – 08).
- Internal Review Committee for Dean Denice Denton (2002).
- Materials Science and Engineering Chair Search Committee (1996-97).

o *Departmental Level*

- Search Committees: Tenure-Track Faculty (Chair 2001, Member 2010); Research Faculty (2001); Lecturer (2015, 2016); Assistant to the Chair (2013); Student Services Program Assistant (2017, 19, 21-22); Academic Counselor (2019, 2021, 2022); IT Director (2020, 2021); OAP Communications Director (2023).
- Ad Hoc Promotion Committees: Chair (1999, 2010, 2011, 2014, 2021); Member (2006, 2011, 2017).
- Undergraduate Majors Committee: Chair (1994-95; 1998-99; 2001-4; 2009-16); Member most years, starting 1992.
- Masters Review Committee (2011 – 19).
- Teaching Assignments Committee: Chair (2010 – 20); Member (2010 – pr.).
- Summer Quarter Committee: Member (2014 – pr.).
- Undergraduate Advising Committee: Chair (2011 – pr.), Member (1993 – 5).
- Departmental Newsletter Committee: (2011-12).
- Qualifying Exam Revision Committee: Co-chair (2010-11).
- Qualifying Exam Committee: Chair (1993-94); Member (1992-93).
- Teaching Assistant Affairs Committee: Chair (1996-98).
- Graduate Committee (1992-93; 1996-98; 2004-06).
- Graduate Advising Committee (2005–08).
- Safety Committee (2005 – 06).
- Graduate Admissions Committee (1997-98).

Publications Related to Community Engagement and Professional Development

- "*Marjorie Olmstead*," contribution to "*Blazing the Trail: Essays by Leading Women in Science*," edited by Emma Ideal and Rhiannon Meharchand, published May 2013. https://www.amazon.com/Blazing-Trail-Essays-Leading-Science/dp/1482709430
- "*Teaching Nanoethics to Graduate Students*," invited contribution (with Deborah Bassett) to Society for the Study of Nanoscience and Emerging Technologies Nanoethics Graduate Education Symposium. Seattle, WA, 2009. http://faculty.washington.edu/olmstd/research/papers/2009_Nanoethics_Seminar.pdf
- "*Issues for Ethnic Minorities and Women in Science and Engineering*," invited chapter (with Angela Ginorio) in "*Gender, Science & the Undergraduate Curriculum: Building Two-Way Streets*," Caryn McTiche Musil, ed. (American Association of Colleges and Universities, 2001). http://wikifuse.pbworks.com/f/Musil+2001.pdf
- "*Mentoring Junior Faculty: Advice to Department Chairs*," Committee on the Status of Women in Physics Gazette, August 1993. https://www.aps.org/programs/women/reports/gazette/upload/summer93.pdf

Invited Presentations Related to Community Engagement and Professional Development

- **National and Regional**
  - "*Physics: Window to the Universe,"* Northwest Conference for Undergraduate Women in Physics, Seattle, January 2023.
  - "*Physics is a Window to the Universe,"* Evergreen Valley High School, San Jose, CA Sept. 2022.
  - *"STEM Graduate School 101,"* UW MolES Graduate Student Association event aimed at underrepresented students interested in STEM graduate school, with national Zoom audience. September 2021.
  - "*Career Opportunities for Women in Physics,* Northwest Conference for Undergraduate Women in Physics, Seattle, January 2019.
  - "*Physics Career Q&A,"* SACNAS National Symposium, Seattle, November 2013.
  - "*Ethics in Nanotechnology,"* panel participant, Biological Futures Project Ethics Teaching Workshop, Seattle, June 2012.
  - *"Confidence in Your Career,"* Northwest Conference for Undergraduate Women in Physics, Seattle, January 2012.
  - *"Building the Nanotechnology Workforce of Tomorrow,*" Celebrating Nanotechnology at the UW: Small Steps to a Big Future, Seattle, September 2011.
  - *"Women in Nano: Double Bind or Double Bonus,"* AAAS Workshop on Gender Issues in Nanotechnology, Washington DC May 2011.
  - "*Interdisciplinary Research*," On-Ramps into Academia Workshop, UW Center for Institutional Change, Seattle. October 2009.
  - "*Teaching Nanoethics to Graduate Students*," Society for the Study of Nanoscience and Emerging Technologies, Nanoethics Graduate Education Symposium. Seattle, WA, 2009.
  - "*Diversity: Path to Change*," 2007 LEAD: Leadership Excellence for Academic Diversity Workshop for Science and Engineering Department Chairs, Seattle, July 2007 (National Workshop).
  - "*Building Leadership for the Nanotechnology Workforce of Tomorrow,*" NSF-IGERT Principal Investigators Annual Meeting, May 2006.
  - "*Promoting Faculty Diversity in the Sciences and Engineering*," ADVANCE National Chairs Workshop, Seattle, July 2005.
  - *"Building Leadership for the Nanotechnology Workforce of Tomorrow: The Nanotechnology Ph.D. Program at the University of Washington*," US-Korea Nanotechnology Forum, Los Angeles, February 2005.
  - "*Women in Science: Impressions of a U.S. Physicist*," Forschungszentrum Jülich, Germany, 2000.
  - "*Confidence in Your Career*," Keynote Address, Graduate Study in Science: A Symposium for Undergraduate Women. Corvallis, OR, April 1994.
  - "*Mentoring Women Faculty*," Provost's Luncheon with Women Faculty. University of Oklahoma, Norman, OK, 1993.
  - "*Mentoring Junior Faculty: Advice to Department Chairs*," American Association of Physics Teachers Topical Conference on Physics Departments in the 1990's. Arlington, VA, 1993.

- "*U.S. Engineering, Mathematics, and Science Education for the Year 2010 and Beyond*" invited participant, National Science Foundation Workshop, Arlington, VA. November 1991.

- **Local**
  - "*Changes in a Lifetime: One Woman's Journey through Physics*," Women+ in Physics Workshop, UW Physics, Seattle, May 2023.
  - "*Why Physics?,"* University of Washington Admitted Students Day, Seattle, April 2019; Virtual Information Session, April 2020 and 2021.
  - "*How to Survive your First Physics Course,"* Engineering Bridge Program, Annually, 2001 – 2017.
  - "*Careers in STEM*" panel participant, Women in Science and Engineering Conference, Seattle. 1996 and 2017.
  - *"Successful Women*" panel participant, Puget Sound Women Chemists Retreat, May 2013.
  - "*FCWA Report on Non-Ladder Faculty: Findings and Recommendations*," AAUP UW Chapter Meeting, January 2013.
  - "*Promoting Faculty Diversity in the Sciences and Engineering*," Advance Chairs Workshop, May 2004.
  - "*Graduate School Survival Skills*," panel participant, UW Women in Science and Engineering. November, 2000.
  - "*Issues for Ethnic Minorities and Women in Science and Engineering*," presentation to Natural Science Chairs and President McCormick, Spring 1999.
  - "*Peering Over the Edge: One Woman's Journey in Surface Physics*," Society of Physics Students, University of Washington. April 1995.
  - "*Transitions for Women in the Academia: Strategies for Promotions*" panel participant at forum sponsored by the Northwest Center for Research on Women and the Graduate School. May 1994.
  - "*Getting Your First Job After Graduate School*" panel participant at forum sponsored by the Northwest Center for Research on Women in conjunction with Equal Employment and Affirmative Action, the Faculty Senate's Select Committee on Faculty Women, the Graduate School and the Graduate and Professional Student Senate. May 1993.
  - "*Managing Diversity*" panel participant at UW Applied Physics Laboratory workshop sponsored by UW Training and Development. November 1993.

Doctoral and Post-Doctoral Students and Their Current Situations

Served on over 120 doctoral committees. Those below are students advised or co-advised.

- *YiHsun Yang* (UW Seattle, Materials Science and Engineering, June 2018; co-advise w/ Prof. Fumio Ohuchi) "Polymer-derived silicon carbide ceramics for plasma electrode applications." Module Engineer, Intel Corporation.
- *Bo Zhao* (UW Seattle, Materials Science and Engineering, March 2017; co-advise w/ Prof. Fumio Ohuchi) "Manipulating Conductivity in Metal Oxide Semiconductors: Mechanism Investigation and Conductivity Tuning in Doped Fe2O3 Hematite and Metal/Ga2O3/Metal Heterostructure." Research Scientist at Meta.
- *Xiaohao (Sam) Zheng* (UW Seattle, Materials Science and Engineering, August 2016; co-advise w/ Prof. Fumio Ohuchi) "Ga_2O_3 — A Transparent Conductive Oxide for Potential Resistive Switching Applications." Start-up company in China.
- *Benjamin Krueger* (UW Seattle, Physics and Nanotechnology, December 2015; co-advise w/ Prof. Fumio Ohuchi) "Aluminum Content Tunability of Structural and Optical Properties in Wide-Gap Semiconducting $(Al_xGa_{1-x})_2O_3$." Applications Scientist, Bruker AXS.
- *Christopher Dandeneau* (UW Seattle, Materials Science and Engineering, March 2015; co-advise w/ Prof. Fumio Ohuchi) "Defect chemistry and thermoelectric behavior of *n*-type $SrBa_xSr_{1-x}Nb_2O_6$." Senior Scientist, Greenway Energy LLC.
- *Hien Pham* (UW Seattle, Materials Science and Engineering, December 2012; co-advise w/ Prof. Fumio Ohuchi) "Metal/β-Ga_2O_3 Interface chemistry & junction electronic properties." Staff Engineer, Intel Corporation, Portland (now retired)

- *Tracy Lovejoy* (UW Seattle, Physics and Nanotechnology, August 2010; co-advise w/ Prof. Fumio Ohuchi) "III-VI Semiconductors and Oxides: Electronic Structure, Surface Morphology, and Transition Metal Doping of Ga_2Se_3, In_2Se_3, and Ga_2O_3." Chief Operating Officer, Nion Corporation, Kirkland.
- *Esmeralda Yitamben* (UW Seattle, Physics and Nanotechnology, February 2010) "Quest for the Perfect Dilute Magnetic Semicconductor: Investigation of Cr-doped Ga_2Se_3 on Silicon." Member of Technical Staff, Merck.
- *Claire Lu* (UW Seattle, Materials Science and Engineering, August 2007; co-advise w/ Prof. Fumio Ohuchi) "Group III-Selenides: New Silicon Compatible Semiconducting Materials For Phase Change Memory Applications." Senior Supply Chain Materials Engineer, Intel Corporation, Hillsboro, OR.
- *Ngigi (Isaiah) wa Gatuna* (UW Seattle, Materials Science and Engineering, June 2007; co-advise w/ Prof. Fumio Ohuchi) "Intrinsic Vacancy Chalcogenides and Dilute Magnetic Semiconductors: Theoretical Investigation of Transition Metal Doped Gallium Selenide." President, Excel Health Nursing School, Des Moines, WA.
- *Diedrich Schmidt* (UW Seattle, Physics and Nanotechnology, August 2005) "Titanium Dioxide Thin Films: Understanding Nanoscale Oxide Heteroepitaxy for Silicon-Based Applications," Global Quality Assurance Project Manager, Evonik, Greensboro, NC.
- *Aaron Bostwick* (UW Seattle, Physics, November 2004) " Interaction of Electrons with CaF_2 Films on Silicon(111): Structural and Electronic Changes." Staff Scientist, Advanced Light Source, Berkeley.
- *Taisuke Ohta* (UW Seattle, Materials Science and Engineering and Nanotechnology, August 2004; co-advise w/ Prof. Fumio Ohuchi) "Heteroepitaxy of gallium-selenide on Si(100) and (111): New silicon-compatible semiconductor thin films for nano structure formation." Staff Scientist, Sandia National Laboratories, Albuquerque.
- *Jonathan Adams* (UW Seattle, Physics, August 2004) "A Surface and Interface Study of Aluminum Selenide on Silicon: Growth and Characterization of Thin Films." Portfolio Manager, BlackRock Financial Services (London) San Francisco.
- *Andreas Klust* (Fyodor Lynen Postdoctoral Fellow, 2000-2002) Global Segment Director, Bekaert Specialty Films, Belgium.
- *Brett Schroeder* (UW Seattle, Physics, December 2000) "Surface Modification Enhanced Semiconductor-on-Insulator Heteroepitaxy." Technical Director, Applied Materials, Portland, OR.
- *Shuang Meng* (UW Seattle, Physics, December 2000) "Heteroepitaxy of Gallium-Selenide Compounds on Silicon." TD Engineer, Intel Corporation, Hillsboro, OR.
- *Michael Leskovar* (UW Seattle, Physics, June 1998) "The Stability of Interfaces between Dissimilar Materials." Staff Engineer, Boeing Corporation, Kent, WA.
- *Uwe Hessinger* (UW Seattle, Physics, March 1996) "Growth Kinetics in Heteroepitaxy." Staff Device Engineer, Lattice Semiconductor Corporation, Hillsboro, OR. (now retired).
- *Eli Rotenberg* (UC Berkeley, Physics, August, 1993) "Geometrical Effects in Core-Level Spectroscopy of Insulators." Program Development Lead, Advanced Light Source, Lawrence Berkeley Laboratory, Berkeley, CA
- *Jonathan Denlinger* (UC Berkeley, Physics, January, 1993) "Structural Studies of the Initial Stages of Fluoride Epitaxy on Si and Ge(111)." Staff Scientist, Advanced Light Source, Lawrence Berkeley Laboratory, Berkeley, CA.

Publications

- "Group III selenides: Controlling dimensionality, structure, and properties through effects and heteroepitaxial growth," Marjorie A. Olmstead and Fumio S. Ohuchi, Journal of Vacuum Science and Technology A 39 (2021) 020801. DOI 10.1116.6.0000598
- "Variation of band gap and lattice parameters of $\beta - (Al_xGa_{1-x})_2O_3$ powder produced by solution combustion synthesis," Benjamin W. Krueger, Christopher S. Dandeneau, Evan M. Nelson, Scott T. Dunham, Fumio S. Ohuchi and Marjorie A. Olmstead, Journal of the American Ceramic Society 99 (2016) 2467-2473. DOI 10.1111/jace.14222.
- "Polaronic conduction and Anderson localization in reduced strontium barium niobate," Christopher S. Dandeneau, YiHsun Yang, Marjorie A. Olmstead, Rajendra K. Bordia, and Fumio S. Ohuchi, Applied Physics Letters 107 (2015) 232901.
- "Site occupancy and cation binding states in reduced polycrystalline $Sr_xBa_{1-x}Nb_2O_6$," Christopher S. Dandeneau, Yi-Hsun Yang, Benjamin W. Krueger, Marjorie A. Olmstead, Rajendra K. Bordia and Fumio S. Ohuchi, Applied Physics Letters 104, 101607 (2014).

- "Biographical Essay," contribution to "*Blazing the Trail: Essays by Leading Women in Science*," edited by Emma Ideal and Rhiannon Meharchand, May 2013.
- "Incorporation, valence state, and electronic structure of Mn and Cr in bulk single crystal β–Ga_2O_3," Tracy C. Lovejoy, Renyu Chen, Esmeralda N. Yitamben, Vaithiyalingam Shutthanadan, Steven M. Heald, Encarnación G. Villora, K. Shimamura, Sam Xiaohao Zheng, Scott T. Dunham, Fumio S. Ohuchi and Marjorie A. Olmstead, Journal of Applied Physics 111 (2012) 123716.
- "Band bending and surface defects in □-Ga_2O_3," Tracy C. Lovejoy, Renyu Chen, Sam Xiaohao Zheng, Encarnación G. Villora, K. Shimamura, H. Yoshikawa, Y. Yamashita, S. Ueda, K. Kobayashi, Scott T. Dunham, Fumio S. Ohuchi and Marjorie A. Olmstead, Applied Physics Letters 100 (2012) 181602.
- Controlling the growth morphology and phase segregation of Mn-doped Ga_2Se_3 on Si(001), Tracy C. Lovejoy, Esmeralda N. Yitamben, Steven M. Heald, Fumio S. Ohuchi and Marjorie A. Olmstead, Physical Review B 83 (2011) 155312.
- "Correlation between Morphology, Chemical Environment and Ferromagnetism in the Intrinsic-Vacancy Dilute Magnetic Semiconductor: Cr-doped Ga_2Se_3/Si(001)", Esmeralda N. Yitamben, Tracy C. Lovejoy, Alexandre B. Pakhomov, Steven M. Heald, Fumio S. Ohuchi and Marjorie A. Olmstead, Physical Review B 83 (2011) 045203.
- "One-dimensional electronic states in Ga_2Se_3 on Si(001):As," Tracy C. Lovejoy, Esmeralda N. Yitamben, Taisuke Ohta, Samuel C. Fain, Jr., Fumio S. Ohuchi and Marjorie A. Olmstead, Physical Review B 81 (2010) 245313.
- "Sputtering Induced Co^0 Formation in X-ray Photoelectron Spectroscopy of Nanocrystalline ZnCoO Spinodal Enrichment Models," Michael A. White, Tracy C. Lovejoy, Stefan T. Ochsenbein, Marjorie A. Olmstead, and Daniel R. Gamelin, Journal of Applied Physics 107 (2010) 103917.
- "MnSe Phase Segregation During Heteroepitaxy of Mn Doped Ga_2Se_3 on Si(001)," Tracy C. Lovejoy, E. N. Yitamben, S. M. Heald, F. S. Ohuchi and M. A. Olmstead, Applied Physics Letters 95 (2009) 24190.
- "Teaching Nanoethics to Graduate Students," M. A. Olmstead and D. Bassett, 2009 Nanoethics Graduate Education Symposium Monograph, Nanoethics on the World Wide Web, pp. 131-140 (2009). Main site: http://depts.washington.edu/ntethics/symposium/index.shtml.
- "Surface morphology of Cr:Ga_2Se_3 heteroepitaxy on Si(001)," Esmeralda N. Yitamben, Tracy C. Lovejoy, Dennis F. Paul, John B. Callaghan, Fumio S. Ohuchi and Marjorie A. Olmstead, Physical Review B 80 075314 (2009).
- "Surface morphology and electronic structure of bulk single crystal □□Ga_2O_3(100)," T. C. Lovejoy, E. N. Yitamben, N. Shamir, J. Morales, E. G. Villora, K. Shimamura, S. Zheng, F. S. Ohuchi, and M. A. Olmstead, Applied Physics Letters 94, 081906 (2009).
- "Heteroepitaxial Growth of the Intrinsic Vacancy Semiconductor Al_2Se_3 on Si(111): Initial Structure and Morphology," Chih-Yuan Lu, Jonathan A. Adams, Qiuming Yu, Taisuke Ohta, Marjorie A. Olmstead, and Fumio S. Ohuchi, Physical Review B 78, 075321 (2008)
- "Laser and Electrical Current Induced Phase Transformation of In2Se3: Semiconductor Thin Film on Si(111)," Chih-Yuan Lu, Patrick J. Shamberger, Esmeralda N. Yitamben, Kenneth M. Beck, Alan G. Joly, Marjorie A. Olmstead, and Fumio S. Ohuchi, Applied Physics A 93, 93-98 (2008).
- "Semiconducting chalcogenide buffer layer for oxide heteroepitaxy on Si(001)," Diedrich. A. Schmidt, Taisuke Ohta, C.-Y. Lu, A.A. Bostwick, Qiuming Yu, E. Rotenberg, F. S. Ohuchi and Marjorie A. Olmstead, *Applied Physics Letters*, 88 (2006) 181903.
- "Influence of Perovskite termination in oxide heteroepitaxy," Diedrich. A. Schmidt, Taisuke Ohta, Qiuming Yu, and Marjorie A. Olmstead, *Journal of Applied Physics*, 99 (2006) 113521.
- "Contrast in scanning probe microscopy images of ultra-thin insulator films," Andreas Klust, Taisuke Ohta, Markus Bierkandt, Carsten Deiter, Qiuming Yu, Joachim Wollschläger, Fumio S. Ohuchi, and Marjorie A. Olmstead," *Applied Physics Letters* 88, 063107 (2006).
- "Electronic structure evolution during the growth of ultra-thin insulator films on semiconductors: from interface formation to bulk-like CaF_2/Si(111) films," Andreas Klust, Taisuke Ohta, Aaron A. Bostwick, Eli Rotenberg, Qiuming Yu, Fumio S. Ohuchi, and Marjorie A. Olmstead, *Physical Review B* 72, 204336 (2005).
- "Chemical passivity of III-VI bilayer terminated Si(111)," Jonathan A. Adams, Aaron A. Bostwick, Fumio S. Ohuchi, and Marjorie A. Olmstead, *Applied Physics Letters* 87, 171906/1-3 (2005).

- "Heterointerface formation of aluminum selenide with silicon: Electronic and atomic structure of Si(111):AlSe," Jonathan A. Adams, Aaron Bostwick, Taisuke Ohta, Fumio S. Ohuchi, and Marjorie A. Olmstead, *Physical Review B* 71, 195308 (2005).
- "Electronic structure of the Si(111):GaSe van der Waals-like surface termination," Reiner Rudolph, Christian Pettenkofer, Aaron A. Bostwick, Jonathan A. Adams, Fumio S. Ohuchi, Marjorie A. Olmstead, Bengt Jaeckel, Andreas Klein and Wolfram Jaegermann, *New Journal of Physics*, Focus Issue on Photoemission and Electronic Structure (F. Himpsel and P. -O. Nilsson, eds.), 7, 108 (2005).
- "Intrinsic vacancy induced nanoscale wire structure in heteroepitaxial Ga_2Se_3/Si(001)," Taisuke Ohta, D. A. Schmidt, Shuang Meng, Andreas Klust, Aaron Bostwick, Qiuming Yu, Marjorie A. Olmstead, and Fumio S. Ohuchi, *Physical Review Letters*, 94, 116102 (2005). Cover photo of March 25, 2005 Issue.
- "Atomic structures of defects at GaSe/Si(111) heterointerfaces studied by scanning tunneling microscopy," Taisuke Ohta, Andreas Klust, Jonathan A. Adams, Qiuming Yu, Marjorie A. Olmstead and Fumio S. Ohuchi, *Physical Review B* 69, 125322 (2004).
- "Atomically resolved imaging of a CaF bilayer on Si(111): subsurface atoms and the image contrast in scanning force microscopy," A. Klust, T. Ohta, Q. Yu, F. S. Ohuchi and M. A. Olmstead, *Physical Review B* 69, 34505 (2004).
- Issues for Minorities and Women in Science and Engineering," invited chapter (with Angela Ginorio) in Gender, Science & the Undergraduate Curriculum: Building Two-Way Streets, Caryn McTiche Musil, ed. (American Association of Colleges and Universities, 2001).
- "Low-energy photoelectron diffraction structure determination of GaSe-bilayer passivated Si(111)," Shuang Meng, Brett R. Schroeder, Eli Rotenberg, Fumio S. Ohuchi and Marjorie A. Olmstead, *Physical Review B* 64, 235314 (2001).
- "Epitaxial growth of laminar crystalline silicon on CaF_2," Brett R. Schroeder, Shuang Meng, Aaron Bostwick, Marjorie A. Olmstead, and Eli Rotenberg, *Applied Physics Letters* 77, 1289-1291 (2000).
- "Diffusion of Ge below the Si(100) surface: Theory and Experiment," Blas P. Uberuaga, Michael A. Leskovar, Arthur P. Smith, Hannes Jónsson, and Marjorie A. Olmstead, *Physical Review Letters*, 84, 2441-2444 (2000).
- "Interaction of Se and GaSe with Si(111)," Shuang Meng, Brett R. Schroeder, and Marjorie A. Olmstead, *Physical Review B*61, 7215-7218 (2000).
- "Heteroepitaxy of Disparate Materials: From Chemisorption to Epitaxy in CaF_2/Si(111)," M. A. Olmstead, Chapter 5 of *Thin Films: Heteroepitaxial Systems*, Amy W. K. Liu and Michael Santos, eds. (World Scientific, 1999).
- "Molecular beam epitaxy and interface reactions of layered GaSe growth on sapphire (0001)," S. Chegwidden, Z. Dai, F. S. Ohuchi and M. A. Olmstead, *Journal of Vacuum Science and Technology A*16 , 2376-2380 (1998).
- "Thin Film Growth of II-VI Compound Semiconductors," Fumio S. Ohuchi and Marjorie A. Olmstead, *Encyclopedia of Electrical and Electronics Engineering,* John G. Webster, editor (John Wiley & Sons, New York, 1999).
- "Interaction of GaSe with GaAs(111): Growth of Heterostructures with Large Lattice Mismatch," Lee E. Rumaner, Marjorie A. Olmstead and Fumio S. Ohuchi, *Journal of Vacuum Science and Technology B* 16, 977-988 (1998).
- "Altered Photoemission Satellites at CaF_2- and SrF_2-on-Si(111) Interfaces," E. Rotenberg, J. D. Denlinger, and M. A. Olmstead, *Physical Review B* 53, 1584-1593 (1996).
- "Role of Step and Terrace Nucleation in Heteroepitaxial Growth Morphology: Growth Kinetics of CaF_2/Si(111)," U. Hessinger, M. Leskovar, and M. A. Olmstead, *Physical Review Letters* 75, 2380-2383 (1995).
- "Role of Kinetics in the Heteroepitaxial Growth of CaF_2 on Si(111): A Photoelectron Diffraction Study," J. D. Denlinger, E. Rotenberg, U. Hessinger, M. Leskovar, and M. A. Olmstead, *Physical Review* B51, 5352-5365 (1995).
- "Layer-by-Layer Resolved Core level Shifts in CaF_2 and SrF_2 on Si(111): Theory and Experiment," E. Rotenberg, J. D. Denlinger, M. Leskovar, U. Hessinger, and M. A. Olmstead, *Physical Review* B50, 11052-11069 (1994).

- "Mentoring New Faculty: Advice to Department Chairs," M. A. Olmstead, *Physics Departments in the 1990s*, G. M. Crawley and B. V. Khoury, eds., AAPT Topical Conference Series (American Association of Physics Teachers, 1993) 46-53. *Also published in CSWP Gazette* 13(1), 1 (August, 1993).
- "Kinetic Control of CaF_2 on Si(111) Growth Morphology," J. D. Denlinger, Eli Rotenberg, U. Hessinger, M. Leskovar and Marjorie A. Olmstead, in "*Common Themes and Mechanisms of Epitaxial Growth*," edited by P. Fuoss, J. Tsao, D. W. Kisker, A. Zangwill and T. Keuch, *Materials Research Society Symposium Proceedings* 312, 207-212 (MRS, Pittsburgh, 1993).
- "Transition from Chemisorption to Epitaxy: CaF_2/Si as a Model Ionic/ Covalent System," G. C. L. Wong, D. Loretto, E. Rotenberg, M. A. Olmstead, and C. A. Lucas, *Physical Review Rapid Communications* B48, 5716-5719 (1993).
- "Surface Core Level Shifts in CaF_2-on-Si(111) Films: Theory and Experiment," Eli Rotenberg, J. D. Denlinger, U. Hessinger, M. Leskovar and M. A. Olmstead, *Journal of Vacuum Science and Technology* B11*,* 1444-1448 (1993).
- "Variable Growth Modes of CaF_2 on Si(111) Determined by X-Ray Photoelectron Diffraction," J. D. Denlinger, E. Rotenberg, U. Hessinger, M. Leskovar, and M. A. Olmstead, *Applied Physics Letters* 62, 2057-2059 (1993).
- "Local Field Corrections to Surface and Interface Core Level Shifts in Insulators," E. Rotenberg and M. A. Olmstead, *Physical Review Rapid Communications* B46, 12884-12887 (1992).
- "Atomic-size Effects on the Growth of SrF_2 and $(Ca,Sr)F_2$ on Si(111)," J. D. Denlinger, E. Rotenberg, M. A. Olmstead, J. R. Patel, and E. Fontes, *Physical Review Rapid Communications* B43, 7335-7338 (1991).
- "Atomic and Electronic Structure at Lattice Mismatched Semiconductor Insulator Interfaces," M. A. Olmstead, J. D. Denlinger, E. Rotenberg, R. D. Bringans, J. R. Patel, E. Fontes, in *20th International Conference on the Physics of Semiconductors – Volume I*, E. M. Anastassakis and J. D. Joannopoulos, eds. (World Scientific, 1990) 103-106.
- "Semiconductor Surfaces and Interfaces Studied with Synchrotron Radiation," R. Z. Bachrach, R. D. Bringans and M. A. Olmstead, *in Lattice Dynamics and Semiconductor Physics: Festschrift for Professor Kun Huang* (World Scientific Publishing Co., Singapore, 1990) pp. 285-334.
- "The Role of Lattice Mismatch and Surface Chemistry in the Formation of Epitaxial Semiconductor–Insulator Interfaces," M. A. Olmstead and R. D. Bringans, *Physical Review* B41, 8420–8430 (1990).
- "Initial Stages of Semiconductor-Insulator Heterointerface Formation," M. A. Olmstead and R. D. Bringans, *Journal of Electron Spectroscopy and Related Phenomena* 51, 599-612 (1990).
- "Synchrotron Radiation Studies of Surface and Interfaces using In-situ Materials Preparation," R. Z. Bachrach, R. D. Bringans and M. A. Olmstead, *Current Trends in the Physics of Materials*, Italian Physical Society Proceedings, International School of Physics Enrico Fermi- Course CVI. (1990).
- "Comparison of Interface Formation for GaAs-on-Si and ZnSe-on-Si," R. D. Bringans and M. A. Olmstead, *Proceedings of the Materials Research Society* 145, 337–342 (1989).
- "The Bonding of Se and ZnSe to the Si(100) Surface," R. D. Bringans and M. A. Olmstead, *Physical Review Rapid Communications* B39, 12985-12988 (1989).
- "The Bonding of As and Se to Silicon Surfaces," R. D. Bringans and M. A. Olmstead, *Journal of Vacuum Science and Technology* B7, 1232–1235 (1989).
- "Electronic and Atomic Structure of GaAs Epitaxial Overlayers on Si(111)," J. E. Northrup, R. I. G. Uhrberg, R. D. Bringans, M. A. Olmstead, and R. Z. Bachrach, *Physical Review Letters* 61, 2957-2960 (1988).
- "Electronic and Structural Constraints in Epitaxial Semiconductor-Insulator Interfaces," M. A. Olmstead and R. D. Bringans, *Proceedings of the XIXth International Conference on the Physics of Semiconductors*, W. Zawadzki, ed., (Polish Academy of Sciences, Warsaw, 1988) pp. 619-622.
- "The Effect of a Ga Prelayer on the Beginning of GaAs Epitaxy on Si," R. D. Bringans, M. A. Olmstead, F. A. Ponce, D. K. Biegelsen, B. S. Krusor and R. D. Yingling, *Journal of Applied Physics* 64, 3472-3475 (1988).
- "The Influence of Substrate Surface Chemistry on GaAs–on–Si Growth," R. D. Bringans, M. A. Olmstead, F. A. Ponce, D. K. Biegelsen, B. S. Krusor and R. D. Yingling, *Proceedings of the Materials Research Society* 116, 51-56 (1988).
- "Chemical Bonding and Lattice Mismatch in Semiconductor Insulator Heteroepitaxy: SrF_2 on Si(111)," M. A. Olmstead and R. D. Bringans, *Proceedings of the Materials Research Society* 116, 419-424 (1988).

- "The Bonding of Arsenic to the Hydrogen Terminated Si(111) Surface," R. D. Bringans and M. A. Olmstead, *Journal of Vacuum Science and Technology* B6, 1132–1136 (1988).
- "Interface Formation of GaAs with Si(100), Si(111) and Ge(111): Core Level Spectroscopy for Monolayer Coverages of GaAs, Ga and As," R. D. Bringans, M. A. Olmstead, R. I. G. Uhrberg and R. Z. Bachrach, *Physical Review* B36, 9569–9580 (1987).
- "The Formation of the Interface Between GaAs and Si: Implications for GaAs-on-Si Heteroepitaxy," R. D. Bringans, M. A. Olmstead, R. I. G. Uhrberg and R. Z. Bachrach, *Applied Physics Letters* 51, 523-525 (1987).
- "Synchrotron Radiation Studies of MBE Formed Semiconductor Interfaces: Si–GaAs and GaAs–Si," R. Z. Bachrach, R. D. Bringans, M. A. Olmstead and R. I. G. Uhrberg, *Modern Physics Letters* B1, 97–110 (1987). Also published in *Asia Pacific Symposium on Surface Physics*, Xie Xide, ed. (World Scientific, 1987) pp. 1–13.
- "GaAs-on-Si Epitaxy: Results for Coverage of ~1 Monolayer," R. D. Bringans, M. A. Olmstead, R. I. G. Uhrberg and R. Z. Bachrach, *Proceedings of the Materials Research Society* 94, 201–206 (1987).
- "Bonding at the CaF_2-on-Si(111) Interface," M. A. Olmstead, R. I. G. Uhrberg, R. D. Bringans, R. Z. Bachrach, *Proceedings of the Materials Research Society* 94, 195–200 (1987).
- "Photoemission Study of Bonding at the CaF_2–Si(111) Interface," M. A. Olmstead, R. I. G. Uhrberg, R. D. Bringans and R. Z. Bachrach, *Physical Review* B35, 7526–7532 (1987).
- "Surface Structure and Interface Formation of Si on GaAs(100)," R. Z. Bachrach, R. D. Bringans, M. A. Olmstead and R. I. G. Uhrberg, *Journal of Vacuum Science and Technology* B5, 1135–1140 (1987).
- "Electronic Structure, Atomic Structure and the Passivated Nature of the Arsenic-Terminated Si(111) Surface," R. I. G. Uhrberg, R. D. Bringans, M. A. Olmstead, R. Z. Bachrach and J. E. Northrup, *Physical Review* B35, 3945–3951 (1987).
- "Core-level Spectroscopy of the GaAs-on-Si Interface," R. D. Bringans, M. A. Olmstead, R. I. G. Uhrberg and R. Z. Bachrach, *Journal of Vacuum Science and Technology* A5, 2141–2142 (1987).
- "Optical Properties and Atomic Structure of Cleaved Silicon and Germanium (111) Surfaces," M. A. Olmstead, *Surface Science Reports* 8, 159–252 (1987).
- "Model Semiconductor Surfaces: Arsenic Termination of the Ge(111), Si(111) and Si(100) Surfaces," R. D. Bringans, R. I. G. Uhrberg, M. A. Olmstead, R. Z. Bachrach and J. E. Northrup, *Physica Scripta* T17, 7 (1987).
- "Arsenic Passivation of the Si(111) Surface," R. I. G. Uhrberg, R. D. Bringans, M. A. Olmstead and R. Z. Bachrach, *Proceedings of the XVIIIth International Conference on the Physics of Semiconductors*, O. Engström, ed. (World Scientific, 1987) pp. 89–92.
- "Core Level Study of Bonding at the GaAs–on–Si Interface," R. D. Bringans, M. A. Olmstead, R. I. G. Uhrberg, R. Z. Bachrach and J. E. Northrup, *Proceedings of the XVIIIth International Conference on the Physics of Semiconductors*, O. Engström, ed. (World Scientific, 1987) pp. 191–194.
- "The Interface Between and Covalent Semiconductor and an Ionic Insulator: CaF_2 on Si(111)," M. A. Olmstead, R. I. G. Uhrberg, R. D. Bringans and R. Z. Bachrach, *Proceedings of the XVIIIth International Conference on the Physics of Semiconductors*, O. Engström, ed. (World Scientific, 1987) pp. 255–258.
- "Initial Formation of the Interface Between a Polar Insulator and a Non-Polar Semiconductor: CaF_2 on Si(111)," M. A. Olmstead, R. I. G. Uhrberg, R. D. Bringans and R. Z. Bachrach, *Journal of Vacuum Science and Technology* B4, 1123–1127 (1986).
- "Surface Bands for Single-Domain 2×1 Reconstructed Si(100) and Si(100):As. Photoemission Results for Off-Axis Crystals," R. D. Bringans, R. I. G. Uhrberg, M. A. Olmstead and R. Z. Bachrach, *Physical Review Rapid Communications* B34, 7447–7450 (1986).
- "Arsenic Overlayer on Si(111): Removal of Surface Reconstruction," M. A. Olmstead, R. I. G. Uhrberg, R. D. Bringans and R. Z. Bachrach, *Physical Review Rapid Communications* B34, 6401–6405 (1986).
- "Theory of the Temperature Dependence of Si(111) 2×1 Surface State Optical Absorption," M. A. Olmstead and D. J. Chadi, *Physical Review* B33, 8402–8409 (1986).
- "Temperature Dependence of Surface State Optical Absorption," M. A. Olmstead and D. J. Chadi, *Journal of Vacuum Science and Technology* A4, 1278–1279 (1986).
- "Temperature Dependence of the Si and Ge (111) 2×1 Surface State Optical Absorption," M. A. Olmstead and N. M. Amer, *Physical Review* B33, 2564–2573 (1986).

- "Optical Properties and Atomic Structure of Cleaved Silicon and Germanium (111) Surfaces as Determined by Photothermal Displacement Spectroscopy," M. A. Olmstead, Ph.D. Dissertation, Department of Physics, University of California at Berkeley (1985).
- "Polarization Dependent Ge and Si (111) 2□1 Surface State Optical Absorption: A Test of Surface Reconstruction Models," M. A. Olmstead and N. M. Amer, *Proceedings of the XVIIth International Conference on the Physics of Semiconductors*, D. J. Chadi and W. A. Harrison, eds. (Springer, 1985) pp. 21–26.
- "Polarization Dependence of Ge (111) 2□1 Surface State Absorption Using Photothermal Displacement Spectroscopy: A Test of Surface Reconstruction Models," M. A. Olmstead and N. M. Amer, *Physical Review* B29, 7048–7050 (1984).
- "Polarization Dependence of Si (111) 2□1 Surface Optical Absorption Using Photothermal Displacement Spectroscopy," M. A. Olmstead and N. M. Amer, *Physical Review Letters* 52, 1148–1151 (1984).
- "Photothermal Displacement Spectroscopy: An Optical Probe for Solids and Surfaces," M. A. Olmstead, N. M. Amer, S. E. Kohn, D. Fournier and A. C. Boccara, *Applied Physics* A32, 141–154 (1983).
- "A New Probe of the Optical Properties of Surfaces," M. A. Olmstead and N. M. Amer, *Journal of Vacuum Science and Technology* B1, 751–755 (1983).
- "Electron-Hole Plasma in Photoexcited Indirect Gap $Al_xGa_{1-x}As$," E. Cohen, M. D. Sturge, M. A. Olmstead and R. A. Logan, *Physical Review* B22, 771–777 (1980).
- "Multidielectrics for GaAs Devices Using Composition Graded $Al_xGa_{1-x}As$ and Oxidized AlAs," W. T. Tsang, M. A. Olmstead and R. P. H. Chang, *Applied Physics Letters* 34, 408–410 (1979).