

Dedicated to Modern Hellenism & in Honor of Nobel Laureate in Chemistry, Prof. Avram Hershko



Curriculum Vitae of Nancy L. Ross

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EDUCATION

Ph.D. 1985 Arizona State University, Geological Sciences
M.S. 1981 University of British Columbia, Geological Sciences
B.S. 1979 Virginia Polytechnic Institute and State University, Geological Sciences

PROFESSIONAL EXPERIENCE

2011-2017 Head, Department of Geosciences, Virginia Tech
2004-2011 Associate Dean for Research, Graduate Studies, and Outreach,
College of Science, Virginia Tech
2000-present Professor, Department of Geosciences, Virginia Tech
1994-2000 Reader, Department of Geological Sciences, University College
London
1988-1994 Lecturer, Department of Geological Sciences, University College
London
1986-1988 Postdoctoral Fellow, Geophysical Laboratory, Carnegie Institution
of Washington
1985-1986 Postdoctoral Research Associate, Department of Earth and Space
Sciences, State University of New York at Stony Brook
1981-1985 Graduate Research Assistant, Department of Geology, Arizona
State University
1979-1981 Graduate Teaching Assistant, Department of Geological Sciences,
University of British Columbia

RESEARCH INTERESTS

- Lattice dynamics of minerals
- Structures, equations of state, and phase transitions in minerals and related materials (including complex hybrid materials) at high pressure
- Thermodynamic properties of water adsorbed on surfaces of metal oxide nanoparticles
- Role of chemical bonding in minerals

PROFESSIONAL SOCIETIES

- American Association for Advancement of Science
- American Ceramic Society
- American Chemical Society
- American Crystallographic Association
- American Geophysical Union
- Geochemical Society
- Geological Society of America
- Mineralogical Society of America

HONORS AND AWARDS

- Roebling Medal, Mineralogical Society of America, 2024
- Fellow of Geological Society of America, 2016
- Honorary Fellow of Società di Mineralogia e Petrologia, Italy, 2014
- Mineralogical Society of America's Distinguished Lecturer, 2011-2012
- President of Mineralogical Society of America, 2009-10
- Vice President of Mineralogical Society of America, 2008-9
- Elected to Council of Mineralogy Society of America, 2001
- Nuffield Foundation Science Fellowship, 1994
- Fellow of Mineralogical Society of America, 1991
- Carnegie Institution Postdoctoral Fellowship, 1987
- Arizona State University Graduate College Distinguished Student Award, 1984
- University of British Columbia Graduate Fellowship, 1980
- Graduated *summa cum laude*, Virginia Polytechnic Institute & State University, 1979
- Outstanding Senior Award in Geological Sciences, Virginia Polytechnic Institute & State University, 1979
- Member *Phi Sigma Kappa*, 1978
- Member of *Phi Beta Kappa*, 1978

INVITED AND KEYNOTE LECTURES

- Invited lecture (“Why Geochemists Need Neutrons”) Workshop on Advanced Neutron Scattering for Earth and Planetary Science, Goldschmidt, Honolulu, Hawaii, July 9-15, 2022.
- Invited lecture (“Lattice Dynamics of Flexible Framework Structures: Insights from Inelastic Neutron Scattering”) 85th Annual Meeting of Southeastern Section of American Physical Society (SESAPS) Knoxville, TN, USA, Nov. 8-10, 2018.
- Invited lecture (“The Role of Lattice Vibrations in the Energy Landscape of Materials”), Goldschmidt Meeting, Boston, MA, USA, August 12-17, 2018.
- Invited lecture (“Energetics of Nanomaterials: Insights from Inelastic Neutron Scattering”), SERMACS, American Chemical Society (2014) October 16-19, 2014, Nashville, TN.
- Keynote lecture (“Exploring confined water on surfaces of metal-oxide nanoparticles with neutrons”), 2014 Goldschmidt Meeting, Goldschmidt Conference, June 8-13, 2014, Sacramento, CA
- Invited lecture (“The Thermodynamic Properties of Alumina Nanoparticles”), Amer. Conference on Neutron Scattering (ACNS), June 1-5, 2014, Knoxville, TN
- Invited lecture, International Graduate School on “Structure, Reactivity and Properties of Oxide Materials” funded by the Bavarian Elite Programme, 2011
- Invited lecture (“Impact of Neutrons in Earth Sciences”), ACS, 2005
- Invited lecture to NESE (“Neutrons at the frontier of Earth Sciences and the Environment) symposium, EGU, 2005
- Invited lecture to International School of Crystallography, 34th course: High Pressure Crystallography, "Ettore Majorana" Centre for Scientific Culture, Erice, Sicily, 2003
- Keynote lecture at 18th Meeting of the International Mineralogical Association, 2002

PROFESSIONAL SERVICE

- Member of MSA’s Financial and Audit Committee (2023-2025)
- Co-convenor 2023 Goldschmidt Meeting, Session 6b: Geochemistry from the Nanoscale to Macroscale [A Celebration of Alex Navrotsky’s 80th Birthday]
- Member of MSA’s Distinguished Public Service Medal Committee (2022-2024)
- Member of Advisory Board for Second Target Station at Spallation Neutron Source (SNS), Oak Ridge National laboratory (2021-present)
- Member of Neutron Advisory Board (NAB) for Oak Ridge National Laboratory (ORNL) (2020-present)
- Chair, 2020 Review of the Diffraction Instrument Suites at the Spallation Neutron Source (SNS) and High Flux Isotope Reactor (HFIR) at Oak Ridge National Laboratory (ORNL)
- Principal Editor of *Elements* (2017-2020)
- Chair, search committee for Mineralogical Society of America’s Executive Director
- Member of the French Society of Mineralogy and Crystallography committee for the SFMC Merit Award

- Co-Convener, 2018 Goldschmidt Meeting, Session 06j: Bright Future – Recent Methodological and Instrumentation Advancements for Micro- to Nano-Analysis in Earth and Planetary Science
- Member of MSA’s Roebling Committee (2017-2020)
- Chair, Single Crystal Neutron Diffraction Review, ORNL (2017)
- ORNL Neutron Sciences Science Review Committee (2016-present)
- Invited member of Committee of Visitors (COV) of DOE's Office of Workforce Development for Teachers and Scientists (WDTS) (2016-17)
- Invited member of search committee for Director of Carnegie Institution of Washington's Geophysical Laboratory (2106-17)
- Chair, MSA’s Nominations Committee for Fellows (2016)
- Theme Chair, Mineralogy and Mineral Physics, Goldschmidt 2015 (Aug. 16-21, Prague, CZ)
- IMA Medal Committee (2016)
- NSF CSEDI panel member (March 6, 2015)
- Chair, COMPRES Annual Meeting (Stevenson, WA, June 2014)
- External Review Member of Department of Geological Sciences, Binghamton University (2014)
- ORNL Neutron Sciences Science Review Committee (2013- 2016)
- DOE Lujan Center Review Committee (2013)
- Member of International Mineralogical Association (IMA) Medal Committee (2013-present)
- Co-convener (w/ M. Gunter) of “Bloss Mineralogical Session” Annual Meeting of Geological Society of America (2012)
- Member of COMPRES Executive Committee (2010-13)
- Member of Neutron Scattering Science Review Committee, Oak Ridge National Laboratory, 2010-2012
- Member of International Program Committee (IPC) of Goldschmidt 2010
- Member of National Academies’ Committee on Seismology and Geodynamics, 2007-11
- Member of Mineralogical Society of Great Britain and Ireland’s Awards Selection Committee (2009-2011)
- Co-convener (w/ G. Brown, A. Kavner and G. Waychunas) of “Frontiers in Mineral Sciences” session at 2009 Annual Meeting of Geological Society of America
- Mineralogical Society of America Meetings Coordinator 2009-2010
- Chair of Nominations Committee for COMPRES, 2009
- Member of U.S. Department of State’s National Screening Committee for Fulbright International Science and Technology Awards for Outstanding Foreign Students, 2007-2009
- Board of Reviewing Editors of *Science*, 2005-8
- Elected Chair of the Infrastructure Development Committee of COMPRES, 2004-8

- Co-convener (with David Cole, ORNL) of special session “Neutron Applications in Geochemistry and Mineralogy”, 2008 Goldschmidt Meeting, Vancouver, July 13-18, 2008
- Member of Board of Reviewing Editors for *Science*, 2005-8
- Instrument Advisory Team (IAT) of quasi-Laue diffractometer IMAGINE at HFIR, Oak Ridge, 2007-
- Co-convener (with Rudy Wenk, UC Berkeley) of Mineralogical Society of America’s workshop on “Neutron Scattering in the Earth Sciences”, Dec. 7-9, 2006, Emoryville, CA.
- Co-convener (with Rebecca Lange, Univ. Michigan) of special session “Thermodynamics in Geochemistry, Petrology, and Mineral Physics”, AGU 2006 Fall Meeting.
- Member of 2005 IUCr High-pressure Commission, 2005-
- Member of *Elements* Advisory Board, 2004-7
- Chair of Infrastructure Committee, COMPRES, 2004-8
- Member of SNAP (Spallation of Neutrons At Pressure) Executive Committee, 2003-2008
- Chair, Dana Award Committee, Mineralogical Society of America, 2004-5
- Appointed U.S. representative to International Mineralogical Association’s Commission on Physics and Chemistry of Minerals, 2004-
- Co-convener of topical session at 2003 Geological Society of America Meeting “Impact of Crystal Chemistry in Earth Sciences: A tribute to C.T. Prewitt”
- Elected member of Infrastructure Committee, COMPRES, 2003-5
- Elected member of SNS & HFIR User's Group (SHUG), science advisory group to Oak Ridge National Laboratory, 2002-4
- Co-organizer of workshop: “Neutrons in Solid State Chemistry and Earth Sciences, Today and Tomorrow”, March 2003, Oak Ridge, TN (co-organizer, A. Wilkinson, Georgia Tech)
- Chair of COMPRES (Consortium for Material Properties Research in Earth Science) committee to promote Neutron Scattering in Earth Sciences, 2002-7
- Council member of Mineralogical Society of America, 2002-4
- Chair, Crystallographic Research Award Committee, Mineralogical Society of America, 2002-4
- Leader of COMPRES Neutron initiative, 2002-7