

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Division on Engineering and Physical Sciences
Committee on NIST Technical Programs

Panel on Assessment of the NIST Center for Neutron Research

July 20-22, 2021

AGENDA

Tuesday July 20

OPEN INFORMATION-GATHERING SESSION

9:45 a.m. Welcome [no slides]

Jim Olthoff, performing the non-exclusive functions and duties of the
Under Secretary of Commerce for Standards and Technology and
Director, NIST

10:00 a.m. Overview of the NIST Center for Neutron Research

Rob Dimeo, Director, NCNR

11:00 a.m. Break

11:15 a.m. February 3 incident and recovery

Rob Dimeo, Director, NCNR

11:45 a.m. NBSR Operations

Tom Newton, Deputy Director & Reactor Operations and Engineering
Group Leader, NCNR

12:30 a.m. Lunch

1:30 p.m. Overview of the Neutron Condensed Matter Science Group

Dan Neumann, NCMS Group Leader, NCNR

2:15 p.m. Overview of the Structure and Dynamics of Materials Team

Craig Brown, Team Leader & NIST Fellow, NCNR & Adj. Prof. of
Chem. Eng., UDel

2:45 p.m. Break

3:05 p.m. Neutron diffraction studies of gas adsorption in metal-organic frameworks

Jeff Long, Professor of Chemistry, UC Berkeley

3:30 p.m. Pigments

Mas Subramanian, Milton-Harris, Prof. of Materials Science, Oregon State University

3:55 p.m. Facility developments and the 2023 outage and beyond

Brian Kirby, Research Facility Operations Group Leader, NCNR

4:40 p.m. The nSoft consortium

Ron Jones, Director of nSoft, Material Measurement Laboratory, NIST

5:00 p.m. Adjourn open session

Wednesday, July 21

OPEN INFORMATION-GATHERING SESSION

9:00 a.m. SANS overview

Paul Butler, Team Leader, NCNR & Adj. Prof. of Chem. Engineering, UDel

9:30 a.m. Membrane transporter dimerization driven by differential lipid solvation energetics

Janice Robertson, Asst. Prof. of Biochemistry & Molecular Biophysics, Washington Univ.

9:55 a.m. The structure of membrane-associated proteins

Frank Heinrich, MAGIc Instrument Scientist, NCNR & Assoc. Research Prof., CMU

10:10 a.m. Measuring lipid membrane dynamics on the mesoscale with NSE

Liz Kelley, vSANS Instrument Scientist, CHRNS & NCNR

10:25 a.m. Break

10:45 a.m. Time resolved SANS analysis of mass transfer in emulsion systems

Lilo Pozzo, Boeing-Roundhill Prof. for Excellence in Engineering, Univ. of Washington

11:10 a.m. Thermally reversible and dynamically tunable bicontinuous structures

Yuyin Xi, post-doc, NCNR and University of Delaware

11:25 a.m. The structure and dynamics of supramolecular coiled coil bundlemer assemblies

Nairiti Sinha, post-doc, UCSB, former student at the University of Delaware & NCNR

11:40 a.m. Break

11:50 a.m. Neutron interferometric microscopy of small forces and hierarchical structures
Katie Weigandt, nSoft SANS Instrument Scientist, NCNR

12:10 p.m. Upgrade of the Neutron Spin Echo Spectrometer at the NIST Center for Neutron Research
Michihiro Nagao, NSE Instrument Scientist, CHRNS & NCNR, and Research Prof., UMD

12:15 p.m. CANDOR: A polychromatic next-generation reflectometer
Alex Grutter, CANDOR Instrument Scientist, CHRNS & NCNR

12:45 p.m. Lunch

1:40 p.m. Time resolved elastic and inelastic neutron scattering on MACS
Collin Broholm, Gerhard H. Dieke Prof. of Physics, Johns Hopkins University

2:05 p.m. The new spin triplet superconductor uranium ditelluride
Nick Butch, DCS Instrument Scientist, NCNR, & Adj. Assoc. Prof. of Physics, UMD

2:20 p.m. Competing magnetic phases & fluctuation-driven scalar spin chirality in the Kagomé metal YMn_6Sn_6
Rebecca Dally, Triple-axis Instrument Scientist, NCNR

2:35 p.m. Break

2:45 p.m. Exchange Biasing the Quantum Anomalous Hall Effect
Purnima Balakrishnan, NRC post-doc, NCNR

3:00 p.m. Using neutron diffraction to probe magnetic topological quantum materials
Joe Checkelsky, Mitsui Career Development Assoc. Prof. of Physics, MIT

3:15 p.m. Adjourn open session

Thursday, July 22

OPEN INFORMATION-GATHERING SESSION

11:00 a.m. Education and outreach activities at the NCNR
Joe Dura, MAGIk Instrument Scientist, NCNR

11:20 a.m. Highlights of the activities of the User Services Team
Yamali Hernandez, User Services Team Leader, NCNR

11:40 p.m. Neutron physics at the NCNR

Jeff Nico, Group Leader, Neutron Physics, Physical Measurement
Laboratory, NIST

12:10 p.m. Advancing chemical metrology using neutrons

Pam Chu, Group Leader, Chemical Process & Nuclear Measurements,
MML, NIST

12:30 p.m. Working lunch: Meet with members of the User Group Executive Committee

1:30 p.m. Panel Meets with Laboratory Leadership and Others Invited by NIST to Clarify
Impressions and Facts

2:30 p.m. Break

3:00 p.m. Out-brief for NIST director, Eric Lin

4:00 p.m. Adjourn