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## Research and Work Experience

*November 2022 – Present*
*Accelerator Physics Group Leader, Spallation Neutron Source*

*June 2019 – Present*
*Ring Systems Level 2 Manager for SNS Proton Power Upgrade*

*May 2018 - Present*
*PI on Painting Self-Consistent Beam Distributions Project, DOE BES (FWP ORNL-ERKCS41)*

*August 2017 - Present*
*Head of SNS Stripper Foil R&D Program*

*February 2017 - Present*
*Ring Area Physicist-Accelerator Physics Team, Oak Ridge National Laboratory Spallation Neutron Source*

*February 2016-February 2017*
*Research Accelerator Physicist-Accelerator Physics Team, Oak Ridge National Laboratory Spallation Neutron Source*

*January 2015-February 2016*
*Postdoctoral Research Associate in Beam Diagnostics, Oak Ridge National Laboratory Spallation Neutron Source*

*May 2008-August 2014*
*Graduate Research Assistant, University of Texas at Austin/Fermi National Accelerator Laboratory*

## Talks

*Experimental Progress on Injection Painted Self-Consistent Beams*
5th ICFA Mini-Workshop on Space Charge, Knoxville, Tn Oct. 2022

*Operational Experience with Nanocrystalline Injection Foils at SNS*
67th ICFA Advanced Beam Dynamics Workshop on High Intensity and High Brightness Hadron Beams (ICFA-HB2021)

Chicago, Il, Oct. 2021

*High Intensity Accumulator Rings (Delivered remotely)*
Prospects for Intensity Frontier Particle Physics with Compressed Pulses from the ESS Linac (Workshop)
Uppsala, Sweden, March 2020

*Foil R&D and Temperature Measurements at the SNS*
North American Particle Accelerator Conference
Lansing, MI, September 2019

*Towards an Experimental Demonstration of Self-Consistent Beams for Beam Halo Control*
Accelerator and Performance Concept Workshop
Frankfurt am Main, Germany, December 2018

*SNS Experience with a Megawatt Beam*
Fermilab Workshop on Megawatt Rings & IOTA Collaboration Meeting
Fermi National Accelerator Laboratory, Batavia, IL, May 2018

*Broadband Feedback System for Instability Damping in the SNS Ring*
HB2016 - 57$^{th}$ ICFA Advanced Beam Dynamics Workshop on High-Intensity and High-Brightness Hadron Beams
Malmö, Sweden

**Publications**

Hoover, A.M., Evans, N.J. Fixed-optics four-dimensional emittance measurement at the Spallation Neutron Source, Nuclear instruments & methods in physics research. Section A, Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 167376

APS-DPB 2021-2022 Newsletter, Lead Editor

Leo Saturday, Leslie Wilson, Philip D. Rack, Nicholas J. Evans,
Comparison of micro- and nanocrystalline diamond films for charge exchange injection, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 167173

Saturday, Leo, Luck, Chris, Wilson, Leslie, Fowlkes, Jason D., Rack, Philip D., and Evans, Nicholas J. Experimental and simulated heating in nanocrystalline

diamond charge exchange injection films using an electron beam to mimic SNS conditions. Netherlands: N. p., 2022. Web. doi:10.1016/j.nima.2021.166226.

N.J. Evans, “Operational Experience with Nanocrystalline Injection Foils at SNS”, in *Proc. HB'21*, Batavia, IL, USA, Oct. 2021, pp. 176-180. doi:10.18429/JACoW-HB2021-TUEC2 (Conference proceedings accompanying talk above)

A.M. Hoover, N.J. Evans, T.V. Gorlov, and J.A. Holmes, “Development of an Injection-Painted Self-Consistent Beam in the Spallation Neutron Source Ring”, in *Proc. HB'21*, Batavia, IL, USA, Oct. 2021, pp. 7-11. doi:10.18429/JACoW-HB2021-MOAC3 (Conference proceedings accompanying talk delivered by A. Hoover)

Kumar, Harvey, Wendel, Jain, Evans, *Thermal Loading Analysis of the Ring Injection Dump for the Spallation Neutron Source Facility,* Nuclear Instrumentation and Methods A, Vol 1006, 165380, 1 August 2021

APS-DPB 2020-2021 Newsletter, Editor

Hoover, Evans, Holmes, *Computation of the matched envelope of the Danilov distribution* Physical Review Accelerators and Beams 24, 044201, 29 April 2021

Saturday, et al. *Thermal Conductivity of Nano- and Micro-Crystalline Diamond Films Studied by Photothermal Excitation of Cantilever Structures*, Diamond and Related Materials, vol. 113, 108279, March 2021

Holmes, et al. *Feasibility Study for Painting a Self-Consistent Beam into the Spallation Neutron Source Accumulator Ring*, Phys. Rev. Accel. Beams 21, 124403 Dec. 2018

Evans, N.J. and Plum, M, *The Future of the e-p Instability in the SNS Accumulator Ring,* CERN Yellow Reports: Conference Proceedings, 1, 45

Evans, et al. *Damping the e-p Instability in the SNS Accumulator Ring,* Nuclear Inst. And Methods in Physics Research, A 885 (2018) 21-29

Evans, et al. *A New Tool for Longitudinal Tomography in Fermilab’s Main Injector and Recycler Rings,* International Particle Accelerator Conference 2013 Shanghai, China

Evans, et al. *An Estimate of Out of Time Beam Upon Extraction for Mu2e* Particle Accelerator Conference 2012 New Orleans, LA

Evans, et al. *Precision Monitoring of Relative Beam Intensity*

Particle Accelerator Conference 2011 New York, NY

**Professional Organizations**

Early Career Member-at-Large - APS Division of Physics of Beams (01/20-12/21)
- APS-DPB 2021-2022 Newsletter, Lead Editor
- APS-DPB 2020-2021 Newsletter, Editor

**Teaching Experience/Outreach**

Lab Instructor
USPAS Fundamentals of Accelerator Physics Summer 2021

Lab Instructor
USPAS Fundamentals of Accelerator Physics Winter 2021

Lab Instructor
USPAS Fundamentals of Accelerator Physics Winter 2019

SULI Student Research Mentor Summer 2018

Lab Instructor
USPAS Fundamentals of Accelerator Physics Winter 2017

SULI Mentor Summer 2016

SNS Tour Guide 2016 - Present

Teaching Assistant for Prof. Michael Syphers, and Dr. Arden Warner
USPAS Fundamentals of Accelerator Physics Winter 2012

Teaching Assistant for Profs. John Keto, and Gerald Hoffman
University of Texas at Austin Undergraduate Senior Lab Fall 2008-Spring 2010

**Awards**
2020 ORNL Mission Support Award for Continuous Improvement of Stripper Foil Performance for the Spallation Neutron Source

**Education**

Ph.D. Physics - University of Texas at Austin, August 2014

B.S. Physics - University of Texas at Austin, May 2008

**Community Engagement**

Scientific Programming Committee Chair 5th ICFA Mini-Workshop on Space Charge, Knoxville, Tn Oct 2022

Planning Committee Member in charge of Satellite Meetings International Particle Accelerator Conference 2024, Nashville, Tn

Chair of Scientific Programming Committee ICFA 5th Space Charge Mini-Workshop, Knoxville, Tn

Peer Reviewer for Physical Review Accelerators and Beams (4 articles 2019-2021)

Peer Reviewer for Journal of Neutron Research (1 article 2020)

Peer Reviewer EPJ Techniques and Instrumentation (1 article 2021)

Served on 2020 Neutron Scattering Division Awards Review Committee

**References**

References available upon request.