

# PETER G. HOTVEDT

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## EDUCATION

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### University of Michigan

Ph.D. Candidate, Nuclear Engineering

- Research Advisor: Dr. Zhong He
- GPA: 4.00/4.00

*Ann Arbor, Michigan*

*Aug 2021 - Present*

### University of Wisconsin - Madison

B.S. Nuclear Engineering - Radiation Sciences Track

- Additional Major in Mathematics - Applied Track
- Certificate in Physics
- Undergraduate Research Advisor: Dr. Sean Fain

*Madison, Wisconsin*

*Sep 2016 - Dec 2020*

### Zhejiang University

Study Abroad

*Hangzhou, China*

*May 2018 - Jul 2018*

## RESEARCH EXPERIENCE

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### Orion Radiation Measurement Group, University of Michigan

Graduate Student Research Assistant

- Developing radiography systems for nuclear nonproliferation using CdZnTe semiconductor radiation detectors
- Simulating radiation events using GEANT4-based softwares to create accurate representations of expected radiation events with CZT.

*Ann Arbor, Michigan*

*Aug 2021 - Present*

### Fain Group and Center for Accelerated Medical Imaging

Undergraduate Research Assistant

- Investigated various topological metrics from MRI and CT images, related to the lung on a whole-lung, lobar, and sub-lobar level.
- Developed and maintained group MATLAB code for image segmentation and analysis.

*Madison, Wisconsin*

*Sep 2018 - Jul 2021*

## JOURNAL PUBLICATIONS

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### *Comparison of hyperpolarized $^3\text{He}$ -MRI, CT based parametric response mapping, and mucus scores in asthmatics*

*Frontiers in Physiology, DOI: 10.3389/fphys.2023.1178339*

*Aug. 2023*

Katherine J. Carey, **Peter Hotvedt**, David G. Mummy, Kristine E. Lee, Loren C. Denlinger, Mark L. Schiebler, Ronald L. Sorkness, Nizar N. Jarjour, Charles R. Hatt, Craig J. Galban and Sean B. Fain

## CONFERENCE PUBLICATIONS

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### *Local fSAD Features Derived from CT Topological Parametric Response Maps Are Associated with Ventilation Defects on Hyperpolarized Gas MRI in Asthma*

*American Thoracic Society 2019 International Conference*

*Dallas, TX*

*May 2019*

D. Mummy, B.A. Hoff, **P. Hotvedt**, C. Hatt, K.J. Carey, A. Fortuna, W. Zha, M. Schiebler, R. L. Sorkness, L.C. Denlinger, N.N. Jarjour, C.J. Galban, S.B. Fain

## POSTER PRESENTATIONS

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***Validation of Quantitative Air-Trapping on CT using Ventilation  
Imaging on Hyperpolarized Gas MRI***

*2019 American Nuclear Society Winter Meeting*

*Washington, DC*

*Nov 2019*

**Peter Hotvedt**, K.J. Carey, C. Hatt, C.J. Galbán, S.B. Fain

## INVITED TALKS

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***“Effective Uses of Social Media for Nuclear Outreach” - Moderator***

*American Nuclear Society*

*Online*

*Aug 3, 2023*

***“The Physics of Gamma Rays” - Lecturer***

*2023 Consortium for Monitoring, Technology, and Verification Nuclear  
Engineering Summer School*

*Ann Arbor, MI*

*Jun 20, 2023*

***“Student Social Media Presence at the 2022 IAEA Nuclear Power  
Ministerial Panel” - Moderator, Panelist***

*NERS Colloquium Series, University of Michigan*

*Ann Arbor, MI*

*Mar 17, 2023*

## INVOLVEMENT AND LEADERSHIP

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### **Professional Involvement**

#### **American Nuclear Society (ANS)**

- Vice Chair, Student Sections Committee (SSC)
- Liaison for Isotopes and Radiation Division (IRD) - SSC / Young Member Group (YMG)
- Vice Chair, Public Policy Subcommittee - SSC
- SSC Member

*May 2022 - Present*

*Jun 2021 - Jun 2023*

*Jun 2020 - Jun 2023*

*June 2020 - Present*

#### **American Nuclear Society - University of Michigan Student Section**

- Member

*Aug 2021 - Present*

#### **Institute of Nuclear Materials Management - University of Michigan Student Section**

- Communications Officer

*Sep 2022 - Present*

#### **Nuclear Engineering Student Delegation**

- Co-Vice Chair, 2021 Delegation
- Member, 2020 Delegation

*Dec 2020 - Oct 2021*

*Jun 2020 - Nov 2020*

#### **American Nuclear Society - U.W. Madison Student Section**

- President
- Governor A - Local Section Outreach Coordinator

*May 2019 - May 2020*

*Jan 2019 - May 2019*

### **Academic and Departmental Involvement**

#### **NERS Faculty Search Committee**

- Graduate Student Representative

*Aug 2022 - June 2023*

#### **Nuclear Engineering / Engineering Physics Student Advisory Committee**

- Undergraduate Chair

*Apr 2019 - Dec 2020*

## Dead Mathematician's Society - U.W. Math Club

- President
- Vice President

*May 2019 - May 2020*

*May 2018 - May 2019*

## Other Involvement

### PersonaCon

- Admin and Emcee, 2022 Virtual Convention
- Admin and Emcee, 2021 Virtual Convention

*Jan 2022 - Jul 2022*

*Jan 2021 - Jul 2021*

## HONORS & AWARDS

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2022    **Alpha Nu Sigma** - American Nuclear Society

## WORK EXPERIENCE

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### United States Census Bureau

2020 Census Post-Enumeration Surveyor

*Madison, Wisconsin*

*Jun 2021 - Sep 2021*

- Door-to-door enumerator for the state of Wisconsin, involved interpersonal interaction and regular travel.
- Conducted interviews by reading and communicating with government processes in both English and Spanish as needed.

### UW Carbone Cancer Center

Student Intern

*Madison, Wisconsin*

*Oct 2017 - Dec 2020*

- In-office student assistant for the internal auditing group for medical clinical trials.
- Updated internal knowledge base through learned knowledge of HTML, and medical reports were categorized and logged accordingly.

### United States Census Bureau

2020 Census Enumerator

*Minneapolis, Minnesota*

*Aug 2020 - Oct 2020*

- Door-to-door enumerator for the greater Minneapolis area, focusing on North Minneapolis suburbs
- Enumerated population by reading and communicating with government technology in both English and Spanish as needed.

## PROFESSIONAL ORGANIZATION MEMBERSHIP

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Since 2022	<b>Student Member</b>	Institute of Nuclear Materials Management
Since 2021	<b>Graduate Student Member</b>	Institute of Electrical and Electronics Engineers
Since 2017	<b>Student Member</b>	American Nuclear Society

## RELEVANT TECHNICAL AND PROFESSIONAL SKILLS

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### Programming

MATLAB, C++, MCNP6.2, R Studio, L<sup>A</sup>T<sub>E</sub>X

### Voiceover Experience

Voice acting, narration, & audio production in Adobe Audition

### Live Media Production

Planning and enacting of long-form live productions with OBS

### Language & Communication

Fluent in English, communicative in Spanish, proficient in French