

## CURRICULUM VITAE

### Education

2019–Present Stockholm University, Department of Physics, Ph.D. expected Fall 2023

2017–2019 University of California, Santa Cruz, B.Sc. in Physics

2013–2016 City College of San Francisco, Lower division credits for transfer

### Academic Positions

Summer 2022 PhD Student - Stockholm University  
Stockholm, Sweden

Summer 2019 Undergraduate Intern - Lawrence Berkeley National Lab  
Berkeley, California

2017–2019 Undergraduate Research Assistant - Santa Cruz Institute for Particle Physics  
Santa Cruz, California

Summer 2018 Undergraduate Intern - Deutsches Elektronen-Synchrotron (DESY)  
Hamburg, Germany

2016–2017 Undergraduate Intern/Research Assistant - Lawrence Berkeley National Lab  
Berkeley, California

Summers 2014, 2015 Undergraduate Intern - NASA Ames Research Center  
Mountain View, California

### Selected Publications

*Note: As a member of the ATLAS Collaboration, I am an author of 34 peer-reviewed papers as of February 2022. ATLAS papers are published with the entire collaboration author list in alphabetical order. Only selected ATLAS publications in which I directly contributed are listed here.*

#### Peer-Reviewed Publications

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- 2021 **Status of the Design of an Annihilation Detector to Observe Neutron-Antineutron Conversions at the European Spallation Source**  
S-C. Yiu, B. Meirose, J. Barrow, C. Bohm, G. Brooijmans, **K. Dunne**, E. S. Golubeva, D. Milstead, A. Nepomuceno, A. Oskarsson, V. Santoro and S. Silverstein  
Symmetry 2022, 14(1), 76;  
doi:[10.3390/sym14010076](https://doi.org/10.3390/sym14010076)
- 2021 **New high-sensitivity searches for neutrons converting into antineutrons and/or sterile neutrons at the HIBEAM/NNBAR experiment at the European Spallation Source**  
A Addazi, K. Anderson, S. Ansell, K. S. Babu, J. L. Barrow, D. V. Baxter, P. M. Bentley,

Z. Berezhiani, R. Bevilacqua, R. Biondi, C. Bohm, G. Brooijmans, L. J. Broussard, J Cedercäll, C. Crawford, P. S. B. Dev, D. D. DiJulio, A. D. Dolgov, **K. Dunne** et al  
2021 J. Phys. G: Nucl. Part. Phys. 48 070501;  
doi: [10.1088/1361-6471/abf429](https://doi.org/10.1088/1361-6471/abf429)

2021 **A Revised Version of the ATLAS Tile Calorimeter Link Daughterboard for the HL-LHC**

E. V. Santurio, S. Silverstein, C. Bohm, K. Dunne, S. Lee and H. Motzkau  
IEEE Transactions on Nuclear Science, vol. 68, no. 9 2021;  
doi: [10.1109/TNS.2021.3103408](https://doi.org/10.1109/TNS.2021.3103408)

Reports & White Papers

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2021 **Results of the 2021 ECFA Early-Career Researcher Survey on Training in Instrumentation,**

ECFA Early-Career Researcher Panel, Detector R&D Working Group;  
link: <https://cds.cern.ch/record/2775921>

2018 **Technical Design Report for the ATLAS Inner Tracker Pixel Detector**

ATLAS Collaboration;  
link: <https://cds.cern.ch/record/2285585/files/ATLAS-TDR-030.pdf>

Conference Proceedings

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2021 **The HIBEAM/NNBAR Calorimeter Prototype**

**K. Dunne**, B. Meirose, D. Milstead, A. Oskarsson, V. Santoro, S. Silverstein, S-C. Yiu  
*International Conference on Instrumentation in Particle Physics (TIPP2021)*;  
arXiv: [2107.02147](https://arxiv.org/abs/2107.02147)

2021 **A Computing and Detector Simulation Framework for the HIBEAM/NNBAR Experimental Program at the ESS**

J. Barrow, G. Broijmans, J. Damian, D. DiJulio, **K. Dunne**, E. Golubeva, Y. Kamyshkov, J. Makkinje, B. Meirose, D. Milstead, A. Nepomuceno, A. Oskarsson, V. Santoro, S. Silverstein, A. Takibayev, S-C Yiu, L. Zanini.  
*International Conference on Computing in High-Energy and Nuclear Physics(vCHEP2021)*;  
doi: <https://doi.org/10.1051/epjconf/202125102062>

2017 **Quad Module Hybrid Development for the ATLAS Pixel Layer Upgrade**

**K. Dunne**, M. Garcia-Sciveres, T. Heim.  
*Topical Workshop on Electronics for Particle Physics(TWEPP2017)*;  
doi: <https://pos.sissa.it/313/065/pdf>

2016 **Results of FE65-P2 Pixel Readout Test Chip for High Luminosity LHC Upgrades**

R. Carney, **K. Dunne**, M. Garcia-Sciveres, D. Gnani, T. Heim, T. Hemperek, H. Krueger, A. Mekkaoui, V. Wallangen.  
*International Conference on High Energy Physics(ICHEP2016)*;  
doi: <https://pos.sissa.it/282/272/>

**Selected Presentations**

Feb 2022 Instrumentation Seminar - Lawrence Berkeley National Lab  
Talk: [The ALPHA Collaboration and the Axion Plasma Haloscope](#)

Nov 2020 Partikeldagarna, Swedish Particle Physics 2020, Uppsala University/Remote  
Talk: [A Neutron-Antineutron Annihilation Detector for the NNBAR Experiment](#)

- Jan 2020 Spåtind 2020: Nordic Conference on Particle Physics, Skeikampen, Norway  
Talk: [The HIBEAM/NNBAR Experiment](#)
- Jan 2019 Beam Telescopes and Test Beams Workshop, CERN  
Talk: [Photon Tagged Beam Line at the DESY II Test Beam Facility](#)
- Sep 2017 Topical Workshop on Electronics for Particle Physics, UC Santa Cruz  
Poster: [Quad Module Hybrid Development for the ATLAS Pixel Layer Upgrade](#)
- April 2017 APS April Meeting, Washington, D.C.  
Talk: [Results of FE65-P2 Stability Tests for the High Luminosity LHC Upgrade](#)

## Teaching

- 2022 **Mentor**, Degree Project in Physics - FK6002, Degree Project in Medical Radiation Physics - FK6003  
Stockholm University
- 2021 **Teaching Assistant**, Basic Electronics - FK5026  
Bachelors lab course  
Stockholm University
- 2020, 2021 **Teaching Assistant**, Digital System Construction I - FK5026  
Masters course on VHDL firmware design  
Stockholm University
- 2019, 2020, 2021 **Teaching Assistant**, Project in Experimental Modern Physics - FK4003  
Bachelors lab course, lead for Compton scattering experiment  
Stockholm University
- 2020 **Guest Lecturer**, Introduction to Particle Physics - PHYS 594  
PhD level course  
2 lectures on GEANT4 simulations in experimental particle physics  
University of Tennessee, Knoxville

## Professional Service & Outreach

### Appointed & Elected Positions

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- 2021–2023 Early Career Researcher Panel Member, [European Committee for Future Accelerators \(ECFA\)](#)
- 2020–2021 Early Career Representative, Snowmass Instrumentation Frontier
- 2019–2020 Board Member, PhD Council (Fysikums Doktorandråd), Stockholm University
- 2018–2019 Committee Member, Committee on Diversity and Climate, UCSC Physics

### Conference Organization

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- May 2021 International Advisory Committee Member [International Conference on Technology and Instrumentation in Particle Physics \(TIPP\)](#)  
Remote / TRIUMF
- May 2021 Session Chair, [2021 Lawrence Workshop on Tunable Plasmonic Haloscopes](#)  
Remote / Arizona State University

April 2021 Organizer, [Townhall on Early Career Perspective in Training in Instrumentation](#)  
Remote / Virtual

Nov 2020 Scientific Committee Member, [MultiHEP 2020 - Multidisciplinary Collaborations in High Energy Physics](#)  
Remote / Lawrence Berkeley National Lab

### Outreach

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2022 Presenter, Career Fair for Math, Physics, and Computer Science, Stockholm University

2019 Presenter, [ForskarFredag \(Researcher Friday\)](#), Stockholm University

2017–2019 Outreach Coordinator, Society of Physics Students, UCSC

2018 Presenter/Lab Assistant, [International Masterclasses](#), UCSC

2016–2017 Academic Mentor, YMCA of San Francisco

2014–2016 STEM Education Specialist, YMCA of San Francisco