

CURRICULUM VITAE

Axel K. Drees

Current Position:

**Professor and Chair,
Department of Physics and Astronomy
Stony Brook University**

Education:

June 1989 **Dr.rer.nat.** (Ph.D.),
Nuclear Physics, Heavy Ion Physics at CERN SPS
Ruprecht-Karls-Universität Heidelberg, Germany,
Supervised by Prof. H.J. Specht
Dec. 1985 **Diplom** (Masters),
High Energy Particle Physics at CERN SPS collider
Rheinische Friedrich-Wilhelms-Universität Bonn
Germany Supervised by Prof. K. Böckmann

Appointments:

Nov. 2020 to date **Distinguished Professor**
Department for Physics and Astronomy,
Stony Brook University, SUNY, USA
Sep. 2015 to Aug. 2023 **Chair**
Department for Physics and Astronomy,
Stony Brook University, SUNY, USA
April 2012 to May 2015 **Vice Provost for Budget and
Strategic Planning**
Stony Brook University, SUNY, USA
June 2011 to Oct. 2011 **Acting Dean**
College of Arts and Science,
Stony Brook University, SUNY, USA
Sep. 2008 to April 2012 **Associated Dean for Budget and
Operation**
College of Arts and Science,
Stony Brook University, SUNY, USA
Sep. 2004 to Oct. 2020 **Professor**
Department for Physics and Astronomy,
Stony Brook University, SUNY, USA
Sep 2001 - Aug. 2004 **Associated Professor**
Department for Physics and Astronomy,
Stony Brook University, SUNY, USA
Dec. 1997 - Aug. 2001 **Assistant Professor**
Department for Physics and Astronomy,
Stony Brook University, SUNY, USA
Oct. 1992 - Nov. 1997 **Wissenschaftlicher Assistent ,
C1**
(Assistant Professor)
Ruprecht-Karls-Universität Heidelberg,
Germany
July 1989 - Sep. 1992 **Wissenschaftlicher Angestellter**
(Postdoctoral Fellow)
Ruprecht-Karls-Universität Heidelberg,
Germany

Awards:	1997	Venia Legendi (Habilitation), Ruprecht-Karls-Universität Heidelberg
	2016	APS Fellow , Fellow of the American Physics Society
	2019	SUNY Chancellor's Award for Excellence in Research and Scholarly Activity

Major Professional Service:

- Member of the Search Committee for the VP for CP&EE, 2023
- Co-Chair of joint Senate/Provost Committee to review the P&T process, 2023
- Co-Chair of SBU Strategic Budget Initiative Taskforce on Academic Planning, 2021
- Member of the Search committee for the University President (elected by the faculty), 2022
- Deputy Spokesperson of the PHENIX experiment at Brookhaven National Laboratory (BNL), since 2019
- Chair of SBU Senate Committee for Academic Planning and Resources Allocation (CAPRA), since 2018
- Chair of SBU Arts and Science Senate Academic Review Committee, 2018
- Member of the Institution Board of PHENIX, since 2017
- Member of the SBU and the Arts and Science Senates, since 2017
- Convener of the Photon, Lepton, Hadron and Flow Physics Working group of the PHENIX experiment at Brookhaven National Laboratory (BNL), 2016 to 2023
- Member of the Institutional Board of sPHENIX, 2015-2017
- Member of SBU Project 50 Forward Project Management Office (PMO) 2012 to 2015
- Member of SBU Project 50 Forward Budget and Finance steering group 2011 to date
- Member of the Speakers Bureau of the PHENIX experiment at BNL, 2013-2015.
- Convener of the Photon, Lepton, Hadron and Flow Physics Working group of the PHENIX experiment at Brookhaven National Laboratory (BNL), 2011-2013.
- Member of the Editorial Board for Progress in Particle and Nuclear Physics, 2008-2013.
- Project manager for upgrades, PHENIX experiment at BNL, 2000-2008.
- Member of Executive Council of the PHENIX experiment at BNL, 2000-2008.
- Member of the Physics Advisory Committee (EA) for the Gesellschaft fuer Schwere Ionen (GSI), Darmstadt, Germany, 2000-2006.
- Member of Stony Brook University Senate, 2000-2003.
- Convener of the Light Vector Meson Physics Working group of the PHENIX experiment at Brookhaven National Laboratory (BNL), 1998-1999.
- Run coordinator for the CERES/NA45 experiment at the European Organization for Nuclear Research (CERN), 1990-1997

Other Regular Professional Service:

- Organization of parallel sessions at various conferences
- Reviewer of grant applications to the DOE Office of Science
- Reviewer for Physics Review Letters, Physics Letters B., European Journal of Physics
- Member of many Thesis and Departmental Committees

Publications:

The following publications are a selection of papers with significant contributions from me and my group, which had significant impact or are more recent but are expected to have significant impact. This list is ordered by number of citations and was last updated 6/16/23; the citation numbers are from google scholar. A full list of all 300+ publications can be found at [Google Scholars](#) or on [InSPIRE-HEP](#). The number of citations is well above 30,000 resulting in an h-index above 100.

1. K.Adcox et al. (PHENIX Collaboration): *Formation of dense partonic matter in relativistic nucleus-nucleus collisions at RHIC: Experimental evaluation by the PHENIX collaboration*
Nucl. Phys. A757 (2005) 184 -- 4699 citations
2. S.S. Adler et al. (PHENIX Collaboration): *Suppression of hadrons with large transverse momentum in central Au+Au collisions at $\sqrt{s_{NN}} = 130$ GeV*
Phys. Rev. Lett 88 (2002) 022301 - 1672 citations
3. G. Agakichiev et al. (CERES Collaboration): *Enhanced production of low mass electron pairs in 200 GeV/u S-Au collisions at the CERN SPS*
Phys. Rev. Lett. 75 (1995) 1272 - 884 citations
4. A.Adare et al. (PHENIX Collaboration): *Energy Loss and Flow of Heavy Quarks in Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV*
Phys. Rev. Lett 98 (2007) 172301 - 872 citations
5. S.S. Adler et al. (PHENIX Collaboration): *Absence of suppression in particle production at large transverse momentum in $\sqrt{s_{NN}} = 200$ GeV d+Au collisions*
Phys. Rev. Lett 91 (2003) 072303 - 806 citations
6. Adare et al. (PHENIX Collaboration): *Detailed measurement of the e^+e^- pair continuum in p+p and Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV and implications for direct photon production*
Phys. Rev. C81 (2010) 034911 - 626 citations
7. A.Adare et al. (PHENIX Collaboration): *Heavy-quark production in + and energy loss and flow of heavy quarks in Au + Au collisions at GeV*
Physical Review C84 (2011), 044905 - 578 citations
8. A.Adare et al. (PHENIX Collaboration): *Enhanced production of direct photons in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV and implications for the initial temperature*
Phys. Rev. Lett. 104 (2010) 132301 - 554 citations
9. S.S. Adler et al. (PHENIX Collaboration): *High p_T charged hadron suppression in Au + Au collisions at $\sqrt{s_{NN}} = 200$ GeV*
Phys. Rev. C69 (2004) 034910 - 541 citations
10. G. Agakishiev et al (CERES/NA45 Collaboration): *Low mass e^+e^- pair production in 158/A-GeV Pb-Au collisions at the CERN SPS, its dependence on multiplicity and transverse momentum*
Phys. Lett B422 (1998) 405 - 456 citations
11. A.Adare et al. (PHENIX Collaboration): *Measurement of high- p_T single electrons from heavy-flavor decays in p+p collisions at $\sqrt{s} = 200$ GeV*
Phys. Rev. Lett. 97 (2006) 252002 - 374 citations
12. C. Aidala et al. (PHENIX Collaboration): *Creation of quark-gluon plasma droplets with three distinct geometries*
Nature Physics 15 (2019) 214 - 263 citations

13. A.Adare et al. (PHENIX Collaboration): Centrality dependence of low-momentum direct-photon production in Au+Au collisions at $\sqrt{s_{NN}}=200$ GeV
Phys. Rev. C91 (2015) 064904 - 218 citations
14. A.Adare et al. (PHENIX Collaboration): *Azimuthally anisotropic emission of low-momentum direct photons in Au+Au collisions at $\sqrt{s_{NN}}=200$ GeV*
Phys. Rev. C94 (2016) 064901 - 125 citations
15. A.Adare et al. (PHENIX Collaboration): *Beam-energy and centrality dependence of direct-photon emission from ultra-relativistic heavy-ion collisions*
Phys. Rev. Lett. 123 (2019) 022301 - 48 citations
16. N.J. Abdulameer et al. (PHENIX Collaboration): *Low- p_T direct-photon production in Au+Au collisions at $s_{NN}=39$ and 62.4 GeV*
Phys.Rev.C 107 (2023) 2, 024914 - 7 citations
17. N.J. Abdulameer et al. (PHENIX Collaboration): *Disentangling centrality bias and final-state effects in the production of high- using direct in Au collisions at GeV*
arXiv preprint arXiv:2303.12899 (2023)

Recent Conference Presentations

1. A. Drees: *Disentangling centrality bias and final state effects on high p_T π^0 using direct γ in $d+Au$ at 200 GeV*, The 11th International Conference on Hard and Electromagnetic Probes of High-energy Nuclear Collisions (Hard Probes 2023), March 2023, Aschaffenburg, Germany
2. A. Drees: *Recent Results from the PHENIX Experiment*, XI International Conference on New Frontiers in Physics, Kolymbari, Crete, Greece 10-2022
3. A. Drees: *Low Momentum Direct Photons*, ECT* workshop on Exploring High- μ B Matter with Rare Probes, Trento, Italy, 10-2021
4. A. Drees: *PHENIX Results on Nuclear Modification of Hadron Production in Small and Large Systems*, The 10th International Conference on Hard and Electromagnetic Probes of High-energy Nuclear Collisions (Hard Probes 2020) Austin Texas, Online, 6-2020
5. A. Drees: *Thermal Photons from Heavy Ion Collisions*, Zimanyi School 2019, December 2019, Budapest, Hungary
6. A. Drees: *PHENIX Measurements of Heavy Flavor & DY in pp and pA at 200 GeV*, Initial Stages 2019, June 2019, New York City
7. A. Drees: *Centrality Dependence of "Thermal Radiation"*, Workshop on electromagnetic radiation in Heavy Ion Collisions, November 2018, Trento, Italy
8. A. Drees: *PHENIX Measurements of Beam Energy Dependence of Direct Photon Emission*
The 8th International Conference on Hard and Electromagnetic Probes of High-energy Nuclear Collisions (Hard Probes 2018), October 2018, Aix-Les-Bains, Savoie, France
9. A. Drees: *Direct Photon Emission from Heavy Ion Collisions*
7th Workshop of the APS Topical Group on Hadronic Physics (GHP2017), February 2017, Washington, DC, USA
10. Drees: *PHENIX: ψ' to J/ψ in $p+p$, $p+Al$, $p+Au$, $He+Au$ at $\sqrt{s} = 200$ GeV*
The 8th International Conference on Hard and Electromagnetic Probes of High-energy Nuclear Collisions (Hard Probes 2016), September 2016, Wuhan, China
11. A. Drees: *Electromagnetic Radiation Probing Nuclear Matter*
Student day at the 8th International Conference on Hard and Electromagnetic Probes of High-energy Nuclear Collisions (Hard Probes 2016), September 2016, Wuhan, China
12. A. Drees: *The Direct Photon Puzzle: Observations of PHENIX*

- New perspectives on Photons and Dileptons in Ultrarelativistic Heavy-Ion Collisions at RHIC and LHC, December 2015, ECT* Ternto, Italy
13. A. Drees: *Highlights from PHENIX*
XXV International Conference on Ultrarelativistic Heavy-Ion Collisions (Quark Matter 2015), September 2015, Kobe, Japan

Career Summary

Axel Drees received his Doctorate from Heidelberg University in 1989 for pioneering work on experiments seeking to create the quark gluon plasma (QGP), which is a state of hot and dense nuclear matter in which proton and neutrons melt into their substructure and which was the primary form of matter in the universe for the first 10^{-6} seconds. Drees continued his research as postdoc and Assistant Professor at Heidelberg before he joined the faculty at Stony Brook University in January of 1998. At Stony Brook he and his group played a leading role in the PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC) at BNL. His work contributed to the discovery that QGP can indeed be formed in the laboratory. Drees and his group now focus on characterizing the properties of the QGP using the PHENIX experiment and in future the new state of the art sPHENIX experiment which started data taking in 2023.

Drees has held many leadership roles in PHENIX and currently serves as deputy spokesperson of the collaboration. Since he joined Stony Brook University the research of his group has been funded by more than \$23M through the Department of Energy (DOE). Over his career he has published more than 300 papers, which have been cited more than 30,000 times, resulting in an h-index of over 100.

Drees has served in a variety of leadership roles at Stony Brook University. These include Associate Dean for Budget and Operations of CAS from 9/2008 to 4/2012, during this time he served as Acting Dean of CAS in the summer of 2011. He served as Vice Provost for Budget and Strategic Planning from 4/2012 to 5/2015, and as chair of the Department of Physics and Astronomy from 9/2015 to 8/2023. Since 2018 Drees has been a Member of the University Senate and has chaired the Committee for Academic Planning and Resource Allocation (CAPRA).