

## Biographical Sketch: Berndt Mueller

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Duke University  
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### Education:

- M.S. (Diplom): Physics, 1972  
J.W. Goethe Universität Frankfurt (Germany)
- Ph.D. (Dr. phil. nat.): Theoretical Physics, 1973  
J.W. Goethe Universität Frankfurt (Germany), *summa cum laude*

### Professional Experience:

Brookhaven National Laboratory (Upton, NY):

2013 – 2020: Associate Laboratory Director for Nuclear and Particle Physics

Duke University (Durham, NC):

1996 – Present: James B. Duke Professor of Physics

1999 – 2004: Dean of the Natural Sciences

1997 – 1999: Physics Department Chair

1990 – 1996: Professor of Physics

J. W. Goethe Universität (Frankfurt, Germany):

1976 – 1989: Associate Professor (C3)

1972 – 1974: Research Assistant

University of Washington (Seattle, WA)

1974 – 1975: Research Associate

### Awards and Honors:

2021 Herman Feshbach Prize, APS/DNP

2007 Jesse Beams Award, SESAPS

1998 Senior U.S. Scientist Award, A. v. Humboldt Foundation

1994 Fellow APS and AAAS

1975 Röntgen Prize, Universität Giessen (Germany) [with P. Mokler and F. Saris]

**Publications:** More than 300 refereed publications with over 15,000 citations (SPIRES-HEP).

### Synergistic activities:

2015 Member, NSAC Long Range Plan Writing Group

2013 Chair, APS Division of Nuclear Physics

2009 Director, Duke Center for Theoretical and Mathematical Science

2007 DOE/NSF NSAC Working Group on Long Range Planning

2005 Member, NSAC Subcommittee on LRP Implementation

2003 Chair, NSAC Subcommittee on Nuclear Theory

2003 Lead Organizer, 7th Int. Conference on Strangeness in Quark Matter (SQM2003)

### Selected publications related to the proposal:

1. X. Yao, W. Ke, Y. Xu, S. A. Bass and B. Müller, “Coupled Boltzmann Transport Equations of Heavy Quarks and Quarkonia in Quark-Gluon Plasma,” *JHEP* **21**, 046 (2020) [arXiv:2004.06746 [hep-ph]].
2. M. Asakawa, M. Kitazawa and B. Müller, “Issues with the search for critical point in QCD with relativistic heavy ion collisions,” *Phys. Rev. C* **101**, no.3, 034913 (2020) [arXiv:1912.05840 [nucl-th]].
3. X. Yao and B. Müller, “Quarkonium inside the quark-gluon plasma: Diffusion, dissociation, recombination, and energy loss,” *Phys. Rev. D* **100**, 014008 (2019) [arXiv:1811.09644 [hep-ph]].
4. B. Müller and A. Schäfer, “Chiral magnetic effect and an experimental bound on the late time magnetic field strength,” *Phys. Rev. D* **98**, 071902 (2018) [arXiv:1806.10907 [hep-ph]].
5. X. Yao and B. Müller, “Approach to equilibrium of quarkonium in quark-gluon plasma,” *Phys. Rev. C* **97**, 014908 (2018) Erratum: [*Phys. Rev. C* **97**, no. 4, 049903 (2018)] [arXiv:1709.03529 [hep-ph]].
6. K. M. Burke *et al.* [JET Collaboration], “Extracting the jet transport coefficient from jet quenching in high-energy heavy-ion collisions,” *Phys. Rev. C* **90**, no. 1, 014909 (2014) [arXiv:1312.5003 [nucl-th]].
7. G. Y. Qin and B. Müller, “Elliptic and triangular flow anisotropy in deuteron-gold collisions at  $\sqrt{s_{NN}} = 200$  GeV at RHIC and in proton-lead collisions at  $\sqrt{s_{NN}} = 5.02$  TeV at the LHC,” *Phys. Rev. C* **89**, no. 4, 044902 (2014) [arXiv:1306.3439 [nucl-th]].
8. B. V. Jacak and B. Müller, “The exploration of hot nuclear matter,” *Science* **337**, 310 (2012).
9. B. Müller, J. Schukraft and B. Wyslouch, “First Results from Pb+Pb collisions at the LHC,” *Ann. Rev. Nucl. Part. Sci.* **62**, 361 (2012) [arXiv:1202.3233 [hep-ex]].
10. J. I. Kapusta, B. Müller and M. Stephanov, “Relativistic Theory of Hydrodynamic Fluctuations with Applications to Heavy Ion Collisions,” *Phys. Rev. C* **85**, 054906 (2012) [arXiv:1112.6405 [nucl-th]].