

Michael Strickland
Professor
Department of Physics
Kent State University
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USA

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Curriculum Vitæ

- Educational Experience
- Duke University, Durham, NC, 1995 (MS Physics), 1997 (PhD Physics)
 - University of North Carolina, Chapel Hill, NC, 1992 (BS Physics)
 - North Carolina School of Science and Mathematics, Durham, NC, 1988

Professional Experience

Positions

- April 2015-
Aug 2017-
Aug 2015-
Aug 2008-
Jan 2013-2017
Aug 2008-Dec 2012
Nov 2005-Aug 2008
Nov 2004-Oct 2005
2002-Oct 2004
2001-2002
1999-2001
1997-1999
1994-1997
1992-1994
- Director, Center for Nuclear Research, Kent State University
- Professor of Physics, Kent State University
- Adjunct Professor of Physics, Ohio State University
- Adjunct Fellow, Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany
- Associate Professor of Physics, Kent State University
- Assistant Professor of Physics, Gettysburg College
- Junior Fellow/Professor, Frankfurt Institute for Advanced Studies and Institute for Theoretical Physics, Frankfurt am Main, Germany
- Research Scientist, Helsinki Institute of Physics, Helsinki, Finland
- Lise Meitner Fellow, Vienna Technical University, Vienna, Austria
- Visiting Assistant Professor, Duke University, Durham, NC
- Postdoctoral Researcher, University of Washington, Seattle, WA
- Postdoctoral Researcher, Ohio State University, Columbus, OH
- Graduate Research Assistant, Duke University, Durham, NC
- Graduate Research Assistant, Duke University, Durham, NC

Awards, Grants, and Fellowships

- DOE Grant, 2017-2020
- DOE Grant, 2015-2017
- KSU Internal Award, 2015-2016
- Non-equilibrium Dynamics of the Quark Gluon Plasma (renewal), Award amount \$490,000
- Non-equilibrium Dynamics of the Quark Gluon Plasma, Award amount \$307,000
- The Quark Gluon Plasma in the Era of the Large Hadron Collider, Kent State University School of Arts and Sciences post-doctoral funding competition, Award amount \$56,000

Professional Experience (continued)

- APS Blewett Fellowship, 2015-2016
- DOE Grant, 2013-2015
- NSF Grant, 2011-2014
- KITP Scholar, 2010-2012
- Lise Meitner Fellow, 2002-2004
- Postdoc for Lusaka Bhattacharya, Award amount \$45,000
- Topical Collaboration on Jet and Electromagnetic Tomography of Extreme Phases of Matter in Heavy-ion Collisions, Convenor of the Bulk Working Group, Award amount \$76,000
- RUI: Dissipative Dynamics of the Quark Gluon Plasma, Award amount \$141,000
- Kavli Institute for Theoretical Physics (KITP) Scholar, University of California Santa Barbara
- Austrian National Science Foundation (FWF)

Teaching Details

Kent State University

- Fall 2018
- Spring 2018
- Fall 2017
- Spring 2016
- Fall 2016
- Spring 2016
- Fall 2015
- Spring 2015
- Fall 2014
- Spring 2014
- Spring 2013
- PhD Supervisor
- Particle Physics (Physics 76201; Graduate Level; Texts: *Quarks & Leptons: An Introductory Course in Modern Particle Physics*, F. Halzen and A. D. Martin; *Introduction to Elementary Particles*, D. Griffiths.)
- Applications of Quantum Chromodynamics (Physics 76303; Graduate Level, Text: *Quantum Field Theory*, M. Strickland)
- Electromagnetic Theory (Physics 45201; Advanced Undergraduate Level; Text: *Electromagnetic Fields*, R. Wangsness)
- Physics in the Entertainment and the Arts (Physics 21040; Introductory Undergraduate Level; Text: *Physics in the Entertainment and the Arts*, S. Christensen, J. Secaur, and R. Conlon)
- Quantum Mechanics III (Physics 76163; Graduate Level; Text: *Quantum Field Theory*, M. Strickland)
- Applications of Quantum Chromodynamics (Physics 76303; Text: *Quantum Field Theory*, M. Strickland)
- Quantum Mechanics III (Physics 76163; Graduate Level; Text: *Quantum Field Theory*, M. Strickland)
- Quantum Mechanics II (Physics 76162; Graduate Level; Text: *Principles of Quantum Mechanics, 2nd Edition*, R. Shankar)
- Quantum Mechanics III (Physics 76163; Graduate Level; Text: *Quantum Field Theory*, M. Strickland)
- Quantum Mechanics II (Physics 76162; Graduate Level; Text: *Principles of Quantum Mechanics, 2nd Edition*, R. Shankar)
- Quantum Mechanics II (Physics 76162; Graduate Level; Text: *Principles of Quantum Mechanics, 2nd Edition*, R. Shankar)
- Relativistic Quantum Field Theory (Physics 50096; Graduate Level; Text: *Quantum Field Theory*, Lewis H. Ryder)
- Jeremy Alford, *Topics in Theory and Experiment in Relativistic Heavy-Ion Physics*, (co-advised with Dr. Declan Keane), PhD, Dec 2015.
- Mubarak Alqahtani, *Quasiparticle anisotropic hydrodynamics in ultra-relativistic heavy-ion collisions*, PhD, Dec 2017.
- Mohammad Nopoush, PhD research in progress.

Professional Experience (continued)

- Brandon Krouppa, *Quarkonium suppression using 3+1d anisotropic hydrodynamics*, PhD, Aug 2018.
- Babak Kasmaei, PhD research in progress.
- Dekrayat Almaalol, PhD research in progress.

Master's Degree Supervisor

- Mohammad Yaseen, *Describing The Dynamics Of The Quark-Gluon Plasma Using Relativistic Viscous Hydrodynamics*, MS, July 2016.

Gettysburg College

- Introductory Physics for non-science majors (Physics 101 - The Evolving Universe; Text: *Understanding Physics*, D. Cassidy, G. Holton, and J. Rutherford)
- Introductory Physics for health science majors (Physics 103; Text: *Physics: Principles with Applications, 6th ed.*, D.C. Giancoli)
- Introductory Physics II (Physics 110; Text: *Physics for Scientists and Engineers with Modern Physics*, D.C. Giancoli)
- Modern Physics Laboratory (Physics 111L and 112L)
- Math Techniques for Physicists (Physics 255; Text: *Advanced Engineering Mathematics*, M. Greenberg)
- Classical Mechanics (Physics 319; Texts: *Mechanics*, K.R. Symon and *Classical Mechanics*, T.W.B. Kibble and F.H. Berkshire)
- Advanced Electromagnetism (Physics 330 - Electromagnetism; Text: *Electromagnetic Fields*, R. Wangsness)
- Particle Physics (Physics 381; Text: *Introduction to Elementary Particles*, D. Griffiths).

Frankfurt - PhD Supervisor

- Supervised/Co-supervised the PhD dissertations of
 - Bjoern Schenke, *Collective Phenomena in the Non-Equilibrium Quark-Gluon Plasma*, (2008). Currently holds a staff position at Brookhaven National Lab in the nuclear theory group.
 - Yun Guo, *Quarkonium States in an Anisotropic Quark-Gluon Plasma*, (2009). Currently an Assistant Professor in China.
 - Mauricio Martinez-Guerrero, *Phenomenological aspects of an anisotropic quark-gluon plasma*, (2008). Currently a postdoc at North Carolina State University.
 - Nan Su, *A Gauge-Invariant Reorganization of Thermal Gauge Theory*, (2010). Currently a postdoc working at Johann Wolfgang Goethe University, Frankfurt, Germany.
 - Maximillian Attems, *Real-time evolution of a non-equilibrium non-Abelian plasma*, (2012). Currently a postdoc at University of Barcelona, Barcelona, Spain.

Lise Meitner Fellow

- Co-supervised the PhD dissertation work of Paul Romatschke, *Quasi-particle description of the hot and dense quark gluon plasma*, (2003). Currently an Associate Professor at University of Colorado Boulder.

Visiting Assistant Professor

- Taught graduate level general relativity course, Duke University, Fall 2001. Text: Wald.

Professional Experience (continued)

- Curriculum Development
 - Undergraduate Teaching and Curriculum Development, Ohio State University Physics Education Research Group, 1997-1999.
- Private Physics Tutor
 - Duke University and Rutgers University, 1994-1997.
- Teaching Assistant
 - Graduate level Advanced Quantum Mechanics II, Spring 1994.
- Teaching Assistant
 - Graduate level Advanced Quantum Mechanics I, Fall 1993.
- Teaching Assistant
 - Undergraduate level E&M, Duke University, Spring 1993.
- Teaching Assistant
 - Undergraduate level Mechanics, Duke University, Fall 1992.

Service

- Kent State University
 - Director, Center for Nuclear Research, 2015-
 - College Advisory Committee (University-level), 2017-
 - Undergraduate Physics Advisor (Physics), 2014-
 - Graduate Program Committee (Physics), 2013-2014, 2015-2017
 - Faculty Advisory Committee (Physics), 2013-2014, 2016-
- Gettysburg
 - Advisor, Society of Physics Students (SPS), 2008-2012

Journal Referee

- Physical Review Letters, Physics Letters B, Physical Review D, Physical Review C, Journal of High Energy Physics, Physical Review A, Nuclear Physics A, Nuclear Physics B, Journal of Physics G, The European Physical Journal C, International Journal of Modern Physics E, Acta Physica Polonica, Modern Physics Letters A, American Journal of Physics, Central European Journal of Physics, Physica Scripta

Research Interests

- Nuclear and High Energy Theory
 - Heavy ion collisions/quark-gluon plasma (QGP)
 - Finite temperature/density quantum field theory (QFT)
 - Non-equilibrium field theory/QFT
 - Diagrammatic and field-theoretic resummation methods
 - Numerical solution of QCD Boltzmann-Vlasov equations
 - Relativistic viscous hydrodynamics
 - QCD equation of state at high-temperatures
 - Non-perturbative QFT
- Astrophysics
 - QCD equation of state at high-temperatures
 - QCD equation of state at low-temperatures and high densities
 - Neutron star evolution
 - Thermalization and reheating of the universe
- Atomic Physics
 - Bose-Einstein condensation
 - Critical behavior of low-temperature atomic gases
- General
 - Relativistic viscous hydrodynamics
 - Relativistic dynamics beyond viscous hydrodynamics
 - Functional renormalization group methods

Publications

Preprints

- P.P. Bhaduri, N. Borghini, A. Jaiswal, and M. Strickland, Anisotropic escape mechanism and elliptic flow of bottomonia, arXiv: 1809.06235.
- M. Strickland, The non-equilibrium attractor for kinetic theory in relaxation time approximation, arXiv:1809.01200.
- D. Almaalol, M. Alqahtani, and M. Strickland, Anisotropic hydrodynamics with number-conserving kernels, arXiv:1808.07038.
- D. Almaalol, M. Alqahtani, and M. Strickland, Anisotropic hydrodynamic modeling of 200 GeV Au-Au collisions, arXiv:1807.04337.

Refereed Journal Articles

- 2018
- M. Alqahtani, M. Nopoush, and M. Strickland, Relativistic anisotropic hydrodynamics, *Progress in Particle and Nuclear Physics*, Volume 101, 204 (2018).
 - D. Almaalol and M. Strickland, Anisotropic hydrodynamics with a scalar collisional kernel, *Phys. Rev. C* 97, 044911 (2018).
 - B. Kasmaei and M. Strickland, Parton self-energies for general momentum-space anisotropy, *Phys. Rev. D* 97, 054022 (2018).
 - D. Bazow, U.W. Heinz, and M. Strickland, Massively parallel simulations of relativistic fluid dynamics on graphics processing units with CUDA, *Comp. Phys. Comm.* 225, 92-113 (2018).
 - M. Strickland, J. Noronha, and G. Denicol, The anisotropic non-equilibrium hydrodynamic attractor, *Phys. Rev. D* 97, 036020 (2018).
 - B. Krouppa, A. Rothkopf, and M. Strickland, Bottomonium suppression using a lattice QCD vetted potential, *Phys. Rev. D* 97, 016017 (2018).
- 2017
- M. Alqahtani, M. Nopoush, R. Ryblewski, and M. Strickland, Anisotropic hydrodynamic modeling of 2.76 TeV Pb-Pb collisions, *Phys. Rev. C* 96, 044910 (2017).
 - M. Nopoush, Y. Guo, and M. Strickland, The static hard-loop gluon propagator to all orders in anisotropy, *Journal of High Energy Physics*, 2017, 63 (2017).
 - M. Alqahtani, M. Nopoush, R. Ryblewski, and M. Strickland, 3+1d quasiparticle anisotropic hydrodynamics for ultrarelativistic heavy-ion collisions, *Phys. Rev. Lett.* 119, 042301 (2017).
 - S. Mrowczynski, B. Schenke, and M. Strickland, *Physics Reports* 682, 1-97 (2017).
 - G. Baym, T. Hatsuda, and M. Strickland, Virtual photon polarization in ultrarelativistic heavy-ion collisions, *Phys. Rev. C* 95, 044907 (2017).
 - M. Alqahtani, M. Nopoush, and M. Strickland, Quasiparticle anisotropic hydrodynamics for central collisions, *Phys. Rev. C* 95, 034906 (2017).
 - Q. Du, A. Dumitru, Y. Guo, and M. Strickland, Bulk viscous corrections to screening and damping in QCD at high temperatures, *Journal of High Energy Physics*, 123 (2017).
- 2016
- W. Florkowski, R. Ryblewski, M. Strickland, and L. Tinti, Non-boost-invariant dissipative hydrodynamics, *Phys. Rev. C* 94, 064903 (2016).
 - B. Kasmaei, M. Nopoush, and M. Strickland, Quark self-energy in an ellipsoidally anisotropic quark-gluon plasma, *Phys. Rev. D* 94, 125001 (2016).
 - B. Krouppa and M. Strickland, Predictions for bottomonia suppression in 5.023 TeV Pb-Pb collisions, *Universe* 2016, 2(3), 16 (2016).

Publications (continued)

- J.O. Andersen, N. Haque, M.G. Mustafa, and M. Strickland, Three-loop HTLpt thermodynamics at finite temperature and isospin chemical potential, *Phys. Rev. D* 93, 054045 (2016).
 - M. Strickland, et al. (SaporaGravis network – Heavy flavour working group), Heavy-flavour and quarkonium production in the LHC era: from proton-proton to heavy-ion collisions, *The European Physical Journal C*, 76:107 (2016).
 - A. Bandyopadhyay, N. Haque, M.G. Mustafa, and M. Strickland, Dilepton rate and quark number susceptibility with the Gribov action, *Phys. Rev. D* 93, 065004 (2016).
 - L. Bhattacharya, R. Ryblewski, and M. Strickland, Photon production from a non-equilibrium quark-gluon plasma, *Phys. Rev. D* 93, 065005 (2016).
 - L. Tinti, R. Ryblewski, W. Florkowski, and M. Strickland, Testing different formulations of leading-order anisotropic hydrodynamics, *Nuclear Physics A* 946, 29-48 (2016).
- 2015
- B. Krouppa, R. Ryblewski, and M. Strickland, Bottomonia suppression in 2.76 TeV Pb-Pb collisions, *Phys. Rev. C* 92, 061901(R) (2015).
 - M. Alqahtani, M. Nopoush, and M. Strickland, Quasiparticle equation of state for anisotropic hydrodynamics, *Phys. Rev. C* 92, 054910, (2015).
 - M. Nopoush, M. Strickland, R. Ryblewski, D. Bazow, U. Heinz, and M. Martinez, Leading-order anisotropic hydrodynamics for central collisions, *Phys. Rev. C* 92, 044912 (2015).
 - R. Ryblewski and M. Strickland, Dilepton production from the quark-gluon plasma using (3+1)-dimensional anisotropic dissipative hydrodynamics, *Phys. Rev. D* 92, 025026 (2015).
 - W. Florkowski, A. Jaiswal, E. Maksymiuk, R. Ryblewski, M. Strickland, Relativistic quantum transport coefficients for second-order viscous hydrodynamics, *Phys. Rev. C* 91, 054907 (2015).
 - M. Strickland, Thermalization and isotropization in heavy-ion collisions, *Pramana Vol. 84, No. 5*, 671 (2015).
 - M. Nopoush, R. Ryblewski, and M. Strickland, Anisotropic hydrodynamics for conformal Gubser flow, *Phys. Rev. D* 91, 045007 (2015).
- 2014
- G.S. Denicol, U.W. Heinz, M. Martinez, J. Noronha, and M. Strickland, Studying the validity of relativistic hydrodynamics with a new exact solution of the Boltzmann equation, To appear in PRD, *Phys. Rev. D* 90, 125026 (2014).
 - D. Bazow, U.W. Heinz, and M. Strickland, Second-order (2+1)-dimensional anisotropic hydrodynamics, *Phys. Rev. C* 90, 054910 (2014).
 - G.S. Denicol, U.W. Heinz, M. Martinez, J. Noronha, and M. Strickland, A new exact solution of the relativistic Boltzmann equation and its hydrodynamic limit, *Phys. Rev. Lett.* 113, 202301 (2014).
 - A. Jaiswal, R. Ryblewski, and M. Strickland, Transport coefficients for bulk viscous evolution in the relaxation time approximation, *Phys. Rev. C* 90, 044908 (2014).
 - G.S. Denicol, W. Florkowski, R. Ryblewski, and M. Strickland, Shear-bulk coupling in nonconformal hydrodynamics, *Phys. Rev. C* 90, 044905 (2014).
 - M. Nopoush, R. Ryblewski, and M. Strickland, Bulk viscous evolution within anisotropic hydrodynamics, *Phys. Rev. C* 90, 014908 (2014).
 - W. Florkowski, R. Ryblewski, M. Strickland, and A. Tinti, Leading-order anisotropic hydrodynamics for systems with massive particles, *Phys. Rev. C* 89, 054909 (2014).
 - W. Florkowski, E. Maksymiuk, R. Ryblewski, and M. Strickland, Exact solution of the (0+1)-dimensional Boltzmann equation for a massive gas, *Phys. Rev. C* 89, 054908 (2014).
 - N. Haque, A. Bandyopadhyay, J.O. Andersen, M.G. Mustafa, M. Strickland, and N. Su, Three-loop HTLpt thermodynamics at finite temperature and chemical potential, *Journal of High Energy Physics* 2014, 5, 1-46 (2014).

Publications (continued)

- N. Haque, J.O. Andersen, M.G. Mustafa, M. Strickland, and N. Su, Three-loop HTLpt Pressure and Susceptibilities at Finite Temperature and Density, *Phys. Rev. D* 89, 061701(R) (2014).
 - V. Dexheimer, D. P. Menezes, and M. Strickland, The influence of strong magnetic fields on proto-quark stars, *J. Phys. G: Nucl. Part. Phys.* 41, 015203 (2014).
- 2013
- S. Mogliacci, J.O. Andersen, M. Strickland, N. Su, and A. Vuorinen, Equation of State of hot and dense QCD: Resummed perturbation theory confronts lattice data, *Journal of High Energy Physics* 2013, 12, 1 (2013).
 - J. Alford and M. Strickland, Charmonia and Bottomonia in a Magnetic Field, *Phys. Rev. D* 88, 105017 (2013).
 - W. Florkowski, R. Ryblewski, and M. Strickland, Anisotropic Hydrodynamics for Rapidly Expanding Systems, *Nuclear Physics A* 916, 249 (2013).
 - C.S. Machado, F.S. Navarra, E.G. de Oliveira, J. Noronha, and M. Strickland, Heavy quarkonium production in a strong magnetic field, *Phys. Rev. D* 88, 034009 (2013).
 - W. Florkowski, R. Ryblewski, and M. Strickland, Testing viscous and anisotropic hydrodynamics in an exactly solvable case, *Phys. Rev. C* 88, 024903 (2013).
 - N. Haque, M.G. Mustafa, and M. Strickland, Quark Number Susceptibilities from Two-Loop Hard Thermal Loop Perturbation Theory, *Journal of High Energy Physics* 2013, 7, 184 (2013).
 - N. Haque, M.G. Mustafa, and M. Strickland, Two-loop HTL pressure at finite temperature and chemical potential, *Phys. Rev. D* 87, 105007 (2013).
 - M. Attems, A. Rebhan, and M. Strickland, Instabilities of an anisotropically expanding non-Abelian plasma: 3D+3V discretized hard-loop simulations, *Phys. Rev. D* 87, 025010 (2013).
 - A. Mocsy, P. Petreczky, and M. Strickland, Quarkonia in the Quark Gluon Plasma, *Int. J. of Mod. Phys. A*, Vol. 28, 1340012 (2013).
 - W. Florkowski, R. Maj, R. Ryblewski, and M. Strickland, Hydrodynamics of anisotropic quark and gluon fluids, *Phys. Rev. C* 87, 034914 (2013).
- 2012
- M. Strickland, V. Dexheimer, and D.P. Menezes, Bulk Properties of a Fermi Gas in a Magnetic Field, *Phys. Rev. D* 86, 125032 (2012).
 - W. Florkowski, R. Ryblewski, and M. Strickland, Chromoelectric oscillations in a dynamically evolving anisotropic background, *Phys. Rev. D* 86, 085023 (2012).
 - M. Martinez, R. Ryblewski, and M. Strickland, Boost-Invariant (2+1)-dimensional Anisotropic Hydrodynamics, *Phys. Rev. C* 85, 064913 (2012).
 - M. Strickland and D. Bazow, Thermal Bottomonium Suppression at RHIC and LHC, *Nuclear Physics A* 879, 2558 (2012).
- 2011
- M. Strickland, Thermal $\Upsilon(1s)$ and χ_{b1} suppression in $\sqrt{s_{NN}} = 2.76$ TeV Pb-Pb collisions at the LHC, *Phys. Rev. Lett.* 107, 132301 (2011).
 - J.O. Andersen, L.E. Leganger, M. Strickland, and N. Su, QCD Trace Anomaly, *Phys. Rev. D* 84, 087703 (2011).
 - A. Ipp, A. Rebhan, and M. Strickland, Non-Abelian plasma instabilities: SU(3) vs. SU(2), *Phys. Rev. D* 84, 056003 (2011).
 - J.O. Andersen, L.E. Leganger, M. Strickland, and N. Su, NNLO hard-thermal-loop thermodynamics for QCD, *Phys. Lett. B* 696, Issue 5, 468 (2011).
 - M. Martinez and M. Strickland, Non-boost-invariant anisotropic dynamics, *Nuclear Physics A* 856, 68-87 (2011).
 - M. Margotta, K. McCarty, C. McGahan, M. Strickland, and D. Yager-Elorriaga, Quarkonium states in a complex-valued potential, *Phys. Rev. D* 83, 105019 (2011).

Publications (continued)

- J.O. Andersen, L.E. Leganger, M. Strickland, and N. Su, Three-loop HTL QCD thermodynamics, *Journal of High Energy Physics* 2011, 8, 53 (2011).
- 2010 • M. Martinez and M. Strickland, Matching pre-equilibrium dynamics and viscous hydrodynamics, *Phys. Rev. C* 81, 024906 (2010).
- J.O. Andersen, M. Strickland, and N. Su, Gluon Thermodynamics at Intermediate Coupling, *Phys. Rev. Lett.* 104, 122003 (2010) .
- M. Mannarelli, C. Manuel, S. Gonzalez-Solis, and M. Strickland, Jet energy loss in the quark-gluon plasma by stream instabilities, *Phys. Rev. D* 81, 074036 (2010).
- J.O. Andersen, M. Strickland, and N. Su, Three-loop HTL gluon thermodynamics at intermediate coupling, *Journal of High Energy Physics* 8, 1 (2010) .
- M. Strickland and D. Yager-Elorriaga, A Parallel Algorithm for Solving the 3d Schrödinger Equation, *Journal of Computational Physics* 229, 6015 (2010).
- M. Martinez and M. Strickland, Dissipative Dynamics of Highly Anisotropic Systems, *Nuclear Physics A* 848, 183 (2010).
- 2009 • A. Dumitru, Y. Guo, A. Mócsy, and M. Strickland, Quarkonium states in an anisotropic QCD plasma, *Phys. Rev. D* 79, 054019 (2009).
- M. Martinez and M. Strickland, Constraining relativistic viscous hydrodynamical evolution, *Phys. Rev. C* 79, 044903 (2009).
- A. Dumitru, Y. Guo, and M. Strickland, The imaginary part of the static gluon propagator in an anisotropic (viscous) QCD plasma, *Phys. Rev. D* 79, 114003, (2009).
- J.O. Andersen, M. Strickland, and N. Su, Three-loop HTL Free Energy for QED, *Phys. Rev. D* 80, 085015 (2009).
- 2008 • A. Rebhan, M. Strickland, and M. Attems, Instabilities of an anisotropically expanding non-Abelian plasma: 1D+3V discretized hard-loop simulations, *Phys. Rev. D* 78, 045023 (2008).
- M. Martinez and M. Strickland, Pre-equilibrium dilepton production from an anisotropic quark-gluon plasma, *Phys. Rev. C* 78, 034917 (2008).
- M. Martinez and M. Strickland, Suppression of forward dilepton production from an anisotropic quark-gluon plasma, *Eur. Phys. J. C* 61: 905-913 (2009).
- B. Schenke, M. Strickland, A. Dumitru, Y. Nara, and C. Greiner, Transverse momentum diffusion and jet energy loss in non-Abelian plasmas, *Phys. Rev. C* 79, 034903 (2009).
- 2007 • M. Strickland, Thermalization and the chromo-Weibel instability, *J. Phys. G* 34, S429 (2007).
- B. Schenke and M. Strickland, Photon production from an anisotropic quark-gluon plasma, *Phys. Rev. D* 76, 025023 (2007).
- M. Martinez and M. Strickland, Measuring QGP thermalization time with dileptons, *Phys. Rev. Lett.* 100, 102301 (2008).
- A. Dumitru, B. Schenke, Y. Nara, and M. Strickland, Jet broadening in unstable non-Abelian plasmas, *Phys. Rev. C* 78, 024909 (2008).
- A. Dumitru, Y. Guo, and M. Strickland, The heavy-quark potential in an anisotropic plasma, *Phys. Lett. B* 662, 37-42 (2008).
- 2006 • B. Schenke, M. Strickland, C. Greiner, and M.H. Thoma, A model of the effect of collisions on QCD plasma instabilities, *Phys. Rev. D* 73, 125004 (2006).
- B. Schenke and M. Strickland, Fermionic Collective Modes of an Anisotropic Quark-Gluon Plasma, *Phys. Rev. D* 74, 065004 (2006).
- A. Dumitru, Y. Nara, and M. Strickland, Ultraviolet avalanche in anisotropic non-Abelian plasmas, *Phys. Rev. D* 75, 025016, (2007).

Publications (continued)

- 2005
- J.O. Andersen and M. Strickland, Resummation in Hot Field Theories (Review), *Annals of Physics* 317/2, 281 (2005).
 - P. Romatschke and M. Strickland, Collisional Energy Loss of a Heavy Quark in an Anisotropic Quark-Gluon Plasma, *Phys. Rev. D* 71, 125008 (2005).
 - A. Rebhan, P. Romatschke and M. Strickland, Hard-Loop Dynamics of Non-Abelian Plasma Instabilities, *Phys. Rev. Lett.* 94, 102303 (2005).
 - A. Rebhan, P. Romatschke and M. Strickland, Quark-Gluon-Plasma Instabilities in Discretized Hard-Loop Approximation, *Journal of High Energy Physics* 09, 041 (2005).
- 2004
- P. Romatschke and M. Strickland, Energy loss of a heavy fermion in an anisotropic QED plasma, *Phys. Rev.* **D69**, 065005 (2004).
 - St. Mrówczyński, A. Rebhan, and M. Strickland, Hard-Loop Effective Action for Anisotropic Plasmas, *Phys. Rev.* **D70**, 024004 (2004).
 - J.O. Andersen and M. Strickland, Three-loop Phi-derivable Approximation in QED, *Phys. Rev. D* **71**, 025011 (2004).
 - P. Romatschke and M. Strickland, Collective Modes of an Anisotropic Quark-Gluon Plasma II, *Phys. Rev.* **70**, 116006 (2004).
- 2003
- J.O. Andersen, E. Petitgirard, and M. Strickland, Two-loop HTL Perturbation Theory with Quarks, *Phys. Rev.* **D70**, 045001 (2004).
 - P. Romatschke and M. Strickland, Collective modes of an anisotropic quark-gluon plasma, *Phys. Rev.* **D68**, 036004 (2003).
- 2002
- J.O. Andersen, E. Braaten, E. Petitgirard, and M. Strickland, HTL Perturbation Theory to Two Loops, *Phys. Rev.* **D66**, 085016 (2002).
 - J.O. Andersen and M. Strickland, The Equation of State for Dense QCD and Quark Stars, *Phys. Rev.* **D66**, 105001 (2002).
- 2001
- J.O. Andersen, E. Braaten, and M. Strickland, Screened Perturbation Theory to Three Loops, *Phys. Rev.* **D63**, 105008 (2001).
 - J.O. Andersen and M. Strickland, Mass Expansions of Screened Perturbation Theory, *Phys. Rev. D* **64**, 105012, (2001).
- 2000
- S.B. Liao, J. Polonyi, and M. Strickland, Optimization of Renormalization Group Flow, *Nuclear Physics* **B567**, 3, 493-514, (2000).
 - J.O. Andersen, E. Braaten, and M. Strickland, Hard-thermal-loop Resummation of the Thermodynamics of a Hot Gluon Plasma, *Phys. Rev.* **D61**, 14017 (2000)
 - J.O. Andersen, E. Braaten, and M. Strickland, Hard-Thermal-Loop Resummation of the Free Energy of a Hot Quark-Gluon Gas, *Phys. Rev.* **D61**, 74016 (2000)
 - J.O. Andersen, E. Braaten, and M. Strickland, The Massive Thermal Basketball Diagram, *Phys. Rev.* **D62**, 45004 (2000).
- 1999
- J.O. Andersen and M. Strickland, Application of Renormalization Group Techniques to a Homogeneous Bose Gas at Finite Temperature, *Phys. Rev.* **A60**, 1442 (1999).
 - J.O. Andersen, E. Braaten, and M. Strickland, Hard-thermal-loop Resummation of the Free Energy of a Hot Gluon Plasma, *Phys. Rev. Lett.* **83**, 2139 (1999).
- 1998
- S.B. Liao and M. Strickland, Scheme Independence of Blocking Transformation in Finite Temperature Renormalization Group, *Nucl. Phys.* **B532**, 3, 753 (1998).
- 1997
- S.B. Liao and M. Strickland, Dimensional Crossover and Effective Exponents, *Nucl. Phys. B.* **497**, 611 (1997).
- 1995
- S.B. Liao and M. Strickland, Renormalization group approach to field theory at finite temperature, *Phys. Rev.* **D52**, 3653 (1995).

Publications (continued)

- 1994 • M. Strickland, Thermal photons and dileptons from a non-equilibrium quark-gluon plasma, *Phys. Lett.* **B331**, 245 (1994).

Refereed Proceedings and Technical Reports

- To Appear • D. Almaalol, M. Alqahtani, and M. Strickland, Anisotropic hydrodynamics for Au-Au collisions at 200 GeV, arXiv:1811.01856.
• M. Strickland, Small system studies: A theory overview, arXiv:1807.07191.
• B. Krouppa, A. Rothkopf, and M. Strickland, Bottomonium suppression at RHIC and LHC, arXiv:1807.07452.
• M. Alqahtani, D. Almaalol, M. Nopoush, R. Ryblewski, and M. Strickland, Anisotropic hydrodynamic modeling of 200 GeV Au-Au collisions, arXiv:1807.05508.
- 2018 • M. Alqahtani, M. Nopoush, R. Ryblewski, and M. Strickland, Quasiparticle anisotropic hydrodynamics for ultrarelativistic heavy-ion collisions, *Proceedings of Science*, CPOD2017, 070 (2018).
• M. Strickland et al, Nuclear Physics Exascale Requirements Review, Office of Science review sponsored jointly by Advanced Scientific Computing Research and Nuclear Physics, DOI: 10.2172/1369223, (2018).
- 2017 • D. Bazow, U. Heinz, and M. Strickland, Optimized fluid dynamics for heavy ion collisions, *Nuclear Physics A*, 967, 433-436 (2017).
• G. Baym, T. Hatsuda, and M. Strickland, Structure of virtual photon polarization in ultrarelativistic heavy-ion collisions, *Nuclear Physics A*, 967, 712-715 (2017).
• B. Krouppa, R. Ryblewski, and M. Strickland, Bottomonia suppression in heavy-ion collisions, *Nuclear Physics A*, 967, 604-607 (2017).
• M. Alqahtani and M. Strickland, Quasiparticle anisotropic hydrodynamics, *Journal of Physics: Conference Series*, 832, 1, 012051 (2017).
• M. Strickland, Recent progress in anisotropic hydrodynamics, *EPJ Web of Conferences* 137, 07026 (2017).
• M. Nopoush, R. Ryblewski, and M. Strickland, Phenomenological predictions of 3+1d anisotropic hydrodynamics, *Journal of Physics: Conference Series*, 832, 1, 012054 (2017).
- 2016 • M. Strickland, M. Nopoush, and R. Ryblewski, Anisotropic hydrodynamics for conformal Gubser flow, *Nuclear Physics A* 956, 268 (2016).
• A. Bandyopadhyay, N. Haque, M.G. Mustafa, M. Strickland, N. Su, Three-loop HTLpt thermodynamics at finite temperature and chemical potential, *Springer Proc. Phys.* 174, 17-21 (2016).
• U. Heinz, D. Bazow, G. Denicol, M. Martinez, M. Nopoush, J. Noronha, R. Ryblewski, and M. Strickland, Exact solutions of the Boltzmann equation and optimized hydrodynamic approaches for relativistic heavy-ion collisions, *Nuclear and Particle Physics Proceedings*, 193 (2016).
• L. Bhattacharya, R. Ryblewski, and M. Strickland, Photon and dilepton production from a non-equilibrium quark-gluon plasma, *Nuclear and Particle Physics Proceedings*, 309 (2016).
- 2015 • R. Ryblewski and M. Strickland, Dilepton production from the quark-gluon plasma using leading-order (3+1)D anisotropic hydrodynamics, *Acta Phys. Polon. Supp.* 8, 2, 445 (2015).
- 2014 • C.S. Machado, F.S. Navarra, J. Noronha, E.G. de Oliveira, M. Strickland, Charm production in a strong magnetic field, *AIP Conf. Proc.* 1625, 244 (2014).

Publications (continued)

- J.O. Andersen, N. Haque, M.G. Mustafa, M. Strickland, and N. Su, Equation of state for QCD at finite temperature and density – Resummation versus lattice data, arXiv:1411.1253 (2014).
 - M. Strickland, Anisotropic Hydrodynamics: Three lectures, *Acta Phys. Polon. B*, 45, 2355 (2014).
 - U.W. Heinz, D. Bazow, and M. Strickland, Viscous hydrodynamics for strongly anisotropic expansion, *Nucl. Phys. A*, 931, 920 (2014).
 - M. Strickland, J.O. Andersen, A. Bandyopadhyay, N. Haque, M.G. Mustafa, and N. Su, Three loop HTL perturbation theory at finite temperature and chemical potential, *Nucl. Phys. A*, 931, 841 (2014).
 - M. Strickland, Anisotropic Hydrodynamics: Motivation and Methodology, *Nucl. Phys. A* 926, 92 (2014).
- 2013
- M. Strickland, Highly anisotropic dissipative hydrodynamics, *AIP Conf. Proc.* 1560, 658 (2013).
 - M. Attems, A. Rebhan, and M. Strickland, The chromo-Weibel instability in an expanding background, *International Symposium on Multiparticle Dynamics 2012*, *Acta Phys. Polon. Supp.* 6, 393-402 (2013).
 - M. Strickland, Bottomonia in the Quark Gluon Plasma, *J. Phys.: Conf. Ser.* 432 012015 (2013).
 - W. Florkowski, M. Martinez, R. Ryblewski, and M. Strickland, Anisotropic hydrodynamics, *Nuclear Physics A* 904-905, 803c-806c (2013).
 - M. Strickland, Thermal Bottomonium Suppression, *AIP Conf. Proc.* 1520, pp. 179-184, (2013).
- 2012
- M. Attems, A. Rebhan, and M. Strickland, Longitudinal thermalization via the chromo-Weibel instability, *Xth Quark Confinement and the Hadron Spectrum*, *PoS ConfinementX*, 176 (2013).
 - W. Florkowski, M. Martinez, R. Ryblewski, and M. Strickland, Anisotropic hydrodynamics - basic concepts, *Xth Quark Confinement and the Hadron Spectrum*, *PoS ConfinementX*, 221 (2013).
- 2011
- M. Attems, A. Rebhan, and M. Strickland, Plasma instabilities in heavy ion collisions, *APCPC* 1343, 614 (2011).
 - M. Strickland, J.O. Andersen, Lars E. Leganger, and N. Su, Hard-thermal-loop QCD Thermodynamics, *Prog. Theor. Phys. Suppl.* 187, 106-114 (2011).
- 2010
- M. Strickland, N. Su and J. O. Andersen, QED Thermodynamics at Intermediate Coupling, Contribution to "Three Days of Strong Interactions 2009", Wroclaw (Poland), *Acta Physica Polonica B*, Proceedings Supplement, Vol. 3, No. 3, 727 (2010).
 - N. Su, J.O. Andersen, and M. Strickland, Hard-thermal-loop QED thermodynamics, *Chinese Physics C* 34 (09), 1527 (2010).
- 2009
- M. Martinez and M. Strickland, Constraining the onset of viscous hydrodynamics, Contribution to 21th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions: Quark Matter 2009 (QM 2009), Knoxville, TN USA, *Nuclear Physics A* 830, 615c (2009).
- 2008
- M. Martinez and M. Strickland, Dilepton production as a measure of QGP thermalization time, Contribution to 20th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions: Quark Matter 2008 (QM 2008), Jaipur, India, *J. Phys. G: Nucl. Part. Phys.* 35 104162 (2008).
 - B. Schenke, A. Dumitru, Y. Nara and M. Strickland, QGP collective effects and jet transport, Contribution to 20th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions: Quark Matter 2008 (QM 2008), Jaipur, India, *J. Phys. G: Nucl. Part. Phys.* 35 104109 (2008).

Publications (continued)

- 2006
- M. Strickland, Thermalization and plasma instabilities, Proceedings contribution for invited talk at International Conference on Strong & Electroweak Matter 2006, Brookhaven National Laboratory, Upton, NY, Nucl. Phys. A785, 50 (2006).
 - M. Strickland, The chromo-Weibel instability, Proceedings contribution for an invited talk at the International Symposium on Multiparticle Dynamics, Paraty, Rio de Janeiro, Brazil, Sept 2-8 2006, Braz. J. Phys., June 2007, vol.37, no.2c, p.762-766 (2006).
 - M. Strickland, Thermalization and the chromo-Weibel instability, Invited plenary talk given at the 19th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions: Quark Matter 2006 (QM 2006), Shanghai, China, 14-20 Nov, J. Phys. G: Nucl. Part. Phys. 34 S429-S435 (2006).
- 2005
- M. Strickland, Hard-Loop Dynamics of Non-Abelian Plasma Instabilities, Contribution to Proceedings of Quark Matter 2005, Budapest, Hungary Aug 4-9, Nucl.Phys. A774 (2006) 779-782 (2005).
 - M. Strickland, Visualizing Color Plasma Instabilities, Contribution to Quark-Gluon-Plasma Thermalization Workshop, Vienna, Austria Aug 10-13, (2005).
- 2004
- P. Romatschke and M. Strickland, Progress in Anisotropic Plasma Physics, Proceedings of Strong and Electroweak Matter 2004, Helsinki, Finland, hep-ph/0408314 (2004).
- 2000
- M. Strickland, Reorganizing Perturbation Theory - Part I. Scalar Theories, Proceedings of the Annual meeting of the APS Division of Particle and Fields Meeting, Ohio State University, October (2000).
 - M. Strickland, Reorganizing Perturbation Theory - Part II. Gauge Theories, Proceedings of the In and Out of Equilibrium Workshop, Brookhaven National Labs, October (2000).
- 1998
- J.O. Andersen and M. Strickland, Critical Behaviour of a Homogeneous Bose Gas at Finite Temperature, 5th Proceeding of the International Workshop on Thermal Field Theories and Their Applications, Regensburg, Germany, 10-14 Aug 1998.
 - M. Strickland, Non-Perturbative QED and QCD at Finite Temperature, Proceedings of the Fourth Workshop on Quantum Chromodynamics, 1-6 June 1998, The American University of Paris, Paris, France.
- 1995
- M. Pichowsky, M. Strickland, and M. Kennedy, Two-body bound states & the Bethe-Salpeter equation, HUGS@CEBAF Proceedings, (1995).
 - M. Strickland, Deuteron photodisintegration above pion threshold, HUGS@CEBAF Proceedings, (1995).

Books

- 1995
- Neural Networks: An Introduction, B. Müller, J. Reinhardt and M. Strickland, Springer-Verlag, 300 pp. (1995).

Dissertation

- 1997
- M. Strickland, Dynamical Mass Generation and Confinement at Finite Temperature, PhD Dissertation, Duke University (1997).

Statistics [Data taken from SLAC Inspire Database (<http://inspirehep.net/>) on Nov 6, 2018.]

- 119 publications (155 citable papers)
- Average of 56.6 citations per published paper (44.8 per citable paper)
- h-Index: 51 for published papers (52 for citable papers)

Publications (continued)

- Total number of citations: 6732 for all published papers (6937 for citable papers)

Seminars (since 2001)

- 2018
- Hard Thermal Loop Resummation of the QCD Equation of State II, Kent State University, CNR Seminar, October 2018.
 - Hard Thermal Loop Resummation of the QCD Equation of State I, Kent State University, CNR Seminar, October 2018.
 - The static hard-loop gluon propagator to all orders in anisotropy, Probing The Quark-Gluon Plasma With Collective Phenomena And Heavy Quarks, Munich Institute for Astro- and Particle Physics, Munich, Germany, September 2018. **Invited talk**
 - Quarkonia overview, RHIC and AGS Annual Users Meeting, Brookhaven National Lab, NY, June 2018. **Invited Talk**
 - Small systems: A theory overview, Quark Matter 2018, Lido Island, Venice, Italy, May 2018. **Plenary Talk**
 - The non-equilibrium hydrodynamic attractor, ECT*, Trento, Italy, May 2018. **Invited talk**
 - The static hard-loop gluon propagator to all orders in anisotropy, Fire and ice: Hot QCD meets cold and dense matter, Saariselkä, Finland, April 2018. **Invited talk**
 - Quarkonium suppression in the quark-gluon plasma, University of Illinois at Chicago, Chicago, IL USA, March 2018. **Colloquium**
 - Anisotropic Hydrodynamics, University of Illinois at Chicago, High Energy Physics Seminar, Chicago, IL USA, March 2018.
 - Quarkonium suppression in the quark-gluon plasma, Vanderbilt University, Nashville, TN USA, February 2018. **Colloquium**
- 2017
- Anisotropic Hydrodynamics – Theory and Phenomenology, Institute for Theoretical Physics, Peking University, Beijing, China, November 2017.
 - Bottomonium production in AA collisions, 12th International Workshop on Heavy Quarkonium, Peking University, Beijing, China, November 2017. **Invited Talk**
 - Hard-thermal-loop resummation of QCD thermodynamics, Hadrons and Their Properties as a Problem in Strong QCD, Peking University, Beijing, China, October 2017. **Invited Talk**
 - Momentum anisotropy in the quark-gluon plasma, Initial Stages 2017, Krakow, Poland, September 2017. **Invited Talk**
 - Physics of the quark-gluon plasma, Third Andean School on Nuclear Physics, Bogota, Columbia, August 2017. **Invited Lectures (3)**
 - Quasiparticle anisotropic hydrodynamics, Canterbury Tales of Hot QFTs in the LHC Era, St. John's College, Oxford University, UK, July 2017. **Invited Talk**
 - Quasiparticle anisotropic hydrodynamics, Frankfurt Institute for Advanced Studies, Frankfurt am Main, DE, Theoretical Physics Seminar, July 2017.
 - Quasiparticle anisotropic hydrodynamics, Giessen University, Giessen, DE, Theoretical Physics Seminar, July 2017.
 - 3+1d quasiparticle anisotropic hydrodynamics for ultrarelativistic heavy-ion collisions, Triangle Nuclear Theory Seminar, North Carolina State University, April 2017.
 - Bottomonia suppression in heavy-ion collisions, Quark Matter 2017, Chicago, USA, February 2017.
 - Three lectures on hard-thermal-loop perturbation theory and anisotropic hydrodynamics, XVIII Escola de Verao Jorge Andre Swieca Fisica Nuclear Teorica, Maresias, Brazil, February 2017. **Invited Lectures (3)**
- 2016
- Is the QGP created in heavy ion collisions in local thermal equilibrium?, 12th Polish Workshop on Relativistic Heavy-Ion Collisions, Kielce, Poland, November 2016. **Invited Talk**
 - 3+1d Anisotropic Hydrodynamics - Phenomenological applications, Relativistic Hydrodynamics: Theory and Modern Applications, Mainz Institute for Theoretical Physics, October 2016. **Invited Talk**

Seminars (since 2001) (continued)

- Quarkonia production (with a focus on bottomonia), Hard Probes, Wuhan, China, September 2016. **Plenary Talk**
 - Anisotropic Hydrodynamics, Confinement XII, Thessaloniki, Greece, August 2016. **Invited Talk**
 - An introduction to relativistic dissipative hydrodynamics, STAR Collaboration Meeting – Junior Day, Ohio State University, August 2016. **Invited Lecture (1)**
 - Bottomonium suppression at LHC, The 11th International Workshop on Heavy Quarkonium 2016, Pacific Northwest National Laboratory, June 2016. **Invited Talk**
 - Phenomenology of quarkonia suppression in heavy ion collisions, American Physical Society Meeting, Salt Lake City, Utah, April 2016. **Invited Talk**
 - Melting the Universe, Lehigh University, Physics colloquium, Bethlehem, PA, April 2016. **Colloquium**
 - Anisotropic Hydrodynamics, Liquid Crystal Institute, Kent, Ohio, March 2016. **Invited Talk**
 - Melting the Universe, Agnes Scott College, Decatur, Georgia, February 2016. **Colloquium**
 - Anisotropic Hydrodynamics, Saha Institute for Nuclear Physics, Theory Seminar, Kolkatta, India, February 2016. **Invited Talk**
 - Bottomonium Suppression at the LHC, Heavy Quark Meet II, Saha Institute for Nuclear Physics, Theory Seminar, Kolkatta, India, February 2016. **Invited Talk**
 - Anisotropic Hydrodynamics: A progress report, Opportunities for Exploring Longitudinal Dynamics in Heavy Ion Collisions at RHIC, RIKEN BNL Research Center, January 2016. **Invited Talk**
- 2015
- Photon production from a momentum-space anisotropic QGP, New Perspectives on Photons and Dileptons in Ultrarelativistic Heavy-Ion Collisions at RHIC and LHC, ECT*, Trento, Italy, December 2015. **Invited Talk**
 - Quantum Chromodynamics at Five Trillion Degrees Kelvin, Case Western Reserve University, October 2015. **Colloquium**
 - The equation of state of QCD at finite temperature and chemical potential, New Progress in Heavy Ion Collisions: What is Hot in the QGP, Central China Normal University, Wuhan, China, October 2015. **Invited Lectures (3)**
 - Anisotropic hydrodynamics for conformal Gubser flow, Quark Matter 2015, Kobe, Japan, September 2015.
 - The equation of state of QCD at finite temperature and chemical potential, Brookhaven National Lab, Nuclear Theory Seminar, Upton, NY, September 2015. **Invited Talk**
 - Anisotropic hydrodynamics for conformal Gubser flow, Institute for Nuclear Theory, University of Washington, August 2015.
 - Exact solution to the RTA Boltzmann equation subject to Gubser flow, Institute for Nuclear Theory, University of Washington, July 2015.
 - Dilepton and photon production using (3+1)D anisotropic hydrodynamics, Hard Probes 2015, Montreal, Canada, July 2015.
 - Anisotropic Hydrodynamics, sQGP and extreme QCD workshop, Kavli Institute for Theoretical Physics, Beijing, China, June 2015. **Invited Talk**
 - Testing dissipative hydrodynamics using exact solutions of the Boltzmann equation, sQGP and extreme QCD workshop, Kavli Institute for Theoretical Physics, Beijing, China, June 2015. **Invited Talk**
 - The equation of state of QCD at finite temperature and chemical potential, Tsinghua University, Beijing, China, May 2015. **Invited Talk**
 - Bottomonia production in AA collisions, 6th Workshop of the APS Topical Group on Hadronic Physics, April 2015. **Invited Talk**
 - Quantum Chromodynamics at Five Trillion Degrees Kelvin, The Ohio State University, January 2015. **Colloquium**
 - Charmonia and Bottomonia in a Magnetic Field, 2015 Workshop on Chirality, Vorticity and Magnetic Field in Heavy Ion Collisions, UCLA, January 2015. **Invited Talk**
- 2014
- Bottomonia in A-A, 2014 Sapore Gravis Workshop on Heavy flavour and quarkonium production in high-energy heavy-ion collisions, Padova, Italy, December 2014. **Invited Talk**

Seminars (since 2001) (continued)

- Non-perturbative reorganization of viscous hydrodynamics, Fourth Joint Meeting of the Nuclear Physics Divisions of the American Physical Society and The Physical Society of Japan, Kona, Hawaii, October 2014. **Invited Talk**
 - Bottomonium suppression in the QGP, Heavy Flavor and Electromagnetic Probes in Heavy Ion Collisions, Institute for Nuclear Theory, Seattle, WA, September 2014. **Invited Talk**
 - Three loop HTL perturbation theory at finite temperature and chemical potential, Nuclear Physics Seminar, Argonne National Lab, September 2014.
 - Anisotropic Hydrodynamics (Three Lectures), Cracow School of Theoretical Physics, Zakopane, Poland, June 2014. **Invited Lectures (3) Invited Lectures**
 - Three loop HTL perturbation theory at finite temperature and chemical potential(s), Bialasowka Seminar, IFJ PAN High-Energy and Nuclear Theory Institute, Krakow, Poland, June 2014.
 - Three loop HTL perturbation theory at finite temperature and chemical potential, Quark Matter 2014, Darmstadt, Germany, May 2014.
 - Anisotropic Hydrodynamics, Purdue University Nuclear Physics Seminar, April 2014.
 - Anisotropic Hydrodynamics, Ohio University Nuclear Physics Seminar, April 2014.
 - Anisotropic Hydrodynamics: Recent Progress, The Approach to Equilibrium in Strongly Interacting Matter, Brookhaven National Laboratory, April 2014. **Invited Talk**
 - The chromo-Weibel instability in an expanding background, JET Bulking Working Group Meeting, April 2014.
 - Resummed QCD thermodynamics at finite temperature and chemical potential, JET Bulking Working Group Meeting, January 2014.
- 2013
- Second-Order Anisotropic Hydrodynamics, New Frontiers in QCD 2013, Yukawa Institute for Theoretical Physics, Kyoto, Japan, November 2013. **Invited Talk**
 - Resummed QCD thermodynamics at finite temperature and chemical potential, New Frontiers in QCD 2013, Yukawa Institute for Theoretical Physics, Kyoto, Japan, November 2013. **Invited Talk**
 - Anisotropic Hydrodynamics, International Conference on the Initial Stages in High-Energy Nuclear Collisions, Illa da Toxa, Spain, September 2013. **Invited Talk**
 - Anisotropic Hydrodynamics (Three Lectures), JET Summer School, Ohio State University, June 2013. **Invited Lectures (3) Invited Lectures**
 - Three-loop resummed QCD Thermodynamics, APS Ohio Region Section Meeting, Athens, Ohio, March 2013.
 - Anisotropic Hydrodynamics, McGill University Nuclear/Particle Physics Seminar, Montreal, Canada, March 2013.
 - Anisotropic Hydrodynamics, Ohio State University Nuclear/Particle Physics Seminar, Columbus, Ohio, March 2013.
 - Thermal Bottomonium Suppression, RIKEN/BNL Nuclear Theory Seminar, Brookhaven National Laboratory, February 2013.
- 2012
- The chromo-Weibel instability in an expanding background, International Symposium on Multiparticle Dynamics, Kielce, Poland, September 2012. **Invited Talk**
 - Anisotropic Hydrodynamics, National Institute for Nuclear Theory Program “Gauge Field Dynamics In and Out of Equilibrium,” Seattle, Washington, March 2012. **Invited Talk**
 - Quantum Chromodynamics at Five Trillion Degrees Kelvin, Kent State University Physics Department, March 2012.
 - Quantum Chromodynamics at Five Trillion Degrees Kelvin, Universidade Federal de Santa Catarina, Florianopolis, Brazil, April 2012.
 - Anisotropic Hydrodynamics, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil, April 2012.
 - Thermal Bottomonium Suppression, Hadrons XII, Bento Goncalves, RS, Brazil, April 2012.
 - Anisotropic Hydrodynamics, Instituto de Física da Universidade de So Paulo, São Paulo, Brazil, May 2012.
 - Anisotropic Hydrodynamics, Triangle Nuclear Theory Colloquium, Duke University, Durham, NC, May 2012.

Seminars (since 2001) (continued)

- Highly Anisotropic Dissipative Hydrodynamics, Eleventh Conference on the Intersections of Particle and Nuclear Physics, St. Petersburg, FL, June 2012. **Invited Talk**
- Anisotropic Hydrodynamics, Institute of Theoretical Physics, CEA-Saclay, Gif-sur-Yvette Cedex, France, July 2012.
- Anisotropic Hydrodynamics, Strong and Electroweak Matter 2012, Swansea, Wales, July 2012.
- NNLO hard-thermal-loop thermodynamics for QCD, Department of Theoretical Physics, University of Montpellier II, Montpellier, France, July 2012.
- Upsilon Suppression at RHIC and LHC, Institute for Theoretical Physics, Heidelberg University, Heidelberg, Germany, July 2012.
- The chromo-Weibel instability in an expanding background, Universidade de Santiago de Compostela, Santiago de Compostela, Galicia, Spain, July 2012.
- Thermal Bottomonium Suppression, Extreme QCD, George Washington University, Washington, DC, August 2012. **Invited Talk**
- The chromo-Weibel instability in an expanding background, International Symposium on Multiparticle Dynamics, Kielce, Poland, September 2012. **Invited Talk**
- Thermal Bottomonium Suppression, 5th International Workshop on Heavy Quark Production in Heavy-Ion Collisions, University of Utrecht, Utrecht, The Netherlands, November 2012. **Invited Talk**
- Anisotropic Hydrodynamics, JET Collaboration Online Seminar, December 2012. **Invited Talk**
- 2011 • Quark Gluon Plasma Dynamics, Los Alamos National Lab, Theoretical Physics Group Seminar, March 2011.
- Dynamics of an Anisotropic Plasma, Texas A&M University, Nuclear Theory Group Seminar, April 2011.
- Theory of the Quark Gluon Plasma, APS Meeting : APS Topical Group on Hadronic Physics, Anaheim, California, April 2011. **Invited Talk**
- Upsilon Suppression at RHIC and LHC, BNL Summer Program: Quarkonium Production in Elementary and Heavy Ion Collisions, Brookhaven National Laboratory, June 2011. **Invited Talk**
- Thermal $\Upsilon(1s)$ and χ_{b1} suppression in $\sqrt{s_{NN}} = 2.76$ TeV Pb-Pb, IFJ PAN High-Energy and Nuclear Theory Institute, Krakow, Poland, July 2011.
- Thermal $\Upsilon(1s)$ and χ_{b1} suppression in $\sqrt{s_{NN}} = 2.76$ TeV Pb-Pb, Universidade de Santiago de Compostela, Santiago de Compostela, Galicia, Spain, July 2011.
- Thermal $\Upsilon(1s)$ and χ_{b1} suppression in $\sqrt{s_{NN}} = 2.76$ TeV Pb-Pb, Institute for Theoretical Physics, Johann Wolfgang Goethe University, Frankfurt am Main, July 2011.
- Thermal $\Upsilon(1s)$ and χ_{b1} suppression in $\sqrt{s_{NN}} = 2.76$ TeV Pb-Pb, Institute for Theoretical Physics, Vienna University of Technology, Vienna, August 2011.
- Quantum Chromodynamics at Five Trillion Degrees Kelvin, Gettysburg College Physics Department, November 2011.
- Thermal Bottomonium Suppression, McGill University, High Energy Theory Seminar, November 2011.
- Is early isotropization in heavy ion collisions a necessary condition to describe HIC data?, EMMI Rapid Reaction Task Force on Thermalization in Nonabelian Plasmas, Heidelberg University, Heidelberg, December 2011. **Invited Talk**
- 2010 • Reorganizing the QCD pressure at intermediate coupling, Norwegian Winter Workshop on QCD at Extreme Conditions, Trondheim, Norway, February 2010. **Invited Talk**
- Three loop hard thermal loop perturbation theory, Extreme QCD 2010, Bad Honnef, Germany, June 2010. **Invited Talk**
- A new class of boost invariant solutions, Institute for Theoretical Physics, Johann Wolfgang Goethe Universität, Frankfurt am Main, Germany, June 2010.
- NNLO hard thermal loop thermodynamics, High Energy Strong Interactions, Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan, August 2010. **Invited Talk**
- A three-loop HTLpt-improved calculation of QCD thermodynamics, The first heavy ion collisions at the LHC - HIC10, European Organization for Nuclear Research (CERN), Geneva, Switzerland, August 2010. **Invited Talk**
- The chromo-Weibel Instability, Hot Matter: Quasiparticles or Quasinormal Modes, International Erwin Schrödinger Institute for Mathematical Physics, Vienna, Austria, August 2010. **Invited Talk**

Seminars (since 2001) (continued)

- Dissipative Dynamics of Highly Anisotropic Systems, Brookhaven National Lab, Nuclear Physics Seminar, October 2010.
- 2009 • Dynamics of Turbulent Color Fields, Extreme Scale Computing Workshop Series, Forefront Questions in Nuclear Science and the Role of High Performance Computing, January 2009. **Invited Talk**
- A Parallel Algorithm for Solving the 3d Schrödinger Equation, Frankfurt Institute for Advanced Studies, June 2009.
- Three-loop HTL Free Energy for QED, Three Days of Strong Interactions, Wroclaw, Poland, July 2009.
- The Phenomenology of non-Abelian Plasma Instabilities, Vienna University of Technology, Vienna, Austria, August 2009.
- Reorganizing the QCD pressure at intermediate coupling, University of Virginia, Charlottesville, VA, October 2009.
- Reorganizing the QCD pressure at intermediate coupling, Ohio State University, Columbus, OH, November 2009.
- 2008 • Non-abelian plasma instabilities, Kavli Institute for Theoretical Physics, Santa Barbara, CA, January 2008. **Invited Talk**
- Using electromagnetic observables to determine QGP thermalization time, Kavli Institute for Theoretical Physics, Santa Barbara, CA, February 2008. **Invited Talk**
- Measuring QGP thermalization time with dileptons, Lawrence Berkeley National Labs, Berkeley, CA, February 2008.
- QCD at Extreme Conditions, Gettysburg College, Gettysburg, PA, February 2008.
- Measuring QGP thermalization time with dileptons, Kavli Institute for Theoretical Physics, Santa Barbara, CA, February 2008. **Invited Talk**
- QCD at Extreme Conditions, Lehmann College, New York, NY, March 2008.
- Non-abelian plasma instabilities, The City University of New York, New York, NY, March 2008.
- Measuring QGP thermalization time with high-energy dileptons, Hard Probes 08, Galicia-Illa Toxa, June 2008.
- Instabilities of an anisotropically expanding non-Abelian plasma: 1D+3V discretized hard-loop simulations, Yukawa Institute for Theoretical Physics, Kyoto, Japan, August 2008. **Invited Talk**
- Instabilities of an anisotropically expanding non-Abelian plasma: 1D+3V discretized hard-loop simulations, McGill University, September 2008.
- Measuring QGP thermalization time with high-energy dileptons, Relativistic Aspects of Nuclear Physics, Rio de Janeiro, Brazil, November 2008. **Invited Talk**
- Instabilities of an anisotropically expanding non-Abelian plasma, Instituto de Física Teórica, São Paulo, Brazil, November 2008.
- 2007 • Simulating Nonequilibrium Glue, High energy QCD, ECT*, Trento, Italy, January 2007. **Invited Talk**
- Non-equilibrium plasmas: Dynamics and Signatures, Latest Results On QGP Collective Properties, Frankfurt, Germany, February 2007. **Invited Talk**
- Calculating observables from a non-equilibrium plasma, High Density QCD, Galileo Galilei Institute for Theoretical Physics, Florence, Italy, February 2007. **Invited Talk**
- Numerical Simulations of Non-Equilibrium Plasmas, Laboratoire de Physique Théorique, Université de Paris, Paris, March 2007. **Invited Lecture Series**
- Signatures of plasma instabilities and anisotropies, Heavy Ion Perspectives, Bad Liebenzell, Germany, September 2007. **Invited Talk**
- QGP collective effects on jet transport, American Physical Society Division of Nuclear Physics Annual Meeting, Newport News, VA USA, October 2007. **Invited Talk**
- QGP collective effects on jet transport, Instituto de Ciencias del Espacio, Fac. de Ciencias, Barcelona, Spain, November 2007.
- Collective effects in a non-equilibrium QGP, Baruch College, New York, NY, December 2007.
- 2006 • Non-abelian plasma instabilities, Brookhaven National Labs, Upton, NY, January 2006.
- Non-abelian plasma instabilities, NC State University, Raleigh, NC, January 2006.
- Non-abelian plasma instabilities, Stony Brook University, Stony Brook, NY, January 2006.
- Non-abelian plasma instabilities, Columbia University, New York, NY, January 2006.
- Non-abelian plasma instabilities, Strong and Electroweak Matter 2006, BNL, New York, NY, May 2006. **Invited Talk**

Seminars (since 2001) (continued)

- Non-abelian plasma instabilities, Fifth International Conference on PERSPECTIVES IN HADRONIC PHYSICS Particle-Nucleus and Nucleus-Nucleus Scattering at Relativistic Energies, ICTP, Trieste, Italy, May 2006. **Invited Talk**
- QCD Plasma Instabilities and the Onset of Thermalization of a QGP, Heavy Ion Reactions at Ultrarelativistic Energies, ECT*, Trento, Italy, June 2006.
- Non-abelian plasma instabilities, XXXVI International Symposium on Multiparticle Dynamics, Paraty, Brazil, September 2006. **Plenary Talk**
- Simulating non-equilibrium glue, Rio de Janeiro Federal University, Rio de Janeiro Brazil, September 2006.
- Simulating non-equilibrium glue, INT Workshop on Non-equilibrium quark-gluon plasma, Seattle, Washington, September 2006. **Invited Talk**
- Simulating non-equilibrium glue, Relativistic Nuclear Matter Workshop, GSI, Darmstadt, Germany, November 2006. **Invited Talk**
- Non-equilibrium quark-gluon plasma, STAR Collaboration Meeting, Hefei, China, November 2006. **Invited Talk**
- Thermalization via Instabilities, Quark Matter 2006, Shanghai, China, November 2006. **Plenary Talk**
- 2005 • Instability-driven thermalization of a QGP, University of Helsinki, January 2005.
- Instability-driven thermalization of a QGP, NORDITA, Copenhagen, January 2005.
- Probing the early universe using relativistic heavy ion collisions, NORDITA, Copenhagen, January 2005. **Colloquium**
- Hard-loop dynamics of non-abelian plasma instabilities, Johann Wolfgang Goethe-Universität, Frankfurt am Main, June 2005.
- Dynamics of quark-gluon plasma instabilities in discretized hard-loop approximation, Quark Matter Meeting, Budapest, Hungary, August 2005.
- Hard-loop dynamics of non-abelian plasma instabilities, Vienna QGP Thermalization Workshop, Vienna, Austria, August 2005. **Invited Talk**
- Dynamics of quark-gluon plasma instabilities in discretized hard-loop approximation, Jyväskylä University, Jyväskylä, Finland, October 2005.
- 2004 • QGP Instabilities: A faster way to thermalize?, University of Virginia, Charlottesville, VA, USA, January 2004.
- Collective Modes of an Anisotropic QGP, Ohio State University, Columbus, OH, USA, January 2004.
- QGP Instabilities: A faster way to thermalize?, NORDITA, Copenhagen, Denmark, March 2004.
- Collective Modes of an Anisotropic QGP, Helsinki University, Strong and Electroweak Matter Meeting, Helsinki, June 2004.
- QGP Instabilities: A faster way to thermalize?, Institut für Theoretische Physik, Johann Wolfgang Goethe-Universität, July 2004.
- Instability driven thermalization of a Quark Gluon Plasma, CERN Theory Division, Invited Seminar, Oct 2004.
- Improving the convergence of finite temperature field theory, University of Helsinki, November 2004.
- 2003 • Collective modes of an anisotropic QGP, Brookhaven National Lab, New York, NY, March 2003.
- Collective modes of an anisotropic QGP, University of Helsinki, Helsinki, Finland, June 2003.
- Energy loss and collective modes of an anisotropic QGP, University of Bielefeld, Bielefeld, Germany, November 2003
- Energy loss and collective modes of an anisotropic QGP, Polish Insitute for Theoretical Physics, Warsaw, Poland, November 2003
- 2002 • XML and the Apache Cocoon Project, **Invited Talk**, American Association of Physics Teachers Meeting, Philadelphia, PA, January 2002.
- Two-loop hard thermal loop perturbation theory, KITP Conference on QCD and Gauge Theory Dynamics in the RHIC Era, Institute of Theoretical Physics, University of California, Santa Barbara, CA, May 2002. **Invited Talk.**
- Hard thermal loop resummation of the equation of state for Hot QCD, Jyväskylä University, Jyväskylä, Finland, June 2002.
- Resumming the resummation, Duke University, September 2002.

Seminars (since 2001) (continued)

- The equation of state for ultra-dense stellar objects, Vienna Technical University, Vienna, Austria, July 2002.
- Reorganizing finite temperature QCD perturbation theory, Vienna Technical University, Vienna, Austria, November 2002.
- Two-loop hard thermal loop perturbation theory, Brookhaven National Lab, New York, NY, December 2002.
- 2001 • Quasiparticle Excitations in Finite-Temperature QCD, University of Utrecht, Utrecht, The Netherlands, April 2001.
- Open Source Software Development Paradigms for Educational Software Development, American Association of Physics Teachers Meeting, Rochester, NY, July 2001.
- Variational Perturbation Theory, Duke University, Durham, NC, September 2001.

Conference Organization

- 2017 • Local Organizing Committee, Quark Matter XXVI, Chicago, IL USA February 5-11, 2017
- International Advisory Committee, Extreme QCD (XQCD), University of Pisa, Italy June 26-28, 2017
- 2016 • International Advisory Committee, Extreme QCD (XQCD), Plymouth, UK August 1-3, 2016
- 2015 • Co-organizer, Ohio Regional Section - Spring Meeting of the American Physical Society, Kent State University, Kent, OH, March 27-28, 2014.
- 2014 • Co-organizer, XXVII Midwest Theory Get-Together, Argonne National Lab, Lemont, IL September 5-6, 2014.
- 2014 • Co-organizer, Midwest Critical Mass, University of Toledo, Toledo, OH, March 7-8, 2014.
- 2007 • Co-organizer, Early Time Dynamics in Heavy Ion Collisions, McGill University, Montreal, Canada, July 16-19, 2007.