

# Curriculum Vitae of Sangyong Jeon

## Personal Data

**Full Name:** Sangyong Jeon

### Education

1994: Ph.D. in Physics, University of Washington  
1989: M.Sc. in Physics, University of Washington  
1987: B.Sc. in Physics, Seoul National University, Seoul, Korea

### Positions Held

2019.06–present: Chair, Department of Physics, McGill University  
2015.10–2016.01: Visiting Scientist, Institute for Basic Science  
Accelerator development division (theory support team)  
Daejeon, Korea.  
2012–present: Professor, Department of Physics, McGill University  
2011.01–2011.12: Interim Scientific Director, CLUMEQ High Performance Computing Centre  
2008.09–2008.12: Visiting Professor, Yonsei University, Seoul, Korea  
2008.07–2008.08: Visiting Professor, CERN, Geneva, Switzerland  
2007–2012: Associate Professor, Department of Physics, McGill University  
2006–2007: Assistant Professor, Department of Physics, McGill University  
2001–2005: Assistant Professor & RIKEN-BNL University Fellow  
Department of Physics, McGill University  
1998–2000: Postdoctoral fellow, Nuclear Science Division  
Lawrence Berkeley Laboratory  
1995–1998: Postdoctoral fellow, Nuclear Theory Group  
University of Minnesota

### Membership in Scientific Collaboration

- Council member, JETSCAPE (Jet Energy-loss Tomography with a Statistically and Computationally Advanced Program Envelope) collaboration (An NSF funded topical group in US). Also chairs the Physics Working Group.
- Member, BEST (Beam Energy Scan Theory) collaboration (A DOE funded topical group in US)

## Award and Fellowships

- CAP Vogt Mdeal, 2021
- Korea MSIT (Ministry of Science and ICT) Overseas Scientist of the Year Award, 2021
- Fellow of American Physical Society, 2018
- KOFST (Korean Federation of Science and Technology Societies) Overseas Scientist of the Year Award, 2014
- American Physical Society, Outstanding Referee, 2013
- NSERC Discovery Accelerator Supplement, 2008 – 2011, \$40,000/year. \$120,000 in total
- RIKEN-BNL University Fellow: 2001 - 2005
- Award for outstanding team research, Polish Ministry of National Education, 2003 (with 7 others).

## Research

### Interdisciplinary Study Published in Peer-Reviewed Journals

I have co-authored 2 papers on applying physical principles to information science.

1. Wonseok Oh, Sangyong Jeon, *Membership Herding and Network Stability in the Open Source Community: The Ising Perspective*, Management Science, Vol. 53, No. 7, 1086–1101 (2007).
2. Dowan Kwon, Wonseok Oh, and Sangyong Jeon, *Broken Ties: The Impact of Organizational Restructuring on the Stability of Information-Processing Networks*, Journal of Management Information Systems, Vol. 24, 201 (2007).

### Invited Review

1. S. Jeon and U. Heinz, *Introduction to Hydrodynamics*, published in Quark-Gluon Plasma 5, ed. X.N. Wang. World Scientific, 2016. Also published as an article in Int. J. Mod. Phys. E **24**, no. 10, 1530010 (2015).
2. S. Jeon and V. Koch, *Event-by-event fluctuations*.  
A chapter in a monograph *Quark-Gluon Plasma 3* edited by R. C. Hwa & X.N. Wang. World Scientific, 2004. ISBN 981-238-077-9.

### Edited Volumes

1. C. Gale *et al.*, *Proceedings, 7th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions (Hard Probes 2015) : Montréal, Québec, Canada, June 29-July 3, 2015*, Nucl. Part. Phys. Proc. **276-278**, pp.1 (2016)  
Editors: C. Gale, J. Barrette, B. Cole, F. Corriveau, T. Eppelbaum, P. Jacobs, S. Jeon, T. Sakaguchi, B. Vachon, A. Warburton, C. Shen
2. N. Armesto *et al.*, *Heavy Ion Collisions at the LHC - Last Call for Predictions*, J. Phys. G **35**, 054001 (2008)  
Editors: N. Armesto, N. Boghini, S. Jeon, U. Wiedemann

### Invited Review Articles in Magazines

1. *Quark-Gluon Plasma and Jet-Quenching* in Physics and High Technology, volume 19-1/2, published by the Korean Physical Society in Jan. 2010.
2. *Search for the Little Big-Bang*, in Physics and High Technology, volume 10-4, published by the Korean Physical Society in Apr. 2001.

### Papers Published in Peer-Reviewed Physics Journals

In the list below, boldfaced names are students and postdoctoral fellows I have supervised or co-supervised at the time of publication.

1. H. Wolter *et al.* [TMEP], Prog. Part. Nucl. Phys. **125**, 103962 (2022) doi:10.1016/j.pnpnp.2022.104901 [arXiv:2202.06672 [nucl-th]].
2. D. Pablos, M. Singh, S. Jeon and C. Gale, doi:10.1103/PhysRevC.106.034901 [arXiv:2202.03414 [nucl-th]].
3. **S. Shi**, S. Jeon and C. Gale, Phys. Rev. C **105**, no.2, L021902 (2022)
4. S. Hauksson, S. Jeon and C. Gale, Phys. Rev. C **105**, no.1, 014914 (2022)
5. M. Colonna, Y. X. Zhang, Y. J. Wang, D. Cozma, P. Danielewicz, C. M. Ko, A. Ono, M. B. Tsang, R. Wang and H. Wolter, *et al.* Phys. Rev. C **104**, no.2, 024603 (2021)
6. S. Cao *et al.* [JETSCAPE], Phys. Rev. C **104**, no.2, 024905 (2021)
7. S. Hauksson, S. Jeon and C. Gale, Phys. Rev. C **103**, 064904 (2021)
8. D. Everett *et al.* [JETSCAPE], Phys. Rev. C **103**, no.5, 054904 (2021)
9. D. Everett *et al.* [JETSCAPE], Phys. Rev. Lett. **126**, no.24, 242301 (2021)
10. **S. Shi**, C. Gale and S. Jeon, Phys. Rev. C **103**, no.4, 044906 (2021)
11. J. Churchill, L. Yan, S. Jeon and C. Gale, Phys. Rev. C **103**, no.2, 024904 (2021)
12. M. Kurian, M. Singh, V. Chandra, S. Jeon and C. Gale, Phys. Rev. C **102**, no.4, 044907 (2020)
13. M. Kim, S. Jeon, Y. M. Kim, Y. Kim and C. H. Lee, Phys. Rev. C **101**, no.6, 064614 (2020)

14. M. Heffernan, S. Jeon and C. Gale, Phys. Rev. C **102**, no.3, 034906 (2020)
15. A. Kumar *et al.* [JETSCAPE Collaboration], Phys. Rev. C **102**, no. 5, 054906 (2020)
16. **S. Shi**, C. Gale and S. Jeon, Nucl. Phys. A **1005**, 121949 (2021)
17. J. Churchill, L. Yan, S. Jeon and C. Gale, Nucl. Phys. A **1005**, 121946 (2021)
18. S. Hauksson, S. Jeon and C. Gale, Nucl. Phys. A **1005**, 121888 (2021)
19. **S. McDonald**, S. Jeon and C. Gale, Nucl. Phys. A **1005**, 121771 (2021)
20. Y. Tachibana *et al.* [JETSCAPE Collaboration], Nucl. Phys. A **1005**, 121920 (2021)
21. A. Kumar *et al.* [JETSCAPE Collaboration], Nucl. Phys. A **1005**, 122009 (2021)
22. G. Vujanovic *et al.* [JETSCAPE Collaboration], Nucl. Phys. A **1005**, 121965 (2021)
23. J. F. Paquet *et al.* [JETSCAPE Collaboration], Nucl. Phys. A **1005**, 121749 (2021)
24. G. Vujanovic, J. F. Paquet, C. Shen, G. S. Denicol, S. Jeon, C. Gale and U. Heinz, Phys. Rev. C **101**, 044904 (2020)
25. A. Czajka, K. Dasgupta, C. Gale, S. Jeon, A. Misra, M. Richard and K. Sil, Mod. Phys. Lett. A **35**, no.27, 2030012 (2020)
26. A. Czajka, K. Dasgupta, C. Gale, S. Jeon, A. Misra, M. Richard and K. Sil, JHEP **1907**, 145 (2019)
27. C. Gale, S. Jeon, **S. McDonald**, J. F. Paquet and C. Shen, *Photon radiation from heavy-ion collisions in the  $\sqrt{s_{NN}} = 19 - 200$  GeV regime*, Nucl. Phys. A **982**, 767 (2019)
28. S. Hauksson, S. Jeon and C. Gale, *Penetrating probes: Jets and photons in a non-equilibrium quark-gluon plasma*, Nucl. Phys. A **982**, 787 (2019)
29. **C. Park**, S. Jeon and C. Gale, *Jet modification with medium recoil in quark-gluon plasma*, Nucl. Phys. A **982**, 643 (2019)
30. M. Singh, C. Shen, **S. McDonald**, S. Jeon and C. Gale, *Hydrodynamic Fluctuations in Relativistic Heavy-Ion Collisions*, Nucl. Phys. A **982**, 319 (2019)
31. **S. McDonald**, S. Jeon and C. Gale, *IP-Glasma Phenomenology Beyond 2D*, Nucl. Phys. A **982**, 239 (2019)
32. G. S. Denicol, C. Gale, S. Jeon, A. Monnai, B. Schenke and C. Shen, *Net baryon diffusion in fluid dynamic simulations of relativistic heavy-ion collisions*, Phys. Rev. C **98**, no. 3, 034916 (2018)
33. **A. Czajka**, S. Hauksson, C. Shen, S. Jeon and C. Gale, *Bulk viscosity of strongly interacting matter in the relaxation time approximation*, Phys. Rev. C **97**, no. 4, 044914 (2018)
34. G. Vujanovic, G. S. Denicol, M. Luzum, S. Jeon and C. Gale, *Investigating the temperature dependence of the specific shear viscosity of QCD matter with dilepton radiation*, Phys. Rev. C **98**, no. 1, 014902 (2018)

35. S. Ryu, J. F. Paquet, C. Shen, G. Denicol, B. Schenke, S. Jeon and C. Gale, *Effects of bulk viscosity and hadronic rescattering in heavy ion collisions at RHIC and LHC*, Phys. Rev. C **97**, 034910 (2018)
36. **L. Yan**, S. Jeon and C. Gale, *Jet-medium interaction and conformal relativistic fluid dynamics*, Accepted for publication in Physical Review C.
37. J. F. Paquet, C. Shen, G. Denicol, S. Jeon and C. Gale, *Phenomenological constraints on the bulk viscosity of QCD*, Nucl. Phys. A **967**, 429 (2017).
38. S. Hauksson, S. Jeon and C. Gale, *Photon emission from quark-gluon plasma out of equilibrium*, Phys. Rev. C **97**, no. 1, 014901 (2018)
39. **A. Czajka** and S. Jeon, *The shear and bulk relaxation times from the general correlation functions*, Nucl. Phys. A **967**, 864 (2017)
40. S. Cao *et al.* [JETSCAPE Collaboration], *Multistage Monte-Carlo simulation of jet modification in a static medium*, Phys. Rev. C **96**, no. 2, 024909 (2017)
41. **S. McDonald**, C. Shen, F. Fillion-Gourdeau, S. Jeon and C. Gale, *A Detailed Study and Synthesis of Flow Observables in the IP-Glasma+MUSIC+UrQMD Framework*, Nucl. Phys. A **967**, 393 (2017)
42. G. Vujanovic, J. F. Paquet, S. Ryu, C. Shen, G. S. Denicol, S. Jeon, C. Gale and U. Heinz, *Bulk viscous effects on flow and dilepton radiation in a hybrid approach*, Nucl. Phys. A **967**, 692 (2017)
43. C. Shen, G. Denicol, C. Gale, S. Jeon, A. Monnai and B. Schenke, *A hybrid approach to relativistic heavy-ion collisions at the RHIC BES energies*, Nucl. Phys. A **967**, 796 (2017)
44. **A. Czajka** and S. Jeon, *Kubo formulas for the shear and bulk viscosity relaxation times and the scalar field theory shear  $\tau_\pi$  calculation*, Phys. Rev. C **95**, no. 6, 064906 (2017)
45. **S. McDonald**, C. Shen, F. Fillion-Gourdeau, S. Jeon and C. Gale, Phys. Rev. C **95**, no. 6, 064913 (2017)
46. C. Shen, J. F. Paquet, G. S. Denicol, S. Jeon and C. Gale, *Collectivity and electromagnetic radiation in small systems*, Phys. Rev. C **95**, no. 1, 014906 (2017)
47. G. Vujanovic, J. F. Paquet, G. S. Denicol, M. Luzum, S. Jeon and C. Gale, *Electromagnetic radiation as a probe of the initial state and of viscous dynamics in relativistic nuclear collisions*, Phys. Rev. C **94**, no. 1, 014904 (2016)
48. J. F. Paquet, C. Shen, G. Denicol, M. Luzum, B. Schenke, S. Jeon and C. Gale, *Thermal and prompt photons at RHIC and the LHC*, Nucl. Phys. A **956**, 409 (2016),
49. C. Shen, **C. Park**, J. F. Paquet, G. S. Denicol, S. Jeon and C. Gale, *Direct photon production and jet energy-loss in small systems*, Nucl. Phys. A **956**, 741 (2016),
50. J. F. Paquet, **C. Shen**, **G. S. Denicol**, **M. Luzum**, B. Schenke, S. Jeon and C. Gale, *Production of photons in relativistic heavy-ion collisions*, Phys. Rev. C **93**, no. 4, 044906 (2016)

51. S. Jeon and **T. Epelbaum**, *Perturbative Vacuum Wavefunctional for Gauge Theories in the Milne Space*, *Annals Phys.* **364**, 1 (2016)
52. **C. Shen**, J.-F. Paquet, **G. S. Denicol**, S. Jeon and C. Gale, *Thermal photon radiation in high multiplicity  $p+Pb$  collisions at the Large Hadron Collider*, *Phys. Rev. Lett.* **116**, no. 7, 072301 (2016)
53. **T. Epelbaum**, F. Gelis, S. Jeon, G. Moore and B. Wu, *Kinetic theory of a longitudinally expanding system of scalar particles*, *JHEP* **1509**, 117 (2015)
54. **S. Ryu**, J.-F. Paquet, **C. Shen**, **G. S. Denicol**, B. Schenke, S. Jeon and C. Gale, *Importance of the Bulk Viscosity of QCD in Ultrarelativistic Heavy-Ion Collisions*, *Phys. Rev. Lett.* **115**, no. 13, 132301 (2015)
55. C. Gale, Y. Hidaka, S. Jeon, S. Lin, J. F. Paquet, R. D. Pisarski, D. Satow and V. V. Skokov *et al.*, *Production and Elliptic Flow of Dileptons and Photons in a Matrix Model of the Quark-Gluon Plasma*, *Phys. Rev. Lett.* **114**, no. 7, 072301 (2015)
56. **G. S. Denicol**, S. Jeon and C. Gale, *Transport Coefficients of Bulk Viscous Pressure in the 14-moment approximation*, *Phys. Rev. C* **90**, no. 2, 024912 (2014)
57. H. Marrochio, J. Noronha, **G. S. Denicol**, M. Luzum, S. Jeon and C. Gale, *Solutions of Conformal Israel-Stewart Relativistic Viscous Fluid Dynamics*, *Phys. Rev. C* **91**, no. 1, 014903 (2015)
58. C. Young, J. I. Kapusta, C. Gale, S. Jeon and B. Schenke, *Thermally Fluctuating Second-Order Viscous Hydrodynamics and Heavy-Ion Collisions*, *Phys. Rev. C* **91**, no. 4, 044901 (2015)
59. G. Vujanovic, C. Young, B. Schenke, R. Rapp, S. Jeon and C. Gale, *Dilepton emission in high-energy heavy-ion collisions with viscous hydrodynamics*, *Phys. Rev. C* **89**, 034904 (2014)
60. K. M. Burke, A. Buzzatti, N. Chang, C. Gale, M. Gyulassy, U. Heinz, S. Jeon and A. Majumder *et al.*, *Extracting jet transport coefficient from jet quenching at RHIC and LHC*, *Phys. Rev. C* **90**, 014909 (2014)
61. S. Jeon, *Color Glass Condensate in Schwinger-Keldysh QCD*, *Annals Phys.* **340**, 119 (2014)
62. S. Jeon, *Initial state and flow physics — A theoretical overview*, *Nucl. Phys. A* **932**, 349 (2014).
63. I. Kozlov, M. Luzum, **G. Denicol**, S. Jeon and C. Gale, *Signatures of collective behavior in small systems*, *Nucl. Phys. A* **931**, 1045-1050 (2014).
64. G. Vujanovic, J. F. Paquet, **G. S. Denicol**, M. Luzum, B. Schenke, S. Jeon and C. Gale, *Probing the non-equilibrium dynamics of hot and dense QCD with dileptons*, *Nucl. Phys. A* **931**, 701 (2014)
65. J. B. Rose, J. F. Paquet, **G. S. Denicol**, M. Luzum, B. Schenke, S. Jeon and C. Gale, *Extracting the bulk viscosity of the quark-gluon plasma*, *Nucl. Phys. A* **931**, 926 (2014)

66. G. Vujanovic, J. F. Paquet, **G. S. Denicol**, M. Luzum, B. Schenke, S. Jeon and C. Gale, *Probing the early-time dynamics of relativistic heavy-ion collisions with electromagnetic radiation*, Nucl. Phys. A **932**, 230 (2014)
67. C. Gale, S. Jeon and B. Schenke, *Hydrodynamic Modeling of Heavy-Ion Collisions*, Int. J. Mod. Phys. A **28**, 1340011 (2013)
68. **G. S. Denicol**, C. Gale, S. Jeon and J. Noronha, Phys. Rev. C **88**, no. 6, 064901 (2013)
69. C. Gale, S. Jeon, B. Schenke, P. Tribedy and R. Venugopalan, *Event-by-event anisotropic flow in heavy-ion collisions from combined Yang-Mills and viscous fluid dynamics*, Phys. Rev. Lett. **110**, 012302 (2013)
70. G. Vujanovic, C. Young, B. Schenke, S. Jeon, R. Rapp and C. Gale, *Dilepton production in high energy heavy ion collisions with 3+1D relativistic viscous hydrodynamics*, Nucl. Phys. A **904-905**, 557c (2013)
71. C. Gale, S. Jeon, B. Schenke, P. Tribedy and R. Venugopalan, *Initial state fluctuations and higher harmonic flow in heavy-ion collisions*, Nucl. Phys. A **904-905** 409c (2013)
72. **S. Ryu**, S. Jeon, C. Gale, B. Schenke and C. Young, *MUSIC with the UrQMD Afterburner*, Nucl. Phys. A **904-905** 389c (2013)
73. C. Young, B. Schenke, S. Jeon and C. Gale, *Realistic modelling of jets in heavy-ion collisions*, Nucl. Phys. A **910-911**, 494 (2013)
74. N. Armesto, B. Cole, C. Gale, W. A. Horowitz, P. Jacobs, S. Jeon, M. van Leeuwen and A. Majumder *et al.*, *Comparison of Jet Quenching Formalisms for a Quark-Gluon Plasma ‘Brick’*, Phys. Rev. C **86**, 064904 (2012)
75. **H. Gervais** and S. Jeon, *Photon Production from a Quark-Gluon-Plasma at Finite Baryon Chemical Potential*, Phys. Rev. C **86**, 034904 (2012)
76. **C. Young**, B. Schenke, S. Jeon and C. Gale, *MARTINI event generator for heavy quarks: Initialization, parton evolution, and hadronization*, Phys. Rev. C **86**, 034905 (2012)
77. B. Schenke, S. Jeon and C. Gale, *Higher flow harmonics from (3+1)D event-by-event viscous hydrodynamics*, Phys. Rev. C **85**, 024901 (2012)
78. M. Mia, K. Dasgupta, C. Gale and S. Jeon, *A holographic model for large N thermal QCD*, J. Phys. G **39**, 054004 (2012)
79. M. Dion, J. -F. Paquet, B. Schenke, **C. Young**, S. Jeon and C. Gale, *Viscous photons in relativistic heavy ion collisions*, Phys. Rev. C **84**, 064901 (2011)
80. **C. Young**, B. Schenke, S. Jeon and C. Gale, *Dijet asymmetry at the Large Hadron Collider*, Phys. Rev. C **84**, 024907 (2011)
81. B. Schenke, S. Jeon, C. Gale, *Anisotropic flow in  $\sqrt{s}=2.76$  TeV Pb+Pb collisions at the LHC*, Phys. Lett. **B702**, 59-63 (2011).
82. B. Schenke, S. Jeon and C. Gale, *‘Hydrodynamic evolution and jet energy loss in Cu+Cu collisions*, Phys. Rev. C **83**, 044907 (2011)

83. **B. Schenke**, S. Jeon and C. Gale, *Elliptic and triangular flow in event-by-event (3+1)D viscous hydrodynamics*, Phys. Rev. Lett. **106**, 042301 (2011)
84. M. Mia, K. Dasgupta, C. Gale and S. Jeon, *Heavy Quarkonium Melting in Large N Thermal QCD*, Phys. Lett. B **694**, 460 (2011)
85. B. Schenke, S. Jeon and C. Gale, *Monte-Carlo simulation of heavy-ion collisions*, Nucl. Phys. A **855**, 303 (2011).
86. B. Schenke, S. Jeon and C. Gale, *Elliptic and triangular flows in 3 + 1D viscous hydrodynamics with fluctuating initial conditions*, J. Phys. G **38**, 124169 (2011)
87. M. Dion, C. Gale, S. Jeon, J. -F. Paquet, B. Schenke and **C. Young**, *Photons at RHIC: The Role of viscosity and of initial state fluctuations*, J. Phys. G **38**, 124138 (2011)
88. **T. Springer**, C. Gale and S. Jeon, *Bulk spectral functions in single and multi-scalar gravity duals*, Phys. Rev. D **82**, 126011 (2010)
89. **T. Springer**, C. Gale, S. Jeon and S. H. Lee, *A shear spectral sum rule in a non-conformal gravity dual*, Phys. Rev. D **82**, 106005 (2010)
90. **M. Mia**, K. Dasgupta, C. Gale and S. Jeon, *Toward Large N Thermal QCD from Dual Gravity: The Heavy Quarkonium Potential*, Phys. Rev. D **82**, 026004 (2010)
91. **B. Schenke**, S. Jeon and C. Gale, *3+1D hydrodynamic simulation of relativistic heavy-ion collisions*, Phys. Rev. C **82**, 014903 (2010)
92. **B. Schenke**, C. Gale and S. Jeon, *MARTINI: An event generator for relativistic heavy-ion collisions*, Phys. Rev. C **80**, 054913 (2009)
93. **G. Y. Qin**, **J. Ruppert**, C. Gale, S. Jeon and G. D. Moore, *Jet energy loss, photon production, and photon-hadron correlations at RHIC*, Phys. Rev. C **80**, 054909 (2009)
94. R. Chatterjee, D. K. Srivastava and S. Jeon, *Single photons from relativistic collision of lead nuclei at CERN SPS: A reanalysis*, Phys. Rev. C **79**, 034906 (2009)
95. M. Mia, K. Dasgupta, C. Gale and S. Jeon, *Five Easy Pieces: The Dynamics of Quarks in Strongly Coupled Plasmas*, Nucl. Phys. B **839**, 187 (2010)
96. **F. Fillion-Gourdeau** and S. Jeon, *Wilson lines - color charge densities correlators and the production of eta' in the CGC for pp and pA collisions*, Phys. Rev. C **79**, 025204 (2009)
97. F. Gelis, S. Jeon and R. Venugopalan, *How particles emerge from decaying classical fields in heavy ion collisions: towards a kinetic description of the Glasma*, Nucl. Phys. A **817**, 61 (2009)
98. S. Jeon, *Jet Quenching in Evolving QGP Medium*, Nucl. Phys. A **830**, 107C (2009)
99. **G. Y. Qin**, C. Gale, S. Jeon, G. D. Moore and **J. Ruppert**, *Jet energy loss and high p<sub>T</sub> photon production in hot quark-gluon plasma*, Nucl. Phys. A **830**, 459C (2009)
100. C. Gale, R. Chatterjee, D. K. Srivastava and S. Jeon, *A Reanalysis of Single Photon Data at CERN SPS*, Nucl. Phys. A **830**, 579C (2009)



101. **M. Mia**, K. Dasgupta, C. Gale and S. Jeon, *Quark dynamics, thermal QCD, and the gravity dual*, Nucl. Phys. A **820**, 107C (2009).
102. **F. Fillion-Gourdeau** and S. Jeon, *Looking at saturation effects with eta-prime production in p A collisions*, Nucl. Phys. A **820**, 271C (2009).
103. **G. Y. Qin, J. Ruppert**, C. Gale, S. Jeon and G. D. Moore, *Radiative and Collisional Energy Loss, and Photon-Tagged Jets at RHIC*, Eur. Phys. J. C **61**, 819 (2009)
104. **G. Y. Qin, J. Ruppert**, C. Gale, S. Jeon, G. D. Moore and M. G. Mustafa, *Radiative and Collisional Jet Energy Loss in the Quark-Gluon Plasma at RHIC*, Phys. Rev. Lett. **100**, 072301 (2008)
105. **F. Fillion-Gourdeau** and S. Jeon, *Tensor Meson Production in Proton-Proton Collisions from the Color Glass Condensate*, Phys. Rev. C **77**, 055201 (2008)
106. **J. S. Gagnon** and S. Jeon, *Leading Order Calculation of Shear Viscosity in Hot Quantum Electrodynamics from Diagrammatic Methods*, Phys. Rev. D **76**, 105019 (2007)
107. V. Topor Pop, M. Gyulassy, J. Barrette, C. Gale, S. Jeon and R. Bellwied, *Transient field fluctuations effects in d+Au and Au+Au collisions at  $\sqrt{s_{NN}} = 200\text{GeV}$* , Phys. Rev. C **75**, 014904 (2007).
108. **J. S. Gagnon** and S. Jeon, *Leading order calculation of electric conductivity in hot quantum electrodynamics from diagrammatic methods*, Phys. Rev. D **75**, 025014 (2007)
109. S. C. Huot, S. Jeon and G. D. Moore, *Shear viscosity in weakly coupled  $N = 4$  super Yang-Mills theory compared to QCD*, Phys. Rev. Lett. **98**, 172303 (2007)
110. S. Jeon, *Jet energy loss and high  $p_T$  photon production in hot QGP*, Nucl. Phys. A **783**, 387 (2007).
111. **F. Fillion-Gourdeau, J. S. Gagnon** and S. Jeon, *All orders Boltzmann collision term from the multiple scattering expansion of the self-energy*, Nucl. Phys. A **785**, 222 (2007).
112. **J. S. Gagnon** and S. Jeon, *Ward identity constraints on ladder kernels in transport coefficient calculations*, Nucl. Phys. A **785**, 226 (2007).
113. **G. Torrieri**, S. Jeon, J. Letessier and J. Rafelski, *SHAREv2: Fluctuations and a comprehensive treatment of decay feed-down*, Comput. Phys. Commun. **175**, 635 (2006)
114. **F. Fillion-Gourdeau, J. S. Gagnon** and S. Jeon, *All orders Boltzmann collision term from the multiple scattering expansion of the self-energy*, Phys. Rev. D **74**, 025010 (2006).
115. **G. Torrieri**, S. Jeon and J. Rafelski, *Particle yield fluctuations and chemical non-equilibrium at RHIC*, Phys. Rev. C **74**, 024901 (2006).
116. S. Jeon, **L. Shi** and M. Bleicher, *Detecting QGP with charge transfer fluctuations*, Phys. Rev. C **73**, 014905 (2006).

117. S. Jeon and R. Venugopalan, *A classical odderon in QCD at high energies*, Phys. Rev. D **71**, 125003 (2005).
118. **L. Shi** and S. Jeon, *Charge transfer fluctuations as a signal for QGP*, Phys. Rev. C **72**, 034904 (2005).
119. S. Turbide, C. Gale, S. Jeon and G. D. Moore, *Energy loss of leading hadrons and direct photon production in evolving quark-gluon plasma*, Phys. Rev. C **72**, 014906 (2005).
120. S. Jeon, *The Boltzmann equation in classical and quantum field theory*, Phys. Rev. C **72**, 014907 (2005).
121. S. Jeon and G. D. Moore, *Energy loss of leading partons in a thermal QCD medium*, Phys. Rev. C **71**, 034901 (2005).
122. S. Jeon and R. Venugopalan, *Random walks of partons in  $SU(N_c)$  and classical representations of color charges in QCD at small  $x$* , Phys. Rev. D **70**, 105012 (2004).
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139. S. Jeon and J. Kapusta, *Interpretation of the first data on central Au + Au collisions at  $\sqrt{s} = 56$ -A-GeV and 130-A-GeV*, Phys. Rev. C **63**, 011901 (2001).
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155. S. Jeon and J. Kapusta, *Pion Decay Constant at Finite Temperature in the Non-linear Sigma Model*, Phys. Rev. D **54**, 6475-6478 (1996).
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157. S. Jeon, *Hydrodynamic Transport Coefficients In Relativistic Scalar Field Theory*, Phys. Rev. D **52**, 3591-3642 (1995).
158. S. Jeon, *Computing spectral densities in finite temperature field theory*, Phys. Rev. D **47**, 4586-4607 (1993).
159. F.L. Moore, L.S. Brown, D.L. Farnham, S. Jeon, P.B. Schwinberg, and R.S. Van Dyck Jr., *Cyclotron Resonance with  $10^{-11}$  Resolution: Anharmonic Detection and Beating a Coherent Drive with the Noise*, Phys. Rev. A **46**, 2653–2667 (1992).

### Publications in Conference Proceedings

Total number of publications: 37. For the sake of brevity, only the papers published since year 2010 (inclusive) are listed.

1. S. Ryu, S. McDonald, C. Shen, S. Jeon and C. Gale, PoS **HardProbes2020**, 160 (2021)
2. C. Park *et al.* [JETSCAPE], PoS **HardProbes2020**, 150 (2021)
3. A. Czajka, C. Shen, S. Hauksson, S. Jeon and C. Gale, Acta Phys. Polon. Supp. **14**, 169 (2021)
4. C. Gale, S. Jeon, S. McDonald, J. F. Paquet and C. Shen, *Centrality dependence of the direct photon multiplicity in heavy ion collisions*, PoS HardProbes **2018**, 178 (2019)
5. S. Hauksson, S. Jeon and C. Gale, *Jets in non-equilibrium quark-gluon plasma*, PoS HardProbes **2018**, 092 (2018)
6. Y. Tachibana *et al.* [JETSCAPE Collaboration], *Jet substructure modifications in a QGP from multi-scale description of jet evolution with JETSCAPE*, PoS HardProbes **2018**, 099 (2018)
7. S. Jeon, *Theory Summary*, Nucl. Part. Phys. Proc. **289-290**, 95 (2017).
8. C. Shen, J. F. Paquet, G. S. Denicol, S. Jeon and C. Gale, *Electromagnetic radiation and collectivity in small quark-gluon droplets*, Nucl. Part. Phys. Proc. **289-290**, 161 (2017)
9. S. Hauksson, C. Shen, S. Jeon and C. Gale, *Bulk viscous corrections to photon production in the quark-gluon plasma*, Nucl. Part. Phys. Proc. **289-290**, 169 (2017)

10. **C. Park**, C. Shen, S. Jeon and C. Gale, *Rapidity-dependent jet energy loss in small systems with finite-size effects and running coupling*, Nucl. Part. Phys. Proc. **289-290**, 289 (2017)
11. G. Vujanovic, J. F. Paquet, C. Shen, G. S. Denicol, S. Jeon, C. Gale and U. Heinz, *Dilepton radiation and bulk viscosity in heavy-ion collisions*, Nucl. Part. Phys. Proc. **289-290**, 165 (2017)
12. **S. McDonald**, C. Shen, F. Fillion-Gourdeau, S. Jeon and C. Gale, *Pre-equilibrium Longitudinal Flow in the IP-Glasma Framework for Pb+Pb Collisions at the LHC*, Nucl. Part. Phys. Proc. **289-290**, 461 (2017)
13. **L. Yan**, S. Jeon and C. Gale, *Jet-medium interaction and the Gubser flow*, PoS CPOD **2017**, 091 (2018) [arXiv:1712.04050 [nucl-th]].
14. C. Young, J. I. Kapusta, C. Gale, S. Jeon and B. Schenke, *Numerical Simulation of Thermal Noise in Heavy Ion Collisions*, J. Phys. Conf. Ser. **535**, 012034 (2014).
15. C. Gale, S. Jeon, B. Schenke, P. Tribedy and R. Venugopalan, *Particle production and final state effects in nuclear collisions*, J. Phys. Conf. Ser. **535**, 012026 (2014).
16. S. Jeon, *Higher harmonics in heavy ion collisions*, J. Phys. Conf. Ser. **422**, 012004 (2013).
17. B. Schenke, S. Jeon and C. Gale, *Monte-Carlo simulation of hard probes in heavy-ion collisions*, J. Phys. Conf. Ser. **312**, 012003 (2011).
18. S. Jeon, **L. Shi** and M. Bleicher, *Charge transfer fluctuations as a QGP signal*. J. Phys. Conf. Ser. **27**, 194 (2005).
19. S. Jeon, *Recent developments in QGP characterization*, AIP Conf. Proc. **1701**, 020015 (2016),
20. G. Vujanovic, C. Shen, G. S. Denicol, B. Schenke, S. Jeon and C. Gale, *Probing the dissipative properties of a strongly interacting medium with dileptons*, Nucl. Part. Phys. Proc. 276-278, pp.113-114, (2016),
21. **G. S. Denicol**, C. Gale and S. Jeon, *The domain of validity of fluid dynamics and the onset of cavitation in ultrarelativistic heavy ion collisions*, PoS CPOD **2014**, 033 (2015)
22. **C. Young**, S. Jeon, C. Gale and B. Schenke, *Monte-Carlo simulation of jets in heavy-ion collisions*, arXiv:1109.5992 [hep-ph]. Proceedings of the Meeting of the Division of Particles and Fields of the American Physical Society, August 9-13, 2011, Brown University, Providence, Rhode Island.
23. B. Schenke, S. Jeon, C. Gale, *Monte-Carlo simulation of heavy-ion collisions*, Int. J. Mod. Phys. **E20**, 1588-1593 (2011).
24. **G. Y. Qin**, **J. Ruppert**, C. Gale, S. Jeon, G. D. Moore and M. G. Mustafa, *Radiative and Collisional Jet Energy Loss in a Quark-Gluon Plasma*, Indian J. Phys. **85**, 873 (2011)
25. **B. Schenke**, C. Gale and S. Jeon, *MARTINI - Monte Carlo simulation of jet evolution*, Acta Phys. Polon. Supp. **3**, 765 (2010)

## Participation in CERN Report

1. F. Arleo *et al.*, *Hard probes in heavy-ion collisions at the LHC: Photon Physics In Heavy Ion Collisions at the LHC*.

Writeup of the Photon Physics Working Group for the CERN Yellow Report on *Hard Probes in Heavy Ion Collisions at the LHC*, Nov. 2003. CERN Report number: CERN-2004-009, eds. M. Mangano, H. Satz and U. Wiedemann.

## Papers submitted and on the arXiv

1. W. Fan *et al.* [JETSCAPE], [arXiv:2208.00983 [nucl-th]].
2. M. Heffernan, C. Gale, S. Jeon and J. F. Paquet, [arXiv:2207.14751 [hep-ph]].
3. R. M. Yazdi, S. Shi, C. Gale and S. Jeon, [arXiv:2207.12513 [hep-ph]].
4. D. I. Kim, C. H. Lee, K. Kim, Y. Kim and S. Jeon, [arXiv:2206.12090 [nucl-th]].
5. R. M. Yazdi, S. Shi, C. Gale and S. Jeon, [arXiv:2206.05855 [hep-ph]].
6. A. Kumar *et al.* [JETSCAPE], [arXiv:2204.01163 [hep-ph]].
7. D. Everett *et al.* [JETSCAPE], [arXiv:2203.08286 [hep-ph]].
8. J. Mulligan *et al.* [JETSCAPE], [arXiv:2106.11348 [nucl-th]].
9. D. Everett *et al.* [JETSCAPE Collaboration], arXiv:2011.01430 [hep-ph].
10. D. Everett *et al.* [JETSCAPE Collaboration], arXiv:2010.03928 [hep-ph].
11. C. Park *et al.* [JETSCAPE Collaboration], arXiv:2009.02410 [nucl-th].
12. J. H. Putschke *et al.*, arXiv:1903.07706 [nucl-th].

## Invited Lectures and Presentations

1. *Recent Developments in Hydrodynamics*, Invited plenary talk, the 20th International Conference on Strangeness in Quark Matter. June 2022, Busan, Korea.
2. *Vogt Medal Presentation*, CAP Vogt medalist presentation, Dec 2021.
3. *Introduction to QCD*, Invited Lecture, Pusan National University, Busan, Korea, Dec 2019
4. *Hydrodynamic simulation for heavy ion collisions*, Invited Seminar, Pusan National University, Busan, Korea, Dec 2019
5. *Theory and Practice of Boltzmann-Uehling-Uhlenbeck Simulations*, Nuclear Physics School 2019, Unipark, Jeju, Korea, June 24 – June 28, 2019
6. *Physics of 3D IP-Glasma Initial State*, Invited Seminar, Kent State University, OH, USA, Apr 24, 2019
7. *Jets in a medium: Theory models in JETSCAPE*, Invited lecture, the 2nd JETSCAPE Winter school and Workshop, Texas A&M University, College Station, TX, USA, Jan 10, 2019

8. *Introduction to heavy ion collisions*, Invited lecture, Pusan National University, Busan, Korea, Nov 12, 2018.
9. *Jets in heavy ion collisions: Why coherence matters*, Invited seminar, Pusan National University, Busan, Korea, Nov 9, 2018.
10. *Theory Summary*, Invited plenary talk, the 7th Asian Triangle Heavy Ion Conference (ATHIC 2018), Hefei, China, Nov 6, 2018
11. *Recent Developments in MARTINI*, Invited talk, Workshop on Probing quark-gluon plasma with Jets, Brookhaven National Lab, Upton NY, USA, July 25, 2018.
12. *Jet Quenching Theory*, Invited lecture, the 7th Huada QCD School on QCD, Central China Normal University, Wuhan, China, June 4 - 8, 2018.
13. *Jet quenching theory overview: Jet-medium interaction*, Invited talk, JETSCAPE Winter School & Workshop 2018, Lawrence Berkely National Lab, Berkeley, CA, USA, Jan 5, 2018.
14. *Jets in Heavy Ion Collisions: Theory*, Invited lecture, Student Day, the 26th International Conference on Ultra-Relativistic Nucleus Nucleus Collisions (Quark Matter 2017), Chicago, IL, USA, February 05, 2017.
15. *Introduction to hydrodynamics and transport coefficients*, Invited lectures, 2016 Winter School on Cosmology and Particle Physics, Center for Theoretical Physics of the Universe, KAIST, Daejeon, Korea, December 12 - 16, 2016.
16. *Theory Summary*, Invited plenary talk, the 8th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions (Hard Probes 2016), Wuhan, China, September 17, 2016.
17. *Applications of Closed Time Path QFT in Heavy Ion Collisions: CGC, Thermalization, Milne vacuum and Beyond*, Invited talk, Workshop on The Big Bang and the little bangs - Non-equilibrium phenomena in cosmology and in heavy-ion collisions, CERN, Geneva, Switzerland, August 24, 2016
18. *Recent developments in characterization of Quark-Gluon Plasma*, Invited talk, 2016 Canadian Association of Physicists Congress, Ottawa, ON, Canada, June 14, 2016.
19. *Recent Development in Characterizing QGP – Bulk viscosity of QGP in relativistic HIC*, Invited seminar, Los Alamos National Laboratory, Los Alamos, NM, USA, March 15, 2016.
20. *Theory of Kaons*, Invited lecture, Jeju University, Jeju, Korea, January 19, 2016.
21. *Recent developments in the characterization of QGP*, Invited talk, Jeju University Brain-Korea 21 Workshop, Jeju, Korea, January 18, 2016.
22. *Quark-Gluon Plasma: The story so far*, Invited seminar, Kwangwon University, Choonchun, Korea, January 15, 2016.
23. *Quark-Gluon Plasma: The story so far*, Invited plenary talk, APCTP 2015 Workshop on Frontiers of Physics, Yeosu, Korea, December 22, 2015.

24. *Boiling quark-gluon soup - What is Quark-Gluon Plasma*, Colloquium, Korea Institute of Advanced Studies (KIAS), Seoul, Korea, December 16, 2015.
25. *Collective motions in small systems*, Invited talk, Heavy Ion Meeting 2015-12, Chonnam University, Gwangju, Korea, December 11, 2015.
26. *Quark-Gluon Plasma – Nuclear Matter Under Extreme Conditions*, Invited lectures, Jeju University, Jeju, Korea, November 16-17, 2015.
27. *Qualitative understanding of ultra-relativistic heavy ion collisions*, Invited lecture, Chonnam University, Gwangju, Korea, November 11, 2015.
28. *Boiling quark-gluon soup - What is Quark-Gluon Plasma?* Colloquium, Yonsei University, Seoul, Korea, October 28, 2015.
29. *Soft and Hard Physics of Quark-Gluon Plasma*, Invited lectures in the High Energy Nuclear Physics School 2015: An International School for Young Physicist, Inha University, Incheon, Korea, October 12, 2015.
30. *Dissipation in Quantum Field Theory*, CNT Lectures on hot/dense matter 2015, Variable Energy Cyclotron Center, Kolkata, India, February 2015.
31. *News and highlights in the Quark Gluon Plasma characterization* Plenary talk, 11th Conference on Quark Confinement and the Hadron Spectrum, St. Petersburg, Russia, September 2014.
32. *Lectures on Hydrodynamics*, Invited Lectures in the Central China Normal University, Wuhan, China, June 2014.
33. *Recent developments in Relativistic Heavy Ion Physics*, Invited Seminar in Rare Isotope Science Project, Institute for Basic Science, Daejeon, Korea, June 2014.
34. *Theoretical Overview of Initial State and Flow Physics*, Plenary talk, 6th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions, Capetown, South Africa, November 2013.
35. *Jets in MARTINI* Second Workshop on Jet Modification, Wayne State University, Detroit, USA, August 2013.
36. *Introduction to Hard Probes in Heavy Ion Collisions & Hydrodynamics in Heavy Ion Collisions* Invited Lectures, National Nuclear Physics Summer School, Stonybrook University, Stonybrook, USA, July 2013.
37. *Introduction to Hard Probes in Heavy Ion Collisions* Invited Lectures, Summer School for Phenomena & Theories in Heavy Ion Collisions, Peking University, Beijing, China, July 2013.
38. *Introduction to Hard Probes in Heavy Ion Collisions* Invited Lectures, 11th Nuclear Physics Summer School, Jeju Island, Korea, June 2013.
39. *Initial state fluctuations in hydrodynamic simulations*, Plenary talk, Asian Triangle Heavy Ion Conference 2012, Pusan, Korea, November 2012.
40. *sQGP – A theorist’s point of view* Invited talk, APS DNP meeting, Newport Beach, CA, USA, October 2012.



41. *The First 30 Yocto Seconds of Little Big Bang*, Invited Seminar, Nagoya University, Nagoya, Japan, July 2012.
42. *Higher Harmonics in Heavy Ion Collisions*, Conference on Heavy Ion Collisions in the LHC Era, Quy Nhon, Vietnam, Jul. 16 – Jul. 20, 2012
43. *Anisotropic flow from viscous hydrodynamics*, The 9th workshop on QCD phase transitions and relativistic heavy ion collisions, Hangzhou, China, Jul. 19, 2011.
44. *Jet asymmetry at LHC*, Symposium on jet physics at RHIC and LHC, Hangzhou, China, Jul. 21, 2011.
45. *MARTINI and MUSIC*, Brookhaven National Laboratory, Upton, NY. Nov. 16, 2010.
46. *MARTINI and MUSIC*, The 3rd Asian Triangle Heavy-Ion Conference, Wuhan, China, Oct. 18-20, 2010.
47. *MARTINI and MUSIC - Towards a Comprehensive Simulation of Relativistic Heavy Ion Collisions*, Baruch University, NY. May 14, 2010
48. *Jets and photons in evolving QGP*, Invited talk, Extreme QCD 2009, Sejong University, Seoul, Korea, Aug.4, 2009.
49. *Jet quenching in evolving QCD medium*, Invited plenary talk, Quark Matter 2009, Knoxville TN, USA, Mar.31, 2009.
50. *Quark-Gluon Plasma, Jets and Photons*, Invited lecture, Nagoya University, Nagoya, Japan, March 2, 2009.
51. *The hottest matter ever since the big-bang*, Colloquium, University of Utah, Salt-lake City UT, USA, Feb. 12, 2009.
52. *Quark-Gluon Plasma, Why, how and what to study*, Theory Seminar, Korea Institute of Advanced Studies, Seoul, Korea, Dec.12, 2008
53. *The hottest matter ever since the big-bang*, Colloquium, Yonsei University, Seoul Korea, Dec.10, 2008.
54. *Photon and Gamam-jet in Heavy-ion Collisions*, Workshop on Photon and Jet with ALICE, Central China Normal University, Wuhan, China, Dec.4-6, 2008.
55. *Hottest-matter-ever since the Big Bang*, Colloquium, Korea University, Seoul Korea, Dec.2, 2008
56. *The LHC and Hottest-matter-ever since the Big Bang*, DAE-BRNS National Seminar - New era in nuclear and particle physics, The University of Burdwan, West Bengal, Nov.28-29, 2008
57. *Energy loss and Photon Production in QGP*, STAR Regional meeting, VECC, Calcutta, India, Nov. 2008.
58. *The hottest matter ever since the big-bang*, Colloquium, Chon-Nam University, Gwang-Ju Korea, Nov.18, 2008
59. *Thermal Field Theory*, Theory Seminar, Hanyang University, Seoul, Korea, Nov.12, 2008.

60. *Thermal Field Theory*, Special lectures for students in nuclear physics group, Yonsei University, Seoul Korea, Nov.11, 2008 (part 1) Nov.13, 2008 (part 2).
61. *Hottest-matter-ever since the Big Bang*, Colloquium, City University of Seoul, Seoul, Korea, Nov.07, 2008
62. *Quark-Gluon Plasma - Little Bangs on Earth*, CQUeST, Workshop on RHIC, Sogang University, Seoul, Korea, Nov.5, 2008.
63. *Thermal Field Theory*, Theory Seminar, Sejong University, Seoul, Korea, Oct.21, 2008.
64. *Jet Energy Loss and Photon Productions in QGP*, Theory group seminar, September 2008, University of Santiago de Compostela, Santiago de Compostela, Galicia-Spain.
65. *Jet Energy Loss and Photon Productions in QGP*, MIT CMS group seminar, July 2008, CERN, Geneva, Switzerland.
66. *Theory Summary*, Third International Conference on Hard and Electro-Magnetic Probes of High-Energy Nuclear Collisions, 8-14 June, 2008, Illa da Toxa (Galicia-Spain).
67. *Fluctuations in QGP*, Gordon Research Conference – Nuclear Chemistry, 15-20 June, 2008, Colby-Sawyer College, New London, NH, USA.
68. *Jet Quenching: Putting it all together*, Brookhaven National Lab, Nuclear Physics Seminar, Tuesday, December 11, 2007
69. *Searching for the Little Big Bang*, Colloquium, Dartmouth University, Feb. 16th, 2007.
70. *Jet Quenching and Photon Productions in Thermal QCD*, Heavy Ion Tea Seminars, Lawrence Berkeley National Lab, March 6th, 2007.
71. *Jet Quenching: Putting it all together*, Nuclear Physics Seminar, Brookhaven National Lab, Dec. 14th, 2007.
72. *Jet Energy Loss in Hot Quark Gluon Plasma*, Canadian Association of Physicists (CAP) Congress 2007. 17-20, June, 2007.
73. *Jet Energy Loss & High  $P_T$  Photon Production in Hot QGP*, Nuclear Physics Seminar, Pusan National University, Seoul, Korea, Jul. 5, 2006.
74. *Fluctuations in Hot and Dense Matter*, RHIC Physics in the Context of the Standard Model: A Workshop and Symposium, Brookhaven National Laboratory Jun. 18-23, 2006.
75. *High  $p_T$  photon production and jet quenching*, Plenary session. Second International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions, Asilomar Conference Grounds, Pacific Grove, California, Jun. 9-16, 2006.
76. *Fluctuations and Correlations in QGP*, Colloquium, Pusan National University, Seoul, Korea, Nov. 11, 2005.

77. *Search for the Little Bang*, Colloquium, Korea Institute for Advanced Study, Seoul, Korea, Nov. 06, 2005.
78. *Energy loss in hot medium - the AMY way*, Workshop on Parton Propagation through Strongly Interacting Matter European Centre for Theoretical Studies in Nuclear Physics (ECT\*), Sep. 26 - Oct. 7, 2005 Trento, Italy.
79. *Fluctuations and Correlations in QGP*, Heavy Ion Meeting 2005-11, Nov. 04, 2005, APCTP, Pohang, Korea.
80. *Charge Transfer Fluctuations as a QGP signal*, Nuclear Theory / RIKEN Seminar, Brookhaven National Laboratory, Jul. 15, 2005.
81. *Charge transfer fluctuations as a QGP signal*, Heavy Ion Meeting 2005-06, Jun. 27, 2005, Sungkyunkwan University, Suwon, Korea.
82. *Charge Transfer Fluctuations as a QGP signal*, Nuclear Physics Seminar, Purdue University, May 9, 2005.
83. *Charge transfer fluctuations as a QGP signal*, Workshop on Correlations and Fluctuations in Relativistic Nuclear Collisions, MIT, Boston, MA. Apr. 21-23, 2005.
84. *Universal Curves in Pseudo-Rapidity Spectra*, Nuclear Theory Seminar, Brookhaven National Laboratory, Aug. 2004.
85. *Eta-prime mesons from gluon fusion*, RIKEN Lunch Seminar, Brookhaven National Laboratory, Apr. 2003.
86. *Limiting Fragmentation in Heavy Ion Collisions*, TNT Colloquium, Duke University, Apr. 2003.
87. *Fluctuations in Heavy Ion Collisions I & II*, Invited Lectures. APCTP 3rd Dense Matter School. Pohang, Korea. Jan. 21 - 24, 2003.
88. *Eta-prime as a gluon probe*, Nuclear Theory Seminar, Ohio State University, Nov. 2001.
89. *Search for the Little Bang*, McGill Physical Society Colloquium, 2001.
90. *Charged Multiplicity Ratio Fluctuations as a QGP Signal*, Nuclear Theory/RIKEN Seminar, Brookhaven National Laboratory, Mar. 2000.
91. *Charged particle multiplicity ratio fluctuations as a QGP signal, & Classical colored particles : Unified description of small  $x$  and Hard Thermal Loop physics*, McGill University, Feb. 2000.
92. *Charged particle multiplicity ratio fluctuations as a QGP signal*, MIT, Jan. 2000.
93. *Coherence time, Drell-Yan, and  $J/\psi$  production in high energy hadronic interactions*, Ohio State University, Nuclear Theory Group Seminar. May. 1999.
94. *From Quantum Field Theory to Hydrodynamics*, CTP, Seoul National University, Seoul, Korea, Aug. 1996.
95. *From Quantum Field Theory to Hydrodynamics*, Sung Kyun Kwan University, Soowon, Korea, Aug. 1996.

96. *Computing Transport Coefficients in Relativistic Field Theory*, CTP, Seoul National University, Seoul, Korea, Jun. 1995.

## Research Support

### Funding

- *Study of hot and dense nuclear matter in relativistic heavy ion collisions*  
NSERC Discovery Grant, 2018 – 2023, \$85,000/year. (PI: S. Jeon)
- *Comprehensive Investigation of Ultra-Relativistic Heavy Ion Collisions at RHIC and the LHC*  
NSERC Discovery Grant, 2013 – 2018, \$75,000/year. (PI: S. Jeon)
- *Theoretical Investigation of Quark Gluon Plasma in Heavy Ion Collisions*,  
NSERC Discovery Grant, 2008 – 2013, \$75,000/year. (PI: S. Jeon)
- *Theoretical Investigation of Quark Gluon Plasma in Heavy Ion Collisions*,  
NSERC Discovery Accelerator Supplement, 2008 – 2011, \$40,000/year. (PI: S. Jeon)
- FQRNT Team Grant, 2003 – 2006, \$60,000/year. (With 3 others)
- *Investigation of Matter in Extreme Conditions*,  
NSERC Discovery Grant, 2003 – 2008, \$47,000/year. (PI: S. Jeon)
- *Investigation of Matter in Extreme Conditions*,  
NSERC Research Grant, 2001 – 2003, \$37,000/year. (PI: S. Jeon)
- *Investigation of Matter in Extreme Conditions*,  
McGill Start-up Grant, 2001, \$35,000. (PI: S. Jeon)

### Compute time

- 1,000 core-year (8.76 million core-hour), 2013, Compute Canada Guillimin cluster
- 1,000 core-year (8.76 million core-hour), 2014, Compute Canada Guillimin cluster
- 1,160 core-year (10.2 million core-hour), 2015, Compute Canada Guillimin cluster
- 1,107 core-year, (9.7 million core-hour), 2016, Compute Canada Guillimin cluster
- 883 core-year, (7.7 million core-hour), 2017, Compute Canada Guillimin cluster
- 788 core-year, (6.9 million core-hour), 2018, Compute Canada Cedar-compute system
- 749 core-year, (6.5 million core-hour), 2019, Compute Canada Beluga cluster
- 793 core-year, (6.95 million core-hour), 2020, Compute Canada Beluga cluster
- 705 core-year, (6.18 million core-hour), 2021, Compute Canada Beluga & Narval clusters
- 1,497 core-year, (13 million core-hour), 2022, Compute Canada Beluga cluster

# Training of Highly Qualified Personnel

## Postdoc Supervision and Co-Supervision

1. Manu Kurian (2022-current)
2. Lipei Du (2021-current)
3. Amit Kumar (2021-current)
4. Shuzhe Shi (2018-2021)
5. Daniel Pablos (2017-2019)
6. Li Yan (2016-2018) – Currently Professor at Fudan University, China
7. Alina Czajka (2016-2018)
8. Chun Shen (2014-2016) – Currently Professor at Wayne State University, USA
9. Gabriel Denicol (2012-2015) – Currently Professor at Universidade Federal Fluminense, Brazil
10. Matt Luzum (2012-2013) – Currently Professor at University of Sao Paulo, Brazil
11. Thomas Epelbaum (2015-2016)
12. Clint Young, (2010-2012)
13. Todd Springer, (2009-2011) – Currently a faculty member at Ryerson University, Canada
14. Björn Schenke, (2008-2010) – Currently Assistant Scientist at Brookhaven National Lab, USA
15. Jörg Ruppert, (2006-2008)
16. Giorgio Torrieri, (2004-2006) – Currently Professor at Universidade Estadual de Campinas, Brazil
17. Lijun Shi, (2003-2005)
18. Qinghui Zhang, (2001-2002)

## Graduate Students

1. Da Sen Ye: MSc student since Sept. 2021
2. Rodrigo Chavez Zavaleta: MSc student since Sept. 2021
3. Nicolas Miro Fortier: Graduated in 2020 with M.Sc. Thesis title: Non Trivial Initial State Anisotropies and their Effects on Observables in the IP-Glasma Framework. Ph.D. Student since Sept. 2020.
4. Scott McDonald: Graduated in 2020 with Ph.D. Thesis title: Towards Fully 3-Dimensional Simulations of Heavy Ion Collisions in the IP-Glasma Initial State Framework. M.Sc. Thesis title: The Initial State of Heavy Ion Collisions in the IP-Glasma Framework. Current position: Industry.

5. Sangwook Ryu, graduated in 2016 with Ph.D. Thesis title: Integrated Description of Heavy Ion Collisions at RHIC and The LHC. Current position: Postdoctoral fellow, Wayne State University.
6. Chanwook Park: Graduated in 2020 with Ph.D. Thesis title: Jet Modification in Strongly Coupled Quark-Gluon Plasma. M.Sc. Thesis title: Jet energy loss with finite-size effects and running coupling in MARTINI. Current position: Postdoctoral fellow, Wayne State University.
7. Khadija El Berhoumi, graduated in 2014 with M.Sc. Thesis title: Hydrodynamical modeling of ultra-relativistic Au+Au collisions at RHIC energies with longitudinal fluctuating initial conditions Current position: Medical student.
8. Hua Long Gervais, graduted in 2012 with M.Sc. Thesis title: Photon Production from non-Abelian Plasmas at Finite Baryon Chemical Potential. Current position: Industry.
9. Marius Cautun, Graduated with M.Sc. in 2009. Current position: Research Associate, Durham University.  
Thesis title: Photon production in the Color Glass Condensate Formalism
10. Francois Fillion-Gourdeau, Graduate with Ph.D. in 2009. Thesis title: Application of many-body physics to relativistic heavy ion collisions. Current position: Senior Research associate, INRS-EMT.
11. Jean-Sebastien Gagnon, Graduated with Ph.D. in Sept. 2007. Thesis title: Leading order calculation of transport coefficients in hot quantum electrodynamics from diagrammatic methods Current position: Assistant professor, Norwich University.

### **Undergraduate Project Supervision**

1. Louis Croquette (McGill University) – PHYS 449 Project: Differences in initial conditions and their effect on the eccentricities of the hydrodynamic evolution. Fall 2019
2. Rodrigo Chavez Zavaleta (McGill University) – PHYS 479 Project: Jet Quenching in pPb collisions. Fall 2019
3. Honghao Yu (McGill University) – PHYS 459 Project: Application of LEXUS model to proton-nucleus collisions. Fall 2018
4. Yuri Oh (McGill University) – Project: Simulation of Nuclear Particles using Boltzmann Equation for numerical solutions, Summer 2015.
5. Emily Wall (McGill University) – Project: A step towards a Quark-Gluon Plasma event generator: structure and fragmentation function random number generators, Summer 2009.
6. Dominique Laroche and Jean-Raphaël Lessard (McGill University) – Project: HBT Interferometry using a simulation of relativistic-heavy-ion collisions. Winter, 2006.
7. Francois Fillion-Gourdeau (Univ. Lyon, France) – Project: Calculation of Stress-Energy tensor of the Color Glass Condensate, Summer 2003.

8. David Titley-Peloquin (McGill University) – Project: Porting a Fortran Hadron-Hadron Scattering Simulation Program to C, Summer 2003.
9. Jean-Christian Boileau  
(McGill University) – Project: Converting LEXUS to an Event Generator, Summer 2001.

## **Services**

### **Service to the Scholarly Community**

#### **Board Membership**

- Board member, Canadian Institute of Nuclear Physics 2016 – 2022

#### **International Advisory Committee:** Served on

- International Advisory Committee – Member: International Advisory Committee, International Conference on Ultra-Relativistic Nucleus Nucleus Collisions (Quark Matter) Series. Current.
- International Advisory Committee – Member: International Advisory Committee, International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions (Hard Probes) Series.
- International Advisory Committee – Member: International Advisory/Steering Committee, Asian Triangle Heavy Ion Conference Series. Current.
- International Advisory Committee – Member: International conference on Heavy ion collisions in the LHC era Series.
- International Advisory Committee – Member: International Conference on Initial Stage Series. Current.

#### **Conference/Workshop Organization**

- International Workshop Organization – Co-Organizer, Institute for Nuclear Theory (INT) Workshop on “Probing QCD at High Energy and Density with Jets”. August, 2021.
- International Symposium Organization – Co-Organizer, Light, Color and Dense Matter: A symposium on the intersection of electro, chromo and hydro-dynamics in nuclear physics, Minneapolis, USA, June 12 - June 14, 2017.
- International Workshop Organization – Co-Organizer, Workshop on Applications of AdS/CFT to QCD and condensed matter physics, Montréal, Canada, Oct 19 - Oct 23, 2015.
- International Conference Organization – Chair of the LOC: 7th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions, Montreal, June 2015.
- International Workshop Organization – Co-Organizer, Workshop on Hydrodynamics for Strongly Coupled Fluids, ECT\*, Trento, Italy, May 12 - May 16, 2014.

- International Summer School Organization – Head Organizer: 2012 Jet Collaboration Summer School, McGill University, Montreal QC, June 16 - June 18, 2012.
- International Symposium Organization – Co-organizer: A Symposium on Contemporary Subatomic Physics, McGill University, Montreal QC, June 12 - June 14, 2012.
- International Conference Organization – Co-organizer: Strong and ElectroWeak Matter 2010, McGill University, Montreal QC, June 29 - July 2, 2010.
- Conference Organization – Co-organizer: Theory Canada 5, University of New Brunswick, Fredericton, NB, June 3-6, 2009.
- International Workshop Organization – Co-organizer: Conference on Early Time Dynamics in Heavy Ion Collisions, Montreal, QC, July 16-19, 2007.
- International Workshop Organization – Co-organizer: CERN Theory Institute Workshop on Heavy Ion Collisions at the LHC – Last Call for Predictions, 14 May - 8 June, 2007.
- International Workshop Organization – Co-organizer: International Workshop on Topics In Heavy Ion Collisions, Montreal, QC, June 25-28, 2003.

## **Referee Activities**

- Referee Activities for Peer-Reviewed Journals
  - Physical Review Letters
  - Physical Review C
  - Physical Review D
  - Recognized by APS as “an Outstanding Referee” in 2014.
  - Physics Letter B: Recognized as “One of the most valued reviewers of 2011”
  - Nuclear Physics A
  - Canadian Journal of Physics
  - European Journal of Physics
  - JHEP
- Referee Activities for Grant Proposals
  - NSERC
  - USA Department of Energy, Nuclear Physics

## **Service to the Department**

- 2019-current: Chair, Department of Physics
- 2018-2019: Graduate Studies Committee
- 2017-2018: Graduate Studies Committee
- 2016-2017: Graduate Studies Committee
- 2014-2015: Graduate Studies Committee



- 2009-2014: Graduate Program Director
- 2010-2015: Chair, Local Computing Systems Committee
- 2010-2009: Chair, Web, Poster and Brochure Committee
- 2002-2003, 2006-2007: Co-organizer, Physical Society and McPherson Lecture Committee
- 2005-2009: Local Computing Systems Committee
- 2005-2010: Ph.D. Preliminary exam Committee
- 2003-2008: Graduate Studies Committee
- Chair's Advisory Committee
- Tenure Committee

### **Service to the University**

- 2014, Member, Graduate Admissions Transition Advisory Group
- 2014, Member, uApply Task Prioritizaion Committee
- Jan. 2011-Dec. 2011: Interim Scientific Direct, CLUMEQ. CLUMEQ is a 20 million dollar high performance computing (HPC) centre project funded by the CFI and managed by McGill. I have overseen completion of the phase 1 which was handed over to McGill at the end of March, 2011 and overseen the inauguration of the centre. My duties included overseeing daily operations of the centre, staffing, setting up and assessing various policies ranging from resource allocation and personnel issues, participating in Compute Canada meetings and discussions as a representative of CLUMEQ for governing and funding issues, preparing for the Request for Proposal for the phase 2.