

CURRICULUM VITÆ

Zhongbo Kang

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I am a Professor in the Department of Physics and Astronomy at the University of California, Los Angeles (UCLA), and a faculty member of the Mani L. Bhaumik Institute for Theoretical Physics and the Center for Quantum Science and Engineering (CQSE). I am also an associate member of the joint Center for Frontiers in Nuclear Science (CFNS) at Stony Brook University and Brookhaven National Laboratory. My research focuses on Quantum Chromodynamics (QCD) theory and phenomenology, broadly defined, with strong connections to experimental programs at the LHC, RHIC, and the future EIC, while also exploring emerging directions in quantum simulation, tensor-network methods, and machine learning for nuclear and particle physics.

Education

Ph.D., Theoretical Nuclear Physics, August 2009
Department of Physics and Astronomy, Iowa State University, Ames, Iowa, USA

M.S., Theoretical Physics, July 2003
Institute of Particle Physics, Central China Normal University, Wuhan, China

B.S., Physics, July 2001
Department of Physics, Central China Normal University, Wuhan, China

Appointments

Professor, July 2025 – present
Department of Physics and Astronomy, University of California, Los Angeles

Associate Professor, July 2021 – June 2025
Department of Physics and Astronomy, University of California, Los Angeles

Assistant Professor, November 2016 – June 2021
Department of Physics and Astronomy, University of California, Los Angeles

Staff Scientist (level 3), February 2016 – September 2018
Theoretical Division, Los Alamos National Laboratory

J. Robert Oppenheimer Fellow, March 2013 – February 2016
Theoretical Division, Los Alamos National Laboratory

Director's Postdoctoral Fellow, April 2012 – February 2013
Theoretical Division, Los Alamos National Laboratory

Research Associate, September 2009 – April 2012
RIKEN BNL Research Center, Brookhaven National Laboratory

Awards, Honors and Memberships

Awards

1. Friedrich Wilhelm Bessel Research Award
Alexander von Humboldt Foundation, 2025
2. Teacher of the Year Award (Abelmann Prize for Teaching Excellence)
University of California, Los Angeles, 2021/22
3. Department's Outstanding Teaching Award
University of California, Los Angeles, 2017/18, 2018/19, 2020/21
4. Department's Teaching Innovator of the Year Award
University of California, Los Angeles, 2019/20
5. NSF CAREER Award
Faculty Early Career Development Program (CAREER) Award, National Science Foundation,
07/2020 – 06/2025
6. RHIC & AGS Merit Award
RHIC/AGS Users' Executive Committee, Brookhaven National Laboratory, 2019
citation: "for his unique and ground-breaking theoretical contributions to the field of transverse momentum dependent parton distribution functions and jet physics."
7. UCLA Faculty Career Development Award
University of California, Los Angeles, 2018
8. J. Robert Oppenheimer Fellowship
Los Alamos National Laboratory, March 2013 – February 2016
9. Excellence in Peer Review
Nuclear Physics A, 2013 and 2014
10. Director's Postdoctoral Fellowship
Los Alamos National Laboratory, April 2012 – February 2013
11. Frontier Physics Working Month Fellowship
Center for High Energy Physics, Peking University, Beijing, China, 2012
12. Named one of the most valued reviewers of 2011
Nuclear Physics A, 2012
13. Our work on spin physics has been selected as research highlight by RIKEN
RIKEN, Japan, February 2012
See links at riken.jp and phys.org
14. G. W. Fox Memorial Award for excellence in research
Iowa State University, 2009

Honorary Society

- Sigma Xi Scientific Research Honor Society, 2021
- Golden Key International Honor Society, 2008
- The Honor Society of Phi Kappa Phi, 2007

Membership

Member of the American Physical Society (APS), 2007 – Present

Member of the American Association for the Advancement of Science (AAAS), 2020 – Present

Mentoring

Scientists, postdocs and students I am working with and/or have worked with closely:

Current

◇ Postdocs

- Jani Penttala, 09/2023 – present
joint with DOE’s Saturated Glue SURGE Topical Collaboration in Nuclear Theory

◇ Graduate Students

- Robert Kao, 09/2022 – present
- Diego Padilla, 07/2023 – present
- Luke Sellers, 10/2023 – present
- Noah Moran, 08/2024 – present
- Congyue Zhang, 09/2025 – present

◇ PhD Committee Member

Keith Landry (2016), Agnieszka Wergieluk (2017–2021), Krystal Alfonso (2018–2022), Dylan Neff (2020–2023), Brian Chan (2021–2023), Zhiwan Xu (2021–2024), Xiatong Wu (2022–), Thomas Marshall (2023–), Aditya Dash (2023–), Yunshan Cheng (2023–), Gabriela Munoz-Hernandez (2025–), Havyn Ancelin (2025–), Mishary Alrashed (2025–)

◇ Undergraduate Students

- Curtis Zhou, 10/2024 – present
Departmental REU summer fellowship (summer 2025), awarded by UCLA Physics and Astronomy
- Brian Chang, 12/2024 – present
Departmental REU summer fellowship (summer 2025), awarded by UCLA Physics and Astronomy
- Sofia Behzadi, 12/2024 – present
- Josef Elyoussoufi, 06/2025 – present
- Karlo Reyes, 05/2025 – present
- Benjamin Jobilal, 09/2025 – present
- Jeffrey Qu, 09/2025 – present
- Dibyesh Ganguly, 09/2025 – present
Undergraduate Research Fellow (2026), awarded by UCLA Undergraduate Research Fellows Program (URFP)

Past

◇ Postdocs/staff/visiting scholars

1. Farid Salazar, postdoc, joint with UC Berkeley and LBNL, 10/2021 – 11/2023 (next: Research Assistant Professor, Institute for Nuclear Theory, University of Washington, Seattle, now a faculty member at Temple University)
2. Andrew Larkoski, assistant project scientist, 09/2022 – 09/2023 (next: Associate Editor at Physical Review D)
3. Dingyu Shao, assistant researcher, 09/2019 – 01/2021 (next: a faculty member at Fudan University, Shanghai, China)
CFNS-University fellow
4. Maarten Buffing, postdoc, 09/2017 – 08/2018 (next: a model development & run specialist at Aegon in The Hague)
5. Felix Ringer, postdoc, 07/2015 – 03/2017, Los Alamos National Laboratory (next: a postdoctoral scholar at Lawrence Berkeley National Laboratory, now a faculty member at Stony Brook University)
6. Hongxi Xing, postdoc, 09/2013 – 09/2016, Los Alamos National Laboratory (next: a postdoctoral scholar at Northwestern University/Argonne National Laboratory, now a faculty member at South China Normal University, Guangzhou, China)
7. Chuan-Qi He, visiting scholar, 08/2024 – 07/2025, visiting from South China Normal University, Guangzhou
8. Meisen Gao, visiting scholar, 07/2024 – 06/2025, visiting from Fudan University, Shanghai (next: a faculty member at East China University of Science and Technology, Shanghai)
9. Yiyu Zhou, visiting scholar, 12/2022 – 02/2024, visiting from South China Normal University (next: a postdoctoral scholar at University of Turin, Italy)
10. Kajal Samanta, visiting scholar, 08/2022 - 03/2023, visiting from Fudan University (next: a postdoctoral scholar at Institute for Particle Physics Phenomenology, Durham University)
11. Wai Kai Lai, visiting scholar, 04/2022 – 03/2023, visiting from South China Normal University
12. Daniele Anderle, visiting scholar (remote), 10/2020 – 08/2022, visiting from South China Normal University

◇ Graduate students

1. Carlos Lamas, 09/2025 – 12/2025, visiting graduate student, University of Santiago de Compostela
2. Fidele Twagirayezu, 09/2022 – 03/2025 (next: Industry)
3. Xoán Mayo López, 09/2024 – 12/2024, visiting graduate student, University of Santiago de Compostela (next: a Postdoctoral Fellow at MIT Center for Theoretical Physics)
4. Jared Reiten, 07/2017 – 12/2023 (next: Industry)
UC-National Lab In-Residence Graduate Fellowship, 2019 – 2020, awarded by UC Office of the President (UCOP)
5. Fanyi Zhao, 01/2019 – 08/2023 (next: a Postdoctoral Fellow at MIT Center for Theoretical Physics)
Bhaumik Institute Graduate Fellowship in Quantum Information Science, 2021
Bhaumik Institute Nina Byers Summer Fellowship in Theoretical Physics, 2020
6. John Terry, 03/2017 – 09/2022 (next: Director's Postdoctoral Fellow at Los Alamos National Laboratory)
UCLA 2021 – 2022 Dissertation Year Fellowship
NSF Graduate Research Fellowship, 2018 – 2021, awarded by National Science Foundation

7. Kyle Lee, 10/2016 – 08/2020, Stony Brook University (next: a postdoctoral scholar at UC Berkeley and Lawrence Berkeley National Laboratory)

◇ Master students

1. Harry Wang, 03/2024 – 09/2024 (next: a master student at Brown University)
2. Sifu Luo, master's student, Central China Normal University, 09/2014 – 07/2016 (next: a Ph.D. student at Texas A&M University)

◇ Undergraduate students

1. Congyue Zhang, 01/2023 – 07/2025 (next: a graduate student at UCLA)
Departmental REU summer fellowship (summer 2023), awarded by UCLA Physics and Astronomy
Undergraduate Research Fellow (2023), awarded by UCLA Undergraduate Research Fellows Program (URFP)
2. Peter Nguyen, 05/2022 – 07/2025 (next: a graduate student at Duke University)
3. Nihal Gozlucluoglu-karakus, CSU Northridge, 06/2023 – 09/2024
Cal-Bridge-EIC scholar, awarded by California Bridge to the Electron-Ion Collider Undergraduate Traineeship Program, supported by Department of Energy
4. Rares Fota, 01/2023 – 03/2024 (next: a graduate student at University of Illinois Urbana-Champaign)
Departmental REU summer fellowship (summer 2023), awarded by UCLA Physics and Astronomy
5. Juri Alhuthali, 06/2023 – 02/2024
KAUST Gifted Student Program
6. Ahmad Mardini, CSU Long Beach, 03/2023 – 12/2023
Cal-Bridge-EIC scholar, awarded by California Bridge to the Electron-Ion Collider Undergraduate Traineeship Program, supported by Department of Energy
7. Grace Garmire, Cal Poly SLO, 02/2022 – 06/2023 (next: a graduate student at University of Illinois Urbana-Champaign)
Cal-Bridge-EIC scholar, awarded by California Bridge to the Electron-Ion Collider Undergraduate Traineeship Program, supported by Department of Energy
8. Tejes Gaertner, 10/2021 – 05/2023 (next: a graduate student at University of Oxford)
9. Sky Shi, 11/2021 – 05/2023 (next: a graduate student at University of Michigan)
10. Miranda Li, 05/2022 – 05/2023 (next: a graduate student at UCLA)
11. Parth Bhatnagar, 10/2020 – 02/2023 (next: a graduate student at Northwestern University)
Departmental REU summer fellowship (summer 2022), awarded by UCLA Physics and Astronomy
12. Philip Velie, visiting from University of Virginia, 06/2022 – 05/2023 (next: a graduate student with Fulbright fellowship at Heidelberg University)
13. Yuxuan Tee, 11/2021 – 05/2023 (next: a graduate student at Florida State University)
14. Jeisson Pulido, CSU Dominguez Hills, 02/2022 – 01/2023 (next: a graduate student at University of Southern California)
Cal-Bridge-EIC scholar, awarded by California Bridge to the Electron-Ion Collider Undergraduate Traineeship Program, supported by Department of Energy
15. Amanda Wei, 10/2018 – 07/2022 (next: a graduate student at Lund University)
Departmental REU summer fellowship (summer 2020), awarded by UCLA Physics and Astronomy
16. Mishary Alrashed, 08/2020 – 07/2022 (next: a graduate student at UCLA)
Conference Experience for Undergraduates 2021 Award from American Physical Society
Departmental REU summer fellowship (summer 2021), awarded by UCLA Physics and Astronomy

17. Jinghong Yang, 10/2020 – 07/2022 (next: a graduate student at University of Maryland)
UCLA Honors Summer Research Stipend (summer 2021)
18. Henry Ma, 06/2021 – 06/2022 (next: a graduate student at MIT)
19. Nick Millkey, undergraduate student, 06/2021 – 08/2021
Departmental REU summer fellowship (summer 2021), awarded by UCLA Physics and Astronomy
20. Alexander Czajka, 11/2020 – 08/2021 (next: a graduate student at UCLA)
21. Nanxi Yao, 06/2020 – 08/2021 (next: a graduate student at University of Illinois Urbana-Champaign)
22. Daniel Callos, 03/2018 – 10/2020 (next: a Decision Analytics Associate at ZS Associates)
Undergraduate Research Fellow (2020), awarded by UCLA Undergraduate Research Fellows Program (URFP)
23. Bade Sayki, 08/2018 – 07/2019 (next: a researcher at Los Alamos National Laboratory)
24. Andrew Gordeev, 11/2017 – 06/2019 (next: a graduate student at Duke University)
Undergraduate Research Scholar (2018 – 2019), awarded by UCLA Undergraduate Research Scholars Program (URSP)
25. Manvir Grewal, 04/2017 – 07/2018 (next: a graduate student at Columbia University)

Community Service

Grant/proposal reviewer

- ◇ U.S. Department of Energy
 - Nuclear Physics
 - Advanced Scientific Computing Research (ASCR) Leadership Computing Challenge
 - Panel Review
- ◇ U.S. National Science Foundation
 - Nuclear Physics
 - Panel Review
- ◇ Dutch Research Council (NWO)
- ◇ Croatian Science Foundation
- ◇ REinforcing Women In REsearch (REWIRE) COFUND Programme, University of Vienna, Austria
- ◇ Royal Irish Academy

Journal referee

- ◇ Physical Review Letters
- ◇ Physical Review C
- ◇ Physical Review D
- ◇ Physics Letters B
- ◇ Journal of High Energy Physics
- ◇ Nuclear Physics A

- ◇ Nuclear Physics B
- ◇ Reports on Progress in Physics
- ◇ Progress in Particle and Nuclear Physics
- ◇ Journal of Physics G
- ◇ European Physical Journal A
- ◇ Advances in High Energy Physics
- ◇ International Journal of Modern Physics A
- ◇ International Journal of Modern Physics E
- ◇ New Journal of Physics
- ◇ Nuclear Science and Techniques
- ◇ Chinese Physics C
- ◇ Chinese Physics Letters
- ◇ Journal of the Korean Physical Society
- ◇ Science China: Physics, Mechanics & Astronomy

Committee work

1. National Advisory Committee, 2025–2027, Institute for Nuclear Theory, University of Washington, Seattle
2. APS Division of Nuclear Physics (DNP), Dissertation Award Selection Committee, 2023, 2024
3. Member of Advisory Board, BNL EIC Theory Institute, Brookhaven National Laboratory, since 12/2022
4. Member of steering committee and convener of the working group: *small-x evolution + NLO* for DOE’s Saturated Glue (SURGE) Topical Theory Collaboration, since 01/2023
5. White Paper convener, “The case for an EIC Theory Alliance: Theoretical Challenges of the EIC”, [arXiv:2305.14572 [hep-ph]].
6. APS Division of Nuclear Physics (DNP), Program Committee, 04/2022–04/2024
7. One of three community coordinators for Snowmass 2021 Letter of Interest “Jet Physics at the Electron Ion Collider”, as well as member of the writing group: “Snowmass 2021 White Paper: Electron Ion Collider for High Energy Physics” [arXiv:2203.13199 [hep-ph]], within Energy Frontier 06 (QCD and strong interactions: Hadronic structure and forward QCD) and 07 (QCD and strong interactions: Heavy Ions) groups
8. A focus convener for the Quarkonium Working Group on the topic of Electron Ion Collider (EIC), since October 2018
9. Member of the Writing Group: “The RHIC cold QCD Plan for 2017 to 2023: A portal to the EIC”, submitted to the Office of Nuclear Physics, Office of Science, Department of Energy, charged by Dr. Berndt Mueller, Associate Laboratory Director for Nuclear & Particle Physics at Brookhaven National Laboratory, 2015, [arXiv:1602.03922 [nucl-ex]]

10. Member of the Community White Paper Writing Group: “The RHIC Spin Program: Achievements and Future Opportunities”, submitted to 2014–2015 Nuclear Science Advisory Committee Long Range Plan Working Group, 2014, [arXiv:1501.01220 [nucl-ex]]
11. Member of the Community White Paper Writing Group: “Study of Fragmentation Functions in e^+e^- Annihilation”, submitted to 2014–2015 Nuclear Science Advisory Committee Long Range Plan Working Group, 2014
12. Member of the Community White Paper Writing Group: “The RHIC Spin Program: Achievements and Future Opportunities”, submitted to the Tribble Panel of Nuclear Science Advisory Committee, 2012, [arXiv:1304.0079 [nucl-ex]]

Conference organization

1. Member of Local organizing committee, “The 22nd International Conference on Strangeness in Quark Matter (SQM2026)”, University of California, Los Angeles, March 22–27, 2026
<https://indico.global/event/13943/>
2. Co-organizer of “Quantum Winter School 2026: Quantum Simulation”, University of California, Los Angeles, January 21–23, 2026
<https://www.ipam.ucla.edu/programs/special-events-and-conferences/quantum-winter-school-2026-quantum-simulation/>
3. Chair of organizing committee, “2025 SURGE Collaboration Meeting and Workshop”, University of California, Los Angeles, June 23–25, 2025
<https://indico.global/event/13890/>
4. Co-organizer of the INT program: “Precision QCD with the Electron Ion Collider”, Institute for Nuclear Theory, University of Washington, Seattle, WA, May 12–June 20, 2025
<https://www.int.washington.edu/programs-and-workshops/25-1>
5. International Advisory Committee, “QCD Evolution Workshop 2025”, University of Pavia, May 19–23, 2025
<https://indico.jlab.org/event/901/>
6. Lead organizer, “California EIC Consortium Collaboration Meeting”, University of California, Los Angeles, January 9–10, 2025
<https://indico.cern.ch/event/1487248/>
7. International Advisory Committee, “QCD Evolution Workshop 2024”, Jefferson Lab, Newport News, VA, May 27–31, 2024
<https://agenda.infn.it/event/38747/>
8. Chair of organizing committee, “50 Years of QCD”, University of California, Los Angeles, CA, September 11–15, 2023
<https://indico.cern.ch/event/1276932/>
9. Lead organizer, “California EIC Consortium Collaboration Meeting”, University of California, Los Angeles, January 27–28, 2023
<https://indico.bnl.gov/event/18046/>
10. Co-organizer of “Chirality, Vorticity and Magnetic Field in Heavy Ion Collisions”, University of California, Los Angeles, December 2–4, 2022
<https://indico.bnl.gov/event/17147/>

11. Lead organizer of “Jet Physics: From RHIC/LHC to EIC”, Center for Frontiers in Nuclear Science, Stony Brook University, June 29–July 1, 2022
<https://indico.bnl.gov/event/14375/>
12. Co-organizer of “QCD Evolution Workshop 2022”, University of Virginia, May 9–13, 2022
<https://conference.phys.virginia.edu/indico/event/7/>
13. Co-organizer of “Correlations in Partonic and Hadronic Interactions (CPHI-2022) Workshop”, Duke University, March 7–12, 2022
<https://indico.jlab.org/event/498/>
14. Co-organizer of “The 2nd Workshop on Jets for 3D Imaging at the EIC”, Stony Brook University, September 27–29, 2021
<https://indico.bnl.gov/event/10555/>
15. Co-convenor on “Week 4: Jets in cold quark and gluon matter” of the INT program: Probing QCD at High Energy and Density with Jets, Institute for Nuclear Theory, University of Washington, Seattle, WA, August 16–20, 2021
<https://sites.google.com/uw.edu/int/programs/21-2b>
16. Chair of organizing committee, “QCD Evolution Workshop 2021”, University of California, Los Angeles, CA, May 10–14, 2021
<https://indico.bnl.gov/event/6803/>
17. Co-organizer for the workshop, “EIC opportunities for Snowmass”, January 25–29, 2021
<https://indico.bnl.gov/event/9376/>
18. Co-organizer of “Jets for 3D imaging at the EIC”, University of California, Riverside, CA, November 23–25, 2020
<https://indico.bnl.gov/event/8066/>
19. Co-chair of organizing committee, “4th meeting of TMD Collaboration”, DOE Topical Collaboration for the Coordinated Theoretical Approach to Transverse Momentum Dependent Hadron Structure in QCD (TMD Collaboration), Lawrence Berkeley National Laboratory, Berkeley, CA, September 16–18, 2019
20. Member of Local Organizing Committee, “Physics Opportunities at an Electron-Ion Collider (POETIC 2019)”, Lawrence Berkeley National Laboratory, Berkeley, CA, September 16–21, 2019
<https://conferences.lbl.gov/event/196/>
21. Chair of organizing committee, “UCLA 2019 Santa Fe Jets and Heavy Flavor Workshop”, University of California, Los Angeles, CA, January 28–30, 2019
<https://conferences.pa.ucla.edu/jet19/>
22. Co-convenor on “Workshop on Transverse spin and TMDs” of the INT program: Probing Nucleons and Nuclei in High Energy Collisions, Institute for Nuclear Theory, University of Washington, Seattle, WA, October 1–November 16, 2018
<http://www.int.washington.edu/PROGRAMS/18-3/>
23. Co-convenor of session: “Jets, Energy Loss, Hadronization, and Nuclear Structure”, Electron-Ion Collider User Group Meeting 2018, The Catholic University of America, Washington, D.C., July 30–August 2, 2018
<https://www.jlab.org/conferences/eicugm18/>
24. Co-convenor of session: “Partonic and Gluonic Distributions in Nucleons and Nuclei”, 13th Conference on the Intersections of Particle and Nuclear Physics (CIPANP 2018), Palm Springs, CA, May 28–June 3, 2018
<http://cipanp18.berkeley.edu/>

25. Co-organizer of Advances in QCD and Applications to Hadron Colliders 2017 Workshop, University of California, Los Angeles, CA, November 8–10, 2017
<https://indico.fnal.gov/event/ANLHEP1245/>
26. Co-convener of session: “Phenomenology and new observables”, Electron Ion Collider User Group Meeting 2017, Trieste, Italy, July 18–22, 2017
<https://agenda.infn.it/event/13037/>
27. Co-organizer of QCD Evolution Workshop 2017, Jefferson Lab, Newport News, VA, May 22–26, 2017
<https://www.jlab.org/conferences/qcd-evolution2017/index.html>
28. Co-organizer of Topical Workshop on QCD Structure of Nucleons in the Modern Era, University of California, Los Angeles, CA, May 4–6, 2017
<https://indico.fnal.gov/event/ANLHEP1206/>
29. Co-organizer of QCD Chirality Workshop 2017, University of California, Los Angeles, CA, March 27–30, 2017
<http://staranalysis.physics.ucla.edu/>
30. Co-convener of working group: “Spin and 3D Structure”, 25th International Workshop on Deep Inelastic Scattering and Related Topics (DIS 2017), Birmingham, UK, April 3–7, 2017
<http://www.ep.ph.bham.ac.uk/DIS2017/>
31. Co-organizer of Santa Fe Jets and Heavy Flavor 2017 Workshop, Santa Fe, NM, February 13–15, 2017
<http://indico.fnal.gov/event/sfjet17>
32. Member of Local Program Committee, The 22nd International Symposium on Spin Physics (SPIN 2016), Urbana-Champaign, IL, September 25–30, 2016
<http://conferences.physics.illinois.edu/spin2016/>
33. Co-organizer of QCD Evolution 2016 Workshop, National Institute for Subatomic Physics (Nikhef), Amsterdam, May 30–June 3, 2016
<https://indico.nikhef.nl/event/191/>
34. Co-organizer of Santa Fe Jets and Heavy Flavor 2016 Workshop, Santa Fe, NM, January 11–13, 2016
<http://indico.fnal.gov/event/sfjet16>
35. Co-chair of QCD Evolution 2015 Workshop, Jefferson Lab, Newport News, VA, May 26–30, 2015
<http://www.jlab.org/conferences/qcd-evolution2015/>
36. Co-organizer of XIIth Annual Workshop on Soft-Collinear Effective Theory (SCET 2015), Santa Fe, NM, March 25–27, 2015
<https://indico.fnal.gov/event/9397/>
37. Co-organizer of Informal Pre-Town Meeting at JLab, Jefferson Lab, Newport News, VA, August 13–15, 2014
<http://www.jlab.org/conferences/pretownjlab2014/>
38. Co-chair of QCD Evolution 2014 Workshop, Jointly organized by Los Alamos National Laboratory and Jefferson Lab, Santa Fe, NM, May 12–16, 2014
<http://www.jlab.org/conferences/qcd2014/>
39. International coordinator for Frontier Physics Working Month 2013, Center for High-Energy Physics (Director: Professor T. D. Lee), Peking University, China, May 27 – June 28, 2013

40. Co-organizer of Frontier Physics Working Month 2012, Center for High-Energy Physics (Director: Professor T. D. Lee), Peking University, China, August 13 – September 14, 2012
<http://rhep.pku.edu.cn/workshop/fpwm2012/>
41. Co-organizer of RIKEN BNL Research Center Workshop: Opportunities for Drell-Yan Physics at RHIC, Brookhaven National Laboratory, Upton, NY, May 11–13, 2011
<http://www.bnl.gov/dpworkshop/>

Outreach and training

Outreach

1. Presented a science talk “*Imaging the ‘Invisible’: From Black Hole to the Proton*” at Exploring Your Universe, UCLA’s largest annual outreach event, November 2, 2025.
2. Presented a science talk “*In Rutherford’s Footsteps: What Makes Everything Around Us?*” at Exploring Your Universe, UCLA’s largest annual outreach event, November 3, 2024.
3. Presented a science talk “*Electron-Ion Collider*” at Exploring Your Universe, UCLA’s largest annual outreach event, November 6, 2022. Also used a Meta Quest 2 to show particle collisions virtual reality to the kids
4. Served as a faculty judge for UCLA Postdoctoral Association 3-Minute Research Blitz Competition, May 20, 2022
5. Presented a talk “*Quantum Computing for Quantum Chromodynamics*” to undergraduate students at UCLA Society of Physics Students (SPS), UCLA, February 23, 2022
6. Presented a science talk “*Fundamental Structure of Matter*” at Exploring Your Universe, UCLA’s largest annual outreach event, November 7, 2021. See the Youtube video here
7. Led a booth “*Nuclear and Particle Physics*” for Exploring Your Universe, UCLA’s largest annual outreach event, November 7, 2021
We showed cosmic ray detector, cloud chamber, and 3D simulations for Electron Ion Collider.
8. Presented a public lecture: “*Strong Force - The structure of matter: from Rutherford’s experiment to Electron-Ion Collider*” at Adventures in Particle Physics Outreach Program organized by University of Stavanger (Norway), for the XIVth Quark Confinement and the Hadron Spectrum Conference, August 6, 2021. See the YouTube video here
9. Presented a talk “*Physics of Strong Interaction*” to undergraduate students at UCLA Society of Physics Students (SPS), UCLA, February 23, 2021
10. Made a presentation and participated in the event, “*Exposure to the Fields of Research*”, organized by UCLA Life Science Student Association (LSSA), November 20, 2020
11. Developed and led a booth “*Nuclear and Particle Physics*” for Exploring Your Universe, UCLA’s largest annual outreach event, November 1, 2020
We showed cloud chamber+DIY video, Geiger counter to measure radiation, how to understand smoke detector, and a video for Large Hadron Collider, answered questions related to dark matter, neutrino, etc.
12. Presented a talk on “*research and how to do research as an undergrad*” to undergraduate students at UCLA Society of Physics Students (SPS), UCLA, January 22, 2019
13. Participated on a delegation for a visit to Capitol Hill on the “*EIC hill day*”, to convey the excitement and importance of the physics of a future Electron-Ion Collider (EIC) facility, organized by EIC User Group, December 4, 2018

14. Serve as a faculty member for Joint Research Institute in Science and Engineering by Peking University and UCLA, March 2017 - June 2019
15. Poster judge, 13th Annual Student Symposium – “Championing Scientific Careers”, undergraduate students, Los Alamos National Laboratory, Los Alamos, NM, July 26, 2013

Specialized training

1. The Future of Public Engagement with Basic Science: Community Feedback
SciPEP (Science Public Engagement Partnership), The Department of Energy’s Office of Science and The Kavli Foundation, March 2, 2022.
2. The second joint Virtual IGEN Bridge Department Leaders Meeting
Organized by Inclusive Graduate Education Network (IGEN), connecting with Bridge Department leaders from the geosciences, physics and the chemical sciences, share information by leveraging the INCLUDES National Network and receive information and engage in discussion on how they can better support the Fellows in their programs, October 27, 2021
3. CEILS 2021 Annual Faculty Workshop on Best Equitable Practices in Teaching
UCLA Center for Education Innovation & Learning in the Sciences (CEILS), September 14–15, 2021
4. 2019 Faculty Workshop on Best Practices in Teaching
UCLA Center for Education Innovation & Learning in the Sciences (CEILS), September 19, 2019

Departmental/University Service

◇ UCLA

- Member of Department Physics Graduate Admissions Committee, 2019/20, 2025/26
- Reviewer, President’s Postdoctoral Fellowship Program (PPFP), University of California Office of the President, 2025/26, 2026/27
- Department IT committee
 - ▷ Chair, 2021/22
 - ▷ Member, 2018/19, 2019/20, 2020/21, 2022/23, 2023/24, 2024/25, 2025/26
 - ▷ Member of interview committee for department IT Director position, August 2022
- Undergraduate Research Scholars Program (URSP) Review/Selection Committee, 2019/20, 2020/21, 2021/22, 2022/23, 2025/26
- Undergraduate Research Fellows Program (URFP) Review/Selection Committee, 2018/19, 2019/20, 2020/21, 2021/22, 2022/23
- UCLA-APS Ph.D. Physics Bridge Program
 - ▷ Director, 2022/23, 2023/24, 2024/25
 - ▷ Deputy Director, 2021/22
 - ▷ Admissions Committee member, 2020/21, 2022/23
- Member of the Special Physics Graduate Curriculum Committee, 2022/23
- Member of Department Diversity, Equity and Inclusion Committee, 2019/20, 2020/21, 2022/23, 2023/24, 2024/25
- Faculty Mentor for Competitive Edge Fellows
 - ▷ Noah Moran, 2024

▷ Diego Padilla and Tanner Janda, 2023

▷ Fidele Twagirayezu, 2018

Competitive Edge is a Summer Transition to the Doctorate Research Program for incoming graduate students at UCLA Division of Graduate Education

- Member of Physical Science Division IT restructuring committee, 2022
- Faculty Career Development Award Selection Committee, 2021/22
- Member of Department Resources Committee, 2021/22
- Member of Physics Comprehensive Exam Committee, 2021/22
- Member of Department Academic Affairs Committee, 2020/21
- Member of Physics Undergraduate Curriculum Review (PUCR) committee, 2020/21
- Member of Department Colloquium Committee, 2017/18
- Legislative Assembly Representative to the Academic Senate, 2017/18, 2018/19

◇ Previously

- Seminar organizer for group T-2, June 2013 – August 2015
Group T-2 (Nuclear and Particle Physics, Astrophysics and Cosmology)
Theoretical Division, Los Alamos National Laboratory
- Organizer for RIKEN lunch seminar, September 2011 – March 2012
RIKEN BNL Research Center, Brookhaven National Laboratory
- Member of Nuclear Theory / RIKEN seminar committee, October 2010 – September 2011
Physics Department, Brookhaven National Laboratory

Teaching Experience

1. Physics 226B: Standard Model of Particle Physics, winter quarter 2026
2. Physics 226C: Elementary Particle Physics (Quantum Chromodynamics), spring quarter 2025
3. Physics 226B: Elementary Particle Physics (Electroweak theory), winter quarter 2025
4. Physics 226C: Elementary Particle Physics (Quantum Chromodynamics), spring quarter 2024
5. Physics 201Q: Modern Physics Research Areas, winter quarter 2024
6. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2023
7. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, winter quarter 2023
8. Physics 201Q: Modern Physics Research Areas, winter quarter 2023
9. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2022
10. Physics 495: Teaching College Physics, fall quarter 2022
11. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, spring quarter 2022
12. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, winter quarter 2022
13. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2021

14. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, spring quarter 2021
15. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2020
16. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, spring quarter 2020
17. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, winter quarter 2020
18. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2019
19. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2018
20. Physics 115A: Quantum Mechanics, spring quarter 2018
21. Physics 110B: Electricity and Magnetism, spring quarter 2018
22. Physics 1C: Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity, winter quarter 2018
23. Physics 124: A Modern Introduction to Nuclear Physics, fall quarter 2017
24. Physics 124: A Modern Introduction to Nuclear Physics, winter quarter 2017
25. Teaching Assistant, recitation, General Physics, Iowa State University, Spring 2007, Summer 2008
26. Teaching Assistant, Introductory Physics Laboratories in both general and classical physics, Iowa State University, Fall 2003, Spring 2004, Spring 2007
27. Teaching Assistant, first-year graduate course “Advanced Electricity and Magnetism”, Iowa State University, Fall 2004, Spring 2005
28. Instructor for first-year graduate course “Advanced Quantum Mechanics”, Central China Normal University, Wuhan, China, Spring 2002

Publications

Letters (PRL, PLB, and Rapid Communications)

1. “Accessing nucleon transversity with one-point energy correlators”
M. S. Gao, Z. B. Kang, W. Li and D. Y. Shao, [arXiv:2509.15809 [hep-ph]].
2. “Collinear limit of the energy-energy correlator in e^+e^- collisions: transition from perturbative to non-perturbative regimes”
E. Herrmann, Z. B. Kang, J. Penttala and C. Zhang, [arXiv:2507.17704 [hep-ph]].
3. “Dihadron fragmentation framework for near-side energy-energy correlators”
Z. B. Kang, A. Metz, D. Pitonyak and C. Zhang, [arXiv:2507.17444 [hep-ph]].
4. “Energy-Energy Correlator for jet production in pp and pA collisions”
J. Barata, Z. B. Kang, X. Mayo López and J. Penttala, *Phys. Rev. Lett.* **134**, 251903 (2025) [arXiv:2411.11782 [hep-ph]].
5. “Determination of the strong coupling constant and the Collins-Soper kernel from the energy-energy correlator in e^+e^- collisions”
Z. B. Kang, J. Penttala and C. Zhang, [arXiv:2410.21435 [hep-ph]].

6. “Correspondence between Color Glass Condensate and High-Twist Formalism”
Y. Fu, Z. B. Kang, F. Salazar, X. N. Wang and H. Xing, *Phys. Rev. Lett.* **135**, 032301 (2025) [arXiv:2310.12847 [hep-ph]].
7. “Towards a Nonperturbative Formulation of the Jet Charge”
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8. “Nuclear Modification of Transverse Momentum Dependent Parton Distribution Functions by a Global QCD Analysis”
M. Alrashed, D. Anderle, Z. B. Kang, J. Terry and H. Xing, *Phys. Rev. Lett.* **129**, 242001 (2022) [arXiv:2107.12401 [hep-ph]].
9. “Transverse Λ Polarization in e^+e^- collisions”
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10. “Electron-Ion Collider impact study on the tensor charge of the nucleon”
L. Gamberg, Z. B. Kang, D. Pitonyak, A. Prokudin, N. Sato and R. Seidl, *Phys. Lett. B* **816**, 136255 (2021) [arXiv:2101.06200 [hep-ph]].
11. “A global extraction of the jet transport coefficient in cold nuclear matter”
P. Ru, Z. B. Kang, E. Wang, H. Xing and B. W. Zhang, *Phys. Rev. D* **103**, L031901 (2021) [arXiv:1907.11808 [hep-ph]].
12. “Jet Charge: A Flavor Prism for Spin Asymmetries at the EIC”
Z. B. Kang, X. Liu, S. Mantry and D. Y. Shao, *Phys. Rev. Lett.* **125**, 242003 (2020) [arXiv:2008.00655 [hep-ph]].
13. “Polarized jet fragmentation functions”
Z. B. Kang, K. Lee and F. Zhao, *Phys. Lett. B* **809**, 135756 (2020) [arXiv:2005.02398 [hep-ph]].
14. “Threshold Resummation for Hadron Production in the Small- x Region”
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15. “Jet fragmentation functions for Z -tagged jets”
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16. “A transverse momentum dependent framework for back-to-back photon+jet production”
M. G. A. Buffing, Z. B. Kang, K. Lee and X. Liu, [arXiv:1812.07549 [hep-ph]].
17. “Soft drop groomed jet angularities at the LHC”
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18. “Collins azimuthal asymmetries of hadron production inside jets”
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19. “ J/ψ production and polarization within a jet”
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20. “Phenomenological constraints on A_N in $p^\uparrow p \rightarrow \pi X$ from Lorentz invariance relations”
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21. “Inclusive production of small radius jets in heavy-ion collisions”
Z. B. Kang, F. Ringer and I. Vitev, *Phys. Lett. B* **769**, 242 (2017) [arXiv:1701.05839 [hep-ph]].
22. “Unveiling the nucleon tensor charge at Jefferson Lab: A study of the SoLID case”
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23. “Photon-tagged and B-meson-tagged b-jet production at the LHC”
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28. “Next-to-leading order forward hadron production in the small- x regime: the role of rapidity factorization”
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32. “Nuclear modification of vector boson production in proton-lead collisions at the LHC”
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34. “Single transverse spin asymmetry of prompt photon production”
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35. “QCD evolution of naive-time-reversal-odd parton distribution functions”
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36. “Heavy quarkonium production and polarization”
Z. B. Kang, J. W. Qiu and G. Sterman, *Phys. Rev. Lett.* **108**, 102002 (2012) [arXiv:1109.1520 [hep-ph]].

37. “Testing the process dependence of the Siverson function via hadron distributions inside a jet”
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38. “QCD resummation for single spin asymmetries”
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39. “Process-dependent Siverson function and implication for single spin asymmetry in inclusive hadron production”
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40. “Quark fragmentation in the θ -vacuum”
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41. “Positivity bounds for Siverson functions”
Z. B. Kang and J. Soffer, *Phys. Lett. B* **695**, 275 (2011) [arXiv:1003.4913 [hep-ph]].
42. “Test of the Universality of Naive-time-reversal-odd Fragmentation Functions”
D. Boer, Z. B. Kang, W. Vogelsang and F. Yuan, *Phys. Rev. Lett.* **105**, 202001 (2010) [arXiv:1008.3543 [hep-ph]].
43. “Twist-three fragmentation function contribution to the single spin asymmetry in pp collisions”
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44. “Test the time-reversal modified universality of the Siverson function”
Z. B. Kang and J. W. Qiu, *Phys. Rev. Lett.* **103**, 172001 (2009) [arXiv:0903.3629 [hep-ph]].

Regular articles

45. “Probing gluon saturation with forward di-hadron correlations in proton-nucleus collisions”
P. Caucal, Z. B. Kang, P. Korcyl, F. Salazar, B. Schenke, T. Stebel, R. Venugopalan and W. Zhao, [arXiv:2512.21466 [hep-ph]].
46. “Quantum simulation of deep inelastic scattering in the Schwinger model”
K. Ikeda, Z. B. Kang, D. E. Kharzeev and W. Qian, [arXiv:2512.18062 [hep-ph]].
47. “Exploring nuclear modification using one-point energy correlator at the electron-ion collider”
Y. Fu, Z. B. Kang, J. Penttala and Y. Zhou, [arXiv:2512.16847 [hep-ph]].
48. “Hadronic scattering in (1+1)D SU(2) lattice gauge theory from tensor networks”
J. Barata, J. Hormaza, Z. B. Kang and W. Qian, [arXiv:2511.00154 [hep-lat]].
49. “Determination of the initial condition for the Balitsky-Kovchegov equation with transformers”
M. Gao, Z. B. Kang, J. Penttala and D. Y. Shao, [arXiv:2510.26779 [hep-ph]].
50. “Parton distributions in the shockwave formalism”
S. Bhattacharya, C. Q. He, Z. B. Kang, D. Padilla and J. Penttala, [arXiv:2510.02254 [hep-ph]].
51. “Probing the Siverson Asymmetry with Transverse Energy–Energy Correlators in the Small- x Regime”
S. Bhattacharya, Z. B. Kang, D. Padilla and J. Penttala, [arXiv:2504.10475 [hep-ph]].
52. “Transverse Energy–Energy Correlators at Small x for Photon–Hadron Production”
Z. B. Kang, R. Kao, M. Li and J. Penttala, *Phys. Rev. D* **112**, 076006 (2025) [arXiv:2504.00069 [hep-ph]].
53. “Partonic distribution functions and amplitudes using tensor network methods”
Z. B. Kang, N. Moran, P. Nguyen and W. Qian, *JHEP* **09**, 176 (2025) [arXiv:2501.09738 [hep-ph]].

54. “Efficient charge-preserving excited state preparation with variational quantum algorithms”
Z. Chandani, K. Ikeda, Z. B. Kang, D. E. Kharzeev, A. McCaskey, A. Palermo, C. R. Ramakrishnan, P. Rao, R. G. Sundaram and K. Yu, [arXiv:2410.14357 [quant-ph]].
55. “Color Glass Condensate meets High Twist Expansion”
Y. Fu, Z. B. Kang, F. Salazar, X. N. Wang and H. Xing, *Phys. Rev. D* **112**, 014029 (2025) [arXiv:2406.01684 [hep-ph]].
56. “Transverse Energy-Energy Correlator for Vector Boson-Tagged Hadron Production in pp and pA collisions”
Z. B. Kang, S. Lee, J. Penttala, F. Zhao and Y. Zhou, *Phys. Rev. D* **112**, 014012 (2025) [arXiv:2410.02747 [hep-ph]].
57. “Direct quarkonium production in DIS from a joint CGC and NRQCD framework”
V. Cheung, Z. B. Kang, F. Salazar and R. Vogt, *Phys. Rev. D* **110**, 094039 (2024) [arXiv:2409.04080 [hep-ph]].
58. “Real-time chiral dynamics at finite temperature from quantum simulation”
K. Ikeda, Z. B. Kang, D. E. Kharzeev, W. Qian and F. Zhao, *JHEP* **10**, 031 (2024) [arXiv:2407.21496 [hep-ph]].
59. “The DIS 1-Jettiness Event Shape at $N^3LL+\mathcal{O}(\alpha_s^2)$ ”
H. Cao, Z. B. Kang, X. Liu and S. Mantry, *Phys. Rev. D* **110**, 014045 (2024) [arXiv:2401.01941 [hep-ph]].
60. “Nuclear modified transverse momentum dependent parton distribution and fragmentation functions”
M. Alrashed, Z. B. Kang, J. Terry, H. Xing and C. Zhang, [arXiv:2312.09226 [hep-ph]].
61. “Transverse Energy-Energy Correlators in the Color-Glass Condensate at the Electron-Ion Collider”
Z. B. Kang, J. Penttala, F. Zhao and Y. Zhou, *Phys. Rev. D* **109**, 094012 (2024) [arXiv:2311.17142 [hep-ph]].
62. “Polarized fragmenting jet functions in inclusive and exclusive jet production”
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63. “Probing Transverse Momentum Dependent Structures with Azimuthal Dependence of Energy Correlators”
Z. B. Kang, K. Lee, D. Y. Shao and F. Zhao, *JHEP* **03**, 153 (2024) [arXiv:2310.15159 [hep-ph]].
64. “Direct quarkonium-plus-gluon production in DIS in the Color Glass Condensate”
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65. “The Multiplicity Scaling of the Fragmentation Function”
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66. “QCD resummation of dijet azimuthal decorrelations in pp and pA collisions”
M. Gao, Z. B. Kang, D. Y. Shao, J. Terry and C. Zhang, *JHEP* **10**, 013 (2023) [arXiv:2306.09317 [hep-ph]].
67. “Probing the jet transport coefficient of cold nuclear matter in electron-ion collisions”
P. Ru, Z. B. Kang, E. Wang, H. Xing and B. W. Zhang, [arXiv:2302.02329 [nucl-th]].
68. “Neutrino-tagged jets at the Electron-Ion Collider”
M. Arratia, Z. B. Kang, S. J. Paul, A. Prokudin, F. Ringer and F. Zhao, *Phys. Rev. D* **107**, 094036 (2023) [arXiv:2212.02432 [hep-ph]].

69. “Transverse-momentum-dependent factorization at next-to-leading power”
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70. “Transverse momentum dependent distribution functions in the threshold limit”
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A. M. Czajka, Z. B. Kang, H. Ma and F. Zhao, *JHEP* **08**, 209 (2022) [arXiv:2112.03944 [hep-ph]].
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Z. B. Kang, J. Terry, A. Vossen, Q. Xu and J. Zhang, *Phys. Rev. D* **105**, 094033 (2022) [arXiv:2108.05383 [hep-ph]].
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77. “QCD evolution of the gluon Sivers function in heavy flavor dijet production at the Electron-Ion Collider”
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M. G. Echevarria, Z. B. Kang and J. Terry, *JHEP* **01**, 126 (2021) [arXiv:2009.10710 [hep-ph]].
80. “The Sivers Asymmetry in Hadronic Dijet Production”
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M. Arratia, Z. B. Kang, A. Prokudin and F. Ringer, *Phys. Rev. D* **102**, 074015 (2020) [arXiv:2007.07281 [hep-ph]].
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87. “Predictive power of transverse-momentum-dependent distributions”
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94. “Jet angularity measurements for single inclusive jet production”
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95. “Predictions for p +Pb collisions at $\sqrt{s_{NN}} = 8.16$ TeV”
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100. “Effective field theory approach to open heavy flavor production in heavy-ion collisions”
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101. “Jet substructure using semi-inclusive jet functions within SCET”
Z. B. Kang, F. Ringer and I. Vitev, *JHEP* **1611**, 155 (2016) [arXiv:1606.07063 [hep-ph]].

102. “The semi-inclusive jet function in SCET and small radius resummation for inclusive jet production”
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Book chapters, white papers and contributions

44. “Predictions for the sPHENIX physics program”
R. Belmont, J. Brewer, Q. Brodsky, P. Caucal, M. Connors, M. Djordjevic, R. Ehlers, M. A. Escobedo, E. G. Ferreira and G. Giacalone, *et al.*, *Nucl. Phys. A* **1043**, 122821 (2024) [arXiv:2305.15491 [nucl-ex]].
45. “The case for an EIC Theory Alliance: Theoretical Challenges of the EIC”
R. Abir, I. Akushevich, T. Altinoluk, D. P. Anderle, F. P. Aslan, A. Bacchetta, B. Balantekin, J. Barata, M. Battaglieri and C. A. Bertulani, *et al.* [arXiv:2305.14572 [hep-ph]].
46. “TMD Handbook”
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47. “The Present and Future of QCD”
P. Achenbach, D. Adhikari, A. Afanasev, F. Afzal, C. A. Aidala, A. Al-bataineh, D. K. Almaalol, M. Amarian, D. Androic and W. R. Armstrong, *et al.*, *Nucl. Phys. A* **1047**, 122874 (2024) [arXiv:2303.02579 [hep-ph]].
48. “Precision Studies of QCD in the Low Energy Domain of the EIC”
V. D. Burkert, L. Elouadrhiri, A. Afanasev, J. Arrington, M. Contalbrigo, W. Cosyn, A. Deshpande, D. I. Glazier, X. Ji and S. Liuti, *et al.* *Prog. Part. Nucl. Phys.* **130**, 104032 (2023) [arXiv:2211.15746 [nucl-ex]].
49. “Snowmass 2021 White Paper: Electron Ion Collider for High Energy Physics”
R. A. Khalek, U. D’Alesio, M. Arratia, A. Bacchetta, M. Battaglieri, M. Begel, M. Boglione, R. Boughezal, R. Boussarie and G. Bozzi, *et al.*, [arXiv:2203.13199 [hep-ph]].

50. “Science Requirements and Detector Concepts for the Electron-Ion Collider: EIC Yellow Report”
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51. “Probing Nucleons and Nuclei in High Energy Collisions”
C. A. Aidala *et al.*, *Proceedings, Probing Nucleons and Nuclei in High Energy Collisions: Dedicated to the Physics of the Electron Ion Collider: Seattle (WA), United States, October 1 - November 16, 2018*, [arXiv:2002.12333 [hep-ph]].
52. “Dark Sectors 2016 Workshop: Community Report”
J. Alexander *et al.*, arXiv:1608.08632 [hep-ph].
53. “The RHIC Cold QCD Plan for 2017 to 2023: A Portal to the EIC”
E. C. Aschenauer, C. Aidala, A. Bazilevsky, M. Diehl, R. Fatemi, C. Gagliardi and Z. B. Kang *et al.*, arXiv:1602.03922 [nucl-ex].
54. “The RHIC SPIN Program: Achievements and Future Opportunities”
E. C. Aschenauer, A. Bazilevsky, M. Diehl, J. Drachenberg, K. O. Eyser, R. Fatemi, C. Gagliardi and Z. B. Kang *et al.*, arXiv:1501.01220 [nucl-ex].
55. “The RHIC Spin Program: Achievements and Future Opportunities”
E. C. Aschenauer, A. Bazilevsky, K. Boyle, K. O. Eyser, R. Fatemi, C. Gagliardi, M. Grosse-Perdekamp and J. Lajoie *et al.*, arXiv:1304.0079 [nucl-ex].
56. “Gluons and the quark sea at high energies: distributions, polarization, tomography”
D. Boer *et al.*, arXiv:1108.1713 [nucl-th].

Talks

Invited lectures

1. “TMD Theory and Phenomenology”
Four lectures (one hour each), TIDC Autumn School on Electron-Ion Collider, National Taiwan University, Taipei, August 28–30, 2023.
2. “QCD Factorization and Nucleon Structure”
Two lectures (one hour each), 2023 National Nuclear Physics Summer School, University of California, Riverside, CA, July 10–11, 2023.
3. “Strong Force - the structure of matter: from Rutherford to Electron-Ion Collider”
Public lecture (one hour), at Adventures in Particle Physics Outreach Program organized by University of Stavanger (Norway), for the XIVth Quark Confinement and the Hadron Spectrum Conference, August 6, 2021. See the [YouTube video](#) here.
4. “EIC Project and Physics: Overview”
One lecture (one and a half hours), online, 2021 Collider Physics Phenomenology Summer School hosted by Beijing Normal University and Shandong University, July 17, 2021.
5. “Three-dimensional structure of the nucleon”
Three lectures (one and a half hours each) + one tutorial session (one hour), 2019 CFNS Summer School on the Physics of the Electron Ion Collider, Stony Brook, NY, August 1–2, 2019.
6. “Introduction to pQCD and TMD physics”
Four lectures (one-hour each), Spinfest 2016, University of California, Riverside, CA, July 25–26, 2016.

7. “QCD structure of the nucleon and spin physics”
Six lectures (one-hour each), The 30th Annual Hampton University Graduate Studies Program (HUGS 2015 Summer School), organized by Jefferson Lab, Newport News, VA, June 1–19, 2015.
8. “Introduction to pQCD and jets”
Three lectures (one-hour each), DOE JET Topical Collaboration Summer School, University of California, Davis, CA, June 19–21, 2014.
9. “QCD and transverse spin physics”
Five lectures (one-hour each), PHENIX Spin Work Fest 2012 Summer School, organized by PHENIX experimental collaboration at RHIC at Brookhaven National Laboratory, University of New Mexico, Albuquerque, NM, July 9–13, 2012.

Panelist/Discussant

1. Co-moderator for round-table discussion: “Parton shower and SCET approach in medium”
“Week 2: Parton shower in high density matter” of the INT program: Probing QCD at High Energy and Density with Jets, Institute for Nuclear Theory, University of Washington, Seattle, WA, August 2–6, 2021. Moderators: Edmond Iancu (Institute de Physique Theorique) and Zhong-Bo Kang (UCLA).
2. Panelist in a panel discussion – plenary round-table discussion: “EIC Physics”
Quark Confinement and the Hadron Spectrum 2021 (online), August 2–6, 2021. Panel members: Jian-Wei Qiu (moderator, JLab), Zhong-Bo Kang (UCLA), Peter Petreczky (BNL), Ignazio Scimemi (Universidad Complutense de Madrid).
3. Panelist in a panel discussion: “Future plans of pp/pA program at RHIC”
Spin and Proton Structure Workshop, 2017 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 20–23, 2017. Panel members: Elke-Caroline Aschenauer (BNL), Zhong-Bo Kang (UCLA), John Lajoie (ISU), Rodolfo Sassot (Buenos Aires U.), Matthew Sievert (LANL).
4. Panelist in a panel discussion: “QCD tools for future ep/eA colliders”
Joint CTEQ Meeting and POETIC 7 (7th International Conference on Physics Opportunities at an ElecTron-Ion-Collider), Temple University, Philadelphia, PA, November 14–18, 2016. Panel members: Frank Petriello (moderator, Northwestern), Zhong-Bo Kang (UCLA), Christopher Lee (LANL), Stefan Prestel (SLAC), Pavel Nadolsky (SMU).
5. “EIC discussion: just questions”, Round Table Discussion: Sharpening the case for the EIC
2014 Electron Ion Collider Users Meeting, Stony Brook University, Stony Brook, NY, June 24–27, 2014.

Invited talks

1. “Near and Away: Exploring the Dual Nature of the Energy-Energy Correlator”
Collaboration Meeting for “Next Generation Perturbative QCD for Hadron Structure: Preparing for the Electron-Ion Collider”, University of Tübingen, Germany, July 28–29, 2025.
2. “QCD Physics with Quantum Computing and Tensor Networks: Some Exploratory Studies”
Seminar, Center for Quantum Technology and Applications, Deutsches Elektronen-Synchrotron DESY, Zeuthen, Germany, July 15, 2025.
3. “Jet Physics and Substructure at the EIC: Opportunities for Theoretical Collaboration”
CFNS-INT Joint Program: Precision QCD with the Electron Ion Collider, Institute for Nuclear Theory, University of Washington, Seattle, June 16, 2025.

4. “Jet Fragmentation Function and J/ψ Production”
The Mehen Memorial Symposium, Duke University, May 19, 2025.
5. “Energy–Energy Correlators and Connections to Transverse Momentum Structure”
Plenary talk, The 11th Workshop of the APS Topical Group on Hadronic Physics, Anaheim, CA, March 14–16, 2025.
6. “Cold Nuclear Matter Effects: From TMDs to EECs”
Center for Frontiers in Nuclear Science (CFNS) Workshop - Cold Nuclear Matter Effects: from the LHC to the EIC, Stony Brook University, Stony Brook, NY, January 13–16, 2025.
7. “Quantum Imaging of the Proton: New Windows into the Strong Force”
Physics and Astronomy Colloquium, Department of Physics and Astronomy, University of California, Riverside, October 17, 2024.
8. “Strong Interaction Physics at the Electron Ion Collider”
Physics and Astronomy Colloquium, Department of Physics and Astronomy, California State University, Los Angeles, September 26, 2024.
9. “Jets and jet-like observables at the EIC”
The 4th EIC-Asia Workshop, Shanghai, China, July 1–5, 2024.
10. “Sivers functions: a status report”
6th Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, November 26–December 1, 2023.
11. “Nucleon/nucleus 3D structure: overview from theoretical perspective”
2nd Workshop on advancing the understanding of non-perturbative QCD using energy flow, November 6–9, 2023.
12. “Working Group Overview: Small x evolution and next-to-leading order calculations”
Saturated Glue (SURGE) Topical Collaboration Meeting and Workshop, Brookhaven National Laboratory, Upton, NY, June 28–30, 2023.
13. “TMDs from Various Avenues”
Center for Frontiers in Nuclear Science (CFNS) Workshop - TMDs: Towards a Synergy between Lattice QCD and Global Analysis, Stony Brook University, Stony Brook, NY, June 21–23, 2023.
14. “3D imaging and jet transport coefficient of cold nuclear matter”
Center for Frontiers in Nuclear Science (CFNS) seminar, Stony Brook University, Stony Brook, NY, May 11, 2023.
15. “TMDs: from RHIC to EIC”
2023 STAR Collaboration Meeting, Lawrence Berkeley National Laboratory, Berkeley, CA, March 2, 2023.
16. “TMD: Theory and Measurements”
2022 Town Hall Meeting on Hot and Cold QCD, Massachusetts Institute of Technology, Cambridge, MA, September 23–25, 2022.
17. “Jet Physics at the EIC”
Workshop: Theory for EIC in the next decade, Massachusetts Institute of Technology, Cambridge, MA, September 20–22, 2022.
18. “Jets and jet substructure at the EIC”
Berkeley Symposium on Hard Probes and Beyond, Lawrence Berkeley National Laboratory, Berkeley, CA, August 18–19, 2022.

19. “Progress in TMDs: Status and New Opportunities”
Gordon Research Conference - Photonuclear Reactions 2022: Frontiers in Nuclear and Hadronic Physics, Holderness, NH, August 7–12, 2022.
20. “Cold QCD Highlights for a 2nd Detector”
Electron-Ion Collider User Group Meeting 2022, Stony Brook University, Stony Brook, NY, July 26–29, 2022.
21. “Jets for precision QCD and spin dynamics”
RBRC Workshop: Predictions for sPHENIX, Brookhaven National Laboratory, Upton, NY, July 20–22, 2022.
22. “The Renaissance of Jet Physics”
High Energy Physics Seminar, Hunan University, China, June 19, 2022.
23. “Jet physics at the EIC”
ECT* Workshop: Jet Quenching in The Quark-Gluon Plasma, The European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Trento, Italy, June 17, 2022.
24. “Jet physics: a new frontier in strong interactions”
Physics Colloquium, Department of Physics, Fudan University, Shanghai, June 7, 2022.
25. “Jet physics: a new frontier in strong interactions”
Physics and Astronomy Colloquium, Department of Physics and Astronomy, California State University, Los Angeles, February 17, 2022.
26. “SCET and small- x physics: comments and ideas”
RIKEN BNL Research Center Workshop: Small- x Physics in the EIC Era, Brookhaven National Laboratory, December 15–17, 2021.
27. “Transverse Momentum Distributions in nucleons”
The 14th European Research Conference On Electromagnetic Interactions with Nucleons and Nuclei (EINN 2021), October 31–November 6, 2021.
28. “Quantum 3D imaging of hadrons”
Nuclear Theory Seminar, University of Maryland, November 4, 2021.
29. “Jet substructure observables”
Fragmentation Functions 2021 Workshop, Institute for Nuclear Theory, University of Washington, Seattle, November 1–5, 2021.
30. “Jets for nucleon structure”
The 5th Workshop on the QCD Structure of the Nucleon (QCD-N2021), Madrid, Spain, October 4–8, 2021.
31. “Jets for 3D imaging”
Jet Probes of Hot and Cold Nuclear Matter: From the LHC and RHIC to the EIC, Embedded Workshop of the INT program: Probing QCD at High Energy and Density with Jets, Institute for Nuclear Theory, University of Washington, Seattle, WA, August 9–13, 2021.
32. “Theory of transverse/forward spin physics at RHIC”
Workshop: RHIC Science Programs Informative Toward EIC in the Coming Years, May 24–26, 2021.
33. “Quantum 3D imaging of hadrons with jets”
Center for Frontiers in Nuclear Science (CFNS) seminar, Stony Brook University, February 4, 2021.

34. “Theory aspects of EIC jets”
Snowmass Energy Frontier 06/07 meeting: Jets at the Electron Ion Collider, November 9, 2020.
35. “TMD opportunities at the LHC”
Snowmass Energy Frontier 06/07 meeting: TMD jamboree, October 28, 2020.
36. “Jets for 3D imaging”
High-energy Nuclear Physics in China (HENPIC) online seminar, August 12, 2020.
37. “QCD factorization and resummation in the small- x regime”
Nuclear Theory/RIKEN Seminar, Brookhaven National Laboratory, Upton, NY, July 31, 2020.
38. “Small- x physics and gluon saturation”
LPC Workshop on Physics Connections between the LHC and EIC, Fermilab, Batavia, IL, November 13–15, 2019.
39. “QCD phenomenology: bridging perturbative and non-perturbative physics”
QCD Spin Physics: A Symposium to Honor Jacques Soffer, RIKEN BNL Research Center, Brookhaven National Laboratory, Upton, NY, October 3–4, 2019.
40. “Recent progress on jet substructure theory”
XLIX International Symposium on Multiparticle Dynamics (ISMD 2019), Santa Fe, NM, September 9–13, 2019.
41. “Overview of TMDs”
11th Workshop on Hadron Physics in China and Opportunities Worldwide, Nankai University, Tianjin, China, August 23–28, 2019.
42. “EIC Physics in US”
18th International Conference on Hadron Spectroscopy and Structure (HADRON2019), Guilin, China, August 16–21, 2019.
43. “Overview and recent progress on TMDs”
Lead talk, 18th International Conference on Hadron Spectroscopy and Structure (HADRON2019), Guilin, China, August 16–21, 2019.
44. “Groomed jet substructure observables”
LoopFest XVIII conference, Fermilab, Batavia, IL, August 12–14, 2019.
45. “Novel opportunities for transverse momentum dependent distributions”
Theory Seminar, Jefferson Lab, Newport News, VA, July 1, 2019.
46. “Recent developments in jet substructure theory”
7th Edition of the Large Hadron Collider Physics Conference (LHCP 2019), Puebla, Mexico, May 20–25, 2019.
47. “TMD opportunities beyond the standard processes”
QCD Evolution Workshop 2019, Argonne National Laboratory, Lemont, IL, May 13–17, 2019.
48. “Jet substructure with and without grooming”
13th International Workshop on High- p_T Physics in the RHIC/LHC era, Knoxville, TN, March 19–22, 2019.
49. “Physics with an Electron Ion Collider”
35th Winter Workshop on Nuclear Dynamics, Beaver Creek, CO, January 6–12, 2019.
50. “The renaissance of jet physics in strong interactions”
Physics Colloquium, New Mexico State University, Las Cruces, NM, November 29, 2018.

51. “EIC Physics in US”
QCD and Quark Matter Physics, South China Normal University, Guangzhou, China, November 12, 2018
52. “Quantum tomography of a proton”
Physics and Astronomy Colloquium, California State University, Los Angeles, CA, November 8, 2018.
53. “Inclusive jets and their substructure at the LHC”
SLAC Elementary Particle Physics (EPP) Theory Seminar, SLAC National Accelerator Laboratory, Menlo Park, CA, September 21, 2018.
54. “Jets as a probe of transverse spin physics”
Nuclear Theory/RIKEN Seminar, Brookhaven National Laboratory, Upton, NY, July 27, 2018.
55. “Review: jets in ep/eA DIS”
Overview talk, 2018 Workshop on Probing Quark-Gluon Matter with Jets, Brookhaven National Laboratory, Upton, NY, July 23–25, 2018.
56. “Jet functions”
2018 JETSCAPE Winter School and Workshop, Lawrence Berkeley National Laboratory, Berkeley, CA, January 3–7, 2018.
57. “Opportunities: heavy flavor production in p+p and EIC”
2017 Heavy Flavor Workshop in High Energy Collisions, Lawrence Berkeley National Laboratory, Berkeley, CA, October 30–November 1, 2017.
58. “Heavy flavor production in p+p and A+A collisions”
Lead talk in the heavy flavor session, 2017 Fall Meeting of the APS Division of Nuclear Physics, Pittsburgh, PA, October 25–28, 2017.
59. “Inclusive jets and their substructure at the LHC”
IOPP Forum, Institute of Particle Physics, Central China Normal University, Wuhan, China, September 20, 2017.
60. “QCD multiple scattering in cold nuclear matter”
2017 Meeting of the APS Division of Particles and Fields (DPF 2017), Fermilab, Batavia, IL, July 31–August 4, 2017.
61. “Phenomenological extractions of TMDs: progress and new opportunities”
Electron Ion Collider User Group Meeting 2017, Trieste, Italy, July 18–22, 2017.
62. “TMDs: general and fits”
The 2nd meeting of TMD Collaboration, DOE Topical Collaboration for the Coordinated Theoretical Approach to Transverse Momentum Dependent Hadron Structure in QCD (TMD Collaboration), Temple University, Philadelphia, PA, June 29–30, 2017.
63. “Hadron distribution inside jets for hadronization and spin dynamics”
RIKEN BNL Workshop - Synergies of pp and pA Collisions with an Electron-Ion Collider, Brookhaven National Laboratory, Upton, NY, June 26–28, 2017.
64. “Overview: jet production in p+p and A+A collisions”
2017 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 20–23, 2017.
65. “Introduction to TMD physics”
12th particle physics phenomenology workshop (PPP12), National Chiao Tung University, Hsinchu, Taiwan, May 16–19, 2017.

66. “Inclusive jets and their substructure at the LHC”
Seminar, Institute of Physics, Academia Sinica, Taipei, Taiwan, May 12, 2017.
67. “Effective field theory approach to open heavy flavor production in heavy-ion collisions”
25th International Workshop on Deep Inelastic Scattering and Related Topics (DIS 2017), Birmingham, UK, April 3–7, 2017.
68. “Probing collinear and TMD fragmentation functions through hadron distribution inside the jet”
7th Workshop of the APS Topical Group on Hadronic Physics (GHP 2017), Washington, DC, February 1–3, 2017.
69. “TMDs at an EIC”
Plenary talk, Joint CTEQ Meeting and 7th International Conference on Physics Opportunities at an EIC (POETIC 7), Temple University, Philadelphia, PA, November 14–18, 2016.
70. “How advances in pQCD help us understand QGP?”
Recent RHIC and LHC results and their implications for heavy ion physics in the 2020’s, Massachusetts Institute of Technology, Cambridge, MA, October 28–29, 2016.
71. “Inclusive jets and jet substructure for QCD and spin dynamics”
Advances in QCD and Applications to Hadron Colliders Workshop, Argonne National Laboratory, Lemont, IL, October 26–28, 2016.
72. “Phenomenology of TMD evolution: recent progress”
The 22nd International Spin Symposium (Spin 2016), University of Illinois at Urbana-Champaign, Champaign, IL, September 25–30, 2016.
73. “Jets and jet substructure for inclusive jet production at the LHC”
INT special seminar, Institute for Nuclear Theory, University of Washington, Seattle, WA, August 3, 2016.
74. “Spin physics of Sivers, Collins, pA, and jets”
2016 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 7–10, 2016.
75. “QCD frontiers in high energy nuclear physics: quantum correlation and many-body dynamics”
High Energy and Astro-Particle (HEAP) seminar, Department of Physics and Astronomy, University of California, Los Angeles, CA, May 25, 2016.
76. “Recent progress on TMD study and future perspective at the EIC”
International Conference on the Structure of Baryons (Baryons 2016), Tallahassee, Florida, May 16–20, 2016.
77. “TMDs: Theory overview”
APS April Meeting 2016, Salt Lake City, Utah, April 16–19, 2016.
78. “Opportunities in hadron distribution inside the jet”
RIKEN BNL Workshop on Emerging Spin and Transverse Momentum Effects in p+p and p+A Collisions, Brookhaven National Laboratory, Upton, NY, February 8–10, 2016.
79. “Recent developments in NLO corrections to in-medium jets”
Plenary talk, 7th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions (Hard Probes 2015), McGill University, Montreal, Canada, June 29–July 3, 2015.
80. “SCET approach to energy loss”
Symposium on Jet and Electromagnetic Tomography of Dense Matter, McGill University, Montreal, Canada, June 26–27, 2015.

81. “Transverse single spin asymmetry of the W production at RHIC”
2015 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 9–12, 2015.
82. “TMD evolution and global analysis”
6th Workshop of the APS Topical Group on Hadronic Physics, Baltimore, MD, April 8–10, 2015.
83. “Advances in the determination of TMDs from global analysis”
E1039/E906 Collaboration Meeting 2015, Santa Fe, NM, February 11–13, 2015.
84. “Unique opportunities in p+A collisions at RHIC and LHC”
Phases of QCD Matter, APS Division of Nuclear Physics 2014 Long-range plan: Joint Town Meetings on QCD, Philadelphia, PA, September 13–15, 2014.
85. “Energy loss and heavy flavor jet production”
3rd Workshop on Jet Modification in the RHIC and LHC Era, Wayne State University, Detroit, MI, August 18–20, 2014.
86. “QCD new frontiers for studying nucleon structure”
Nuclear Theory Seminar, Jefferson Lab, Newport News, VA, July 25, 2014.
87. “QCD new frontiers for studying nucleon structure”
Physics Colloquium, Department of Physics, Old Dominion University, Norfolk, VA, July 24, 2014.
88. “Nucleon spin: longitudinal, transverse, and evolution”
Theory overview, 2014 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 17–20, 2014.
89. “Discussion on NLO energy loss: questions, thoughts, and motivations”
Workshop on NLO Energy Loss, Lawrence Berkeley National Laboratory, Berkeley, CA, March 3–14, 2014.
90. “TMD evolution of Sivers asymmetry”
Institute for Nuclear Theory Workshop - Studies of 3D Structure of Nucleon, Institute for Nuclear Theory, Seattle, WA, February 24–28, 2014.
91. “Forward physics from a theoretical perspective”
Theory overview, Forward sPHENIX Workshop at Santa Fe, Organized by PHENIX experimental group at RHIC, Santa Fe, NM, February 19, 2014.
92. “Universality and evolution of Sivers effect”
Nuclear Physics & RIKEN Theory Seminar, Brookhaven National Laboratory, Upton, NY, February 7, 2014.
93. “A unified picture of parton multiple scattering in the small- x regime”
Physics Seminar, Department of Natural Sciences, Baruch College, New York, NY, February 3, 2014.
94. “QCD evolution of TMDs: what works?”
Indiana-Illinois Workshop on Fragmentation Functions, Indiana University, Bloomington, IN, December 12–14, 2013.
95. “Heavy flavor production in heavy ion collisions”
High Energy Physics Seminar, University of Illinois at Chicago, Chicago, IL, November 11, 2013.
96. “TMDs: Mechanism/universality with ep and pp collisions”
QCD Frontier 2013, Jefferson Lab, Newport News, VA, October 21–22, 2013.

97. “Forward physics from a theoretical perspective”
Theory overview, STAR Meeting on eSTAR Letter of Intent, Forward-Upgrades and Results from U+U Collisions, University of California, Los Angeles, CA, August 28–30, 2013.
98. “Parton multiple scattering and small- x physics”
Berkeley Summer Program 2013, QCD Landscape of the Nucleon and Atomic Nuclei, Lawrence Berkeley National Laboratory, Berkeley, CA, August 12–16, 2013.
99. “Double parton fragmentation function and its evolution in quarkonium production”
QCD Evolution Workshop 2013, Jefferson Lab, Newport News, VA, May 6–10, 2013.
100. “Single transverse spin asymmetries in polarized SIDIS and pp scattering”
Plenary talk, 5th Workshop of the APS Topical Group on Hadronic Physics, Denver, CO, April 10–12, 2013.
101. “Exploring new frontiers of Quantum Chromodynamics”
Seminar, Department of Physics, Temple University, Philadelphia, PA, January 23, 2013.
102. “Polarized p+A, single spin asymmetries”
BNL-LANL-RBRC Joint Workshop on The Physics of p+A Collisions at RHIC, Brookhaven National Laboratory, Upton, NY, January 7–9, 2013.
103. “Cold nuclear matter effects on dilepton and photon production”
Thermal Radiation Workshop (2012), RIKEN BNL Research Center, Brookhaven National Laboratory, Upton, NY, December 5–7, 2012.
104. “Introduction on spin-dependent fragmentation function and evolution of TMDs”
Workshop on Fragmentation Functions and QCD 2012 (Fragmentation 2012), RIKEN Wako, Japan, November 9–11, 2012.
105. “QCD and RHIC spin physics”
Theory overview of spin physics, 2012 Fall Meeting of the APS Division of Nuclear Physics, Newport Beach, CA, October 24–27, 2012.
106. “QCD evolution and resummation for spin-dependent parton distribution functions”
Medium/High Energy Seminar, Department of Physics, University of Illinois at Urbana-Champaign, October 1, 2012.
107. “Sivers effect of Drell-Yan production in small- x regime”
RIKEN BNL Workshop - Forward Physics at RHIC, RIKEN BNL Research Center, Brookhaven National Laboratory, Upton, NY, July 30–August 1, 2012.
108. “Recent progress in spin physics: Theoretical overview”
2012 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 12–15, 2012.
109. “Correlation measurements in pp/pA”
STAR Upgrade Workshop, Brookhaven National Laboratory, Upton, NY, June 11, 2012.
110. “QCD evolution and resummation for transverse momentum distribution”
QCD Evolution Workshop 2012, Jefferson Lab, Newport News, VA, May 14–17, 2012.
111. “QCD new frontiers for studying nucleon structure”
Theoretical Physics Seminar, Physics Division, Argonne National Laboratory, Argonne, IL, April 17, 2012.

112. “Multiple scattering effects in high energy nuclear collisions”
Nuclear Physics Seminar, Department of Physics, Temple University, Philadelphia, PA, April 13, 2012.
113. “Exploring new frontiers of Quantum Chromodynamics”
Physics colloquium, Department of Physics, Kent State University, Kent, OH, February 23, 2012.
114. “Orbital angular momentum in collinear factorization: Does A_N come from parton orbital motion?”
Institute for Nuclear Theory workshop - Orbital angular momentum in QCD, Institute for Nuclear Theory, Seattle, WA, February 6–17, 2012.
115. “Spin structure of the proton”
Charles A. Whitten Memorial Symposium on Frontier of Nuclear Physics, University of California, Los Angeles, CA, December 15–16, 2011.
116. “Unraveling the transverse structure of nucleons with p+He-3 and e+He-3”
Workshop on opportunities for polarized He-3 in RHIC and EIC, Brookhaven National Laboratory, Upton, NY, September 28–30, 2011.
117. “Spin physics: transverse theory and overview”
Theory overview, 2011 RHIC and AGS Annual Users’ Meeting, Brookhaven National Laboratory, Upton, NY, June 20–24, 2011.
118. “Sivers effect: from SIDIS to pp - sign change and sign mismatch”
RIKEN BNL Workshop - Opportunities for Drell-Yan Physics at RHIC, Brookhaven National Laboratory, Upton, NY, May 11–13, 2011.
119. “Spin physics: past, present and future”
Colloquium, Theoretical Division (Group T-2), Los Alamos National Laboratory, Los Alamos, NM, April 25, 2011.
120. “Sivers effect in SIDIS and pp collisions”
XIX International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS 2011), Newport News, VA, April 11–15, 2011.
121. “QCD and transverse spin physics”
Joint Experiment and Theory Seminar (Group P-25 and T-2), Los Alamos National Laboratory, Los Alamos, NM, April 04, 2011.
122. “Single transverse spin asymmetry: progress and puzzles ”
Nuclear Physics Seminar, Department of Physics, University of Maryland, College Park, MD, March 30, 2011.
123. “QCD factorization and heavy quarkonium production”
Nuclear Theory Seminar, Lawrence Berkeley National Laboratory, Berkeley, CA, March 24, 2011.
124. “Sivers effect in SIDIS and pp collisions”
Nuclear Physics Seminar, Department of Physics, Temple University, Philadelphia, PA, March 08, 2011.
125. “QCD and spin physics - explore the nucleon using spin”
Nuclear Seminar, Department of Physics, Indiana University, Bloomington, IN, February 28, 2011.
126. “Single transverse spin asymmetry: progress and puzzles”
Nuclear Theory Seminar, Jefferson Lab, Newport News, VA, February 07, 2011.

127. “Scale evolution for the correlations (TMD moments)”
Institute for Nuclear Theory Program - Gluons and the quark sea at high energies: distributions, polarization, tomography, week 8-9 on *longitudinal and transverse nucleon structure; spin and orbital effects (GPDs, TMDs, and all that)*, Institute for Nuclear Theory, Seattle, WA, November 1–12, 2010.
128. “Recent progress on spin physics”
Theory overview of spin physics, 2010 Fall Meeting of the APS Division of Nuclear Physics, Workshop: Quark Gluon Plasma, Santa Fe, NM, November 2–6, 2010
129. “Process dependent transverse spin asymmetry - understanding inclusive hadron production”
Polarized Drell-Yan Physics Workshop, Santa Fe, NM, October 31–November 1, 2010.
130. “Overview of DIS results, global fitting and DY predictions”
Summary talk, Polarized Drell-Yan Physics Workshop, Santa Fe, NM, October 31–November 1, 2010.
131. “Test of the universality of naive T-odd fragmentation functions”
Institute for Nuclear Theory Program - Gluons and the quark sea at high energies: distributions, polarization, tomography, week 6 on *parton densities (unpolarized and polarized), fragmentation functions, electroweak physics*, Institute for Nuclear Theory, Seattle, WA, October 17–23, 2010.
132. “Single transverse-spin asymmetry in inclusive hadron production”
Brookhaven Summer Program on Nucleon Spin Physics, Brookhaven National Laboratory, Upton, NY, July 14–27, 2010.
133. “ A_N of W production in polarized pp collisions”
The Physics of W and Z Bosons, Brookhaven National Laboratory, Upton, NY, June 24–25, 2010.
134. “Spin physics at RHIC”
Theory overview of spin physics, STAR Analysis Meeting, University of California, Los Angeles, CA, June 15–18, 2010.
135. “Theory predictions for polarized He-3”
RHIC Spin: The Next Decade, Iowa State University, Ames, IA, May 14–16, 2010.
136. “P-odd correlations in quark fragmentation”
P- and CP-odd effects in hot and dense matter, Brookhaven National Laboratory, Upton, NY, April 26–30, 2010.
137. “Evolution of Transverse Momentum Dependent distributions (moments)”
Workshop on Partonic Transverse Momentum in Hadrons: Quark Spin-Orbit Correlations and Quark-Gluon Interactions, Duke University, Durham, NC, March 12–13, 2010.
138. “Some recent progress on single transverse-spin asymmetry”
Nuclear Theory Seminar, Lawrence Berkeley National Laboratory, Berkeley, CA, October 14, 2009.
139. “Single transverse-spin asymmetry (SSA) of W/Z bosons”
Berkeley Summer Program on Nucleon Spin Physics, Berkeley, CA, June 1–12, 2009.
140. “Some recent developments in single transverse-spin asymmetry”
Nuclear Physics Seminar, Temple University, Philadelphia, PA, March 26, 2009.
141. “Collinear factorization approach to single transverse-spin asymmetry”
Nuclear Theory Seminar, Jefferson Lab, Newport News, VA, March 9, 2009.
142. “QCD factorization and its role in understanding high energy nuclear collisions”
Nuclear Theory Seminar, Lawrence Berkeley National Laboratory, Berkeley, CA, January 23, 2009.

143. “QCD and the hadron structure beyond the probability distributions”
T-2 Nuclear Theory Seminar, Los Alamos National Laboratory, Los Alamos, NM, January 6, 2009.

Other talks

144. “Working Group Progress: small- x evolution + NLO”
2025 Saturated Glue (SURGE) Collaboration Meeting and Workshop, University of California, Los Angeles, June 23–25, 2025.
145. “Jet Physics at the EIC”
California EIC Consortium Meeting, University of California, Davis, July 18–19, 2022.
146. “Quantum Computing for Quantum Chromodynamics”
Center for Quantum Science and Engineering (CQSE) General Monthly Meeting, University of California, Los Angeles, June 10, 2021.
147. “Electron-Ion Collider impact study on the tensor charge from a QCD global analysis of single transverse-spin asymmetries”
The 9th Workshop of the APS Topical Group on Hadronic Physics (GHP 2021), April 13–16, 2021.
148. “The renaissance of jet physics”
Physics and Astronomy Colloquium, Department of Physics and Astronomy, University of California, Los Angeles, CA, October 22, 2020.
149. “Jet charge: a flavor prism for spin asymmetries at the EIC”
EIC Yellow Report : Jet and Heavy Flavor Physics WG meeting, August 10, 2020.
150. “A TMD framework for photon+jet/dijet production in p+p collisions”
The 3rd meeting of TMD Collaboration, DOE Topical Collaboration for the Coordinated Theoretical Approach to Transverse Momentum Dependent Hadron Structure in QCD (TMD Collaboration), Duke University, Durham, NC, November 2–3, 2018.
151. “Quantum tomography of the nucleons”
Physics and Astronomy Colloquium, Department of Physics and Astronomy, University of California, Los Angeles, CA, March 2, 2017.
152. “Jets and jet substructure: inclusive jet production”
Astro-particle Journal Club, Theory of Elementary Particles, Astroparticle Physics and Phenomenology (TEPAPP group), University of California, Los Angeles, CA, January 25, 2017.
153. “Sivers effect: Aharonov-Bohm effect in QCD?”
Theoretical Division Group Leaders Meeting, Los Alamos National Laboratory, Los Alamos, NM, September 9, 2015.
154. “New QCD frontiers in understanding the nucleon structure”
Nuclear seminar, Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM, November 18, 2013.
155. “QCD new frontiers for studying nucleon structure”
Physics Division Summer Seminar Series, Los Alamos National Laboratory, Los Alamos, NM, July 17, 2013.
156. “Dihadron momentum imbalance and correlations in d+Au collisions”
Parallel talk, The 11th International Conference on Nucleus-Nucleus Collisions (NN2012), San Antonio, TX, May 27–June 1, 2012.

157. “Sivers effect in SIDIS and pp collisions: a sign mismatch”
RHIC Spin Seminar, Brookhaven National Laboratory, Upton, NY, March 29, 2011.
158. “Understanding single transverse spin asymmetry - on universality property of k_T -dependent functions”
RIKEN BNL Center Scientific Review Committee (SRC) Meeting, Brookhaven National Laboratory, Upton, NY, October 27–29, 2010.
159. “Quark fragmentation in parity-odd bubbles”
JET summer school 2010, Lawrence Berkeley National Laboratory, Berkeley, CA, June 14–17, 2010.
160. “Theory for Drell-Yan single transverse spin asymmetry”
PHENIX Forward Upgrade (Next Decade), Brookhaven National Laboratory, Upton, NY, March 26, 2010.
161. “Violation of TMD factorization in hadronic collisions”
RHIC Spin Seminar, Brookhaven National Laboratory, Upton, NY, February 9, 2010.
162. “Some recent progress on single transverse-spin asymmetry”
RIKEN Lunch Seminar, RIKEN BNL Research Center, Brookhaven National Laboratory, Upton, NY, October 1, 2009.
163. “Low mass lepton pair production at large transverse momentum”
Parallel talk, The 21th International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions (Quark Matter 2009), Knoxville, TN, March 30–April 04, 2009.
164. “QCD and the hadron structure beyond the probability distributions”
Nuclear Theory Seminar, Department of Physics and Astronomy, Iowa State University, Ames, IA, December 11, 2008.
165. “Low mass lepton pair production at large transverse momentum”
2008 CTEQ Collaboration Meeting, Argonne National Laboratory, Argonne, IL, December 5–7, 2008.
166. “Tri-gluon correlation and transverse spin asymmetry for open charm production in SIDIS”
2008 Annual Fall Meeting of the APS Division of Nuclear Physics (DNP 2008), Oakland, CA, October 23–26, 2008.
167. “Low mass lepton pair production at large transverse momentum”
2008 Annual Fall Meeting of the APS Division of Nuclear Physics (DNP 2008), Oakland, CA, October 23–26, 2008.
168. “Tri-gluon correlation and transverse spin asymmetry in open charm production”
The 18th International Symposium on Spin Physics (SPIN 2008), Charlottesville, VA, October 6–11, 2008.
169. “QCD resummation for heavy quarkonium production in high energy collisions”
PHENO 2008 Symposium: LHC turn on, Madison, WI, April 28–30, 2008.
170. “Transverse momentum broadening of vector bosons in nuclear collisions”
2007 Annual Fall Meeting of the APS Division of Nuclear Physics (DNP 2007), Newport News, VA, October 10–13, 2007.
171. “Rescattering effects in high energy nuclear collisions”
Nuclear Physics Seminar, Institute of Particle Physics, Central China Normal University, Wuhan, China, November 27, 2006.

172. “Nuclear modification to parton evolution and onset of parton saturation”
Parallel talk, The 19th International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions (Quark Matter 2006), Shanghai, China, November 14–20, 2006.
173. “Universal nuclear dependence in parton distributions”
Midwest nuclear theory get-together, Argonne National Laboratory, Argonne, IL, October 14, 2006.