Yingru **Xu**

120 Science Drive, Box 90305, Duke University, Durham, NC 27713

(+1) 919-260-8814 | yx59@duke.edu

| webhome.phy.duke.edu/ yx59 | yingru | yingru-xu-9082387a

Education

Duke University — *NC, USA*

Doctor of Philosophy in Physics — *Apr 2013 - current*

- Thesis: Data-drive Analysis of Heavy Quark dynamics in Quark-Gluon Plasma.
- Advisor: Prof. Steffen A. Bass

Nanjing University — *Nanjing, China*

Bachelor of Science in Physics — *Sep. 2009 - Jul. 2013*

- Thesis: Application of Green's Function on Transport Properties of Electrons in a Infinite Carbon Chain.
- Advisor: Prof. Bai-Gen Wang

Experience

Graduate Research: — *Duke University*

Data-drive analysis of heavy quark transport coefficients in heavy-ion collisions. — *Jan 2016 - Current*

- Utilized the Bayesian model-to-data analysis, extracted the heavy quark transport coefficient in QGP medium.
- Described the experimental measurements of D-meson observables in both RHIC and LHC energies.

Graduate Research: — *Duke University*

Heavy flavor dynamics in proton-nucleus collisions. — *Aug 2013 - Current*

- Established a comprehensive framework to simulate the full space-time evolution of heavy quarks in a QGP medium.
- Quantified the medium modification of heavy quarks ans collective behaviors of small systems.

Undergrad Research: — *Nanjing University*

A theoretical study on transport properties of electrons in an infinite carbon nanotubes. — *Oct 2012 - Jun 2013*

- Applied Laudau formalism and Green's function to calculate the transport properties of electrons in idea nanotubes.

Teaching Experience: — *Duke University*

Teaching assistant — *Aug 2013 - May 2015*

- grad-level statistical mechanics and quantum mechanics.
- undergrad introduction to mechanics and introduction to astronomy.

Honors & Awards

Jul. 2017 **EPJ A Young Scientist Awards**, sQuark Matter, Utrecht, the Netherlands

Oct. 2012 **National Academic Scholarship** , the Ministry of Education, China

Oct. 2011 **People's Scholarship**, the Ministry of Education, China

Oct. 2010 **People's Special Award for Student's Activity**, the Ministry of Education, China

Publications

1. **Y. Xu**, J. E. Bernhard, S. A. Bass, Marlene Nahrgang, Shanshan Cao, "Data-driven analysis for the temperature and momentum dependence of the heavy-quark diffusion coefficient in relativistic heavy-ion collisions", *Phys. Rev. C* **97**, *no. 1, 014907 (2018).*

2. **Y. Xu**, P. Moreau, T. Song, M. Nahrgang, S. A. Bass and E. Bratkovskaya, " Traces of nonequilibrium dynamics in relativistic heavy-ion collisions", *Phys. Rev. C* **96**, *no. 2, 024902 (2017).*

3. **Y. Xu**, M. Nahrgang, J. E. Bernhard, S. Cao and S. A. Bass, "A data-driven analysis of the heavy quark transport coefficient", *Nucl. Phys. A* **967**, *668 (2017).*

4. **Y. Xu**, S. Cao, M. Nahrgang, J. E. Bernhard and S. A. Bass, "Data-driven analysis of the temperature dependence of the heavy-quark transport coefficient", *Nucl. Part. Phys. Proc.* **289-290**, *257 (2017).*

5. **Y. Xu**, S. Cao, G. Y. Qin, W. Ke, M. Nahrgang, J. Auvinen and S. A. Bass, " Heavy-flavor dynamics in relativistic p-Pb collisions at $\sqrt{S_{NN}} = 5.02$ TeV", *Nucl. Part. Phys. Proc.* **276-278**, *225 (2016).*

Presentations

1. **RHIC & AGS Annual User Meeting 2018** — *BNL, USA*
   Talk: Open heavy flavor transport models — *June. 2018*
2. **Quark Matter 2018** — *Venice, Italy*
   Poster: Data-drive analysis of the temperature and momentum dependence of the charm quark diffusion coefficient — *May. 2018*
3. **Heavy Flavor Workshop in High Energy Collisions** — *LBNL, USA*
   Talk: Data-drive analysis of the temperature and momentum dependence of the charm quark diffusion coefficient — *Nov. 2017*
4. **Fall Meeting of the APS Division of Nuclear Physics** — *Pittsburgh, USA*
   Mini-symposium: Bayesian extraction of the heavy quark diffusion coefficient from RHIC and LHC heavy-ion data — *Oct. 2017*
5. **Strangeness in Quark Matter** — *Utrecht, Netherlands*
   Parallel Talk: Bayesian application on heavy quarks — *Jul. 2017*
6. **Quark Matter 2017** — *Chicago, USA*
   Parallel Talk: Data-drive analysis of the heavy quark transport coefficients — *Feb. 2017*
7. **Hard Probe 2016** — *Wuhan, China*
   Parallel Talk: Data-drive analysis of the temperature and momentum dependence of the heavy quark transport coefficients — *Sep. 2016*
8. **Hard Probe 2015** — *Montreal, Canada*
   Parallel Talk: Heavy flavor dynamics in proton-nucleus collisions — *Jul. 2015*