

Postdoctoral Researcher

RESEARCH EXPERIENCE

- 2014- Post-Doctoral position — *McGill University*
- Supervisor : Sangyong JEON
- 2011 – 2014 Ph.D student at Institut de Physique Théorique — *CEA Saclay*
- Subject : Approach to equilibrium in high-energy heavy ion collisions
 - Advisor : François GELIS
 - Defense : 18/06/14, obtained with highest honors
- 2011 2-month internship at Institut de Physique Théorique — *CEA Saclay*
- Subject : Role of quantum fluctuation in a system with strong fields
 - Advisor : François GELIS
- 2010 4-month internship at Institut de Physique Théorique — *CEA Saclay*
- Subject : Semi-classical methods in quantum field theory
 - Advisor : François GELIS
 - ENSTA ParisTech Alumni Award

EDUCATION

- 2010 – 2011 École Normale Supérieure (ENS) — *Paris*
- Master, 2nd year : Fundamental concepts of physics
 - Major in theoretical physics, with highest honors (16.7/20)
- 2009 – 2010 École Polytechnique ParisTech Engineering School — *Palaiseau*
- Master, 1st year : Theoretical physics
- 2008 – 2009 University of Toronto — *Toronto*
- 1-year internship, theoretical physics and astrophysics classes (average grade : A)
- 2006 – 2010 ENSTA ParisTech Engineering School — *Paris*
- Major in mathematics
 - Specialization in simulation and modelization of systems (17.4/20 average in third year)

TEACHING EXPERIENCE

- 2013-2014 Computer science class (Matlab). One term — *ENSTA*
- Involved the creation from scratch of a matlab – physics motivated – laboratory project.

SKILLS

- Languages : French (mother tongue), English (fluent. TOEIC : 940/990)
- Computer skills : C, OpenMP, MPI, Python, R, Matlab, Mathematica

MISCELLANEOUS

- Referee for NPA, PRL, PRC and PRD
Co-organizer of the QCD journal club at IPhT (2012-2014)
Co-Editor of the Hard Probes 2015 proceedings

PUBLICATIONS

- T. Epelbaum, F. Gelis, S. Jeon, G.D. Moore, B.Wu — *JHEP* 1509 117 (2015)
Kinetic theory of a longitudinally expanding system of scalar particles.
- S. Jeon, T. Epelbaum — *Annals Phys.* 364 1-24 (2015)
Perturbative Vacuum Wavefunctional for Gauge Theories in the Milne Space.
- T. Epelbaum, F. Gelis, B.Wu — *to appear in Annales de L'institut Henri Poincaré D* (2015)
From lattice Quantum Electrodynamics to the distribution of the algebraic areas enclosed by random walks on Z^2 .
- T. Epelbaum, F. Gelis, B.Wu — *JHEP* 1506, 148 (2015)
Lattice worldline representation of correlators in a background field.
- T. Epelbaum, F. Gelis, N. Tanji, B.Wu — *Phys. Rev. D* 90, 125032 (2014)
Properties of the Boltzmann equation in the classical approximation.
- T. Epelbaum, F. Gelis, B.Wu — *Phys. Rev. D* 88, 065029 (2014)
Non-renormalizability of the classical statistical approximation.
- T. Epelbaum, F. Gelis — *Phys. Rev. Lett.* 111, 232301 (2013)
The onset of hydrodynamical flow in high energy heavy ion collisions.
- T. Epelbaum, F. Gelis — *Phys. Rev. D* 88, 085015 (2013)
Fluctuations of the initial color fields in high energy heavy ion collisions.
- K. Dusling, T. Epelbaum, F. Gelis, R. Venugopalan — *Phys. Rev. D* 86, 085040 (2012)
Instability induced pressure isotropization in a longitudinally expanding system.
- T. Epelbaum, F. Gelis — *Nucl. Phys. A* 872, 210 (2011)
Role of quantum fluctuations in a system with strong fields : spectral properties and thermalization.
- K. Dusling, T. Epelbaum, F. Gelis, R. Venugopalan — *Nucl. Phys. A* 850, 69 (2010)
Role of quantum fluctuations in a system with strong fields : Onset of hydrodynamical flow.

PROCEEDINGS

- T. Epelbaum — *Nucl.Phys. A* 931, 337-342 (2014)
Early isotropization of the Glasma.
- T. Epelbaum, F. Gelis — (HP2013)
The onset of hydrodynamical flow in high energy heavy ion collisions.
- T. Epelbaum, F. Gelis — *Nucl.Phys. A* 926, 122-127 (2014)
Isotropization of the Quark Gluon Plasma.
- T. Epelbaum, F. Gelis — (New trend in High Energy Physics) (2013)
Isotropization of the Quark Gluon Plasma.
- K. Dusling, T. Epelbaum, F. Gelis, R. Venugopalan — *Nucl.Phys. A* 904, 819c (2013)
Quantum chaos in the perfect fluid : spectrum of initial fluctuations in the little bang.
- K. Dusling, T. Epelbaum, F. Gelis, R. Venugopalan — *Nucl.Phys. A* 910, 437 (2013)
Initial state and thermalization.

TALKS

- McGill High Energy Journal Club — 27/10/15, Montreal, Canada
Thermalization : Results, Issues, Perspectives.
- INT Seattle workshop — 24/08/15, Seattle, United-States
On the use of the classical approximation for the early stages of HIC.
- McGill Nuclear Theory Group Meeting — 19/05/14, Montreal, Canada
Classical Approximations : Results, Issues, Perspectives.
- IS2014 (plenary talk) — 03/12/14, Napa, United-States
Thermalization : results, issues, perspectives.
- McGill High Energy Journal Club — 24/11/14, Montreal, Canada
Approach to equilibrium in high energy heavy ion collisions.
- QGP France — 16/09/14, Etretat, France
Early onset of hydrodynamical behavior in heavy ion collisions.

- **Subatech seminar** — 24/07/14, Nantes, France
Towards the understanding of hydrodynamization in the Quark Gluon Plasma.
- **PhD defense** — 18/06/14, IPhT Saclay, France
Approach to equilibrium in high energy heavy ion collisions.
- **Ned and TURIC workshop** — 10/06/14, Hersonissos, Greece
Towards the understanding of hydrodynamization in the Quark Gluon Plasma.
- **Quark Matter 2014 (parallel talk)** — 19/05/14, Darmstadt, Germany
Early isotropization of the Quark Gluon Plasma.
- **Student seminar ECT* Trento** — 22/04/14, Trento, Italy
Early isotropization of the Quark Gluon Plasma.
- **LHC Working Group on Forward Physics and Diffraction** — 17/04/14, Trento, Italy
Early isotropization of the Quark Gluon Plasma.
- **RBRC Workshop** — 2/04/14, BNL, United-States
Early isotropization of the Quark Gluon Plasma.
- **McGill high energy group seminar** — 28/03/14, Montreal, Canada
Non-renormalizability of the classical-statistical approximation.
- **University of Barcelona seminar** — 11/03/14, Barcelona, Spain
Non-renormalizability of the classical-statistical approximation.
- **Heavy Ion Meeting** — 14/11/13, Orsay University, France
Early isotropization of the Quark Gluon Plasma.
- **Hard Probes 2013 (parallel talk)** — 14/11/13, Stellenbosch, South Africa
Onset of hydrodynamical flow in high energy heavy ion collisions.
- **Seminar at IGFAE** — 29/10/13, Santiago de Compostela, Spain
Early isotropization of the Quark Gluon Plasma.
- **FIAS Nuclear Physics Colloquium** — 24/10/13, Frankfurt, Germany
Onset of hydrodynamical behavior in heavy ion collisions.
- **Seminar at ITP** — 23/10/13, Frankfurt, Germany
Early isotropization of the Quark Gluon Plasma.
- **New trends in high-energy physics** — 28/09/13, Alushta, Ukraine
The early stages of Heavy Ion Collisions.
- **IS2013 (plenary talk)** — 12/09/13, Illa Da Toxa, Spain
Isotropization of the Glasma.
- **h3QCD workshop** — 18/06/13, Trento, Italy
The early stages of Heavy Ion Collisions.
- **12th Non-Perturbative QCD workshop** — 11/06/13, Paris, France
The early stages of Heavy Ion Collisions.
- **University of Heidelberg Seminar** — 03/04/13, Heidelberg, Germany
Isotropization in non-equilibrium scalar field theories.
- **Seminar at IPN & CPhT (Polytechnique)** — 14/03/13, Palaiseau, France
Understanding isotropization in scalar field theories.
- **51th Schladming winter school** — 26/02/13, Schladming, Austria
The early stages of Heavy Ion Collisions.
- **Heavy Ion Meeting** — 26/10/12, Orsay University, France
Isotropization in Heavy Ion Collision.
- **Triangle Nuclear Theory Colloquium, Raleigh** — 18/09/12, North Carolina State University, USA
Isotropization in Heavy Ion Collision.
- **Nuclear Physics & RIKEN Theory Seminar** — 14/09/12, Brookhaven, USA
A first step towards understanding isotropization in Heavy Ion Collisions.
- **QCD prospects for future ep and eA colliders** — 07/06/12, Orsay, France
A first step toward the study of thermalization in Heavy Ion Collisions.
- **Rencontre de Physique des Particules 2012** — 15/05/12, Montpellier, France
Thermalization in scalar field theories.
- **QCD Journal Club** — 01/03/12, IPhT Saclay, France
Thermal Equilibration in scalar field theories.

- EMMI Rapid Reaction Task Force — 13/12/11, Heidelberg, Germany
Thermal Equilibration in scalar field theories.

POSTERS

- Hard Probes 2015 — 30/06/15, Montréal, Canada
Classical approximations : advantages, limitations and recent results.
- SEWM 2012 : 10th International SEWM Conference — 11/07/12, Swansea, Wales
The early stages of Heavy Ion Collisions.

GRANTS, AWARDS AND FELLOWSHIPS

- Label C3I (GENCI) : Rewards PhD work involving high performance computing, 2014
- McGill Postdoctoral Fellowship : 2 years Post-Doctoral fellowship (2014-2016)
- CFR Fellowship : 3 years Ph.D fellowship (2011-2014)
- ENSTA ParisTech Alumni Award : Rewards the best ENSTA internships, 2010

VISITS TO FOREIGN INSTITUTIONS

- Institut de Physique théorique, 15-31 January 2016, France
- National Institute for Nuclear Theory, 21-28 August 2015, United States
- McGill University, 27 March-2 April 2014, Canada
- University de Barcelona, 10-11 March 2014, Spain
- Santiago de Compostella University, 27-30 October 2013, Spain
- Frankfurt University, 23-25 October 2013, Germany
- Heidelberg University, 2-5 April 2013, Germany
- North Carolina State University, 17-21 September 2012, United States
- Brookhaven National Laboratory, 3-17 September 2012, United States
- Brookhaven National Laboratory, 15-21 January 2012, United States

SCHOOLS ATTENDED

- ECT* Doctoral Training Program, 7th April-16 May 2014, Trento, Italy
- 51th Schladming winter school, 23th February-2nd March 2013, Schladming, Austria
- 22th Jyväskylä Summer School, 23-27th August 2012, Jyväskylä, Finland
- QCD prospects for future ep and eA colliders, 4-8 June 2012, Orsay, France