

Maximilian Attems

curriculum vitae

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Personal data

Birth place Paris, France.

Citizenship Austrian, Belgium.

Gender Male.

Languages French, German: native.

English: fluent.

Spanish, Portuguese, Latin: basic.

Professional Appointments

March 2014 - August 2017 **Postdoctoral Fellow**, *Institute of Cosmos Sciences, University of Barcelona, Spain.*

October 2012 - February 2014 **Postdoctoral Fellow**, *Frankfurt Institute for Advanced Studies, Germany.*

Education

2007 - 2012 **PhD in Theoretical Physics**, *Institute for Theoretical Physics, Vienna University of Technology, Austria.* Defense date: March 7th, 2012.

PhD Thesis "Real-time evolution of a non-equilibrium non-Abelian plasma"

Advisor: Anton Rebhan

2004 - 2006 **Master Studies (Diplomingenieur) in Theoretical Physics**, *Vienna University of Technology, Austria.* Defense date: October 4th, 2006.

Master Thesis "Gauge independence of IR singularities in Slavnov modified Noncommutative U(1) QED".

Advisor: Manfred Schweda

Academic Grants, Honors and Awards

September 2015 - August 2017 **EU Horizon 2020, Marie Skłodowska-Curie Individual Fellowship**, *Fast Thermalization of the Quark-Gluon-Plasma 658574 "FastTh"*, University of Barcelona, Spain.

October 2012 - February 2014 **Postdoctoral Scholarship Helmholtz Young Investigator Group**, *Dynamical description of heavy-ion reactions at FAIR*, Frankfurt Institute for Advanced Studies, Germany.

November - December 2011 **Vienna University of Technology Outgoing Scholarship for short-term visits abroad**, *Centre de Physique Théorique, Ecole Polytechnique, Palaiseau, + Institut de Physique Théorique, Orme des Merisiers, CEA/Saclay, France.*

March - May 2010 **Marshall Plan Scholarship**, *US-Austrian 2010 scholarship programme for scientific collaboration on "Non-Abelian Plasma Instabilities"*, Department of Physics, Gettysburg College, USA, Advisor Michael Strickland.

November 2006 - April 2007 **PhD Program Helmholtz Research School**, *"Strongly Interacting Matter"*, Institute for Theoretical Physics, Goethe University Frankfurt.

Research Interests

Quark-Gluon Plasma and Heavy-Ion collisions, Colliding gravitational shockwaves and AdS/CFT, Finite temperature and non-equilibrium Quantum Field Theories, thermalization at strong or weak coupling, real-time Lattice QCD.

Publications and Preprints

The Publication List is available on [INSPIRE-HEP](#) or on [ORCID](#).

Talks

Conferences

- January 2017 **33rd Winter Workshop on Nuclear Dynamics:** *“Hydrodynamization of shockwave collisions in non-conformal theories”*, Snowbird, USA.
- July 2016 **Strong and Electroweak Matter 2016:** *“Collisions in Non-conformal Theories: Hydrodynamization without Equilibration”*, University of Stavanger, Norvegia.
- June 2016 **Numerical Relativity and Holography 2016:** *“Holographic Heavy Ion Collisions in Non-Conformal Theories”*, Universidad de Santiago de Compostela, Spain.
- May 2016 **3rd International Conference on the Initial Stages in High-Energy Nuclear Collisions:** *“From high-energy collisions to hydrodynamics in strongly coupled non-conformal theories”*, Instituto Superior Técnico, Lisbon, Portugal.
- October 2015 **Computational Physics for High-Energy Heavy-Ion Collisions:** *“SU(3) plasma instabilities”*, Yukawa Institute for Theoretical Physics, Kyoto, Japan.
- August 2015 **Equilibration Mechanisms in Weakly and Strongly Coupled Quantum Field Theory INT-15-2c:** *“Non-conformal shockwave collisions”*, Institute for Nuclear Theory, University of Washington, Seattle, USA.
- December 2014 **Initial State 2014:** *“Quantized fermions in semi-classical Yang-Mills evolution”*, Napa Valley, California, USA.
- October 2014 **Hot Quarks 2014:** *“Quantized fermions in semi-classical Yang-Mills evolution”*, Las Negras, Spain.
- April 2014 **The Approach to Equilibrium in Strongly Interacting Matter:** *“Instabilities in the expanding plasma”*, Brookhaven National Laboratory, USA.
- November 2013 **New Frontiers in QCD 2013:** *“Realtime fermions in an anisotropic plasma”*, Yukawa Institute for Theoretical Physics, Kyoto, Japan.
- July 2013 **Workshop on Transport Theory in Heavy Ion Collisions:** *“Towards a new transport approach: Simulations of a hot pion gas”*, Schmitten, Germany.
- June 2013 **High energy, high density and hot QCD:** *“The chromo-Weibel instability in an expanding background”*, ECT* Trento, Italy.
- February 2013 **Extreme QCD in and out of Equilibrium:** *“Longitudinal Thermalization via the Chromo-Weibel Instability”*, Schlading Winterschool, Austria.
- December 2012 **Second Norwegian Winter Workshop on QCD in Extreme Conditions:** *“Longitudinal Thermalization via the Chromo-Weibel Instability”*, University of Science and Technology Trondheim, Norvegia.
- October 2012 **Xth Quark Confinement and the Hadron Spectrum:** *“Longitudinal thermalization via the chromo-Weibel instability”*, Technical University of Munich, Germany.
- November 2011 **8th Vienna Central European Seminar:** *“Chromo-Weibel plasma instabilities in Bjorken expansion”*, University of Vienna, Austria.

- September 2011 **Quarks, Gluons, and Hadronic Matter under Extreme Conditions:** *"Instabilities in anisotropically expanding quark-gluon plasma"*, Helmholtz International Center, Bielefeld University, Germany.
- March 2011 **Quarks, Gluons, and Hadronic Matter under Extreme Conditions:** *"Instabilities in anisotropically expanding quark-gluon plasma"*, Helmholtz International Center for FAIR, St. Goar, Germany.
- March 2011 **5th International School Quark-Gluon Plasma and Heavy Ion Collisions: past, present, future:** *"Chromo-Weibel plasma instabilities in Bjorken expansion"*, Turin, Italy.
- September 2009 **Austrian and Swiss Physical Society Annual Meeting:** *"On the collision of two shock waves in AdS(5)"*, University of Innsbruck, Austria.
- September 2008 **Austrian Physical Society Annual Meeting:** *"Instabilities in an expanding quark-gluon plasma"*, Aflenz, Austria.

Seminars

- March 2017 **CPhT/IPN common Theoretical physics particle Seminar:** *"Hydrodynamization and EoSization in non-conformal theories"*, CPhT, Ecole Polytechnique, France.
- March 2017 **IPhT Particle physics and cosmology Seminar:** *"Non-conformal holographic fluid relaxation"*, IPhT, CEA/Saclay, France.
- October 2016 **Brookhaven Nuclear Physics Seminar:** *"EoSization in holographic shockwave collision"*, Brookhaven National Laboratory, USA.
- May 2016 **CERN Heavy Ion Forum:** *"Collisions in Non-conformal Theories: Hydrodynamization without Equilibration"*, CERN/Geneva, Switzerland.
- December 2015 **KITP High Energy and Gravity Seminar:** *"Holographic collisions in non-conformal theories"*, University of California Santa Barbara, USA.
- December 2015 **Boulder Nuclear Seminar:** *"Non-conformal holographic model of heavy ion collisions"*, University of Colorado Boulder, USA.
- November 2015 **HotLHC Seminar:** *"Non-conformal holographic planar shock collisions"*, University of Santiago de Compostela, Spain.
- November 2013 **LBNL Theory Seminar:** *"Realtime evolution of Chromo-Weibel instabilities"*, Lawrence Berkeley National Laboratory, USA.
- November 2013 **Ohio Nuclear Physics Seminar:** *"Longitudinal thermalization via the Chromo-Weibel instability"*, Ohio State University, USA.
- November 2013 **Kent QCD Seminar:** *"Chromo-Weibel filaments in the Quark-Gluon Plasma"*, Kent State University, USA.
- November 2013 **CUNY Physics Seminar:** *"Filamentation instability in non-Abelian plasma"*, Baruch College - The City University of New York, USA.
- November 2013 **Nuclear Physics & RIKEN Theory Seminar:** *"Realtime evolution of non-Abelian plasma instabilities"*, Brookhaven National Laboratory, USA.
- May 2013 **Vienna Theory Lunch Seminar:** *"Kinetic models of ultrarelativistic heavy-ion collisions"*, University of Vienna, Austria.
- November 2012 **Bielefeld HEP Seminar:** *"Chromo-Weibel instabilities in Bjorken expansion"*, Bielefeld University, Germany.
- January 2012 **CERN Heavy Ion Forum:** *"Chromo-Weibel plasma instabilities in Bjorken expansion"*, CERN/Geneva, Switzerland.
- December 2011 **IPhT Seminar:** *"Chromo-Weibel plasma instabilities in Bjorken expansion"*, Institut de Physique Théorique, CEA/Saclay, France.

- November 2011 **IPN Seminar:** “*Chromo-Weibel plasma instabilities in Bjorken expansion*”, Centre de Physique Théorique, Ecole Polytechnique Palaiseau, France.
- January 2011 **Graz Particle Physics Seminar:** “*Instabilities in the quark-gluon plasma*”, University of Graz, Austria.
- October 2010 **Vienna Theory Lunch Seminar:** “*Instabilities in the quark-gluon plasma*”, University of Vienna, Austria.

Teaching Experience

Lecturer

- June 2014 Seminar on Theoretical Physics in **CiMs-CELLEX outreach programm** in Theoretical Physics for upcoming gifted university students www.cims-cellex.cat
- July 2013 Seminar in **Frankfurt International Graduate School for Science:** “Weibel instabilities and thermalization in quantum chromodynamics”, FIAS, Germany.
- 2008-2010 **Organizer - Co-Founder**, *Vienna Theory Lunch Seminar*, in cooperation with the University of Vienna.

Teaching Assistant

- 2006 **Graduate Teaching Assistant**, *Quantum Theory II, Institute for Theoretical Physics, Vienna University of Technology.*
- 2004-2006 **Undergraduate Teaching Assistant**, *Mathematical Methods in Physics, Institute for Theoretical Physics, Vienna University of Technology.*

Co-Supervision of graduate students

- 2014 - present **Ph.D. student**, *M. Triana*, advisor: *D. Mateos*, University of Barcelona, Spain.
- 2014 - 2015 **Ph.D. student**, *D. Santos*, advisor: *C.F. Sopena*, Autonomous University of Barcelona, Spain.
- 2013 - 2014 **Ph.D. student**, *C. Schaefer*, advisor: *O. Philipsen*, Goethe University of Frankfurt, Germany.

Outreach

- Author 2016 - present, Twitter: [@thermalization](#) with > 400 outreach tweets and > 75 community followers in January 2017; conferences coverage on [#QM17](#), [#wvnd33](#), [#InitialStages2016](#), [#NumHol2016](#), [#sewm2016](#); seminar activity at ICC.
- Initiator May 2009, One of the three initiators of the petition: “Save our Science” for Austria not quitting CERN membership: sos.teilchen.at
- Relaunch/Admin 2009-2012, Particle physics news from the Committee for Nuclear and Particle Physics from the Austrian Physical Society (German): www.teilchen.at
- Relaunch 2008, Institute for Theoretical Physics: www.itp.tuwien.ac.at
- Relaunch/Admin 2008-2012, Calendar of Physics Talks Vienna: www.itp.tuwien.ac.at/CPT

Numerical Expertise

- Languages C/C++, MPI, OpenMP, Assembler, Streaming SIMD Extensions, OpenGL, Mathematica, AWK, Perl, Python, Java, Maple, Matlab, \LaTeX , Gnuplot, FORTRAN, Sh, SQL.
- Free Software/
Open Source Linux kernel developer with more than 100 contributions to Linux, Debian Linux Developer since 2005 maks@debian.org, Debian and Ubuntu early userspace/boot developer, klibc library developer maks@kernel.org.