

# Curriculum Vitae

Adam Kardos

November, 2013

**Home address:** Tegez utca 185, 4031 Debrecen, Hungary.

**E-mail address:** adam.kardos@mib.infn.it

**Institute:** INFN, sez. di Milano-Bicocca, Universita Degli Studi di Milano-Bicocca, Dip. di Fisica "G. Occhialini"

**Address of Institute:** Piazza della Scienza, 3, 20126 Milano, Italy

**Tel.:** +39-02-64482526.

**Fax:** +39-02-64482582.

I was born in Debrecen, Hungary on 10th March, 1985. My nationality is Hungarian. My residence is in Sesto San Giovanni, Italy. I received my university education and my PhD from University of Debrecen, Hungary, my diploma and thesis adviser was Prof. Zoltán Trócsányi.

I am a member of the Helac collaboration and the Higgs Cross Section Working Group. I am an author of the HELAC-NLO program package aiming at automated Next-to-Leading-Order (NLO) calculations and am an author of PowHel, a program for NLO QCD and parton shower matching using POWHEG-BOX and HELAC-NLO.

I work on automated one-loop amplitude calculations and on the matching of NLO QCD processes to parton shower programs. In the recent past I made significant contribution to the field by carrying out matching for various top-quark pair related processes at NLO QCD accuracy to parton shower programs, such as  $t\bar{t}j$ ,  $t\bar{t}H$ ,  $t\bar{t}A$ ,  $t\bar{t}Z$ ,  $t\bar{t}W^\pm$  and  $t\bar{t}b\bar{b}$  production. My results are widely used by experiments as theoretical predictions of backgrounds for various physics searches. I closely work together with the  $t\bar{t}H$  working group of ATLAS to measure the Higgs coupling to the top-quark. At the present I work together with Costas Papadopoulos, Zoltán Trócsányi and Maria-Vittoria Garzelli to match further processes at the NLO QCD accuracy to parton showers using PowHel. I also work with Paolo Nason and Carlo Oleari on the extension of POWHEG-BOX and to apply the POWHEG-method for NLO+PS matching for various processes.

## Education, workshops:

- October, 2013: School of Analytic Computing in Theoretical High-Energy Physics, Atrani, Italy.
- August, 2013: Aspen Center for Physics: Implications of LHC Higgs-Like Signals workshop, Aspen, USA.
- August, 2011: QCD@LHC Workshop, St. Andrews, Great Britain.
- July, 2010: Cargese 2010: Physics at TeV Colliders Summer Institute, Cargese, France.
- March, 2010: MC4LHC: Readiness Workshop, CERN, Geneva, Switzerland.
- September, 2009 - November, 2010: Early Stage Researcher at NCSR Demokritos in Athens, Greece, supervisor: Costas Papadopoulos.
- 2009 - 2012: PhD student at the Experimental Physics Department of the University of Debrecen, Debrecen, Hungary, thesis advisor: Zoltan Trocsanyi .
- May, 2009: MC4LHC: From Parton Showers to NNLO, CERN, Geneva, Switzerland.
- April, 2009: Computer Algebra and Particle Physics School, DESY, Zeuthen, Germany.
- August, 2008: CTEQ-MCnet Summer School, Debrecen, Hungary.
- March, 2008: Bolyai Intensive Course, Budapest, Hungary.
- October, 2007: School of Theoretical Physics, Gyöngyöstarján, Hungary.
- September, 2007: Parma International School of Theoretical Physics, Parma, Italy.
- 2004 - 2009: Undergraduate studies in physics at University of Debrecen, Debrecen, Hungary.

## Work experience:

- March, 2013 - September, 2013: Particle Physics Research Group at University of Debrecen.
- December, 2012 - March, 2013: LHCPhenoNet Postdoctoral Fellow at INFN, sez. di Milano-Bicocca and University of Milano-Bicocca.

- September, 2009 - December, 2012: PhD student at University of Debrecen, Hungary, advisor: Zoltán Trócsányi.
- September, 2009 - November, 2010: HEPTools Early Stage Researcher at Demokritos National Centre for Physics, Athens, Greece, Tutor: Costas Papadopoulos.

### **Talks, seminars:**

- June, 2013: *invited talk*, tTH workshop organized by ATLAS, CERN, Geneva, Switzerland.
- May, 2013: *invited seminar*, University of Florida, Tallahassee, USA.
- May, 2013: *invited talk*, LoopFest XII, University of Florida, Tallahassee, USA.
- June, 2012: *invited talk*, Event Generators and Resummation, DESY, Hamburg, Germany.
- April, 2012: *invited talk*, DIS2012, Bonn, Germany.
- March, 2012: talk, LHCPHenoNet Annual Meeting, Chester le Street, Great Britain.
- April, 2011: *invited seminar*, Università Degli Studi di Milano-Bicocca, Milan, Italy.
- February, 2011: talk, LHCPHenoNet Kick-Off Meeting, Valencia, Spain.

### **Qualifications:**

- 2012: Ph.D. in physics
- 2009: M.Sc. in physics with special honors.

### **Fellowships, scholarships:**

- December, 2012 - March, 2014: LHCPHenoNet Postdoctoral Fellow.
- 2009: Scholarship of the Republic of Hungary.
- August, 2008: Summer Scholarship at University of Debrecen.
- 2008: Scholarship of the Republic of Hungary.
- 2007: Scholarship of the Republic of Hungary.

- 2006-2009: Member of the Programme for Talented Students at University of Debrecen.

**Awards:**

- March, 2013: Youth Award for Outstanding Research at the Nuclear Physics Institute of Hungarian Academy of Sciences.
- 2009: Second prize on the National Conference of Hungarian Physics Students.