

TOMÁŠ PILAŘ

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EDUCATION

University of Warwick, UK

October 2010 - Present

PhD in Physics

Focus on Particle Physics, Thesis on Charm Mixing and Dalitz Plots

The study included a concurrent course on Transferrable Doctoral Skills

Spent 14 months in CERN on a Long Term Attachment

University of Warwick, UK

October 2006 - June 2010

MMathPhys upper second class with honors (2.1)

Fourth year focus on Particle Physics with a project on Charm Mixing

General areas of study include: Mathematical Analysis, Linear Algebra, Knot Theory, Astrophysics, Statistical methods, Scientific Programming

Bilingual English-Slovak Grammar School of Milan Hodža

September 2001 - June 2006

A-Level equivalent school leaving examination in Mathematics with higher Mathematics (A), Physics(A), IT(A), Chemistry(A), English Language and Literature(A) and Slovak Language and Literature(B)

POSITIONS OF RESPONSIBILITY

GAUSS Simulation Group

October 2011 - Present

Decay Files repository manager

LHCb Collaboration, CERN

- Part of service work includes organizing and managing a large database of configuration files for Monte Carlo production.
- Developed tools that automated the validation of new configuration files leading to significant reduction in complexity for new users.

EvtGen Development Group

October 2010 - Present

Development and technical support

University of Warwick, UK

- Updated the master configuration file for EvtGen heavy flavour generator listing every decay mode of every particle handled.
- Developed automation tools that helped reduce the length of the regular update from 6 months to about two of weeks.
- Commissioned and administrated the communications server and the hosted webpage (evtgen.warwick.ac.uk).

LHCb UK Student Group

June 2012 - December 2012

Convener

LHCb Collaboration, CERN

- Convened and organized talks for an LHCb CERN based group providing introductory and advanced talks aimed at PhD Students doing an internship at CERN.
- Gave a 30' introductory talk on the LHCb Detector.

Mathematics for Physicists Course

October 2010 - June 2010

Teaching Assistant

University of Warwick

- Taught two support classes of Mathematics for Physicists for 1st year Physics students.
- Prepared students for the most difficult exam of 1st year Physics.

University of Warwick Computing Society

February 2007 - January 2009

Co-President (Dual Presidency)

University of Warwick, UK

- Presided over active society with both academic and leisure interests along with excellent IT equipment that provides technical services for majority of other student societies at university.
- The society counted ~ 150 members, during my term the society acquired significant amount of leisure equipment for weekly social gatherings.
- Greatly enhanced the library of software available for weekly gatherings (including porting non-native software to Linux).

- Organized and ran LAN parties for up to 60 people six times a year.
- Restructured the executive committee to better run the society - introduced the dual presidency principle.

Student Associate Scheme for Secondary Schools

October 2007 - March 2008

Student Associate

University of Warwick

- Took part in a course learning to teach Mathematics at Secondary Schools
- Underwent a two-week paid internship at Tile Hill Wood School and Language College

HOBBIES, INTERESTS AND OTHER SKILLS

Computer Languages	C/C++, Python
Web Development	Apache, CSS, PHP, Django, MySQL
OS competence	Linux, Windows
Office Tools	MS Office, LibreOffice, LaTeX
Data Analysis	ROOT, RooFit, CERN software
Spoken Languages	Slovak, English (Bilingual), French (Intermediate)

Hobbies

CERN Board Games Society
 University of Warwick Computing Society
 University of Warwick Science Fiction and Fantasy Society
 Bilingual English Slovak Grammar School Debating Club

RESEARCH INTERESTS

Charm physics	Monte Carlo production
Neutral charm meson mixing and CP violation	Decay model implementation
Dalitz analysis, Multivariate analysis	EvtGen development

CONFERENCES AND PUBLICATIONS

Thesis	To be finished in March 2014
<i>Charm mixing in $D^0 \rightarrow K_S \pi \pi$ at LHCb</i>	<i>University of Warwick</i>

- Analysis is expected to result in a published paper.
- We use and cross-check three different extraction methods for charm mixing parameters.
- The analysis was one of the flagships for an advanced technique for correction of lifetime bias at LHCb.

Large Hadron Collider Physics Conference

May 2013

Charm mixing and CP violation at LHCb

Barcelona, Spain

- Gave a 15' parallel session talk on the state of the Charm mixing and CP violation analyses at LHCb in May 2013.

Institute of Physics HEP Conference

April 2013

Measuring charm mixing parameters using a model-independent technique in $D^0 \rightarrow K_S hh$

Liverpool, UK

- Gave a 20' talk presenting a model independent way of extracting mixing parameters using the $D^0 \rightarrow K_S hh$ channel using Dalitz plots.
- Produced and shown a poster on the same topic.