# Prof. Simone Donati

University of Pisa and INFN Sezione di Pisa

Polo Fibonacci, Largo B. Pontecorvo, 3, I-56127 Pisa, Italy

**EDUCATION**

**Ph.D.** **Physics, University of Pisa, Italy** **1997**

**Thesis: "A Strategy to Measure the CP Asymmetry in the $B^0 \to \pi^+\pi^-$ Decay Mode at CDF"**

**Advisor: Prof. Giovanni Punzi**

**B.S.** **Physics, University of Pisa** **1993**

**Thesis: "Project of a Trigger Dedicated to the $B^0 \to \pi^+\pi^-$ Decay Mode at CDF"**

**Advisor: Prof. Luciano Ristori**

**EMPLOYMENT HISTORY**

**Associate Professor, University of Pisa** **employee at University of Pisa** **2007-present**

**Research Scientist, INFN Sezione di Pisa** **2005-2007**

**Postdoctoral Research Fellow, University of Pisa** **1998-2005**

**Guest Scientist at Fermi National Accelerator Laboratory** **1997-1998**

**PRIMARY ANALYSES**

**Collider Detector at Fermilab**

Measurement of the Upsilon production cross section

Measurement of the resonant structures of the $\Lambda^0_b \to \Lambda^+_c \pi^- \pi^+\pi^-$ Decay Mode

Direct CP Violation in the $B^0_s \to K^- \pi^+$, $\Lambda^0_b \to p \pi^-$ and $\Lambda^0_b \to pK^-$ Decay Modes

Observation of $B^0_s \to K^- \pi^+$, $\Lambda^0_b \to p \pi^-$ and $\Lambda^0_b \to pK^-$ Decay Modes

Observation of $B^0_s \to K^+K^-$ and Measurement of $B^0_{(s)} \to h^+h^-$ Branching Fractions

Partial Widths and Direct CP Violation in $D^0 \to K^- K^+$ and $D^0 \to \pi^-\pi^+$ Decay Modes

**EXPERIENCE**

**Research Scientist, University of Pisa**

Member (European Coordinator) of the CDF speakers Committee

Co-leader of the CDF Trigger Dataset Working Group (October 2009-2011)

B Group representative in the CDF Trigger Dataset Working Group

**Research Scientist, INFN Sezione di Pisa**

Developed the simulation of the upgraded CDF Level 2 calorimeter trigger

Leader of the CDF (eXtremely Fast Tracker) XFT upgrade group in Pisa

Developed the simulation of the upgraded XFT

Designed the ALICE trigger on the Time of Flight detector

**Postdoctoral Research Fellow, University of Pisa**

Leading contributor to the (Silicon Vertex Trigger) SVT project at CDF

Worked on the SVT commissioning at Fermilab

Designed, tested, installed and commissioned the XFT fanout system of the SVT

**Guest Scientist at Fermi National Accelerator Laboratory**

Worked on the (Intermediate Silicon Layers) ISL detector project at CDF

Designed the hadronic B trigger strategy for CDF Run II

**SELECT CONFERENCE PRESENTATIONS**

*The Italian Summer Students Program at the Fermi National Accelerator Laboratory*
Fifth International Conference of Education, Research and Innovation, Madrid, Spain, November 2012

*Baryons and Lifetimes*
8th Flavour Physics and CP Violation Conference, Torino, Italy, May 2010

*Flavour Physics Technique at CDF and D0*
7th Flavour Physics and CP Violation Conference, Lake Placid, NY, May 2009

*$D^0$ Mixing at the Tevatron*
5th Int. Workshop on the CKM Unitarity Triangle, Rome, Italy, September 2008

*Charmless B Decays at CDF*
10th Int. Conference on B Physics at Hadron Machines, Assisi, Italy, June 2005

*B Physics at the Tevatron*
American Physical Society Meeting, Philadelphia, PA, April 2003

*All Hadronic B Decay Trigger with the CDF Silicon Vertex Tracker*
Poster presented at the 8th Int. Symposium on Heavy Flavour Physics, Southampton, UK, July 1999

**SELECT PUBLICATIONS**

D. Acosta *et al.* (CDF Collaboration), Phys. Rev. Lett. **94**, 122001 (2005) "Measurement of Partial Widths and Search for Direct CP Violation in $D^0$ Meson Decays to $K^- K^+$ and $\pi^-\pi^+$"

A. Abulencia *et al.* (CDF Collaboration), Phys. Rev. Lett. **97**, 211802 (2006) "Observation of $B^0_s \to K^+K^-$ and Measurement of Branching Fractions of Charmless Two-Body Decays of $B^0$ and $B^0_s$ Mesons"

T. Aaltonen *et al.* (CDF Collaboration), Phys. Rev. Lett. **103**, 031801 (2009) "Observation of New Charmless Decays of Bottom Hadrons"

A. Abulencia *et al.* (CDF Collaboration), Phys. Rev. Lett. **97**, 242003 (2006) "Observation of $B^0_s$ Oscillations"

T. Aaltonen *et al.* (CDF Collaboration), Phys. Rev. Lett. **106**, 181802 (2011) "Measurements of Direct CP Violating Asymmetries in Charmless Decays of Strange Bottom Mesons and Bottom Hadrons"

A. Abulencia *et al.*, IEEE Trans. Nucl. Sci. **55**, 126 (2008) "The CDF II eXtremely Fast Tracker Upgrade"

A. Bhatty *et al.*, Nucl. Instr. Meth. **A598**, 331 (2009) "The CDF Level 2 Calorimetric Trigger Upgrade"

W. Ashmanskas *et al.*, Nucl. Instr. Meth. **A518**, 532 (2004) "The CDF Silicon Vertex Trigger"

A. Akindinov *et al.*, Nucl. Instr. Meth. **A602**, 372 (2009) "A Topological Trigger Based on the Time of Flight Detector for the ALICE Experiment"

**TEACHING**

Teaching in several General Physics and Experimental General Physics courses at the University of Pisa

Advisor of several Master Degree Theses in Physics and Electronics Engineering on CDF data analysis, and electronics projects for CDF, ATLAS and Mu2e

Organized several internship programs in USA for Italian Physics, Astrophysics, Astronomy, Engineering and Computing Science students:

INFN-DOE Italian Summer Students program at Fermi National Accelerator Laboratory in the years 2008-2020

ISSNAF-INFN internship program in the years 2010-2012

ISSNAF-INAF internship program in the year 2011

ISSNAF-CAIF-ASI internship program in the years 2012-2020

ISSNAF-CNI internship program at Fermilab in the years 2013-2014