Christopher G. Tully

Professional Preparation

B.S. Physics, Caltech, 1992
Merit Scholarships (1990-1992), Green and Fisher Awards (1991).

Ph.D. Physics, Princeton, 1998
Dissertation: *Baryon Production in Z Decay* (advisor: P. Piroué)
Joseph Henry Award (1992), Williams Fellowship (1992-1993), NSF Fellowship (1993-1996), Feynman Commemorative Award (Erice, Sicily 1994).

Appointments

2010-present	Professor, Princeton University. Department of Physics.
	Associate Chair for Undergraduate Education (2014-present).
	IBM Einstein Fellowship, Institute for Advanced Study (2010-2011).
2006-2010	Associate Professor, Princeton University. Department of Physics.
2000-2006	Assistant Professor, Princeton University. Department of Physics.
	Sloan Foundation Research Fellowship (2003-2005).
1998-2000	CERN Fellowship. European Laboratory for Particle Physics, Switzerland.

Field of Specialization: Experimental particle physics, relic neutrino detection, electroweak symmetry breaking and the origin of mass, study of the Higgs sector at the highest achievable energies, and particle detector technologies.

Publications and Products

1. Khachatryan, V. and others [CMS Collaboration], Observation of the diphoton decay of the Higgs boson and measurement of its properties, Eur. Phys. J **C74** (2014) 10, 3076.
2. Lisanti, M., Safdi, B., Tully, C.G., Measuring Anisotropies in the Cosmic Neutrino Background, Phys. Rev. D **90** (2014) 7, 073006.
3. Chatrchyan, S. and others [CMS Collaboration], Observation of a new boson with mass near 125 GeV in pp collisions at $\sqrt{s} = 7$ and 8 TeV, JHEP **1306**, 081 (2013).
4. Dawson, S. and others, Working Group Report: Higgs Boson, arXiv:1310.8361 [hep-ex].
5. de Gouvea, A. and others, Neutrinos, `http://arxiv.org/abs/1310.4340`.
6. Betts, S. and others, Development of a Relic Neutrino Detection Experiment at PTOLEMY: Princeton Tritium Observatory for Light, Early-Universe, Massive-Neutrino Yield, `http://arxiv.org/abs/1307.4738`.
7. Lucchini, M. and others, Test beam results with LuAG fibers for next-generation calorimeters, JINST **8**, P10017 (2013).
8. Henley, E. and Ellis, S., (editors), chapter on 4π detectors by Tully, C., 100 Years of Subatomic Physics. World Scientific (2013) ISBN: 978-981-4425-79-7, 560 pp.
9. Chatrchyan, S. and others [CMS Collaboration], Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC, Phys. Lett. B **716**, 30 (2012).
10. Tully, C., Elementary Particle Physics in a Nutshell. Princeton University Press (2011) ISBN: 978-0-691-13116-0, 320 pp.

Journal articles in particle physics and detector development (open-access link):
`http://inspirehep.net/search?ln=en&p=find+a+c.+tully&f=&action_search=Search`

Collaborations and Activities Related to Research

1. PTOLEMY at Princeton University/PPPL (2012-present). Development of a particle physics approach to detecting neutrinos produced in the early universe with a new experiment called PTOLEMY (Princeton Tritium Observatory for Light, Early Universe, Massive Neutrino Yield).

2. CMS Experiment at CERN (1994-present). Major physics contributions to the Higgs boson discovery with di-photon trigger channels, Higgs boson mass measurement, scalar Lepto-Quark searches in three mass generations, search for supersymmetry through strong production of scalar top-quark pairs and fully hadronic final-states, Higgs portal new particle production and the search for elementary spin-3/2 particles. Co-coordinator of the Phase-2 Fast Timing Working Group (2014-present); Co-coordinator of the Phase-1 LHC Hadron Calorimeter Upgrade Project (2009-2012); Chair of the International CMS Hadron Calorimeter Institution Board (2009-2012); Co-director of the LHC Physics Center at Fermilab (2007-2008); Co-coodinator of the Detector Performance Group of the Hadron Calorimeter (2007-2008); founding member of the advisory group of the LHC physics center at Fermilab (2004); US Institution Board Chair for the Hadronic Calorimeter (2003-2008); Co-coordinator of the Jets and Missing Energy group (2002-2006); Member of Electromagnetic Calorimeter sub-system (1994-2000).

3. DØ Experiment at Fermilab (2002-2011). Co-leader of the Top Quark group on the DØ Experiment (2004-2006); Coordinator of Princeton-hosted Physics Workshop (2011); Measurement of the top quark mass using the Matrix Element method and lifetime tagging (2005-2006); Co-leader of the Top Quark Mass (Properties) subgroup (2003-2004); Leader and Institution Board Representative for the Princeton High-Energy Physics Group on the DØ Experiment.

4. L3 Experiment at CERN (1989-2001). Run Coordinator (rotating 1999-2000). Higgs Analysis Coordinator (1999-2001). Convener of LEP Combined Results for Standard Model Higgs Search.

5. Presented the following public lectures and summer school lectures on Elementary Particle Physics, *Chalonge Meudon Workshop*, Observatoire de Paris at Meudon, France (June 4-6, 2014); *PiTP Summer School Lectures*, Princeton, NJ (July 19, 2013); *SLAC Summer School Lectures*, Menlo Park, CA (July 23-24, 2012); *CERN-FNAL Summer School*, CERN, Geneva, Switzerland (June 12-14, 2009); *American Museum of Natural History, Hayden Lecture*, New York, NY (January 14, 2008); *Princeton Center for Theoretical Research*, Princeton, NJ (March 22, 2007); *SLAC Summer School Lectures*, Menlo Park, CA (July 24-25, 2006); *PiTP Summer School Lectures*, Princeton, NJ (July 25-26, 2005); *TASI Summer School Lectures*, Boulder, Colorado (June 12-13, 2003).

Collaborators (past 48 months): Dr. James Freeman, Fermilab; Prof. Maria Spiropulu, Caltech; Dr. Sebastian White, Rockefeller.

Current and Graduated Ph.D. Students: Jeremiah Mans (*02) appointed Prof. at Minnesota, Wade Fisher (*05) appointed Asst. Prof. at Michigan State University (2009) and Lederman Fellow (2006), Robert Wagner (*08) lecturer at Illinois State University, Joe Haley (*09) appointed Asst. Prof. at Oklahoma State University (2013), Davide Gerbaudo (*10) now at UC Irvine, Edward Laird (*11) now at Brown University, Xiaohang Quan (*13) now at Bain Capital, Edmund Berry (*14) now at Brown University, Tatiana Medvedeva (*14), Halil Saka, Joshua Hardenbrook, Suerfu, Kelvin Mei. URA Fellowships for J. Haley (2009), D. Gerbaudo (2008,2010), and H. Saka (2010). Princeton University Research Board Tuition Award for W. Fisher (2002-2003).

Post-Doctoral Associates: Sue Ann Koay (Dicke Fellowship 2012-present), Ariel Schwartzman (Dicke Fellowship 2003-2005) appointed Assoc. Prof. at SLAC (2011) and Pansofky Fellow (2006).

Advisory Committees: Fermilab Detector R&D Reviewer (2014), Atlas BNL Director's Review Member (2014), Snowmass Higgs Working Group Chair (2012-2013), Princeton Institute for Computational Science and Engineering (PICSciE) Executive Committee Member (2012-present).