

**David J. Tedeschi**, Professor of Physics

### Professional Preparation

Rensselaer Polytechnic Institute	Troy, NY	Physics	BS	1987
Rensselaer Polytechnic Institute	Troy, NY	Physics	PhD	1993
University of Pittsburgh	Pittsburgh, PA	Nuclear Physics	Postdoctoral	1993-1997

### Appointments

2010-Present	Professor of Physics, University of South Carolina, Columbia, SC
2010-2011	Physicist, South Carolina Oncology Associates, Columbia, SC
2004-2010	Associate Chair and Director of Graduate Studies, Dept. of Physics & Astronomy, USC
2002-2009	Associate Professor of Physics, University of South Carolina, Columbia, SC
2007-2009	Chair, Hall B Collaboration, TJNAF, Newport News, VA
2006-2008	User Group Board of Directors, TJNAF, Newport News, VA
2005-2007	Executive Committee, APS Topical Group on Hadronic Physics
1997-2002	Assistant Professor of Physics, University of South Carolina, Columbia, SC
1997-1998	Jefferson Lab Bridge Faculty Scientist, TJNAF, Newport News, VA

### Publications

1. "Search for neutrinoless double- beta decay in  $^{76}\text{Ge}$  with 26 kg-yr of exposure from the Majorana Demonstrator", S. I. Alvis, (Majorana Collaboration), *Phys. Rev. C*, accepted April 2019.
2. "Multi-site event discrimination for the MAJORANA DEMONSTRATOR", S.I. Alvis *et al.* (Majorana Collaboration), *Phys. Rev. C* – accepted April 2019.
3. ! "Search for Tri-Nucleon Decay in the MAJORANA DEMONSTRATOR", S.I. Alvis *et al.* (Majorana Collaboration), *Phys. Rev. D* **99**, 072004 (2019).
4. ! "First Limit on the direct detection of Lightly Ionizing Particles for Electric Charge as Low as  $e/1000$  with the MAJORANA DEMONSTRATOR", S.I. Alvis *et al.* (Majorana Collaboration) *Phys. Rev. Lett.* **120**, 211804 (2018).
5. ! "Search for Neutrinoless double beta decay in  $^{76}\text{Ge}$  with the MAJORANA DEMONSTRATOR", C. E. Aalseth *et al.* (Majorana Collaboration) *Phys. Rev. Lett.* **120**, 132502 (2018).
6. ! "The Processing of Enriched Germanium for the MAJORANA DEMONSTRATOR and R&D for a Next Generation Double-Beta Decay Experiment", N. Abgrall *et al.* (Majorana Collaboration), *Nucl. Instrum. and Meth. in Phys. Res. A* **877**, 314 (2018).
7. ! "The MAJORANA DEMONSTRATOR calibration system", N. Abgrall *et al.* (Majorana ! Collaboration), *Nucl. Instrum. and Meth. in Phys. Res. A* **872**, 16 (2017). !
8. ! "Muon Flux Measurements at the Davis Campus of the Sanford Underground Research Facility with the Majorana Demonstrator Veto System", N. Abgrall *et al.* (Majorana Collaboration),

Astroparticle Physics **93** (2017) 70-75. arXiv:1602.07742v2 [nucl-ex].

9. "New Limits on Bosonic Dark Matter, Solar Axions, Pauli Exclusion Principle Violation, and Electron Decay from the MAJORANA DEMONSTRATOR", N. Abgrall *et al.* (Majorana Collaboration), Phys. Rev. Lett. **118**, (2017) arXiv:1612.00886 [nucl-ex]

10. "The Majorana Demonstrator Radioassay Program", N. Abgrall *et al.* (Majorana Collaboration), Nucl. Instrum. and Meth. in Phys. Res. A **828**, 22 (2016).

### **Synergistic Activities**

- Member of the NERSC User Group Executive Board (Elected)
- Proposed and developed a new Astronomy 101 course using peer-instruction and active learning techniques.

### **Collaborators And Other Affiliations**

Senior U.S. members of the Majorana and LEGEND collaborations:

I.J. Arnquist (Pacific Northwest National Laboratory), F.T. Avignone III (Univ. of South Carolina), M. Busch (Duke), T. Caldwell (Univ. of North Carolina), Y-D. Chan (Lawrence Berkeley National Laboratory), C.D. Christofferson (South Dakota School of Mines and Technology), J.A. Detwiler (Univ. of Washington), Yu. Efremenko (Univ. of Tennessee), S.R. Elliott (Los Alamos National Laboratory), A. Galindo-Uribarri (Oak Ridge National Laboratory), G. Giovanetti (Princeton Univ.), V. Guiseppe (Univ. of South Carolina), M.P. Green (North Carolina State Univ.), J. Gruszko (MIT), R. Henning (Univ. of North Carolina), E.W. Hoppe (Pacific Northwest National Laboratory), M.F. Kidd (Tennessee Tech Univ.), R.T. Kouzes (Pacific Northwest National Laboratory), K. Lang (Univ. of Texas - Austin), D. Loomba (Univ. of New Mexico), R. Massarczyk (Los Alamos National Laboratory), D. Mei (Univ. of South Dakota), A.W.P. Poon (Lawrence Berkeley National Laboratory), D.C. Radford (Oak Ridge National Laboratory), K. Rielage (Los Alamos National Laboratory), R.G.H. Robertson (Univ. of Washington), R.L. Varner (Oak Ridge National Laboratory), J.F. Wilkerson (Univ. of North Carolina), W. Xu (Univ. of South Dakota), C.-H. Yu (Oak Ridge National Laboratory)

### **Graduate and Postdoctoral Advisors**

Graduate Advisor: Gary Adams, Rensselaer Polytechnic Institute

Postdoctoral Advisor: Steve Dytman, Wilfried Daehnick, University of Pittsburgh

### **Thesis Advisees and Postgraduate-Scholars**

Graduate Students: !

David Edwins (current) !

Thomas Lannen (current) !

Wondessen Gebreamlak (Ph.D. 2012), Medical Physicist – S. C. Oncology Associates, Columbia, SC

Nathan Baltzell (Ph.D. 2009) – Postdoctoral Scholar – Jefferson Lab, Newport News, Va

Ebtisam Aldais (M.S. 2012), PhD 2016 Dept. of Biomedical Engineering, USC

Jonathan Stenbeck (M.S. 2009) – Medical Physicist, Greenville Health System, Greenville, SC

### Postdoctoral Scholars

Olekzander Dzyubak (2001–2006) "Cryogenic Target Development for JLab Experiments" now a medical physicist at Memorial Sloan-Kettering, NYC

Mike Wood (2000–2004) "Photoproduction Experiments at Jefferson Lab" – Assoc. Professor at Canisius College, Buffalo, NY