

**a. Professional Preparation**

*Education:* B.Sc. (First Class Honors), Physics and Applied Mathematics,  
La Trobe University, Melbourne, Australia, 12/81  
Ph.D., Rice University, 5/87

*Postdoctoral Positions:* Research Associate, Rice University, 6/87 – 10/90.  
Senior Research Associate, Rice University,  
11/90 – 10/93.

**b. Appointments**

Senior Research Scientist, Rice University, 11/93 – 6/96.  
Visiting Lecturer, School of Physics,  
La Trobe University, 05/94 – 12/94.  
Faculty Fellow, Rice University, 7/96 – 6/00.  
Assistant Professor of Physics and Astronomy, 07/00 – present.

**c. Publications:***1. Publications closely related to the project*

Toffoletto, F. R., R.W. Spiro, R.A. Wolf, M. Hesse, and J. Birn, Self-consistent modeling of inner magnetospheric convection, in *Third International Conference on Substorms (ICS-3)*, edited by E.J. Rolfe, and B. Kaldeich, pp. 223-230, ESA Publications Division, Noordwijk, The Netherlands, 1996.

Toffoletto, F. R., R. W. Spiro, and R. A. Wolf, J. Birn and M. Hesse, Computer experiments on substorm growth and expansion, in the Proceedings of the Fifth International Conference on Substorms – 5 (ICS-5), ESA SP-443, pp 351, July 2000.

Toffoletto, F. R., J. Birn, M Hesse, R. W. Spiro and R. A. Wolf, Modeling Inner Magnetospheric Electrodynamics, in *Space Weather, Geophys Monograph Ser., 125*, edited by P. Song, H. Singer, G. Siscoe, pp. 265, 2001.

Lemon, C., F. Toffoletto, M. Hesse, and J. Birn, Computing magnetospheric force equilibria, *J. Geophys. Res.*, 108(A6), 1237, doi:10.1029/2002JA009702, 2003.

Toffoletto, F. R., S. Sazykin, R. W. Spiro and R. A. Wolf, Modeling the Inner Magnetosphere using the Rice Convection Model (review), *Space Science Reviews*, WISER special issue, 108, 175-196, 2003.

*2. Other significant publications:*

Kloucek, P, and F. R. Toffoletto, Three Dimensional Finite Element Modeling of the Earth's Magnetosphere, *J. Comput. Phys.*, 50, 549-560, 1999.

Toffoletto, F. R., and T. W. Hill, Field line mapping and Birkeland currents, in *Magnetospheric Current Systems, Geophys Monograph Ser., 118*, edited by R. Fujii, M. Hesse, R. Lysak, and S. Ohtani, 2000.

Naehr, S. M., and F. R. Toffoletto, Quantitative modeling of the magnetic field configuration associated with the theta aurora, *J. Geophys. Res.*, 109, A07202, doi:10.1029/2003JA010191, 2004.

Lemon, C., R. A. Wolf, T. W. Hill, S. Sazykin, R. W. Spiro, F. R. Toffoletto, J. Birn, and M. Hesse (2004), Magnetic storm ring current injection modeled with the Rice Convection Model and a self-consistent magnetic field, *Geophys. Res. Lett.*, 31, L21801, doi:10.1029/2004GL020914.

Naehr, S., and F. R. Toffoletto, Radiation Belt Data Assimilation with an Extended Kalman Filter, *Space Weather*, in press, 2005.

#### **d. Synergistic Activities**

##### *External Committees/Service:*

NSF Space Weather Review Panel  
NASA Review Panel, 2002  
IUGG Session co-convener, 1998  
NSF GEM GGCM Working Group co-chair  
NSF GEM Workshop Coordinator (2000-present)  
NASA Senior Review (2003)

*Editorial positions:* World Institute for Space Environment Research (WISER), co-editor

#### **e. Collaborators & Other Affiliations**

##### *(i) Collaborators:*

Birn, J., LANL	Lyon, J., Dartmouth
Chan, A, Rice University	Lyons, L., UCLA
Chen, M, Aerospace	Meade, A., Rice University
Clauer, R., University of Michigan	Naehr, S., Rice University
Goodrich, C., Boston University	Ontiveros, P. Rice University
Hausman, B., Rice University	Raeder, J., UNH
Hesse, M., NASA/GSFC	Ricci, P., Dartmouth College
Hill, T. W., Rice University	Sazykin, S., Rice University
Hudson, M., Dartmouth College,	Spiro, R. W., Rice University
Hughes, W. J., Boston University	Symes, W., Rice University
Kloucek, P., Rice University	Wang, C. P., UCLA
Lemon, C., Rice University	Wightman, J., Rice University
Liemohn, M., University of Michigan	Wiltberger, M., NCAR
Li, Y., Rice University	Wolf, R. A., Rice University

*(ii) Graduate Student and Postdoctoral Advisees (past 5 years):* Steve Naehr (PhD Rice, 2002 & postdoc.); Colby Lemon (PhD, Rice, 2005); Yining Li (Rice); Paul Ontiveros (Rice), Pavel Solin, (Rice postdoc), Jennifer Wightman, (Rice postdoc).

*(iii) Thesis and Postdoctoral Advisor:* T. W. Hill, Rice University