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# ROBIN L. TANAMACHI

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## EDUCATION:

- B.S., University of Wisconsin – Madison, Atmospheric and Oceanic Sciences, 2001
- M.S., University of Oklahoma, School of Meteorology, 2004
- Ph.D., University of Oklahoma, School of Meteorology, 2011

## PROFESSIONAL EXPERIENCE:

- 2012 – present: National Research Council Postdoctoral Fellow, National Severe Storms Laboratory
- 2011 – 2012: Postdoctoral Research Associate, University of Oklahoma, Center for Analysis and Prediction of Storms
- 2010 – 2011: Research Assistant, University of Oklahoma, Cooperative Institute for Mesoscale Meteorological Studies
- 2005: Independent Consultant, Weathernews, Inc., Tokyo, Japan
- 2002 – 2010: Research Assistant, University of Oklahoma, College of Atmospheric & Geographic Sciences, School of Meteorology
- 2000 – 2002: Research Intern, University of Wisconsin – Madison, Atmospheric & Oceanic Science, Space Science and Engineering Center

## TEACHING EXPERIENCE:

- 2007: Instructor, Severe and Unusual Weather, College of Atmospheric & Geographic Sciences, School of Meteorology
- 2012: Instructor, Radar Meteorology Training Workshop for the Nigerian Meteorological Agency (NIMET)

## EXPERTISE AND RESEARCH INTERESTS:

- Severe convective storms, tornadoes, Doppler radar, dual-polarized radar, radar data analysis, high-resolution numerical modeling of convective storms and tornadoes, radar data assimilation, ensemble Kalman filter (EnKF) technique, mesoscale meteorology, atmospheric radiometry, infrared thermography, atmospheric undular bores

## PEER-REVIEWED PUBLICATIONS:

- Tanamachi, R. L., H. B. Bluestein, M. Xue, W.-C. Lee, K. A. Orzel, S. J. Frasier, and R. M. Wakimoto, 2013: Near-surface vortex structures in a tornado and a sub-tornado strength, convective-storm vortex observed by a mobile, W-band radar during VORTEX2. *Mon. Wea. Rev.*, **141**, 3661-3690.
- Tanamachi, R. L., L. J. Wicker, D. C. Dowell, H. B. Bluestein, and M. Xue, 2013: EnKF assimilation of high-resolution, mobile Doppler radar data of the 4 May 2007 Greensburg, Kansas supercell into a numerical cloud model. *Mon. Wea. Rev.*, **141**, 625-648.

- Dawson, D. T., L. J. Wicker, E. R. Mansell, and R. L. Tanamachi, 2012: Impact of the environmental low-level wind profile on ensemble forecasts of the 4 May 2007 Greensburg, KS tornadic storm and associated mesocyclones. *Mon. Wea. Rev.*, **140**, 696-716.
- Tanamachi, Robin L., H. B. Bluestein, J. B. Houser, S. Frasier, K. Hardwick, 2012: Mobile, polarimetric, X-band Doppler radar observations of the 4 May 2007 Greensburg, Kansas tornadic supercell. *Mon. Wea. Rev.*, **140**, 2103-2125.
- Walden, V. P., R. L. Tanamachi, P. M. Rowe, H. E. Revercomb, D. C. Tobin, and S. A. Ackerman, 2010: Improvements in the data quality of the Interferometric Monitor for Greenhouse Gases. *Appl. Opt.*, **49**, 520-528.
- Tanamachi, Robin L., W. F. Feltz, M. Xue, 2008: Observations and numerical simulations of rapid upper boundary layer drying and moistening events during the International H<sub>2</sub>O Project (IHOP\_2002). *Mon. Wea. Rev.*, **136**, 3106-3120.
- Bluestein, Howard B., M. M. French, R. L. Tanamachi, S. Frasier, K. Hardwick, F. Junyent, A. Pazmany, 2007: Close-range observations of tornadoes in supercells made with a dual-polarization, X-band, mobile Doppler radar. *Mon. Wea. Rev.*, **135**, 1522-1543.
- Bluestein, Howard B., C. C. Weiss, M. M. French, E. Holthaus, R. L. Tanamachi, S. Frasier, A. Pazmany, 2007: The structure of a tornado near Attica, Kansas on 12 May 2004: High-resolution, mobile, Doppler-radar observations, *Mon. Wea. Rev.*, **135**, 475-506.
- Tanamachi, Robin L., H. B. Bluestein, W.-C. Lee, M. Bell, A. Pazmany, 2007: Ground-Based Velocity Track Display (GBVTD) analysis of W-band Doppler radar data in a tornado near Stockton, Kansas on 15 May 1999. *Mon. Wea. Rev.*, **135**, 783-800.
- Tanamachi, Robin L., H. B. Bluestein, S. S. Moore, R. P. Madding, 2006: Infrared thermal imagery of cloud base in tornadic supercells. *J. of Atmospheric and Oceanic Tech.*, **23**, 1445 – 1461.

## SELECTED CONFERENCE PUBLICATIONS:

- Tanamachi, R. L., M. Xue, Y. Jung, K. A. Brewster, and M. I. Biggerstaff, 2012: EnKF assimilation of storm-scale, mobile Doppler radar data into high-resolution analyses of a weakly tornadic supercell. *26th Conf. on Severe Local Storms*, Nashville, Tennessee, American Meteorological Society, P168.
- Tanamachi, Robin L., H. B. Bluestein, M. Bell, W.-C. Lee, 2006: Progress toward improved GBVTD analysis of mobile Doppler radar data collected in tornadoes. *Proc. 23rd Conf. on Severe Local Storms*, American Meteorological Society, Boston, Massachusetts, P9.3.

## INVITED PRESENTATIONS:

- 2013: Keynote, “Unraveling Tornadoes with Mobile Doppler Radar: Scientific Storm Chasing on the Great Plains” Minnesota Skywarn Workshop, Minneapolis, Minnesota.

## PH.D. DISSERTATION:

- Tanamachi, Robin L., 2011: *Multiple cyclic tornado production modes in the 5 May 2007 Greensburg, Kansas supercell storm*, School of Meteorology, University of Oklahoma, 198 pp.

## MEMBERSHIP AND SERVICE INFORMATION:

- Member, American Meteorological Society
  - Radar Meteorology Committee (term of service: 2013 - 2016)
- Reviewer, *Mon. Wea. Rev.*, *Wea. and Forecasting*, *Elect. J. of Severe Storms Meteor.*, *Atmosphere*

## OTHER EXPERTISE:

- Extra class amateur radio operator (call sign WX0RT, exp. 2017)