

CURRICULUM VITAE

ZOLTAN TOTH

EXPERIENCE:

Senior Scientist, 10/2014 – Present, Global Systems Laboratory (GSL), Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), Boulder, CO. Research on the predictability of the atmosphere and coupled Earth system; Study of the fundamentals of data assimilation and ensemble forecasting systems; Assessment of NWP observation, analysis, and forecast error variances; Attribution of NWP errors to limitations in observing, data assimilation, and modeling systems; Statistical calibration of forecasts.

Chief, 08/2009 – 09/2014, Forecast Applications Branch (FAB), Global Systems Division, NOAA/OAR. Led research and development of fine scale data assimilation and Numerical Weather Prediction based nowcasting tools. Management contributions to the multi-agency Developmental Testbed Center (DTC).

Leader, Ensemble Team (12/2002 – 08/2009), and Global Prediction Group (GSC / SAIC, 9/1992 – 12/2002), Environmental Modeling Center (EMC), National Centers for Environmental Prediction (NCEP), National Weather Service (NWS), NOAA, Camp Springs, MD. Led research and development in ensemble forecasting, adaptive observations, and postprocessing of multi-center ensembles. Research to Operations transition: First ever operational implementations of the NCEP Global Ensemble Forecast System (GEFS), the NWS Winter Storm Reconnaissance Program (WSR), and the North American Ensemble Forecast System - NAEFS). Research (THORPEX Interactive Grand Global Ensemble – TIGGE) and executive leadership in the 10-year World Meteorological Organization research program THORPEX.

Group Leader, 09/1992 - 12/2002

Global Prediction Group, Science Applications International Corporation (SAIC, formerly General Sciences Corporation, GSC) at EMC/NCEP, Camp Springs, MD. Ensemble forecasting, predictability, and targeted observations related research and development.

Research Associate at NCEP, 09/1990 - 09/1992

National Research Council (NRC), Camp Springs, MD. Numerical sub-seasonal (90-day) forecasting (Dynamical Extended-Range Forecast, DERF90); Effects of Sea Surface Temperature on sub-seasonal numerical forecasting; Evaluation of the Madden-Julian oscillation in NCEP's global Medium Range Forecast (MRF) model.

Visiting Fellow, 09/1989 - 08/1990

Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO. Studies of stationarity, phase space dimension, and probability density characteristics of the observed extra-tropical atmospheric circulation.

Fulbright Scholar, 09/1988 - 08/1989

Department of Meteorology, University of Maryland, College Park, MD. Observationally based studies of the probability density and predictability properties of the extratropical atmospheric circulation.

Research Meteorologist, 11/1981 - 08/1988

National Meteorological Service, Budapest, Hungary. Research and operational work in medium and extended range weather forecasting and regional climate studies. Development of probabilistic forecast tools.

EDUCATION:

Doctoral Degree, Climatology, Eotvos Lorand University, Budapest, Hungary, 06/1986.

Bachelor's Degree, Meteorology, Eotvos Lorand University, Budapest, Hungary, 06/1981.

ACCOMPLISHMENTS:

- Over 80 peer-reviewed, and close to 200 other publications (incl. 8 book chapters)
- More than 400 co-authors, 7,000 citations
- Seminal contributions in the emerging scientific areas of ensemble forecasting and adaptive observations
- Over 70 invited presentations at academic, research, and operational institutes across five continents
- Presentations (many solicited) at over 200 national and international professional meetings
- Organizer, convener, or co-convener of 45 national and international scientific meetings with a total of over 2,700 participants
- Leadership in numerous international (WMO, THORPEX, EGU), national, and agency (NOAA) projects, committees, and working groups
- Member or guest on 15 national and international panels, including the Board on Atmospheric Sciences and Climate (BASC) and the U.S. Weather Research Program (USWRP)
- Editor, Nonlinear Processes in Geophysics (2001 - Present) and Idojaras (2004 - Present)
- Reviewed over 200 scientific papers and proposals for over 20 national and international meteorological, geophysical, and statistical journals and agencies
- Principle Investigator in 14 field campaigns and 7 peer-reviewed and competitive research projects
- Research or thesis advisor and/or panel member for 13 students / trainees
- 17 instructional lectures at universities and national/international training courses

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