

# SANKAR ARUMUGAM

2501 STINSON DRIVE, BOX 7908, RALEIGH, NC 27695

PHONE: (919) 515-7700

EMAIL: sankar\_arumugam@ncsu.edu

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## PROFESSIONAL PREPARATION

### **Tamilnadu Agricultural University (TNAU), Coimbatore, India**

Bachelor of Engineering in Agricultural Engineering (June 1991)

### **Indian Institute of Technology Madras (IIT-M), Chennai, India**

Master of Science by Research in Water Resources Engineering (June 1996)

### **Tufts University, Medford, MA**

Doctor of Philosophy in Water Resources Engineering (Dec, 2001)

## APPOINTMENTS

Assistant Professor, Department of Civil Engineering, NCSU (Aug 05 – Present)

Adjunct Associate Research Scientist, IRI, Columbia University, NY (Sep 05 – Present)

Associate Research Scientist, IRI, Columbia University, NY (Feb 04 – Jul 05)

Post Doctoral Research Scientist, IRI, Columbia University, NY (Dec 01 – Jan 04)

Instructor, Department of Earth Sciences, Boston University, Boston, MA (Jan 01 – May 01)

Consultant, World Bank, Washington DC (Sep 00 - Dec 00)

Research Assistant, Tufts University, Boston, MA (Aug 97- Dec 01)

Senior Project Officer, Department of Civil Engineering, IIT-M, Chennai, India (Nov 95 - Jul 97)

Research Scholar, Department of Civil Engineering, IIT-M, Chennai, India (Jan 93 - Oct 95)

## RELEVANT PUBLICATIONS

- Oh, J. and A.Sankarasubramanian (2009), Climate, streamflow and nutrients variability over the Southeastern US, under review in *Environmental Science and Technology*.
- Sankarasubramanian, A., U.Lall, N.Devineni and S.Espuneva (2009), The Role of Monthly Updated Climate Forecasts in Improving Intraseasonal Water Allocation, *Journal of Applied Meteorology and Climatology*, 48(7), 1464–1482.
- Golembesky, K., A. Sankarasubramanian, and N. Devineni (2009), Improved Drought Management of Falls Lake Reservoir: Role of Multimodel Streamflow Forecasts in Setting up Restrictions, *Journal of Water Resources Planning and Management*, 135(3), 188-197.
- Devineni, N., A. Sankarasubramanian, and S. Ghosh (2008), Multi-model Ensembling of Probabilistic Streamflow Forecasts: Role of Predictor State Space in Skill Evaluation, *Water Resources Research*, 44, W09404, doi:10.1029/2006WR005855.
- Sankarasubramanian, A., U. Lall, and S. Espuneva (2008), Role of Retrospective Forecasts of GCMs Forced with Persisted SST anomalies in Operational Streamflow Forecasts Development, *Journal of Hydrometeorology*, 9(2), 212-227.
- Sankarasubramanian, A. and U.Lall (2003), Flood Quantiles and Changing Climate: Seasonal forecasts and causal relations, *Water Resources Research*, 39 (5), art.no.1134.
- Matalas, N.C., and A.Sankarasubramanian (2003), Effect of Persistence on Trend Detection via Regression, *Water Resources Research*, 39(12), art.no.1342.
- Sankarasubramanian, A. and R.M.Vogel (2003), Hydroclimatology of the continental U.S., *Geophysical Research Letters*, 30(7), art. no. 1363.
- Sankarasubramanian, A. and R.M.Vogel (2002), Annual Hydroclimatology of the United States, *Water Resources Research*, 38(6), art. no. 1083.
- Sankarasubramanian, A., R.M.Vogel, and J.F.Limbrunner (2001), Climate elasticity of streamflow in the United States, *Water Resources Research*, 37(6), 1771-1781.

### PUBLISHED DATASETS, BOOK CHAPTERS AND REPORTS

Vogel, R. M., and A.Sankarasubramanian, [USGS Hydro-Climatic Data Network \(HCDN\): Monthly Climate Database, 1951-1990](#). Data set. Available [on-line](#) from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A.

Brown, C., E.Conrad, A.Sankarasubramanian, and S.Someshwar, The use of seasonal climate forecasts within a shared reservoir system: The case of Angat reservoir, Philippines. In Climate Change Adaptation in the Water Sector eds. Ludwig et al., Earthscan, London, 274 pp. 2009.

Sankarasubramanian, A., N.Devineni and S.Ghosh, Multi-model Ensembling of Probabilistic Streamflow Forecasts: Role of Predictor State Space in skill evaluation, Institute of Statistics Mimeo Series, Art No, 2595, North Carolina State University, 2006.

### HONORS AND AWARDS

- Early Career Award by NC Sea Grant and NC Water Resources Research Institute, 2009.
- Expert opinion paper from NCSU on climate change and water to the UNC system, 2008.
- Awarded Indian Union Ministry of Water Resources best paper award, 1997.

### SYNERGISTIC ACTIVITIES

#### Chair for the American Geophysical Union (AGU) Technical Sessions

- Multimodel Ensemble Forecasts for Climate and Streamflow – San Francisco, Fall 2007.
- Hydroclimatic Prediction and Water Management – Fall 2005.
- Surface Water Hydrology and Water Resources (POSTER) – Fall 2004 and Fall 2005.
- Methods and applications of ensemble prediction for hydrometeorology – Fall 2004
- Co-Coordinator for the Outstanding Student Paper Award for AGU- Spring 05 Meeting
- Panelist, National Science Foundation (NSF), 2008 and 2009.
- Proposal Review for NSF, Atmospheric Sciences (2007) and Hydrology (2006 and 2008).
- National Institute of Water Resources, USGS, 2006 and 2009.
- National Oceanic and Atmospheric Administration, TRACS Program 2006.
- Reviewer in 12 major journals in hydrology, water resources, and computing from 2001.

**Technical Committees:** Surface Water, Precipitation, Hydrology Section – AGU

**Professional Memberships:** AGU, AMS, American Society of Civil Engineers

### COURSES TAUGHT

**NCSU:** Engineering Hydrology, Stochastic Methods in Water and Environmental Engineering, Hydroclimatology, Hydrology and Urban Water systems

**COLUMBIA UNIVERSITY:** Management and Development of Water Systems

**BOSTON UNIVERSITY:** Introduction to Hydrogeology and Water Chemistry

### COLLABORATORS AND OTHER AFFILIATIONS

**Advisors:** Upmanu Lall (Columbia University), Richard Vogel (Tufts University)

**NC State:** Ranji Ranjithan, Downey Brill, Margery Overton, G.Mahinthakumar, Sandra Yuter, Fred Semazzi, Sujit Ghosh, Upton Hatch, Mesut Baran

**Other Collaborators:** Nicholas C. Matalas (Hydrologist), Lisa Goddard (Columbia University)

**PhD Advisees:** Naser Almanseer (2007 – Current), Naresh Devineni (2007- Current), Jeseung Oh (2007 – Current), Weihua Li (2008-Current), Hui Wang (2008-Current)

**Other PhD Committees:** 5      **Masters Committees:** 4