

# Entekhabi\_CV

## Dara Entekhabi

Date: November 20, 2024

Country of Origin: Iran

Country of Citizenship: United States

Department: Department of Civil and Environmental Engineering

## Education Records

Institution	Degree	Date	Specialization	Thesis Title
M.I.T.	Ph.D., Department of Civil Engineering	January 1990		Landsurface Hydrology Parameterization for Atmospheric General Circulation Models: Inclusion of Subgrid Scale Spatial Variability and Screening with a Simple Climate Model
Clark University	M.A., School of Geography	June 1987		
Clark University	M.A., School of Geography	June 1984		
Clark University	B.A., School of Geography	June 1983		

## Fields of Interest

### Field of Interest

Earth Observations

Land-Atmosphere Interactions

Geophysical Data Assimilation

## MIT Appointments

Title	Type	Department	Begin Date	End Date
Professor/Joint	Additional Appointment	Dept of Earth, Atmospheric, & Planetary Sciences	7/1/2000	-
Professor	Primary Appointment	Department of Civil and Environmental Engineering	7/1/2000	-
Associate Professor/Joint (Wt)	Additional Appointment	Earth, Atmospheric & Planetary Sciences	2/27/1998	6/30/2000
Associate Professor with tenure	Primary Appointment	Civil and Environmental Engineering	7/1/1997	6/30/2000
Associate Professor without tenure	Primary Appointment	Civil and Environmental Engineering	7/1/1995	6/30/1997
Assistant Professor	Primary Appointment	Civil and Environmental Engineering	7/1/1991	6/30/1995
Visiting Assistant Professor	Primary Appointment	Civil and Environmental Engineering	8/1/1990	6/30/1991
Postdoctoral Associate	Primary Appointment	Civil and Environmental Engineering	9/7/1989	7/31/1990

## Non-MIT Experience

Employer	Title	Begin Date	End Date
University of Arizona	Assistant Professor	September 1990	August 1991
Clark University	Teaching Assistant	September 1983	December 1983
Clark University	Research Assistant	January 1983	August 1985

## Honors and Awards

Award Name	Date
Engineering Distinguished Scholar, Monash University	2020
Outstanding Visiting Professorship, Tsinghua University	2019
Neil Armstrong Distinguished Visiting Professorships, Purdue University	2018
National Academy of Engineering Member	2017
American Meteorological Society's Dave & Lucille Atlas Remote Sensing Prize	2017
NASA Group Achievement Award	2017
NASA Outstanding Public Leadership Medal	2017
Hydrology Days Award	2016
Eagleson Lecture	2016

Institute of Electrical and Electronics Engineers, Inc. (IEEE) Fellow	2015
Hydrologic Sciences Award	2015
2014 Boussinesq Lecture, The Netherlands	2014
Robert E. Horton Lecture (AMS)	2012
American Meteorological Society (AMS), Fellow	2003
AGU James B. Macelwane Medal	1996
AGU Macelwane Young Scientist Medal	1996
American Geophysical Union (AGU), Fellow	1996
Istituto Veneto di Scienze, Lettere ed Arti, Cav. Arturo Parisatti Prize	1994
National Science Foundation (NSF), Presidential Young Investigator	1991

## Professorships

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Title	Type	Begin Date	End Date
Bacardi and Stockholm Water Foundations Professor	Full Chair	7/1/2004	6/30/2024
Gilbert Winslow Career Development Chair (MIT)		1994	1997

## Research/Thesis

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### PhD as Supervisor

Student Name(s)	Thesis Title	Thesis Date	Department Name	Institution Name
Salvucci, Guido D.	Hillslope and climatic influences on hydrologic flux	May 1994	Civil Engineering	MIT
Brubaker, Kaye L.	Nonlinear dynamics of water and energy balance in landatmosphere interaction	November 1994	Civil and Environmental Engineering	MIT
Reichle, Rolf	Four-dimensional data assimilation of soil moisture and temperature (joint with D. McLaughlin)	September 2000		MIT
Plaut, Karen	Hydrologic response over complex terrain	January 2001		MIT
Margulis, Steve	Adjoint sensitivity of coupled land-atmosphere system	January 2002	Civil and Environmental Engineering	MIT
Vivoni, Enrique	Distributed hydrology and hydrometeorological forecast system	May 2003	Civil and Environmental Engineering	MIT
Gong, Gavin	Eurasian snow cover teleconnections to extratropical climate variability	May 2003	Civil and Environmental Engineering	MIT
Zhou, Yuhua	Ensemble Kalman filter data assimilation of active and passive microwave measurements (joint with D. McLaughlin).	May 2005		MIT
Dunne, Susan	Development of a data assimilation framework for the estimation of soil moisture and surface fluxes from radiative brightness temperatures	January 2006	Civil and Environmental Engineering	MIT
Chatdarong, Virat	Data assimilation for multiscale and dynamic rain-fields, expected May 2006 (joint with D. McLaughlin).	May 2006		MIT
Ahanin, Adel	Hybrid ensemble and reduced rank data assimilation (joint with D. McLaughlin).	September 2008	Civil and Environmental Engineering	MIT
Ng, Gene-Hua	Estimation of spatial recharge (joint with D. McLaughlin).	September 2009		MIT
Gentine, Pierre	Coupled water and energy balance dynamics at land surfaces	February 2010	Civil and Environmental Engineering	MIT
Bateni, Mojtaba	Soil heat diffusion and surface flux estimation	September 2012		MIT
Farhadi, Leila	Surface partitioning remote sensing	December 2012		MIT

Castillo, Aldrich	Distributed hydrologic modeling	May 2014	Civil and Environmental Engineering	MIT
Magnusson, Sigurdur Petur	Large-eddy simulation of urban canyon flows	May 2014		MIT
Alemohammad, Hamed	Stochastic ensemble rainfall generation	September 2014		MIT
Konings, Alex	Microwave remote sensing of water in the soil-plant system	August 2015	Civil and Environmental Engineering	MIT
Whittleston, David	Sea-ice influence on winter-time Arctic Oscillation, expected December 2015.	December 2015		MIT
Kaighin McColl	Spectral modeling of non-local transport in turbulent boundary layers	12/31/2016		MIT
David Whittleston	Isolating the atmospheric response to regional Arctic sea ice and snow cover anomalies	6/1/2017		MIT
<b>Master's</b>				
Student Name(s)	Thesis Title	Thesis Date	Department Name	Institution Name
Brubaker, Kaye L.	Atmospheric water vapor transport: Estimation of continental recycling and parameterization of a simple climate model	July 1991		MIT
Johnson, Kevin D.	The implementation and validation of improved landsurface hydrology in an atmospheric general circulation model	July 1991	Civil Engineering	MIT
Wynn, Jennifer K.	Seasonal and geographic variability in rainstorm parameter distributions	May 1994	Civil Engineering	MIT
Gong, Gavin D.	The role of fractional rainfall coverage in atmospheric General Circulation model hydrologic processes	May 1994	Civil Engineering	MIT
Scott, Russell	The role of landsurface hydrology in GCM climate variability	August 1994	Civil Engineering	MIT
Ateljevich, Eli S.	Equilibrium seasonal water balance over complex topography	August 1995	Civil and Environmental Engineering	MIT
Long, Marybeth	Interannual variability in atmospheric water vapor transport over north European and West African regions	January 1996	Civil and Environmental Engineering	MIT
Primus, Ida	Scale-recursive estimation of precipitation using remote sensing data (S. M., joint with Professor McLaughlin).	June 1996	Civil and Environmental Engineering	MIT
Marder-Vaughn, Stephanie	Climatology of the Great Plains Low Level Jet using balanced flow model with linear friction	June 1996	Civil and Environmental Engineering	MIT
Martello, Robert	Land-atmosphere interaction and atmospheric mixed layer height evolution	June 1996		MIT
DeLuca, Cecelia	Means and variability of some aspects of the hydrological cycle (joint with Professor Peter Stone of MITEAPS).	August 1996	MITEAPS	MIT
Wetzel, Suzanne W.	An investigation of wave-induced momentum flux through phase averaging of open ocean wind and wave fields (reader of MITWHOI Joint Program Thesis).	August 1996	MITWHOI Joint Program	MIT
Hom, Conan	Hourly realizations of precipitation from poisson rectangular pulse storms	December 1997		MIT
Friedman, Karen S.	Interannual variability in GCM hydrologic cycle	December 1997		MIT
DeSilva, Radhika	Consistency in water balance models in different systems of the MIT Global Change Integrated Assessment	May 1998		MIT
Margulis, Steve	Temporal disaggregation of satellite-derived monthly precipitation estimates for use in hydrologic applications	May 1998	Civil and Environmental Engineering	MIT
Pinheiro, Ana	Relationship between satellite-derived NDVI and surface hydrology	June 1998	Civil and Environmental Engineering	MIT
Limbrunner, James	Climatic elasticity of streamflow in the United States (student of Professor Richard Vogel, Tufts University)	August 1998		Tufts University
Kistler, Michael	Simulation of the U.S. Great Plains low-level jet using spatiallycoupled mixed layer models	January 1999	Civil and Environmental Engineering	MIT
Saito, Kazuyuki	Pathways of Eurasian snow cover impacts on wintertime extratropical climate variability	May 2000	Earth, Atmospheric, and Planetary Sciences	MIT
Patel, Jiganesh	The use of satellite remote sensing to determine land water runoff	May 2001	Earth, Atmospheric, and Planetary Sciences	MIT

Dunne, Susan	Hydrology and terrestrial ecology component in the MIT Integrated Assessment framework	January 2002	Civil and Environmental Engineering	MIT
Van Horne, Matt	Multiscale precipitation nowcasting	May 2003	Civil and Environmental Engineering	MIT
Spyropoulou, Katerina	Interpretation of tectonics from digital elevation data in the San Gabriel Mountains, CA : Evaluation of methods and data sources	May 2003		MIT
Lundgren, Elizabeth	Snow-Atmosphere coupling over Eurasia and its response to climate change	May 2009	Civil and Environmental Engineering	MIT
Natale, Elisabetta	Dam-break analysis in Chile	May 2009	Civil and Environmental Engineering	MIT
Fletcher, Sarah	Risk Assessment of Groundwater Contamination from Hydraulic Fracturing Fluid Spills in Pennsylvania	May 2012	Engineering Systems Division	MIT

## Publications

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### Papers in refereed journals

Publication Name and Url	Publication Date
Nicholson, S. E. and D. Entekhabi, 1986: The quasi-periodic behavior of rainfall variability in Africa and its relationship to the Southern Oscillation, Archives for Meteorology, Geophysics, and Bioclimatology, Series A., 34, 311-348.	1986
Nicholson, S. E. and D. Entekhabi, 1987: Rainfall variability in Equatorial and Southern Africa: Relationship with sea surface temperatures along the Southwestern coast of Africa, Journal of Climate and Applied Meteorology, 26(5), 561-578.	1987
Entekhabi, D., I. Rodriguez-Iturbe, and P. S. Eagleson, 1989: Probabilistic representation of the temporal rainfall process by a modified Neyman-Scott rectangular pulses model: Parameter estimation and validation, Water Resources Research, 25(2), 295-302.	1989
Entekhabi, D. and P. S. Eagleson, 1989: Land surface hydrology parameterization for atmospheric General Circulation models including subgrid scale spatial variability, Journal of Climate, 2(8), 816-831.	1989
Islam, S., D. Entekhabi, R. L. Bras and I. Rodriguez-Iturbe, 1990: Parameter estimation and sensitivity analysis of the modified Bartlett- Lewis rectangular pulses model, Journal of Geophysical Research, 95 (D3), 2093-2100.	1990
Entekhabi, D. and P. S. Eagleson, 1991: Climate and the equilibrium state of land surface hydrology parameterizations, Surveys in Geophysics, 12, 205-220.	1991
Rodriguez-Iturbe, I., D. Entekhabi, J.-S. Lee and R. L. Bras, 1991: Nonlinear dynamics of soil moisture at climate scales, 2. Chaotic analysis, Water Resources Research, 1907-1916.	1991
Rodriguez-Iturbe, I., D. Entekhabi and R. L. Bras, 1991: Nonlinear dynamics of soil moisture at climate scales, 1. Stochastic analysis, Water Resources Research, 27(8), 1899-1906. Outgrowth of supervised student research	1991
Cabral, M. C., L. Garrote, R. L. Bras and D. Entekhabi, 1992: Kinematic infiltration in vertically homogeneous anisotropic and sloped soils, Advances in Water Resources, 15, 311-324.	1992
Entekhabi, D., I. Rodriguez-Iturbe and R. L. Bras, 1992: Variability in large-scale water balance with landsurface-atmosphere interaction, Journal of Climate, 5(8), 798-813.	1992
Johnson, K. D., D. Entekhabi and P. S. Eagleson, 1993: The implementation and validation of improved landsurface hydrology in an atmospheric general circulation model, Journal of Climate, 6(6), 1009-1026.	1993
Brubaker, K. L., D. Entekhabi and P. S. Eagleson, 1993: Estimation of continental precipitation recycling, Journal of Climate, 6(6), 1077-1089.	1993
Entekhabi, D., 1994: A simple model of hydrologic cycle and climate: 1. Model construct and sensitivity to landsurface boundary, Advances in Water Resources, 17, 79-91.	1994
Salvucci, G. D. and D. Entekhabi, 1994: Explicit expressions for Green- Ampt (delta function diffusivity) infiltration rate and cumulative storage, Water Resources Research, 30(9), 2661-2663.	1994
Salvucci, G. D. and D. Entekhabi, 1994: Comparison of the Eagleson statisticaldynamical water balance model with numerical simulations, Water Resources Research, 30(10), 2751-2758.	1994
Salvucci, G. D. and D. Entekhabi, 1994: Equivalent steady soil moisture profile and time compression approximation in water balance modeling, Water Resources Research, 30(10), 2737-2750.	1994
Brubaker, K. L., D. Entekhabi and P. S. Eagleson, 1994: Atmospheric water vapor transport and continental hydrology over the Americas, Journal of Hydrology, 155, 407-428.	1994
Gong, G., D. Entekhabi and G. D. Salvucci, 1994: Regional and seasonal estimates of spatial rainstorm coverage based on station precipitation observations, Journal of Climate, 7(10), 1495-1505.	1994
Entekhabi, D., H. Nakamura and E. G. Njoku, 1994: Solving the inverse-problem for soil moisture and temperature profiles by sequential assimilation of multifrequency remotely sensed observations, IEEE Transactions on Geoscience and Remote Sensing, 32(2), 438-448.	1994
Entekhabi, D. and I. Rodriguez-Iturbe, 1994: An analytic framework for the characterization of the space-time variability of soil moisture, Advances in Water Resources, 17, 25-45.	1994
Entekhabi, D., K. L. Brubaker and P. S. Eagleson, 1994: A simple model of hydrologic cycle and climate: 2. Observational evidence for the parameterization of atmospheric heat and moisture divergence, Advances in Water Resources, 17, 93-100.	1994
Brubaker K. L. and D. Entekhabi, 1995: An analytic approach to modeling landatmosphere interaction: 1. Construct and equilibrium behavior, Water Resources Research, 31(3), 619-632.	1995

Rodriguez-Iturbe, I., G. K. Vogel, R. Rigon, D. Entekhabi, F. Castelli and A. Rinaldo, 1995: On the spatial organization of soil moisture fields, Geophysical Research Letters, 22(20), 2757-2760.	1995
Njoku, E. G. and D. Entekhabi, 1995: Passive microwave remote sensing of soil moisture, Journal of Hydrology, 184(1), 101-130.	1995
Entekhabi, D., I. Rodriguez-Iturbe and F. Castelli, 1995: Mutual interaction of soil moisture state and atmospheric processes, Journal of Hydrology, 184(1), 3-18.	1995
Salvucci, G. D. and D. Entekhabi, 1995: Ponded infiltration into soils bounded by a water table, Water Resources Research, 31(11), 2751- 2759.	1995
Scott, R., R. Koster, D. Entekhabi and M. Suarez, 1995: Effect of canopy interception reservoir on hydrologic persistence in a general circulation model, Journal of Climate, 8(7), 1917-1922.	1995
Entekhabi, D., 1995: Recent advances in land-atmosphere interaction research, Reviews of Geophysics, 995-1003.	1995
Salvucci, G. D. and D. Entekhabi, 1995: Hillslope and climatic controls on hydrologic fluxes, Water Resources Research, 31(7), 1725-1740.	1995
Entekhabi, D. and K. L. Brubaker, 1995: An analytic approach to modeling landatmosphere interaction: 2. Stochastic extension, Water Resources Research, 31(3), 633-644.	1995
Risbey, J. S. and D. Entekhabi, 1996: Observed Sacramento basin streamflow response to precipitation and temperature changes and its relevance to climate impact studies, Journal of Hydrology, 184, 209-223.	1996
Castelli, F. I. Rodriguez-Iturbe and D. Entekhabi, 1996: An analytical framework for the modeling of the spatial interaction between the soil moisture and atmosphere, Journal of Hydrology, 184(1), 19-34.	1996
Brubaker, K. L. and D. Entekhabi, 1996: Analysis of feedback mechanisms in land-atmosphere interaction, Water Resources Research, 32(5), 1343- 1357.	1996
Brubaker, K. L. and D. Entekhabi, 1996: Asymmetric recovery from dry-vs.wet soil moisture anomalies, Journal of Applied Meteorology, 35(1), 94- 109.	1996
Caporali, E., D. Entekhabi, F. Castelli, 1996: Rainstorm statistics conditional on soil moisture index: Temporal and spatial characteristics, Meccanica, 31, 103- 116.	1996
Wang, J., R. L. Bras and D. Entekhabi, 1997: Structures in fluctuations of largescale soil moisture climate due to external random forcing and internal feedbacks, Journal of Stochastic Hydrology and Hydraulics, 11, 95-114.	1997
Kim, C. P. and D. Entekhabi, 1997: Examination of two methods for estimating regional evapotranspiration using a coupled mixed-layer and surface model, Water Resources Research, 33(9), 2109-2116.	1997
Liu, Z., J. B. Valdes and D. Entekhabi, 1997: Merging forecasts of drought index anomalies along the Gulf Coast in the U.S. using multiple precursors with a Kalman filter, Experimental Long-Lead Forecast Bulletin, 6(1), 38-40.	1997
Marani, M., G. Grossi, F. Napolitano, M. Wallace and D. Entekhabi, 1997: Forcing, intermittency and land surface hydrology partitioning, Water Resources Research, 33(1), 167-176.	1997
Scott, R., D. Entekhabi, R. D. Koster and M. J. Suarez, 1997: Time scales of land surface evapotranspiration response, Journal of Climate, 10(4), 559-566.	1997
Kim, C. P. and D. Entekhabi, 1998: Analysis of feedback mechanisms in the uncoupled and coupled land surface and mixed layer energy budgets, Boundary Layer Meteorology, 88, 1-21.	1998
Cohen, J. and D. Entekhabi, 1998: Eurasian snow cover variability and Northern Hemisphere climate predictability, Geophysical Research Letters, 26(3), 345-348.	1998
Galantowicz, J. F., D. Entekhabi and E. G. Njoku, 1998: Tests of sequential data assimilation for retrieving profile soil moisture and temperature from observed L band radiobrightness, IEEE Transactions on Geoscience and Remote Sensing, 37(4), 1860-1870.	1998
Kim, C. P., and D. Entekhabi, 1998: Impact of soil heterogeneity in a mixed-layer model of the planetary boundary layer, Hydrological Sciences Journal, 43(4), 633-658.	1998
Liu, Z., J. B. Valdes and D. Entekhabi, 1998: Merging and error analysis of regional hydrometeorology anomaly forecasts conditioned on climate precursors, Water Resources Research, 34(8), 1959-1970.	1998
Kim, C. P., G. D. Salvucci, and D. Entekhabi, 1999: Groundwater surface water interaction and the climatic spatial patterns of hillslope hydrologic response, Hydrology and Earth Systems Science, 3(3), 375- 384.	1999
Castelli, F., D. Entekhabi, and E. Caporali, 1999: Estimation of surface heat flux and an index of soil moisture using adjoint-state surface energy balance, Water Resources Research, 35(10), 3115-3126.	1999
Entekhabi, D. G. R. Asrar, A. K. Betts, K. J. Beven, R. L. Bras, C. J. Duffy, T. Dunne, R. D. Koster, D. P. Lettenmaier, D. B. McLaughlin, W. J. Shuttleworth, M. T. van Genuchten, M.-Y. Wei, E. F. Wood, 1999: An Agenda for land-surface hydrology research and a call for the second International Hydrological Decade, Bulletin of the American Meteorological Society, 80(10), 2043-2058.	1999
Galantowicz, J. F., D. Entekhabi and E. G. Njoku, 2000: Estimation of soil type heterogeneity effects in the retrieval of soil moisture from radiobrightness, IEEE Transactions on Geoscience and Remote Sensing, 38(1), 312-316.	2000
Entekhabi, D., 2000: Meeting report: Predictability and limits-to-prediction in hydrologic systems, EOS, 82(2), page 14.	2000
Entekhabi, D., 2000: A Report and A Call by the National Research Council's Committee on Hydrologic Science, EOS, 81(24), 267.	2000
Long, M., D. Entekhabi and S. E. Nicholson, 2000: Interannual variability in rainfall, water vapor flux, and vertical motion over West Africa, Journal of Climate, 13(21), 3827-3841.	2000
Reichle, R., D. B. McLaughlin, and D. Entekhabi, 2001: Variational data assimilation of microwave radiobrightness observations for land surface hydrologic applications, IEEE Transactions on Geoscience and Remote Sensing, 39(8), 1708-1718.	2001
Primus Gorenburg, I., D. B. McLaughlin and D. Entekhabi, 2001: Scale-recursive assimilation of precipitation data, Advances in Water Resources, 24(9-10), 941- 953.	2001

Plaut-Berger K. and D. Entekhabi, 2001: Basin hydrologic response relations to distributed physiographic descriptors and climate, <i>Journal of Hydrology</i> , 247, 169-182.	2001
Margulis, S. and D. Entekhabi, 2001: A coupled land surface-boundary layer model and its adjoint, <i>Journal of Hydrometeorology</i> , 2(3), 274- 296.	2001
Reichle, R., D. Entekhabi, and D. McLaughlin, 2001: Downscaling of radiobrightness measurements for soil moisture estimation: A four-dimensional variational data assimilation approach, <i>Water Resources Research</i> , 37(9), 2353- 2364.	2001
Boni, G., D. Entekhabi, and F. Castelli, 2001: Land data assimilation with satellite measurements for the estimation of surface energy balance components and surface control on evaporation, <i>Water Resources Research</i> , 37(6), 1713-1722.	2001
Cohen, J., K. Saito, and D. Entekhabi, 2001: The role of the Siberian High in Northern Hemisphere climate variability, <i>Geophysical Research Letters</i> , 28(2), 299-302.	2001
Cohen, J. and D. Entekhabi, 2001: The influence of snow cover on Northern Hemisphere climate variability, <i>Atmosphere-Ocean</i> , 39(1), 35- 53. 13	2001
Socolofsky, S., E. Adams, and D. Entekhabi, 2001: Disaggregation of daily rainfall for continuous watershed modeling, <i>Journal of Hydrologic Engineering</i> , 6(4), 300-309.	2001
Boni, G., F. Castelli, and D. Entekhabi, 2001: Sampling strategies and assimilation of ground temperature for the estimation of surface energy balance components, <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 39(1), 165-172.	2001
Margulis, S. and D. Entekhabi, 2001: Feedback between land surface energy balance and atmospheric boundary layer diagnosed through a model and its adjoint, <i>Journal of Hydrometeorology</i> , 2(6), 599-620.	2001
Saito, K., J. Cohen, and D. Entekhabi, 2001: Evolution of atmospheric response to early-season Eurasian snow cover anomalies, <i>Monthly Weather Review</i> , 129(11), 2746-2760.	2001
Margulis, S. A. and D. Entekhabi, 2001: Temporal disaggregation of satellite-derived monthly precipitation estimates and the resulting propagation of error in partitioning of water at the land surface, <i>Hydrology and Earth System Sciences</i> , 5(1), 27-38.	2001
Reichle, R., D. B. McLaughlin, and D. Entekhabi, 2002: Hydrologic data assimilation with the ensemble Kalman Filter, <i>Monthly Weather Review</i> , 130 (1), 103-114, 2002.	2002
Gong, G., D. Entekhabi, and J. Cohen, 2002: Modeled northern hemisphere winter climate response to realistic Siberian snow anomalies, <i>Journal of Climate</i> , 16(23), 3917-3932.	2002
Caparrini, F., F. Castelli, and D. Entekhabi, 2002: Remote sensing of land surface evaporation, <i>EOS</i> , 83(27), 290-291.	2002
Gong, G. D. Entekhabi, and J. Cohen, 2002: A large-ensemble model study of the wintertime AO/NAO and the role of surface perturbations, <i>Journal of Climate</i> , 15(23), 3488-3499.	2002
Margulis, S. A., D. B. McLaughlin, D. Entekhabi, and S. Dunne, 2002: Land data assimilation and estimation of soil moisture using measurements from the Southern Great Plains 1997 field experiment, <i>Water Resources Research</i> , 38(12), 1299.	2002
Grassotti, C., R. N. Hoffman, E. R. Vivoni, and D. Entekhabi, 2003, Multiple time scale intercomparison of two radar products and rain gauge observations over the Arkansas-Red River Basin, <i>Weather and Forecasting</i> , 18(6), 1207-1229.	2003
Gong, G., D. Entekhabi, and J. Cohen, 2003: Relative impacts of Siberian and North American snow anomalies on the Winter Northern Hemisphere mode, <i>Geophysical Research Letters</i> , 30(16).	2003
Margulis, S. and D. Entekhabi, 2003: Variational assimilation of surface temperature and micrometeorology into a model of the atmospheric boundary layer and land surface, <i>Monthly Weather Review</i> , 131(7), 1272-1288.	2003
Caparrini, F., F. Castelli, and D. Entekhabi, 2003: Mapping of land-atmosphere heat fluxes and surface parameters with remote sensing data, <i>Boundary-Layer Meteorology</i> , 17(3), 605-633.	2003
Caparrini, F., F. Castelli, and D. Entekhabi, 2004: Estimation of surface moisture control and turbulent transfer by assimilating sequences of radiometric surface temperature measurements, <i>Journal of Hydrometeorology</i> , 5(1), 145-159.	2004
Caparrini, F., F. Castelli, and D. Entekhabi, 2004: Variational Estimation of soil and vegetation turbulent transfer and heat flux parameters from sequences of multi-sensor imagery, <i>Water Resources Research</i> , 40(12), DOI.10.1029/2004WR003358.	2004
Ivanov, V., E. Vivoni, R. Bras, and D. Entekhabi, 2004: Catchment hydrologic response with a fully-distributed triangulated irregular network model, <i>Water Resources Research</i> , 40, W11102, doi: 10.1029/2004WR003218.	2004
Ivanov, V., E. Vivoni, R. Bras, and D. Entekhabi, 2004: Preserving highresolution surface and rainfall data in operational-scale basin hydrology: A fullydistributed physically-based approach, <i>Journal of Hydrology</i> , 298(1-4), 80-111.	2004
Vivoni, E., V. Ivanov, R. Bras and D. Entekhabi, 2004. Generation of triangulated irregular networks based on hydrological similarity. <i>Journal of Hydrologic Engineering</i> , 9(4): 288-302.	2004
Rudari, R., D. Entekhabi, and G. Roth, 2004: Terrain and multiple-scale interactions as factors in generating extreme precipitation events, <i>Journal of Hydrometeorology</i> , 5: 390-404.	2004
Kanamaru, H., G. Salvucci, and D. Entekhabi, 2004: Central U.S. atmospheric water and energy budgets adjusted for diurnal sampling biases using top-ofatmosphere aadiation, <i>Journal of Climate</i> , 17, 2454-2465.	2004
Gong, G., D. Entekhabi and J. Cohen, 2004. Orographic constraints on a modeled Siberian snow — Arctic Oscillation teleconnection pathway, <i>Journal of Climate</i> , 17, 1176-1189.	2004
Entekhabi, D., Njoku, E., Houser, P., Spencer, M., Doiron, T., Smith, J., Girard, R., Belair, S., Crow, W., Jackson, T., Kerr, Y., Kimball, J., Koster, R., McDonald, K., O'Neill, P., Pultz, T., Running, S., Shi, J.C., Wood, E. and van Zyl, J., 2004, The Hydrosphere State (HYDROS) mission concept: An Earth system pathfinder for global mapping of soil moisture and land freeze/thaw. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 42(10), 2184-2195.	2004
Margulis, S. and D. Entekhabi, 2004: Boundary layer entrainment estimation through assimilation of radiosonde and micrometeorology data, <i>Boundary-Layer Meteorology</i> , 110, 405-433.	2004
Gong, G., D. Entekhabi, J. Cohen, and D. Robinson, 2004: Sensitivity of atmospheric response to modeled snow anomaly characteristics, <i>Journal of Geophysical Research</i> , 109(D06107).	2004

G. Gong, D. Entekhabi, J. Cohen, D. Robinson "Sensitivity of atmospheric response to modeled snow anomaly characteristics: ATMOSPHERIC RESPONSE TO SNOW" Journal of Geophysical Research: Atmospheres [2169897X] 109.D6 (2004): n/a-n/a. Print. <a href="https://doi.org/10.1029/2003...">10.1029/2003...</a>	March 2004
Vivoni, E.R., V. Teles, V. Y. Ivanov, R. L. Bras, and D. Entekhabi 2005: Embedding landscape processes into triangulated terrain models, International Journal of Geographical Information Science, 19(4), 429-457.	2005
Merlin, O., A. G. Chehbouni, Y. Kerr, E. G. Njoku, and D. Entekhabi, 2005: A combined modeling and multi-spectral/multi-resolution remote sensing approach for disaggregation of surface soil moisture: Application to SMOS configuration, IEEE Transactions on Remote Sensing and Geoscience, 43 (9), 2036-2050.	2005
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## New Products, Processes, and Designs

Description	Start Date	End Date
Science Team Leader: SMAP - Soil Moisture Active/Passive satellite mission, NASA, Phase E, January 31, 2015 launch.	-	-
Science Team Member: AirMOSS – Airborne Microwave Observatory of Subcanopy and Subsurface, NASA, Phase E.	2012	2018
Principal Investigator: HYDROS - The Hydrosphere State satellite mission, NASA Earth System Science Pathfinder program.	2000	2005

## Committee Service

Service Level	Committee Type	Committee Service Description	Start Date	End Date
School, Institute-Wide Level	Ad Hoc - Faculty	Climate Nucleus	9/1/2021	-
School, Institute-Wide Level	Standing Admin of Institute	Lincoln Laboratory-Campus Interaction Committee (Regular)	7/1/2009	6/30/2012
School, Institute-Wide Level	Standing Admin of Institute	Lincoln Laboratory-Campus Interaction Committee (Regular)	7/1/2012	8/31/2015
School, Institute-Wide Level	Standing Faculty Committee	Faculty-Administration, Committee On (Regular)	6/15/2001	6/14/2004
Department, Lab or Center Level	Graduate Program Committee (Ph.D. Only)	CEE Graduate Program Committee (Ph.D. Only) (Chair)	9/1/2020	-
Department, Lab or Center Level	Promotion and Tenure Committee	Mentoring Committee - Serguei Saavedra	9/1/2017	12/31/2022
Department, Lab or Center Level	Graduate Admissions Committee	CEE Graduate Admissions Committee (Regular Member)	1/1/2010	12/31/2019
Department, Lab or Center Level	Undergraduate Program Committee	CEE Undergraduate Program Committee (Regular Member)	10/1/2020	9/1/2022
Department, Lab or Center Level	Faculty Search Committee	CEE Faculty Search Committee (Regular Member)	9/1/2014	9/1/2016
Department, Lab or Center Level	Faculty Search Committee	CEE Faculty Search Committee (Regular Member)	9/1/2022	8/31/2024
Department, Lab or Center Level	Promotion and Tenure Committee	Mentoring Committee - Cesar Terrer	9/1/2021	-
Department, Lab or Center Level	Promotion and Tenure Committee	Mentoring Committee - Darcy McRose	9/1/2022	-
Department, Lab or Center Level	Faculty Search Committee	EAPS Faculty Search Committee (Regular Member)	9/5/2023	9/9/2024
Department, Lab or Center Level	Ad Hoc/Other Committee	Faculty Mentoring Committee (Other)	1/1/2011	12/31/2017
Department, Lab or Center Level	Ad Hoc/Other Committee	Environmental Research Council (Other)	1/8/2008	1/1/2015
Department, Lab or Center Level	Ad Hoc/Other Committee	Strategic Plan Working Group (Other)	9/1/1999	9/1/2000
Department, Lab or Center Level	Ad Hoc/Other Committee	Department Council (Other)	1/1/2000	1/1/2001
Department, Lab or Center Level	Ad Hoc/Other Committee	Alumni Day 2000 Committee (Other)	9/1/1999	3/1/2000
Department, Lab or Center Level	Ad Hoc/Other Committee	Department Council (Other)	9/1/2002	9/1/2003
Department, Lab or Center Level	Ad Hoc/Other Committee	Parsons Laboratory (Other)	9/1/2006	7/1/2013

Department, Lab or Center Level	Ad Hoc/Other Committee	Department Council (Other)	9/1/2006	7/1/2013
Department, Lab or Center Level	Graduate Admissions Committee	CEE Graduate Admissions Committee (Other)	9/1/1993	12/31/2017
Department, Lab or Center Level	Graduate Admissions Committee	Parsons Laboratory, Admissions Officer	9/1/1999	9/1/2000
Department, Lab or Center Level	Undergraduate Program Committee	Undergraduate Program Committee, Member	9/1/2013	9/1/2014
Department, Lab or Center Level	Graduate Program Committee	Graduate Education and Admissions Committee, Member	9/1/1999	9/1/2000
Department, Lab or Center Level	Graduate Program Committee (Ph.D. Only)	Qualifying Examinations, Coordinator	9/1/2003	9/1/2005
Department, Lab or Center Level	Faculty Search Committee	Two Faculty Search Committees, Member	9/1/1993	5/1/1994
Department, Lab or Center Level	Faculty Search Committee	Faculty Search Committee, Head	5/1/2001	6/1/2002
Department, Lab or Center Level	Faculty Search Committee	Faculty Search Committee, Chair	9/1/2003	9/1/2004
Department, Lab or Center Level	Faculty Search Committee	Faculty Search Committee, Member	9/1/2004	5/1/2005
Department, Lab or Center Level	Faculty Search Committee	Faculty Search Committee, Member	9/1/2008	5/1/2009
Department, Lab or Center Level	Faculty Search Committee	Faculty Search Committee Member	9/1/2013	5/1/2014
Department, Lab or Center Level	Faculty Search Committee	Faculty Search Committee, Member	9/1/2014	12/31/2017

## Other MIT Service

Service Level	Other MIT Service Description	Start Date	End Date
School, Institute-Wide Level	Earth System Initiative, Director	7/1/2008	12/31/2012
Department, Lab or Center Level	Independent Living Group Freshman Advisor	9/1/1992	8/1/1993
Department, Lab or Center Level	Department Student Organization (CEESA), Advisor	9/1/2006	9/1/2007
Department, Lab or Center Level	Upperclassmen Advisor	9/1/1991	-
Department, Lab or Center Level	Graduate Advisor	9/1/1991	-
Department, Lab or Center Level	Leaders for Manufacturing Program, Thesis Advisor	9/1/1996	6/1/1997
Department, Lab or Center Level	Parsons Laboratory - Graduate Admissions (Regular Member)	9/1/1993	9/1/1994
Department, Lab or Center Level	Parsons Laboratory - Graduate Admissions (Regular Member)	9/1/1995	9/1/1996

## Non-MIT Professional Activities

Professional Service	Organization Name and Description	Role	Start Date	End Date
AMS, 8th Conference on Hydrometeorology		Session Chair	October 1990	October 1990
AGU, Precipitation Committee		Member	January 1991	December 1998
AMS , Hydrology Committee		Member	January 1992	January 1995
AGU, Special Session on Drought		Session Chair	December 1992	December 1992
AGU, Water Resources Research		Associate Editor	January 1993	December 1996
ESA/NASA, Int. Remote Sensing Workshop		Session Chair	January 1993	January 1993
ASCE, Task Committee on Climate Variability & Change		Member	January 1993	January 1994
4th International Conference on Precipitation		Session Chair	April 1993	April 1993
MIT Colloquium on Hydroclimatology & Global Hydrology			April 1993	April 1993
NATO, Workshop on Environmental Change		Session Chair	May 1993	May 1993

NRC, National Weather Service Modernization Committee	Member	January 1994	January 1999
IEEE, Remote Sensing Conference	Technical Committee	August 1994	August 1994
Advances in Water Resources	Editorial Board	September 1994	October 2000
AGU, Reviews of Geophysics	Associate Editor	November 1994	June 1997
AMS, Hydrology Committee	Committee Chair	January 1995	January 1997
AMS, 12th Conference on Hydrology	Organizer	January 1995	January 1995
International Conference on Drought in Africa	Panel	August 1995	August 1995
AMS, Committee on Membership Diversification	Member	August 1995	January 1999
NASA, Goddard Inst. for Space Studies	Review Team	August 1996	August 1996
AMS, 13th Conference on Hydrology	Organizer	February 1997	February 1997
Evaluation of ESSP Satellite Mission Concepts	Panel	April 1998	April 1998
AGU, Special Session on Data Assimilation	Chair	May 1998	May 1998
NASA, Post-2002 Mission Planning	Working Group	August 1998	August 1998
AMS, Journal of Hydrometeorology	Editor	January 1999	December 2002
NRC, Committee on the Hydrologic Sciences	Chair	February 1999	February 2002
AGU, Water Resources Research	Editor Search Committee	March 2000	July 2000
International Workshop on Soil Moisture	Plenary Chair	May 2000	May 2000
AMS, Committee on Inclusiveness	Membership	February 2001	February 2004
EGS, Conference on Mediterranean Storms	Science Committee	October 2001	October 2001
NRC, Committee on the Hydrologic Sciences	Member	February 2002	February 2003
AMS, Fellows Committee		December 2002	December 2005
EGS, Special Session on Mediterranean Storms		April 2003	April 2003
EGS, Special Session on Landmarks in Hydrology		April 2003	April 2003
NRC, Committee on Advanced Hydrologic Prediction		January 2004	April 2005
University College Cork	Department External Committee	January 2004	January 2008
Army, Workshop on Soil Moisture Remote Sensing	Chair	January 2004	January 2004
IEEE, Geoscience and Remote Sensing 2008 Symposium	Co-Chair, Technical Committee	June 2004	May 2009
NRC, Water Science and Technology Board	Member	July 2004	June 2007
IEEE, Special Session on SMOS and Hydros, International Remote Sensing and Geoscience Symposium, Anchorage	Co-Chair	September 2004	September 2004
Catchment-scale Hydrological Modeling and Data Assimilation	Scientific Advisory Committee	October 2004	October 2004
NRC, Space Studies Board, Earth Observations Committee	Member	January 2005	July 2007
Integrated Program Office, MW Imagery/Radiometry Operational Algorithm Team		January 2005	December 2009
Fourth World Meteorological Organization, International Symposium on Assimilation of Observations in Meteorology and Oceanography, Prague	International Program Committee	April 2005	April 2005

AGU, Horton Medal Committee	Member	September 2006	September 2009
AGU, Water Resources Research	Associate Editor	September 2006	September 2009
St. Anthony Falls Laboratory, University of Minnesota, Academic Review Board	Member	March 2007	March 2007
NRC, Water Implications of Biofuels Production	Member	April 2007	December 2007
University College Cork, Campus Research Review		October 2008	October 2008
AGU, Special Session on SMAP	Session Chair	December 2008	December 2008
IEEE, Geoscience and Remote Sensing 2009 Symposium	Technical Program Committee	February 2009	July 2009
NRC, Opportunities and Challenges in the Hydrologic Sciences		January 2010	February 2012
IEEE, Geoscience and Remote Sensing 2010 Symposium	Technical Program Committee	February 2010	July 2010
NASA, GMAO Advisory Board		January 2011	December 2011
IEEE, Geoscience and Remote Sensing 2011 Symposium	Technical Program Committee	February 2011	July 2011
IEEE, Geoscience and Remote Sensing 2012 Symposium	Technical Program Committee	February 2012	July 2012
SPIE, Society Asia Pacific	Conference Program Committee	4/1/2012	4/1/2013
EUMETSAT, Land Satellite Applications Facility	Advisory Board	April 2013	April 2014
University College Dublin, Grand Challenges in Hydrology Converence	International Science Committee Member	June 2013	April 2014
Centro Internazionale in Monitoraggio Ambientale (CIMA), Italy	Scientific Council Member	October 2013	October 2014
University College Cork, Research Quality Review		June 2014	June 2015
NASA, GSFC Earth Science Divison	Visiting Committee	August 2014	August 2018
China State Key Laboratory for Remote Sensing	Review	November 2014	November 2014
Syed Babar Ali School of Science and Engineering, Lahore, Pakistan	Advisory Board Member	1/1/2017	-
MicroRad 2018 Conference, IEEE	Chair	1/1/2017	12/31/2018
American Geophysical Union, Hydrologic Sciences Award Committee	Committee Member	1/1/2017	12/31/2019
American Meteorological Society, Hydrologic Sciences Award Committee	Committee Member	1/1/2017	12/31/2020
National Academy of Sciences, Earth Science Decadal Survey	Committee Member	1/1/2017	12/31/2017
National Academy of Sciences, Committee on Urban Hydrology	Committee Member	1/1/2017	12/31/2019
American Meteorological Society, Awards Nomination Committee	Chair	1/1/2021	12/31/2021
American Meteorological Society, Awards Nomination Committee	Member	1/1/2022	12/31/2022

#### Organizational Memberships

Organization Name and Description	Role	Start Date	End Date
American Geophysical Union (AGU)	Member	1984	-
American Meteorological Society (AMS)	Member	1984	-
Institute of Electrical & Electronics Engineers (IEEE)	Member	2000	-