

Brian K. Hornbuckle

Education

- Ph.D. The University of Michigan, Electrical Engineering and Atmospheric Science (Geoscience and Remote Sensing), 2003.
- M.S.E. The University of Michigan, Electrical Engineering (Electromagnetics), 1997.
- M.A. The University of Mississippi, Secondary Education (Science), 1996.
- Sc.B. Brown University, Electrical Engineering (Systems), Magna Cum Laude with Honors in Engineering, 1994.

Appointments

- 2009 – Associate Professor, Department of Agronomy, Department of Electrical and Computer Engineering (courtesy), Department of Geological and Atmospheric Sciences (courtesy), The Iowa State University of Science and Technology.
- 2003 – 2009 Assistant Professor, Department of Agronomy, The Iowa State University of Science and Technology.

Significant Publications

- Kabela, E. D., B. K. Hornbuckle, M. H. Cosh, M. C. Anderson, and M. L. Gleason, Dew frequency, duration, amount, and distribution in corn and soybean during SMEX05, *Agricultural and Forest Meteorology*, doi:10.1016/j.agrformet.2008.07.002, 2008.
- Hornbuckle, B. K., A. W. England, and M. C. Anderson, The effect of intercepted precipitation on the microwave emission of maize at 1.4 GHz, *IEEE Transactions on Geoscience and Remote Sensing*, doi:10.1109/TGRS.2007.894057, 2007.
- Hornbuckle, B. K., A. W. England, M. C. Anderson, and B. J. Viner, The effect of free water in a maize canopy on microwave emission at 1.4 GHz, *Agricultural and Forest Meteorology*, doi:10.1016/j.agrformet.2006.05.003, 2006.
- Hornbuckle, B. K., and A. W. England, Radiometric sensitivity to soil moisture at 1.4 GHz through a corn crop at maximum biomass, *Water Resources Research*, doi:10.1029/2003WR002931, 2004.
- Hornbuckle, B. K., A. W. England, R. D. De Roo, M. A. Fischman, and D. L. Boprie, Vegetation canopy anisotropy at 1.4 GHz, *IEEE Transactions on Geoscience and Remote Sensing*, doi:10.1109/TGRS.2003.817192, 2003.

Other Publications

- Cosh, M. H., E. D. Kabela, B. Hornbuckle, M. L. Gleason, T. J. Jackson, and J. H. Prueger, Observations of dew amount using in situ and satellite measurements in an agricultural landscape, *Agricultural and Forest Meteorology*, doi:10.1016/j.agrformet.2009.01.004, 2009.

Robinson, D. A., C. S. Campbell, J. W. Hopmans, B. K. Hornbuckle, S. B. Jones, R. Knight, F. Ogden, J. Selker, and O. Wendroth, Soil moisture measurement for ecological and hydrological watershed-scale observatories: A review, *Vadose Zone Journal*, doi:10.2136/vzj2007.0143, 2008.

Wigneron, J.-P., Y. Kerr, P. Waldteufel, K. Saleh, M.-J. Escorihuela, P. Richaume, P. Ferrazoli, P. de Rosnay, R. Gurney, J.-C. Calvet, J. P. Grant, M. Guglielmetti, B. Hornbuckle, C. Mätzler, T. Pellarin, and M. Schwank, L-band Microwave Emission of the Biosphere (L-MEB) model: Description and calibration against experimental data sets over crop fields, *Remote Sensing of Environment*, doi:10.1016/j.rse.2006.10.014, 2007.

Krajewski, W. F., M. C. Anderson, W. E. Eichinger, D. Entekhabi, B. K. Hornbuckle, P. R. Houser, G. G. Katul, W. P. Kustas, J. M. Norman, C. Peters-Lidard, and E. F. Wood, A remote sensing observatory for hydrologic sciences: A genesis for scaling to continental hydrology, *Water Resources Research*, doi:10.1029/2005WR004435, 2006.

Synergistic Activities

- 2009 – Associate Editor, *Advances in Water Resources*.
- 2006 – Principal investigator, Iowa Remote Sensing Validation Site.
- 2005 – Member, validation and retrieval team, European Space Agency Soil Moisture and Ocean Salinity (SMOS) mission.
- 2004 – Member, NASA soil moisture mission working group.
- 2003 – Alternate Iowa State University representative, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI).

Collaborators and Other Affiliations

- Collaborators Martha Anderson (USDA ARS Hydrology and Remote Sensing Laboratory), Michael Cosh (USDA ARS HRSL), Roger De Roo (Univ. of Michigan), William Eichinger (Univ. of Iowa), Mark Gleason (Iowa State), Tom Jackson (USDA ARS HRSL), Amy Kaleita (Iowa State), Anton Kruger (Univ. of Iowa), Witold Krajewski (Univ. of Iowa), Sally Logsdon (USDA ARS National Soil Tilth Laboratory), Deborah Nykanen (Minnesota State), David Robinson (Trinidad and Tobago), Thomas Sauer (USDA ARS NSTL), Jay Staker (Iowa State).
- Students Erik Kabela (Savannah River National Laboratory), Cihan Erbas (Otokar Corporation, Turkey).

Contact Information

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