

Robert Banks, Ph.D.

Over 20 years of proven skills and experience of increasing responsibility, leading diverse projects in meteorology and big data analytics. Strong technical and management experience across multiple teams and levels. Expert consultant and subject matter expert, including aviation and marine applications.

WORK EXPERIENCE

- **Climaverse LLC**, Remote
 - *Founder and Principal Consultant*, 8/2020 – Present
- **Delta Air Lines**, Atlanta, Georgia
 - *Manager, In-Flight Service Data Analysis and Reporting*, 1/2022 – 1/2024
- **PEMDAS Technologies and Innovations**, Remote
 - *Chief Scientist*, 9/2020 – 12/2021
- **Delta Air Lines**, Atlanta, Georgia
 - *Leader of Analytics and Weather Technologies*, 5/2018 – 7/2020
- **Delft University of Technology (TU Delft)**, Delft, The Netherlands
 - *Research Lead*, 1/2017 – 4/2018
- **Barcelona Supercomputing Centre (BSC)**, Barcelona, Spain
 - *Marie Curie Actions Research Fellow*, 3/2013 – 4/2016
- **National Oceanic and Atmospheric Administration (NOAA)**, College Park, Maryland
 - *Meteorologist and Program Management*, 1/2006 – 2/2013
- **Center for Ocean-Atmospheric Prediction Studies (COAPS)**, Tallahassee, Florida
 - *Research Assistant*, 5/2002 – 12/2005

EDUCATION

- **Technical University of Catalonia, Environmental Modeling Lab.**, Barcelona, Spain
 - Doctor of Philosophy, Environmental Engineering, April 2016
- **The Florida State University, Department of Meteorology**, Tallahassee, Florida
 - Master of Science, Meteorology, April 2006
- **The Florida State University, Department of Meteorology**, Tallahassee, Florida
 - Bachelor of Science, Meteorology, minors in Mathematics and Physics, April 2004

LIST OF CASES (LAST 4 YEARS)

- **2024 (In Progress):** McAuliffe vs. Robinson Helicopter Company et al (Case No.: 1:21-CV-00193-HG-WRP)
- **2021:** Skanska USA Inc. vs. US (Case No.: 3:20cv5980/LAC/HTC)

LIST OF PUBLICATIONS (LAST 10 YEARS)

Kenea, S.T., Oh, Y., Rhee, J., **Banks, R. F.**, et al. (2019), Evaluation of Simulated CO₂ Concentrations from the CarbonTracker-Asia Model Using In-situ Observations over East Asia for 2009–2013, *Advances in Atmospheric Sciences*, doi: 10.1007/s00376-019-8150-x.

Labzovskii, L. D., Papayannis, A., Binietoglou, I., **Banks, R. F.**, Baldasano, J. M., Toanca, F., Tzanis, C. G., and Christodoulakis, J. (2018), Relative humidity vertical profiling using lidar-based synergistic methods in the framework of the Hygra-CD campaign, *Annales Geophysicae*, doi:10.5194/angeo-36-213-2018.

Papayannis, A., A. Argyrouli, A. Bougiatioti, E. Remoundaki, S. Vratolis, A. Nenes, J. Van de Hey, M. Komppula, S. Solomos, S. Kazadzis, **R. F. Banks**, L. Labzovskii, I. Kalogiros, C. G. Tzanis, I. Binietoglou, and C. S. Zerefos (2017), From hygroscopic aerosols to cloud droplets: the HygrA-CD Campaign in the Athens basin – An overview, *Sci. Tot. Environ.*, doi:10.1016/j.scitotenv.2016.09.054.

Banks, R. F. and J. M. Baldasano (2016), Impact of WRF model PBL schemes on air quality simulations over Catalonia, Spain, *Sci. Tot. Environ.*, doi:10.1016/j.scitotenv.2016.07.167, Open access.

Banks, R. F. (2016), Assessment of planetary boundary-layer schemes with advanced remote sensing instruments and air quality modelling, *Ph.D. thesis*, Technical University of Catalonia, Barcelona, Spain.

Banks, R. F., J. Tiana-Alsina, J. M. Baldasano, F. Rocadenbosch, A. Papayannis, S. Solomos, and C. G. Tzanis (2016), Sensitivity of boundary-layer variables to PBL schemes in the WRF model based on surface meteorological observations, lidar, and radiosondes during the HygrA-CD campaign, *Atmos. Research*, doi:10.1016/j.atmosres.2016.02.024, Open access.

Banks, R. F., S. Crewell, S. Henkel, and J. M. Baldasano (2016), European training network for young atmospheric researchers, *AGU Eos* **97**, doi:10.1029/2016EO045899, Published on 16

February 2016.

Labzovskii, L., I. Biniotoglou, A. Papayannis, **Banks, R.F.**, and J. M. Baldasano (2016), Comparison of two methods for relative humidity retrieval using lidar and radiometer, *Atmos. Meas. Tech.*, In prep.

Labzovskii, L., I. Biniotoglou, A. Papayannis, **Banks, R.F.**, and J. M. Baldasano (2015), Use of lidar water vapor retrieval for assessment of model capability to simulate water vapor profiles, in *Proc. SPIE 9645*, **96450G**, doi:10.1117/12.2195638.

Banks, R. F., J. Tiana-Alsina, J. M. Baldasano, and F. Rocadenbosch (2015), Performance evaluation of boundary-layer height from lidar and the Weather Research and Forecasting model at an urban coastal site in the north-east Iberian Peninsula, *Bound.-Lay. Meteorol.*, **157(2)**, 265-292, doi:10.1007/s10546-015-0056-2, Open access.

Banks, R. F., J. Tiana-Alsina, J. M. Baldasano, and F. Rocadenbosch (2014), Retrieval of boundary layer height from lidar using extended Kalman filter approach, classic methods, and backtrajectory cluster analysis, in *Proc. SPIE 9242*, **92420F**, doi:10.1117/12.2072049.

Baltes, B., D. Rudnick, M. Crowley, O. Schofield, C. Lee, J. Barth, C. Lembke, D. Stanitski, **R. Banks**, D. Snowden, and J. Potemra (2014), U.S. IOOS National Underwater Glider Network Plan, Integrated Ocean Observing System (IOOS) Program Office, US National Oceanic and Atmospheric Administration, www.ioos.noaa.gov/glider/strategy.