C U R R I C U L U M V I T A E

Marcin J Kurowski

EDUCATION

University of Warsaw
2009 — **PhD in atmospheric physics**
Thesis title: *Experimental and numerical investigation of entrainment and mixing processes at the top of Stratocumulus*
Supervisors: Prof. K. Haman and Dr. W. Grabowski

University of Warsaw
2003 — **Master Degree in atmospheric physics**
Thesis title: *Coherent structure of point vortices in a uniform straining flow*
Supervisor: Dr. K. Bajer

PROFESSIONAL EXPERIENCE

2015-present:	postdoctoral researcher at JPL, CA, USA advisor: Dr. J. Teixeira
2012-2014	postdoctoral researcher at NCAR, Boulder, USA advisors: Dr. W. Grabowski, Dr. P. Smolarkiewicz
2010-2012	specialist/researcher at the Institute of Meteorology and Water Management, Warsaw, Poland
2008	meteorologist for TV-Puls (Polish TV station)
2007-2009	assistant researcher at the Institute of Geophysics, University of Warsaw, Warsaw, Poland

SCIENTIFIC PROJECTS

2015-present	Cloud and boundary layer dynamics (JPL): numerical weather prediction, scale-aware boundary layer schemes, comparison between LESs and SCMs for moist deep convection, cold pool effects on the surface layer
2012-2014	Multiscale modeling of moist atmospheric flows (NCAR): development and testing of the all-scale moist EULAG model for both anelastic and compressible dynamical cores

2011-2013	EUCLIPSE (European Union Cloud Intercomparison, Process Study and Evaluation Project): LES modeling of a Lagrangian transition from stratocumulus to cumulus based on ASTEX field campaign
2010-2013	CDC Project: development and testing of the anelastic dynamical core of the EULAG solver as a prospective dynamical core of the NWP COSMO model
2007	Polish Science Foundation grant on mesoscale ensemble modeling: real case database for the comparison with modeling results
2005-2007	DYCOMS-II (Dynamics and Chemistry of Marine Stratocumulus Phase II) – post processing and data analysis from the ultra-fast thermometer (UFT), fast forward scattering spectrometer probe (FFSSP), and other probes; LES modeling of selected cases
2004	BBC-2 (Baltex Bridge Cloud Campaign 2) – data analysis and postprocessing of the temperature measurements performed with the UFT

SKILLS

- Modeling of moist geophysical flows across scales: from small to planetary
- Development and testing of atmospheric models: EULAG, COSMO, WRF
- High performance computing on petascale systems
- Data processing and analysis
- Writing technical documentations and peer-reviewed articles
- Programming skills (FORTRAN 77/95, C, shell scripts, HTML)
- Visualization software: NCL, Matlab, gnuplot, Vis5D

SCIENTIFIC INTERESTS

- Geophysical fluid dynamics
- Numerical weather prediction, meteorology
- Dynamics of boundary-layer clouds, cold pool dynamics
- Entrainment and mixing processes within clouds
- Scale-aware parameterizations
- Modeling of atmospheric flows: LES, mesoscale, planetary-scale flows - intercomparison and sensitivity studies
- Development and evaluation of atmospheric models
- High resolution aircraft measurements

PEER-REVIEWED PUBLICATIONS

11. **Kurowski M. J.**, Wojcik D., Ziemianski M., Rosa B., Piotrowski Z., 2015: Convection-permitting regional weather modeling with COSMO-EULAG: Compressible and anelastic solutions for a typical westerly flow over the Alps, (*submitted to Mon. Wea. Rev*.)
10. **Kurowski M. J.**, W. W. Grabowski, and P. K. Smolarkiewicz, 2015: Anelastic and compressible simulation of moist dynamics at planetary scales, *J. Atmos. Sci.*, **72**, 3975-3995.
9. **Kurowski M. J.,** W. W. Grabowski, and P. K. Smolarkiewicz, 2014: Anelastic and compressible simulation of moist deep convection, *J. Atmos. Sci.*, **71**, 3767–3787.
8. **Kurowski M. J.,** W. W. Grabowski, and P. K. Smolarkiewicz, 2013: Towards multiscale simulation of moist flows with soundproof equations, *J. Atmos. Sci.*, **70**, 3995-4011.s
7. van der Dussen, J. J., S. R. de Roode, A. S. Ackerman, P. N. Blossey, C. S. Bretherton, **M. J. Kurowski**, A. P. Lock, R. A. J. Neggers, I. Sandu, and A. P. Siebesma, 2013: The GASS/EUCLIPSE model intercomparison of the stratocumulus transition as observed during ASTEX: LES results, *J. Adv. Model. Earth Syst.*, **5**, 483-499.
6. Wojcik D., **M. J. Kurowski**, B. Rosa and M. Ziemiański, 2012: A study on parallel performance of the EULAG F90/95 code, *Springer Lecture Notes in Computer Science*, 7204/2011, 419-428.
5. Ziemianski M., **M. J. Kurowski**, Z. P. Piotrowski, B. Rosa and O. Fuhrer, 2011: Toward very high resolution NWP over Alps: Influence of the increasing model resolution on the flow pattern, *Acta Geophysica*, **59**, 1205-1235.
4. **Kurowski M. J**., B. Rosa and M. Ziemiański, 2011: Testing the anelastic nonhydrostatic model EULAG as a prospective dynamical core of a numerical weather prediction model. Part II - simulations of a supercell, *Acta Geophysica*, **59**, 1267-1293.
3. Rosa B., **M. J. Kurowski**, and M. Ziemiański, 2011: Testing the anelastic nonhydrostatic model EULAG as a prospective dynamical core of a numerical weather prediction model. Part I: dry benchmarks, *Acta Geophysica*, **59**, 1236-1266.
2. **Kurowski M. J.**, W.W. Grabowski, and S.P. Malinowski, 2009: Numerical investigation of entrainment and transport within stratocumulus-topped boundary layer, *Quart. J. Roy. Met. Soc.*, **135**, 77-92.
1. Haman K., S.P. Malinowski, **M. J. Kurowski**, H.Gerber and J-L.Brenguier, 2007: Small scale mixing processes at the top of a marine stratocumulus - a case study, *Quart. J. Roy. Met. Soc*., **133**, 213-226.