Curriculum vitae

Hajnalka BREUER

I. PERSONAL DATA

Date and place of birth: 20 Apr 1983; Budapest, Hungary

Nationality: Hungarian

Academic degree: PhD (2013)

Researcher ID: H-6895-2012

II. POSITION, WORK EXPERIENCE

Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences (Budapest, Hungary)

09/2010 – 06/2011 researcher

Department of Meteorology, Eötvös Loránd University (Budapest, Hungary)

07/2011 – 10/2012 research assistant

11/2012 – 2014 lecturer

2015 – assistant professor

III. EDUCATION

2001 – 2007 Eötvös Loránd University, meteorologist; MSc diploma in 2007
Thesis title: 'Climatological modelling of the actual evapotranspiration, soil water content and soil respiration in Hungary

2007 – 2010 Eötvös Loránd University, Earth Sciences Doctorate School; PhD diploma in 2013
Thesis title: 'The effect of soil hydrophysical properties to the convective precipitation and to the elements of water balance: meteorological and climatological analyses in Hungary'

IV. RESEARCH INTEREST

Land-atmosphere interaction modeling using numerical weather prediction modeling system and one-dimensional models: soil water budget modeling, planetary boundary layer height estimation based on measurements and modeling, urban energy budget modeling, surface energy exchange effect on precipitation formation

Climate classification and climate change detection based on measurements and regional climate model datasets

V. PARTICIPATION IN RESEARCH PROJECTS

2016– OTKA (120605)

Fine resolution estimation of the future urban heat island effect for Budapest

Principal investigator: Dr. Judit Bartholy, Eötvös Loránd University

2016– OTKA (SNN 118205)

Spatial distribution of water isotopes in precipitation in Europe with special focus on the transect from the Adriatic Coast to the Pannonian Plain

Principal investigator: Dr. Zoltán Kern, Institute for Geological and Geochemical research, Research Centre for Astronomy and Earth Sciences

2016– *Analyzing ATmosphere-surface interactions in MOUNTain areas for improved understanding of global change impacts (ATMOUNT)*

Principal investigator: Dr. Joan Cuxart Rodamilans, Universitat de les Illes Balears, Spain

2010–2014 OTKA (K81432)

The role of soil in different weather situations

Principal investigator: Dr. Kálmán Rajkai, Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences

2011–2012 TÁMOP (TÁMOP-4.2.1/B-09/1/KMR)

Modelling of scale dependent weather and pollution transport processes

Principal investigator: dr. Tamás Weidinger, Eötvös Loránd University

2006–2008 Jedlik Ányos Program (NKFP3-00022/2005)

Prediction of severe convective storms and their environmental impact

Principal investigator: dr. Ákos Horváth, Hungarian Meteorological Service

2004–2007 OTKA (T043695)

The estimation of evapotranspiration on local scale

Principal investigator: Dr. István Geresdi, University of Pécs

VI. SCHOLARSHIPS, AWARDS

2007 Alfréd Hille Award for excellent student research, Hungarian Meteorological Society

2007 Excellent student of the Faculty, Faculty of Science, Eötvös Loránd University

2011 Zsigmond Róna Award, Aspiring Young Meteorologist, Hungarian Meteorological Society

2015 Dezső Dévényi numerical prognostics medal, Hungarian Meteorological Society

2015 Young Scientist Travel Award (European Meteorological Society), 15th EMS Annual Meeting & 12th European Conference on Applications of Meteorology

2016 Eötvös Loránd University Scholarship of Excellence

VII. PUBLICATIONS

Publication activity (based on MTMT):

Articles in refereed (peer-reviewed) journals: 22 (first author: 8)

H-index: 6

Independent citations in journals: 57 (total: 67)

Cumulative impact factor: ≈15

According to Google scholar:

Total citations: 79

H-index: 5

i10-index: 2

5 most relevant publications

1. Göndöcs, J., **Breuer, H.**, Horváth, Á., Ács, F., Rajkai, K., 2015: Numerical study on the effect of soil texture and land use distribution on the convective precipitation. *Hungarian Geographical Bulletin*, 61(1), 3–15.
2. **Breuer, H.,** Ács, F., Skarbit, N., 2017: Climate change in Hungary during the twentieth century according to Feddema. *Theoretical and Applied Climatology*, 11 pp. (in print, doi: 10.1007/s00704-015-1670-0, accepted in 2015)
3. **Breuer, H.**, Ács, F., Horváth, Á., Németh, P., Rajkai. K., 2013: Diurnal course analysis of the WRF-simulated and observation-based planetary boundary layer height. *Advances in Science and Research*, 11, 83–88. (doi:10.5194/asr-11-83-2014)
4. Ács, F.**, Breuer, H.**, 2013: Biophysical climate-classification methods (in Hungarian). University textbook. Budapest: ELTE TTK. 131 p.
5. **Breuer H.**, Ács., F., Laza, B., Horváth, Á., Matyasovszky, I., Rajkai, K., 2012: Sensitivity of MM5 simulated planetary boundary layer height to soil dataset: comparison of soil and atmospheric effects. *Theoretical and Applied Climatology*, 109(3-4), 577–590.

Other selected 5 peer-reviewed publications

1. Szelepcsényi, Z., **Breuer, H.**, Kis, A., Pongrácz, R., Sümegi, P., 2016: Assessment of projected climate change in the Carpathian Region using the Holdridge life zone system. *Theoretical and Applied Climatology*, 18 pp (accepted, doi:10.1007/s00704-016-1987-3)
2. **Breuer, H.**, Ács, F., Horváth, Á., Laza, B., Matyasovszky, I., Weidinger, T., Rajkai, K., 2012: A sensitivity study on the soil parameter-boundary layer height interrelationship. *ISRN Meteorology*, Paper 786592. 7 p. doi:10.5402/2012/786592
3. **Breuer, H.**, Ács, F., 2010: Surface resistance estimation of some crops using different climate, soil-, and vegetation-specific data. *Időjárás*, 114(3), 203–215.
4. Ács, F., Horváth, Á., **Breuer, H.**, Rubel, F., 2010: Effect of the soil hydraulic characteristics on the local convective precipitation. *Meteorologische Zeitschrift*, 19(2), 1–11, DOI 10.1127/0941-2948/2010/0435
5. Horváth, Á., Ács, F., **Breuer, H.**, 2009: On the relationship between soil, vegetation and severe convective storms: Hungarian case studies. *Journal of Atmospheric Research*, 93, 66–81, doi:10.1016/j.atmosres.2008.10.007

Full publication list is available at:

https://vm.mtmt.hu//search/slist.php?lang=0&AuthorID=10025625

VIII. STUDIES ABROAD

2008 PhD Research Scholarship - Stiftung Aktion Österreich-Ungarn (AÖU) (4 months)
Vienna, University of Veterinary Medicine Vienna, Institute of Medical Physics and Biostatistics.
Research title: 'Statistical investigation of the sensitivity of the storms to soil characteristics'

2010 European Research Course on Atmospheres (ERCA) (6 weeks)
Grenoble, Université Joseph Fourier and Observatoire de Haute-Provence, France.

IX. SOCIETY MEMBERSHIP

2002– Hungarian Meteorological Society

2009– Atmospheric Physics work committee (Hungarian Academy of Science, Meteorological Scientific Committee)

2012– Agrometeorology work committee (Hungarian Academy of Science, Meteorological Scientific Committee)

X. STUDENT SUPERVISING

BSc students: finished – 15 persons, on-going – 4 persons

MSc students: finished – 9 persons, on-going – 8 persons

TDK (Scientific Students' Associations) supervising – 9 persons

XI. OUTREACH ACTIVITIES

2009– Participation in Open Day activities of the Faculty of Science, Eötvös Loránd University, since 2014 lecturer for specializations of Earth Science BSc

2011– Leader of the student mentor system at the Department of Meteorology

2013– Organization and presenter at the Researcher's night

2013– Presenter at the ELTE Faculty of Science Summer camp

2013– Organization of the Meteorologist TDK (Scientific Students' Associations)

2014– Presenter of the Earth Sciences BSc at the Faculty Open Days

2015 Organization and participation at Explorers' day (Millenáris Park, Budapest, Hungary)

2016 Participation at Earth science fair (Hungarian Natural History Museum)