

# Curriculum vitae, Sándor Baran

## Education, degrees

- Doctor of the Hungarian Academy of Sciences (DSc), Mathematical Sciences, 2021.
- Habilitation in Mathematical Sciences, University of Debrecen, 2006.
- PhD in Mathematics and Computer Science, University of Debrecen, 2001 (summa cum laude).
- MSc Degree: Mathematics, Kossuth Lajos University, Debrecen, 1995 (excellent).
- MSc Degree: Teacher of mathematics, English-Hungarian technical translator of mathematics, Kossuth Lajos University, Debrecen, 1996 (excellent).

## Scientific Awards

- Pro Cura Ingenii Prize, awarded by the University of Debrecen, 2022;
- ECMWF Fellowship, 2021 – 2023;
- János Bolyai Research Scholarship of the Hungarian Academy of Sciences, 2015 – 2018;
- Gyires Béla Prize, awarded by the Section of Mathematics of the Hungarian Academy of Sciences, 2012;
- Award of the Faculty of Informatics, University of Debrecen, 2006;
- Farkas Gyula Prize, awarded by the János Bolyai Mathematical Society, 2004;
- János Bolyai Research Scholarship of the Hungarian Academy of Sciences, 2001 – 2004;
- Grünwald Géza Prize, awarded by the János Bolyai Mathematical Society, 1999.

## Research interests

- Probabilistic weather forecasting;
- Parameter estimation problems of discrete and continuous random fields;
- Parameter estimation problems in classical and measurement error regression models;
- Applied statistics (biological, geological and medical applications);
- Stochastic optimization (simulated annealing).

## Publications

Papers in peer-reviewed journals:

- Published: 61
- Accepted: 0
- Submitted: 1

Papers in conference proceedings:

- Published: 6

Contributions to international conferences:

- Invited talks: 17
- Talks: 42
- Posters: 2

Cumulative impact factor: 79.52

Number of independent citations: 597

## Research trips

- Heidelberg Institute for Theoretical Studies, Germany, 06.07 – 31.07.2014, 01.07 – 31.07.2015, 01.07 – 31.07.2016, 01.07 – 31.07.2017, 01.07 – 31.07.2018, 01.07 – 31.07.2019, 01.07 – 31.07.2022, 01.07 – 31.07.2023;
- European Centre for Medium-Range Weather Forecasts, United Kingdom, 21 – 24.11.2017, 14 – 25.05.2018, 01 – 08.06.2019, 01.09 – 30.11.2019, 11 – 24.06.2022, 11 – 26.06.2023;
- Andrés Bello University, Vina del Mar, Chile, 17.01 – 04.02.2023;
- Clausthal University of Technology, Germany, 21 – 27.10.2018;
- University of Valparaíso, Valparaíso, Chile, 26.08 – 10.09.2018;
- Federico Santa María Technical University, Valparaíso, Chile, 29.05 – 09.06.2015;
- University of Heidelberg, Germany, 01.03 – 31.08.2013, visiting professor;
- Johannes Kepler University, Linz, Austria, 2011 – 2017 (2 – 4 weeks every year);
- University of Alberta, Edmonton, Canada, 13.01 – 03.02.2007;
- Radboud University Nijmegen, The Netherlands, 1999 – 2009 (2 – 4 weeks every year);
- Chalmers University of Technology, Göteborg, Sweden, 15.02 – 15.03.1996, 01.06 – 28.06.1997.

## Research grants

- National Research, Development and Innovation Office, Grant No. K142849, *Statistical models for post-processing ensemble forecasts of weather variables with direct economic impact*. 2022–2026, project leader.
- S&T cooperation programme, 2021-1.2.4-TÉT-2021-00020, *Statistical post-processing of ensemble forecasts of renewable energy-related weather variables*. 2022–2024, project leader.
- Deutsche Forschungsgemeinschaft (DFG) Grant No. MO 3394/1-1, *Statistical post-processing of ensemble forecasts for various*

- *weather quantities*, 2018–2024, researcher.
- National Research, Development and Innovation Office, Grant No. NN125679, *Statistical post-processing of ensemble forecasts for various weather quantities*. 2018–2023, project leader.
- Hungarian – Austrian intergovernmental S&T cooperation programme, TÉT 15-1-2016-0046. *Investigation of stochastic models based on Ornstein-Uhlenbeck sheets with applications in environmental sciences*. 2016–2018, project leader.
- TÁMOP-4.2.2.C-11/1/KONV-2012-0001. *Future internet research from theory to applications*. 2012–2014, subproject 5, research topic 5.5, group leader.
- Hungarian – Austrian intergovernmental S&T cooperation programme, TÉT 10-1-2011-0712. *Optimal design for parameters of Ornstein-Uhlenbeck processes and sheets*. 2012–2014, project leader.
- Hungarian Scientific Research Fund, Grant No. OTKA NK101680/2012. *Mathematical modelling of clinical observations for improved melanoma detection*. 2012–2014, researcher.
- TÁMOP-4.2.1./B-09/1/KONV-2010-0007/IK/IT. 2010–2012, researcher.
- Hungarian Scientific Research Fund, Grant No. OTKA T079128/2009. *Limit theorems and their applications*. 2009–2013, researcher.
- Hungarian Scientific Research Fund, Grant No. OTKA T048544/2005. *Limit theorems and their applications*. 2005–2007, researcher.
- Hungarian Scientific Research Fund, Grant No. OTKA F046061/2004. *Statistical investigation of stochastic models*. 2004–2007, project leader.
- Hungarian Scientific Research Fund, Grant No. OTKA F032060/2000. *Investigation of nonlinear regression and time series models*. 2000–2003, researcher.
- Hungarian Scientific Research Fund, Grant No. OTKA T032361/2000. *Statistical investigation of stochastic models*. 2000–2003, researcher.
- FKFP 0121/1999, researcher.
- TEMPUS SJEP project no. 9521. *Preparing a statistical services unit in Hungary*. 1996–1997, researcher.

## Positions

Faculty of Informatics, University of Debrecen:

- February 6, 2023–: Head of the Doctoral School of Informatics;
- July 1, 2019– : Vice-Dean of Scientific Affairs.

Department of Applied Mathematics and Probability Theory, Faculty of Informatics, University of Debrecen:

- September 1, 2021 –: Full Professor;
- November 1, 2021 –: Head of the Department;
- September 1, 2006 – August 31, 2021: Associate Professor;
- July 1, 2001 – August 31, 2006: Assistant Professor;
- July 1, 1999 – June 30, 2001: Instructor;
- July 1, 1998 – June 30, 1999: Computer Assistant.

Institute of Applied Mathematics, University of Heidelberg:

- March 1 – August 31, 2013: Visiting Full Professor

European Centre for Medium-Range Weather Forecasts:

- September 1 – November 30, 2019: Visiting Researcher

## Membership of professional bodies

- European Geosciences Union (since 2019).
- János Bolyai Mathematical Society (since 2018).
- The International Environmetrics Society (since 2017).
- European Regional Committee of the Bernoulli Society (2013 – 2016).
- Public law association of the Hungarian Academy of Sciences (since 2004).

## Editorial and reviewing work

- Member of the Editorial Board of the *Alkalmazott Matematikai Lapok* and *Publicationes Mathematicae Debrecen*.
- Reviewer of the Hungarian Scientific Research Fund and the Dutch Research Council (NWO).
- Reviewing work for journals:

*Acta Scientiarum Mathematicarum (Szeged)*, *Advances in Atmospheric Sciences*, *Advances in Water Resources*, *Annals of Applied Statistics*, *Annals of Operations Research*, *Applied Energy*, *Applied Mathematical Modelling*, *Atmospheric Science Letters*, *Biometrics*, *Catena*, *Communications in Statistics – Simulation and Computation*, *Communications in Statistics – Theory and Methods*, *Environmental Modeling & Assessment*, *Environmetrics*, *Geophysical Research Letters*, *IEEE Transactions on Mobile Computing*, *IEEE Transactions on Signal Processing*, *International Journal of Forecasting*, *Journal of Applied Meteorology and Climatology*, *Journal of Hydrometeorology*, *Journal of Meteorological Research*, *Journal of Multivariate Analysis*, *Journal of the Operational Research Society*, *Journal of the Royal Statistical Society Series A*, *Journal of the Royal Statistical Society Series C*, *Lithuanian Mathematical Journal*, *Meteorological Applications*, *Methodology and Computing in Applied Probability*, *Metrika*, *Monthly Weather Review*, *Neural Computing and Applications*, *Nonlinear Processes in Geophysics*, *Publicationes Mathematicae Debrecen*, *Quarterly Journal of the Royal Meteorological Society*, *Software X*, *Solar Energy*, *Statistical Papers*, *Statistics*, *TEST*, *Theory of Probability and Mathematical Statistics*.

**Language skills**

English (advanced, C2), Russian (advanced, C2), Italian (beginner, A1.2), German (beginner, A1.2).