



Dr. Barbara Templ

Curriculum Vitae

Personal Data

Born October 9, 1987 in Budapest, Hungary
Residence Switzerland
Marital status Married (maiden name: Barbara Szabó)
Children(s) David (December 2020) and Thomas (August 2024)

Professional experience

*Apr 2026 - **Scientific Project Coordinator**, *Center for Reproducible Science and Research Synthesis*, University of Zurich, Zurich, Switzerland.
Topic: Coordination of the Global Federation of Reproducibility Networks. Workload: 30%

*Jan 2026 - **Guest Scientist**, *Ecosystem Ecology Group*, Swiss Federal Research Institute for Forest, Snow and Landscape Research WSL, Birmensdorf, Switzerland.
Topic: Second flowering as an emerging climate signal, combining conceptual synthesis and an open-source tool development (R package). Workload: 30%

July 2025 - **Scientific Staff**, *Dept. of Climate and Agriculture*, Agroscope, Zurich, Switzerland.
Dec 2025 Topic: Modeling hail damage to agriculture captured by crop phenology. Workload 50%.

Jan 2025 - **Sabbatical leave.**
June 2025 Preparing for the C1 German language exam and developing new project ideas

06 Aug 2024 - **Maternity leave.**
31 Dec 2024

15 Aug 2023 - **Scientific Project Manager**, *Herbarium, Dept. of Systematic and Evolutionary Botany (ISEB)*, University of Zurich, Zurich, Switzerland.
31 Dec 2024 Topic: Manager of the "E-Specimina: Managing and publishing organismal research data" project at the Herbarium. Workload: 20%

01 March 2023 - 31 **Computational Competencies Community Manager**, *Dept. of Environmental Systems Science*, ETH Zurich, Zurich, Switzerland.
Dec 2023 Topic: Coordinating activities to further improve the data science curriculum, analysing student flow at ETH Zurich. Workload: 20%

- 01 Sept 2021 - 28 Feb 2023 **Educational Specialist for Data Science**, *Zürich-Basel Plant Science Center*, ETH Zurich, Zurich, Switzerland.
Topic: Expanding the curriculum of the PhD Program in Plant Sciences through organizing courses in digital skills, artificial intelligence, big data and machine learning in the plant sciences. Workload: 20%
- 01 Jan 2021 - 31 Aug 2021 **Maternity leave**.
- 01 Jun - December 31 2020 **External Scientific Collaborator**, *Weather and Climate Risks group, Institute for Environmental Decisions*, ETH Zurich, Zurich, Switzerland.
Topic: Scientific project management and Editorial work. Workload: 100%
- 15 Aug 2019- 29 Feb 2020 **Scientific Project Manager and Head of the ISlpedia Editorial team**, *Transformation Pathways Research Department*, Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany.
Topic: Scientific project management and Editorial work. Workload: 100%
- 01 Dec 2018 - 31 May 2019 **Research Scientist**, *Institute of Terrestrial Ecosystems*, ETH Zürich, Switzerland.
Topic: Swiss phenological changes: new insights into climate sensitivity of grapevine varieties and forest tree species. Workload: 100%
- 01 Dec 2017 - 31 May 2018 **Postdoctoral Researcher**, *Agroecology and Environment Division, Climate and Agriculture Research Group*, Agroscope, Zürich, Switzerland.
Topic: Impact of extreme events and climate change on Russian agriculture. Workload: 100%
- 15 May - 31 Dec 2017 **Junior Researcher**, *Department of Climatology*, Central Institution for Meteorology and Geodynamics (ZAMG), Vienna, Austria.
Topic: Modelling the distribution and pollen release of hazel in Europe. Workload: 100%
- 15 Mar - 15 Jun 2017 **Intern**, *Agricultural Meteorology (AgM) Division*, World Meteorological Organization (WMO), Geneva, Switzerland.
Topic: Programme management of the AgM division of WMO
- 1 Mar - 31 Dec 2016 **Junior Researcher**, *Department of Climatology*, Central Institution for Meteorology and Geodynamics (ZAMG), Vienna, Austria.
Topic: Modelling phenology and pollen forecast for Europe. Workload: 100%
- 1 Oct 2015 - 29 Feb 2016 **Intern**, *Department of Climatology*, Central Institution for Meteorology and Geodynamics (ZAMG), Vienna, Austria.
Topic: Modelling phenology and pollen forecast for Europe. Workload: 100%
- 15 Jun - 30 Sep 2015 **Intern**, *Secreteriat of the Carpathian Convention*, United Nations Environmental Program (UNEP), Vienna, Austria.
Topic: Programme management of the Carpathian Convention. Workload: 100%
- 1 Febr - 31 May 2015 **Visiting PhD student**, *Institute of Statistics and Mathematical Methods in Economics*, Technical University of Vienna (TUWien), Vienna, Austria.
Topic: Data analysis, classification and discriminant analysis using R. Workload: 100%
- 1 Sep - 31 Dec 2014 **Visiting PhD student**, *Institute of Statistics and Probability theory*, Technical University of Vienna (TUWien), Vienna, Austria.
Topic: Multivariate statistics using R. Workload: 100%

- 30 Sep - 30 Nov 2013 **Intern**, *Institute of Statistics and Probability theory*, Technical University of Vienna (TUWien), Vienna, Austria.
Topic: Environmental statistics using R. Workload: 100%
- 1 Sep 2013-31 May 2016 **PhD Student**, *Center for Ecological Research*, Hungarian Academy of Sciences (MTA), Vacratot, Hungary.
Topic: Phenological changes across Europe: new insights into climate sensitivity of wild plant species. Workload: 100%
- 18 Jun - 18 Sep 2012 **Intern**, *Section Ecology and Evolution, Department of Life Sciences*, Imperial College London, United Kingdom.
Topic: Community ecology and global change via experimental design. Workload: 100%
- 1 Sep 2012 - 1 Sep 2013 **Junior Researcher**, *Hungarian Meteorological Services (OMSZ)*, Budapest, Hungary,
Topic: Satellite phenology. Workload: 100%.

Education and Qualifications

- June 2017 **PhD in Biology (Summa cum laude)**, *Eötvös Loránd University in Budapest, Hungary*.
- June 2013 **Master of Science in Biology**, *Eötvös Loránd University in Budapest, Hungary*.
- January 2011 **Bachelor of Science in Biology**, *Eötvös Loránd University in Budapest, Hungary*.

Research and projects

I have authored several papers on bio-climatological topics (see the list of Publications below). My research interest includes the applications of machine learning in bio- and agricultural- meteorology, phenology, citizen science, climate change impact studies as well as open science / open research data management.

Participation in projects:

- 2025 **scClim**, *Seamless coupling of kilometer-resolution weather predictions and climate simulations with hail impact assessments for multiple sectorsn (Swiss National Science Foundation (SNF) Project)*.
- 2023-2024 **E-Specimina**, *Managing and publishing organismal research data: investigating needs and solutions (swissuniversities, Swiss Open Research Data Grants Track A: Explore project)*.
- 2022-2023 **Computational Competencies**, *Computational Competencies Community Manager at D-USYS, ETH Zurich (ETH Zurich Rektors Impulse Fund 2022)*.
- 2021-2022 **P-8 Digital Skills**, *P-8: Stärkung von Digital Skills in der Lehre (swissuniversities)*.
- 2020 **PROCLIAS**, *PROcess-based models for CLimate Impact Attribution across Sectors (COST Action, Project No. CA19139)*.
- 2019 **ISlpedia**, *ISlpedia: the open climate-impacts encyclopedia (European Research Area for Climate Services - ERA4CS, Project No. 01LS1711A)*.
- 2018-2019 **EXTRA**, *Impact of Extreme events and climate change on Russian agriculture, economic implications and adaptation (Swiss National Science Foundation (SNF) Project No. IZRPZ0 164737 - ERA.net RUS Plus)*.

- 2017 **PROSIT**, *Produkte, Entwicklungen und Services fuer den Bereich Gesundheitswetter (ZAMG)*.
- 2015-2017 **POLLENMON**, *Improvement of phenological models by means of time series of EO data for numerical pollen forecast (FFG - Austrian Research Promotion Agency)*.
- 2012-2013 **OTKA**, *Establishing methods of satellite phenological observations for ecosystem response to global change detection (Hungarian Scientific Research Fund, Project No. 81979)*.

Expert Work

- Febr 2026 - **Expert**, *of the Methods4Nature Methods Knowledge Exchange Network (MKEN) and the Delphi Panel under the BioAgora EU HORIZON project, "Developing the Science Service for European Research and Biodiversity Policymaking"*.
- Febr 2026 - **Expert**, *of the Eklipse Methods Working Group, "Bridging the gap between policy and knowledge on biodiversity in Europe"*.
- 6 Oct - 08 Dec 2025 **HORIZON MSCA PF-2025 Call Expert Evaluator**, *Research Executive Agency of the European Commission, Remote work.*
- 10 - 24 June 2024 **REMEDIES Open Call External Evaluator**, *F6S Network Ireland Limited, Remote work, Topic: Prevention and Zero-waste.*
- 24 Jan 2023 - **CHIST-ERA Open and Re-usable Research Data and Software (ORD) Call Rapporteur**, *Technology Agency of the Czech Republic., Remote work and Prague, Czech Republic, Topic: anonymous.*
- 01 May 2022 - **Horizon2020 CLIMATE Adaptation Mission Call Evaluator**, *European Climate, Infrastructure and Environment Executive Agency (CINAE) of the European Commission, remote work, Topic: anonymous.*
- 10 June 2022
- 05 Febr - 19 March 2021 **Horizon2020 Green Deal Call Evaluator**, *Research Executive Agency of the European Commission, remote work due to COVID-19, Topic: anonymous.*
- Jan 2018 - **Expert**, *of the PEP725 Expert Team, "Pan European Phenology Project"*.

Memberships

- request pending - **Swiss Young Academy**, *Swiss Academy of Sciences (SCNAT)*.
- Jan 2026 - **Guest Member of the Commission for Phenology and Seasonality**, *Swiss Academy of Sciences (SCNAT)*.
- Jan 2026 - **INOSC Board Member**, *International Network of Open Science Communities (OSC)*.
- Jan 2026 - **Member of the ISB Phenology Comission**, *International Society of Biometeorology (ISB)*.

Capacity building and Teaching

- **Co-convener** of the *EGU General Assembly 2026, Session (CI2.4) Plant and animal phenology under the pressure of climate change; 03-08 May 2026, Vienna, Austria;*
- **Co-convener** of the *EGU General Assembly 2025, Session (CI2.4/BG1.10) Plant and animal*

- phenology under the pressure of climate change*; 27 April - 02 May 2025, Vienna, Austria;
- **Teaching Assistant** *Climate Change AI Summer School* Lecture on AI for Agriculture, Forestry and other Land Use; 24 June 2024, CCAI, online;
 - **Training** *Research Data Management in the Natural Sciences* Training course; 04 December 2023, University of Applied Sciences Northwestern Switzerland (FHNW), Brugg, Switzerland;
 - **Co-organizer** of the *D-USYS Workshop on Using Interactive and Code-Based Exercises to Enhance Learning*; 24-25 August 2023, Villa Hatt, ETH Zürich, Zürich, Switzerland;
 - **Teaching** *Statistical modelling* blocked course annually (6-8. April 2022; 5-7. June 2023, 18-20. March, 2024) at ETH Zürich, Zürich, Switzerland.
 - **Organizer** of the *Summer School on the Application of Machine Learning in Plant Sciences*; 12–16 September 2022, Einsiedeln, Switzerland;
 - **Co-organizer** of the *Cross-sectoral ISIMIP and PROCLIAS online Workshop*; 11-15 January 2021, online event organized from PIK, Germany;
 - **Co-organizer** of the (i) *Training Workshop on Satellite Data and Products for Drought Monitoring and Agrometeorology*; 24–28 April 2017, Budapest, Hungary; (ii) *Cross-sectoral ISIMIP online workshop 2020*; 15-18 June 2020;
 - **Teaching** *Ecology Field Practise* and *Plant Ecology* courses (2014–2016) at Dept. of Plant Systematics, Ecology and Theoretical Biology, Eötvös Loránd University, Hungary.

Outreach and Public engagement

- **Contributing researcher** on *savior public*; a Swiss science communication platform connecting academic expertise with societal questions;
- **Project development** of interactive science–art formats; (collaborations with artists, digital installations);

Skills, licences and certifications

AI	chatGPT; DALLE3; Elicit; Open Knowledge Maps
Software	Windows / OS X, Microsoft Office, R, R Markdown, Shiny, L ^A T _E X, subversion systems (git, github), ASANA management system, Google Earth, Google Drive, Django web development, RangerShifter v 2.0., Zoom, CMS (content management system) Magnolia, Beekeeper Studio (SQL editor and database manager)
Project management	H2020 RI Project proposals course certified in Sept. 2019 by the European Fund Management Consulting (EFMC)
Project writing	EU grants: COST, Horizon Europe, LIFE; Swiss grants: SNF, swissuniversities, Innosuisse
Language	English (B2), German (B2), Swiss german (A1), Hungarian (native).

Further Education and Training

- 15 Sep 2025 **Data protection concerns us all (in German)**, *Online course held by Federal Administration Training Center (AZB).*
- 15 Sep 2025 **Corruption prevention (in German)**, *Online course held by Federal Administration Training Center (AZB).*

- *01 Febr 2025 **Scientific Knowledge Brokerage**, *Online course developed by the SSH CENTRE (Social Sciences and Humanities for Climate, Energy and Transport Research Excellence) EU HORIZON grant (No. 101069529).*
- 13 Febr 2025 **Impact in science communication: looking beyond facts**, *Online course held by scientify Research.*
- Sept - Dec 2024 **Incubator Program of INOSC (International Network of Open Science & Scholarship Communities)**, *Online course held by Dutch national centre of expertise and repository for research data (DANS).*
- 03 July 2024 **Horizon Europe: Open Science in Practise**, *Online course held by OpenAIRE.*
- 16 June 2024 **Open Data mit Zenodo fuer Citizen Science**, *Online course held by Central Library of the University of Luzern, Switzerland.*
- 03 May 2024 **Legal and Financial training for Swiss companies in Horizon Europe**, *Online course held by Euresearch.*
- 18 April 2024 **First Steps with SQL for Data Science**, *Online Course of the Swiss Institute of Bioinformatics.*
- 29 February 2024 **Interoperable File Formats**, *Online Course of the Swiss Institute of Bioinformatics.*
- November 2023 - June 2024 **Foundations of Teaching and Learning**, *Educational Development and Technology Course of ETH Zurich.*
- 02 November 2023 **Secure handling of confidential and strictly confidential research data**, *Research Data Management Workshop certified by ETH Library (Research Data Management and Digital Curation), ETH Zurich.*
- 26 October 2023 **Prompt-Labor - Generative KI in der Hochschullehre**, *Online course certified by the KI Campus (Die Lernplattform fuer Kunstliche Intelligenz).*
- 17 October 2023 **How to go Open Access**, *Online Course of the E-Publishing Office, ETH Library, ETH Zurich.*
- October 2023 **CMS-Einführung Magnolia**, *Continuing education IT course certified by the University of Zurich.*
- September 2023 **Sprachassistenzen als Chance fuer die Hochschullehre**, *Online course certified by the KI Campus (Die Lernplattform fuer Kunstliche Intelligenz).*
- April 2023 **Basic Training on European Research, Development and Innovation Opportunities**, *Online course held by Euresearch.*
- October 2022 **Science Communication for Social Media**, *Online course for employee of ETH authorized by the Communication Academy of ETH Zurich.*
- October 2022 **Basics of Science Communication**, *Online course for employee of ETH authorized by the Communication Academy of ETH Zurich.*
- December 2021 **Data Science Ethics**, *Certified Coursera online course authorized by the University of Michigan.*
- May 2020 **Human Health and Climate Change**, *Certified UNITAR online course authorized by the World Health Organization (WHO).*

- Apr 2020 **Managing the Company of the Future**, *Certified Coursera online course authorized by the London Business School and University of London.*
- Apr 2020 **Ecosystem Services: a Method for Sustainable Development**, *Certified Coursera online course authorized by the University of Geneva.*
- March 2020 **The Sustainable Development Goals – A global, transdisciplinary vision for the future**, *Certified Coursera online course authorized by the University of Copenhagen.*
- Jan 2019 **Machine Learning**, *Certified Coursera online course authorized by the Stanford University.*
- Apr 2018 **Advanced Modelling**, *Course on Modelling Spatial Eco-evolutionary Dynamics and Species responses to Environmental Changes, CIBIO Research Center in Biodiversity and Genetic Resources, University of Porto, Porto, Portugal.*
- May 2017 **Welcome to the United Nations**, *Online orientation course for new staff of the UN certified by the United Nations.*
- July 2014 **dyplr R tutorial**, *Course at the useR 2014 Conference, University of California, Los Angeles, USA.*
- Sept 2013 **Summer school on advanced R**, *Course of the IASC-ERS, Technical University of Vienna, Vorau, Austria.*

Fellowships and Awards

- 2018 **BNF - National Qualification Programme**, *Funded by the Regional Employment Center, Switzerland.*
- 2016 **EMS Tromp Award**, *Awarded by the European Meteorological Society and the Tromp Foundation for an outstanding achievement in biometeorology..*
- 2015 **FEMTech Praktika für Studentinnen**, *Funded by the Austrian Research Promotion Agency (FFG) to support starting the research career.*
- 2015 **ERASMUS Traineeship**, *Funded by the Education, Audiovisuak and Culture Executive Agency (EACEA), European Comission to support working in working in abroad.*
- 2014 **Ernst Mach Scholarship**, *Funded by the Austrian Federal Ministry for Education, Science and Research (BMBWF) to support reseach activities in Austria.*
- 2013 **Campus Hungary Scholarship**, *Funded by the European Union in the framework of the Social Renewal Operational Programme (TÁMOP) of Hungary.*
- 2012 **Fellowship granted by the Republic of Hungary to support young research talents**, *Funded by the Ministry of Education, Hungary.*
- 2012 **ERASMUS Scholarship**, *Funded by the Education, Audiovisuak and Culture Executive Agency (EACEA), European Comission to gain experience in abroad.*
- 2012 **Youth Talent of the Inner City**, *Awarded by the Major of 5th District of Budapest, Hungary.*
- 2012 **Outstanding Student of the Faculty**, *Awarded by the Faculty of Science, Eötvös Lorand University, Budapest, Hungary.*

2011 **Outstanding Conference Poster**, *Awarded by the VII. Conservation Biology of Hungary.*

Review and Editorial Work

- **Reviewer** for the following peer-review journals: Austrian Journal of Statistics, Community Ecology, Remote Sensing Technologies and GIS, International Journal of Agricultural Research and Crop Sciences, Ecological Indicators, Biogeosciences, International Journal of Biometeorology, Methods in Ecology and Evolution, International Journal of Climatology, Theoretical and Applied Climatology, Journal of Insect Conservation, OENO One - Vine and Wine Open Access Journal, Climate Services, Journal of the Torrey Botanical Society, Scientific Reports.
- **Special Issue Editor** of the Frontiers in Plant Sciences Journal. Topic: Phenology in a changing world: integrating observations, models, and applications across scales; accepting manuscripts since Jan 2026.

Collaborators

C. Bigler (ETH Zürich, CH), P. Calanca (Agroscope, CH), B. Czucz (Joint Research Centre of the European Commission, IT), M. Dahinden (Zurich-Basel Plant Science Center, CH), P. Filzmoser (Vienna University of Technology, AT), K. Frieler (Potsdam Institute for Climate Impact Research, DE), I. García de Cortzar-Atauri (INRA, FR), K. Hufkens (University of Bern, CH), M. Khodadadzadeh (University of Twente, NL), A. Menzel (Technical University of Munich, DE), M. Lakatos (Hungarian Meteorological Service, HU), A. Lehoczky (Fauna and Flora International, UK), M. Paschke (Zurich-Basel Plant Science Center, CH), H. Scheifinger (GeoSphere Austria, AT), R. Stefanski (World Meteorological Organization, CH), T. Standovar (Eötvös Loránd University, HU), M. Templ (University of Applied Sciences and Arts Northwestern Switzerland, CH), Y. Vitasse (WSL, CH), V. Zufferey (Agroscope, CH).

Interests

- Gardening
- Running
- Calligraphy
- Music

Publication statistics

ORCID ID <https://orcid.org/0000-0002-9391-5888>

Google Scholar **Citations:** 587. **h-index:** 11. **i10-index:** 11 (accessed: Jan 2026)

Publications

Papers submitted or in preparation

Templ, B. and M. Templ pep725: an R package for Pan-European Phenological Data Analysis *Journal of Statistical Software*, 2026. under review, manuscript submitted in Febr 2026.

Templ, B., Kauffert, J., Oteros, J., Lehner, S., Luedeling, E., Prat, E., Van der Meersch, V., Vrieling, A., de Vries, J., Izquierdo-Verdiguier, E., García de Cortázar-Atauri, I., Duan, K., Vilhar, U., García-Mozo, H., Rebaudo, F., Ye, H., Oblisar, G., Zurita Milla, R., Khodadadzadeh, M., Menzel, A. Twenty-one Questions Shaping the Future of Plant Phenology Research in the 21st

century. *Journal of Ecology*, 2026. manuscript submitted, under review since Dec 2025.

Templ, B., P. Calanca, M. Templ, C. Ruoyi. Earlier Flowers, Higher Risks: Shifting Apple Phenology and Hail Exposure Across Central Europe Under Future Warming. *Agriculture and Forest Meteorology*, 2026. manuscript in preparation, to be submitted in Febr 2026.

C. Ruoyi, **Templ, B.**, P. Calanca. Assessing the Impact of Hail on Winter Wheat and Maize in Europe Under Climate Change. *Earths Future*, 2026. manuscript submitted in Dec 2025, under review.

Templ, B., R. Nyffeler, S. Aeschbacher, T. Grubinger, M. Dahinden, and J. deVos. Questions that matter: shaping the future of herbaria *Biodiversity Information Science and Standards*, 2026. manuscript submitted in March 2026.

Templ, B. and H. Scheifinger Connecting Communities with Nature: Strategies and Impacts of Phenology in Public Engagement and Education. *Science Communication: Theory and Practice*, 2026. manuscript in preparation, to be submitted in March 2026.

R packages

Templ, B., Templ, M. (2026). *pep725: R package for handling and analysing PEP725 phenological data*. Version 1.0.0. <https://github.com/matthias-da/pep725>

Peer-reviewed articles

Templ, B., H. Scheifinger, I. Ostovary, M. Ungersboeck, H. Ressler. PEP725: Fifteen Years of Driving European and Global Phenology Science. *New Phytologist*, 250 (2), 2026. doi: m10.1111/nph.70869.

Templ, B.. Roadmap for Advancing Phenological Studies through Effective Open Research Data Management. *Ecological Informatics*, 2025. doi: 10.1016/j.ecoinf.2025.103109.

Templ, B., Templ, M., NGuyen, A. and Brandle, U. Leveraging Sankey Diagrams for Enhanced Curriculum Planning in Higher Education. *The Curriculum Journal*, 36:202—206, 2025. doi: 10.1002/curj.299.

Templ, B. Application User Manual: A guide on how to use the DUSYS App as lecturer or as curriculum developer. *ETH Zuerich*, Research Collection Report, 2023. doi: 20.500.11850/680531.

Stemkovski, M., Bell, J. R., Ellwood, E. R., Inouye, B. D., Kobori, H., Lee, S. D., Lloyd-Evans, T., Primack, R. B., **Templ, B.**, Pearse, W. D. Disorder or a new order: how climate change affects phenological variability. *Ecology*, e3846, 2022. doi: 10.1002/ecy.3846.

Templ, M. and **Templ, B.** Statistical Analysis of Chemical Element Compositions in Food Science: Problems and Possibilities. *Molecules*, 26:5752, 2021. doi: 10.3390/molecules26195752.

Coincidence of temperature extremes and phenological events of grapevine varieties. *OENO one*, 55:1: 367–383, 2021. doi: 10.20870/oenone.2021.55.1.3187.

Templ, B. and Calanca, P. Critical increase in the occurrence of heat stress during reproductive growth in Russian wheat beyond 1.5 C global warming. *Weather and Climate Extremes*, 30: 100281, 2020. doi: 10.1016/j.wace.2020.100281.

M. Templ and **Templ, B.** Analysis of chemical compounds in beverages – Guidance for establishing a compositional analysis. *Food Chemistry*, 325:126755, 2020. doi: 10.1016/j.foodchem.2020.126755.

Templ, B., M. Mózes, E. Templ, R. Földesi, A. Szirák, A. Báldi, and A. Kovács-Hostyánszki. Habitat-dependency of transect walk and pan trap methods for bee sampling in farmlands. *Journal of Apicultural Science*, 63:93–115, 2019. doi: 10.2478/JAS-2019-0014.

Templ, B., E. Koch, E. Templ, K. Bolmgren, M. Ungersböck, A. Paul, H. Scheifinger, T. Rutishauser, M. Busto, F.M. Chmielewski, L. Hájková, S. Hodzic, F. Kaspar, B. Pietregalla, R. Romero-Fresneda, A. Tolvanen, V. Vucetic, K. Zimmermann, A. Zust. Pan European Phenological Database (PEP725): a single point of access for European data. *International Journal of Biometeorology*, 62:1109–1113, 2018. doi: 10.1007/s00484-018-1512-8.

Templ, B., S. Fleck, and M. Templ. Change of plant phenophases explained by survival modelling. *International Journal of Biometeorology*, 61:881–889, 2017a. doi: 10.1007/s00484-016-1267-z.

Templ, B., M. Templ, P. Filzmoser, A. Lehoczky, B. Czucz, E. Baksiene, S. Fleck, H. Gregow, S. Hodzic, G. Kalvane, E. Kubin, V. Palm, D. Romanovskaja, V. Vucetic, A. Zust, and NS-Pheno Team. Phenological patterns of flowering across biogeographical regions of Europe. *International Journal of Biometeorology*, 61:1347–1358, 2017b. doi: 10.1007/s00484-017-1312-6.

Scheifinger, H. and **Templ, B.** Is citizen science the recipe for the survival of paper-based phenological networks in Europe? *BioScience*, 66:533–534, 2016. doi: 10.1093/biosci/biw069.

Lehoczky, A., **Szabó, B.**, R. Pongrácz, and F. Szentkirályi. Applicability of flowering onset time series for a proxy of temperature - based on Transylvanian phenological observations from the 19th century. *Applied Ecology and Environmental Research*, 14:213–233, 2016. doi: 10.15666/aer/1402_213233.

Szabó, B., E. Vincze, and B. Czucz. Flowering phenological changes in relation to climate change in Hungary. *International Journal of Biometeorology*, 60:1347–1356, 2016. doi: 10.1007/s00484-015-1128-1.

Szabó, B., B. Nagy, and F. Szentkirályi. Long-term (1958–2009) changes in hatching time of grasshopper (*Orthoptera*) species - consequences of climate change in Hungary. (in Hungarian: Egyenességű (*Orthoptera*) fajok lárvakelés kezdetének hosszú-távú változásai (1958–2008) az éghajlatváltozás következményeként Magyarországon. *Állattani Közlemények*, 99:45–59, 2014.

PhD thesis

B. **Templ.** *Applications and new developments in phenological research: monitoring, modelling and outlook*, 2017a. PhD thesis, Eötvös Loránd University, Budapest, Hungary

Bachelor and Master thesis

B. **Szabó.** *Consequences of climate change expected in the flora of Hungary - flowering phenological changes*, 2011a. Bachelor thesis, Eötvös Loránd University, Budapest, Hungary

B. **Szabó.** *Long term changes of the Orthoptera fauna caused by climate change and habitat degradation – a case study in the Pilis-mountain (Hungary)*, 2013a. Master thesis, Eötvös Loránd University, Budapest, Hungary

Conference proceedings

- B. Yesil, I. Menke, B. **Templ**, M. Mengel, and K. Frieler. Introducing the beta version of ISlpedia, the open climate-impacts encyclopaedia. In *Abstract books*, EGU2020-21584, 2020. talk: EGU2020, Vienna, Austria; 2020-05-03 – 2020-05-08.
- Q. Lejeune, I. Menke, B. **Templ**, M. Mengel, and K. Frieler. ISlpedia: a societally and user-relevant open climate-impact encyclopedia: latest results and lessons learnt. In *Abstract books*, page NA, 2020. talk: 6th International Conference on Climate Services, Pune, India; 2020-02-11 – 2020-02-13.
- B. **Templ**, S. Fleck, and M. Templ. Change of plant phenophases explained by survival modeling. In *Abstract books*, page NA, 2017. poster: International Congress of Biometeorology, Durham, UK; 2017-09-03 – 2017-09-07.
- H. Scheifinger, S. Natali, H. Gallaun, and B. **Templ**. Developing a validation procedure for numerical pollen forecast models. In *Abstract books*, page NA, 2017b. poster: International Congress of Biometeorology, Durham, UK; 2017-09-03 – 2017-09-07.
- H. Scheifinger, I. Meran, B. **Szabó**, H. Gallaun, S. Natali, and S. Mantovani. Pollenmon - temperature sensitivity of a numerical pollen forecast model. In *Abstract books*, page 307, 2016a. talk: 6th European Symposium on Aerobiology, Lyon, France; 2016-07-18 – 2016-07-22.
- H. Scheifinger, I. Meran, B. **Szabó**, H. Gallaun, S. Natali, and S. Mantovani. Temperature sensitivity of a numerical pollen forecast model. In *Geophysical Research Abstracts*, pages EGU2016–6572, 2016b. talk: European Geosciences Union (EGU) General Assembly 2016, Session CL2.03, Vienna, Austria; 2016-04-17 – 2016-04-22.
- B. **Szabó**, M. Templ, P. Filzmoser, A. Lehoczky, C. Mert, T. Ortner, R. Pongrácz, B. Czúcz, and SNPhenoTeam. Biogeographical regions and their flowering phenological patterns across europe. In *Annals of Meteorology*, page 48, 2015. talk: Phenology 2015 - Challenges in phenology, Kusadasi, Turkey; 2015-10-05 – 2015-10-08.
- B. **Szabó**, A. Lengyel, M. Templ, and B. Czúcz. Improving classification of plant assemblages with environmental constraints: a simulation study. In *Book of abstracts*, page 207, 2014b. poster: 23rd International Workshop of the European Vegetation Survey, Ljubljana, Slovenia; 2014-05-08 – 2014-05-12.
- B. **Szabó**, A. Lehoczky, P. Filzmoser, M. Templ, F. Szentkirályi, R. Pongrácz, T. Ortner, C. Mert, B. Czúcz, and Team SNPheno. From south to north: flowering phenological responses at different geographical latitudes in 12 european countries. In *Geophysical Research Abstracts*, pages EGU2014–9489, 2014a. poster: European Geosciences Union (EGU) General Assembly 2014, Session CL3.11, Vienna, Austria; 2014-04-27 – 2014-05-02.
- A. Lehoczky, B. **Szabó**, R. Pongrácz, and F. Szentkirályi. Analysis of flowering onset time series from the 19th century using transylvanian phenological observations. In *Conference Proceedings*, pages 62 – 63, 2012c. poster: BIOCLIMATE 2012 – International Scientific Conference on Bioclimatology of Ecosystems, Ústi nad Labem, Czech Republic; 2012-08-29 – 2012-08-31.
- A. Lehoczky, B. **Szabó**, R. Pongrácz, and F. Szentkirályi. Applicability of flowering onset time series for a proxy of temperatures based on long-term Transylvanian phenological observations

in the 19th century. In *EMS Annual Meeting Abstracts*, pages EMS2012–376, 2012d. poster: 12th European Meteorological Society (EMS) Annual Meeting and 9th European Conference on Applied Climatology (ECAC), Łódź, Poland; 2012-09-10 – 2012-09-14.

- A. Lehoczky, B. **Szabó**, R. Pongrácz, and F. Szentkirályi. Comparative analysis of flowering onsets heat sensitivity from the 19th centuries time series of the Carpathian Basin. In *Conference Proceedings*, pages 62 – 63, 2012e. poster: HUNGEO 2012 – 11th Meeting of Hungarian Geosciences Professionals, Eger, Hungary; 2012-08-20 – 2012-08-25.
- A. Lehoczky, B. **Szabó**, R. Pongrácz, and F. Szentkirályi. Analysis of flowering onset time series from the 19th century data: using phenophase as thermometer. In *Geophysical Research Abstracts*, pages EGU2012–12124, 2012b. poster: European Geosciences Union (EGU) General Assembly 2012, Session CL2.2, Vienna, Austria; 2012-04-22 – 2012-04-27.
- B. **Szabó**, G. Kalváne, E. Baksienė, A. Briede, . Jatczak, T. Niedwiedz, R. Danuta, and F. Szentkirályi. The comparison of temporal and spatial changes of the flowering phenological characteristics of wild plants in eastern part of Europe. In *Book of abstracts*, page 95, 2010. poster: Phenology 2010: Conference on Climate change impacts and adaptations, Dublin, Ireland; 2010-06-14 – 2010-06-18.
- B. **Szabó**, F. Szentkirályi, S. Szalai, and F. Kádár. Climatic effects and trends in flowering phenology of some wild plants in Hungary. In *Book of abstracts*, page 70, 2009. poster: International Conference on COST Action 725, Geisenheim, Germany; 2009-03-10 – 2009-03-12.

Presentations

- B. **Templ**. Advancing Phenological Studies: the Importance of Open Research Data Management. Invited talk by the FAIR Phenological modelling workshop, Lorentz Center, Leiden, The Netherlands; 2024-March-11, 2024.
- R. Nyffeler, B. **Templ**, S. Aeschbacher, T. Grubinger, M. Dahinden, and J. deVos. Leveraging ORD and FAIR principles in management and use of Natural History Collections (NHCs). Talk: 2024 annual SwissCollNet workshop, University of Bern, Bern, Switzerland; 2024-01-19.
- B. **Templ**, H. Scheifinger, H. Egerer, E. Koch, A. Paul, and M. Ungersbock. PEP725 – Pan-European Phenological Database. Poster: 6th European Symposium on Aerobiology, Lyon, France; 2016-07-18 – 2016-07-22, 2016a.
- B. **Templ**, H. Scheifinger, H. Egerer, and E. Koch. The need for Citizen Science in the Carpathian Basin – proposal after overview of phenological observation networks. Talk: Forum Carpathicum (FC) Future of the Carpathians: Smart, Sustainable, Inclusive, Bucharest, Romania; 2016-09-28 – 2016-09-30, 2016b.
- B. **Templ**. Flowering phenological changes in relation to climate change in Hungary. Invited talk as Tromp Awardee: 6th European Meteorological Society (EMS) Annual Meeting and 11th European Conference on Applied Climatology (ECAC), Trieste, Italy; 2016-09-12 – 2016-09-16, 2016a.
- B. **Templ**. Climate change and the timing of flowering. Invited talk: Workshop on Adaptation of agricultural activities to weather and climate extremes, Budapest, Hungary; 2016-11-17, 2016b.

- E. Koch, B. **Templ**, T. Hubner, H. Scheifinger, and M. Ungersbock. Phenology and its importance to the Climate Change community. Talk: Fifth Meeting of the Carpathian Convention, Working Group Adaptation to Climate Change, Vienna, Austria; 2016-10-27 – 2016-10-28, 2016.
- B. **Szabó**. Flowering phenology and climate change: international and national trends. Talk: Symposium on Functional Ecology, Vácrátót, Hungary; 2013-03-28, 2013c.
- B. **Szabó**. Climate change and plants responses: Discovering relationships between species and their environment. Invited talk: Austrian Statistical Society, Colloquium Environmental Statistics, Vienna (TUW), Austria; 2013-11-27, 2013b.
- A. Lehoczky and B. **Szabó**. How well the plants as thermometers? – beginning of flowering as climate indicators (in hungarian). Talk: XVIII. Bolyai Conference, Budapest, Hungary; 2013-03-24, 2013.
- A. Lehoczky, B. **Szabó**, R. Pongrácz, and F. Szentkirályi. Analysis of flowering onsets species-specific temperature sensitivity on 19th. centuries time series. Talk: 9th International Conference on Applied Nature-, Technology- and Economic- Sciences, Szombathely, Hungary; 2012-05-19, 2012a.
- B. **Szabó**, Á. Halácsy, F. Kecskés, and B. Czúcz. Phenological observations carried out by volunteers – an important and unexploited opportunity in environmental education and climate change monitoring (in hungarian). Poster: 7th Hungarian Conservation Biology Conference, Debrecen, Hungary; 2011-11-03 – 2011-11-06, 2011.
- B. **Szabó**. Warming temperature and NAO impacts on plant- and insect- phenology (in hungarian). Talk: Jubilee National Scientific Higher Educational Student Conference, Biology Session, Budapest, Hungary; 2011-04-19 – 2011-04-21, 2011c.
- B. **Szabó**. Long-term phenological changes influenced by climatic variables (in hungarian). Talk: Hungarian Biological Society, 1443rd Special Meeting of the Botany Department, Budapest, Hungary; 2011-03-21, 2011b.
- S. Szalai and B. **Szabó**. COST725: Establishing joint European Phenological data platform for purposes of climate application. Talk: Hungarian Meteorological Society, Agricultural and Biometeorological Meeting, Budapest, Hungary; 2009-05-28, 2009.
- F. Szentkirályi, K. Leskó, F. Kádár, and B. **Szabó**. Drought effects on insects: gradations, long-term fluctuations, expected trends. Talk: Conference on Drought and Aridity in Hungary, Kecskemét, Hungary; 2009-10-07, 2009.