

PERSONAL INFORMATION



DOMAIN OF ACTIVITY  
TEACHING DEGREE  
AREA OF INTEREST

Sorin Daniel VÂTCĂ

 No. 3-5, Mănăştur Street, Cluj-Napoca, Cluj, 400372, Romania

 [sorin.vatca@usamvcluj.ro](mailto:sorin.vatca@usamvcluj.ro)

 <http://agricultura.usamvcluj.ro/index.php/member/dr-sorin-vatca>

Sex male | Nationality Romanian

Plant Physiology, Ecophysiology, Agro-climatology, Bio-Climatology

Doctor engineer

Study of physiological parameters in plants, Inter-weed-crop relations, The influence of biotic and abiotic factors on the development of physiological processes in plants, The response of plants to climate change, Plant Phenology

WORK EXPERIENCE

- 2022-present **Professor Habil.**  
UASVM – University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Mănăştur street no.3-5, <https://www.usamvcluj.ro/>  
▪ Teaching and research  
**Business or sector** Faculty of Agriculture, Discipline of Plant Physiology, Climatology / Bioclimatology and Agrometeorology
- 2020-2022 **Associate professor**  
UASVM – University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Mănăştur street no.3-5, <https://www.usamvcluj.ro/>  
▪ Teaching and research  
**Business or sector** Faculty of Agriculture, Discipline of Plant Physiology, Climatology / Bioclimatology and Agrometeorology
- 2007-2020 **Lecturer**  
UASVM – University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Mănăştur street no.3-5, <https://www.usamvcluj.ro/>  
▪ Teaching and research  
**Business or sector** Faculty of Agriculture, Discipline of Plant Physiology
- 2003-2007 **Assistant Professor**  
UASVM – University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Mănăştur street no.3-5, <https://www.usamvcluj.ro/>  
▪ Teaching and research  
**Business or sector** Faculty of Agriculture, Discipline of Plant Physiology
- 2001-2003 **PhD Student**  
UASVM – University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Mănăştur street no.3-5, <https://www.usamvcluj.ro/>  
▪ Research, writing a doctoral thesis and scientific articles  
**Business or sector** Research, Faculty of Agriculture

2022-present **Professor Habil.**

EDUCATION AND TRAINING

- 2002-2006 **Doctor's degree in Agronomy**  
Doctor in Agronomy Domain UASVM Cluj-Napoca
- 1999-2002 **Master's degree**  
European Agricultural Economics, Faculty of Horticulture, UASVM Cluj-Napoca
- 1995-1999 **Bachelor's degree**

1992-1995 Engineer, Faculty of Agriculture, UASVM Cluj-Napoca  
 Designer diploma I.C.M.  
 Specialized Post-Secondary School, ICM-CUG School Group, Cluj Napoca  
 1992 High school diploma  
 Octavian Goga Huedin Theoretical High School, Cluj County

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	B2
French	A2	B1	A2	B1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

Computer skills Microsoft Office (Microsoft Word, Excel, Power Point), Explorer, Logger Pro, Polifact etc.

ACTIVITY FIELD

Discipline / Keywords  
 Areas of expertise

Plant Physiology, Ecophysiology, Bioclimatology, Climatology  
 Plant Physiology and Phenology,  
 Bioclimatology,  
 Agrometeorology,  
 Urban Ecology

Areas of interest

Study of physiological parameters in plants,  
 Inter-weed-crop relations,  
 The influence of biotic and abiotic factors on the development of processes  
 physiological in plants  
 The response of plants to climate change,  
 Plant phenology

Teaching activity

2003 - present: Practical works Plant Physiology in the second year Agriculture and Montanology,  
2003 - present: Practical works Plant physiology in the first year Horticulture,  
2004 - present: Practical works of Plant Physiology in the first year of Landscaping,  
2004 - present: Practical works of Plant Physiology in the first year Forestry,  
2004 - present: Practical work and the course of Plant Physiology in the year II / III Agricultural and food biotechnologies,  
2004 - 2015: Practical works and Ecophysiology course in the first year Engineering and Environmental Protection,  
2014 - present Practical works and the course of Plant Physiology in the second year of Biology  
2014 - present Practical works and the course of Physiology of nutrition and plant development in the second year of Biology  
2016 - present Practical works and Climatology course at the first year Environmental Engineering,  
2017 - present: Practical works and the course of Physiology of nutrition and plant development in the second year of Biology,  
2017 - present Practical works and Bioclimatology course in the first year of Biology  
2019 - present Urban Ecology Course for students / masters in the final years from all USAMV Cluj-Napoca specializations  
Scientific supervisor for over 40 diploma / dissertation projects

---

 ADDITIONAL INFORMATION

## Publications

STOIAN, V. A., GÂDEA, Ș., Vidican, R., Balint, C., Stoian, V., VÂTCĂ, A., ... & VÂTCĂ, S. D. (2024). Seed priming methods tested on *Salvia officinalis* L. germination according to BBCH scale. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, 52(2), 13676-13676.

Trușcă, M., Gâdea, Ș., Vidican, R., Stoian, V., Vătcă, A., Balint, C., ... & Vătcă, S. (2023). Exploring the research challenges and perspectives in ecophysiology of plants affected by salinity stress. *Agriculture*, 13(3), 734.

Trușcă, M., Gâdea, Ș., Vătcă, A., Stoian, V., & Vătcă, S. (2023). Chlorophyll content and stomata morphometric features of *ANETHUM GRAVEOLENS* L. in a controlled experiment with different saline levels. *Scientific Papers. Series B. Horticulture*, 67(1).

Stoian, V., Rîșcou, D., Gâdea, Ș., Vătcă, A., Trușcă, M., & Vătcă, S. (2023). Tested seed priming methods to stimulate the germination of *CITRUS LIMON* L. *Scientific Papers. Series B. Horticulture*, 67(1).

Stoian, V. A., Papp, A., Trușcă, M., Vătcă, A., GÂDEA, Ș., & Vătcă, S. (2023). Chlorophyll Content and Leaf Morphological Features of *Capsicum annum* L. cv.'Alexander' under Yeast and Caffeine Tested as Bio-fertilizers. *Bulletin of the University of Agricultural Sciences & Veterinary Medicine Cluj-Napoca. Agriculture*, 80(1).

Moldovan, C., Nițu, S., Hermeziu, M., Vidican, R., Sandor, M., Gâdea, Ș., ... & Stoian, V. (2022). Growth Characteristics of *Dracocephalum moldavica* L. in Relation to Density for Sustainable Cropping Technology Development. *Agriculture*, 12(6), 789.

Stoian, V., Vidican, R., Florin, P., Corcoz, L., Pop-Moldovan, V., Vaida, I., ... & Pleșa, A. (2022). Exploration of soil functional microbiomes—A concept proposal for long-term fertilized grasslands. *Plants*, 11(9), 1253.

Trușcă, M., Gâdea, Ș., Stoian, V., Vătcă, A., & Vătcă, S. (2022). Plants physiology in response to the saline stress interconnected effects. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, 50(2).

Varban, R., Vidican, R., VÂRBAN, D., STOIE, A., GÂDEA, Ș., VÂTCĂ, S., ... & STOIAN, V. (2022). Modelling plant morphometric parameters as predictors for successful cultivation of some medicinal *Agastache* species. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, 50(1), 12638-12638.

Vătcă, S. D., Gâdea, Ș., Vidican, R., Șandor, M., Stoian, V., Vătcă, A., ... & Stoian, V. A. (2022). Primary Growth Effect of *Salix viminalis* L. CV. Inger and Tordis in Controlled Conditions by Exploring Optimum Cutting Lengths and Rhizogenesis Treatments. *Sustainability*, 14(15), 9272.

Stoian, V. A., Gâdea, Ș., Vidican, R., Vârban, D., Balint, C., Vătcă, A., ... & Vătcă, S. (2022). Dynamics of the *Ocimum basilicum* L. Germination under Seed Priming Assessed by an Updated BBCH Scale. *Agronomy*, 12(11), 2694.

Pop-Moldovan, V., Corcoz, L., Stoian, V., Moldovan, C., Pleșa, A., Vătcă, S., ... & Vidican, R. (2022). Models of mycorrhizal colonization patterns and strategies induced by biostimulator treatments in *Zea mays* roots. *Frontiers in Plant Science*, 13, 1052066.

Vătcă, S. D., Stoian, V. A., Man, T. C., Horvath, C., Vidican, R., Gâdea, Ș., ... & Stoian, V. (2021). Agrometeorological Requirements of Maize Crop Phenology for Sustainable Cropping—A Historical Review for Romania. *Sustainability*, 13(14), 7719.

Pacurariu, R. L., Vătcă, S. D., Lakatos, E. S., Bacali, L., & Vlad, M. (2021). A Critical Review of EU Key Indicators for the Transition to the Circular Economy. *International Journal of Environmental Research and Public Health*, 18(16), 8840.

Vătcă, S., Gâdea, Ș., Vătcă, A., Chînța, D., & Stoian, V. (2020). Black currant response to foliar fertilizers—modeling of varietal growth dynamics. *Journal of Plant Nutrition*, 43(14), 2144-2151.

Vătcă, S., Vidican, R., Gâdea, Ș., Horvat, M., Vătcă, A., Stoian, V. A., & Stoian, V. (2020). Blackcurrant variety specific growth and yield formation as a response to foliar fertilizers. *Agronomy*, 10(12), 2014.

Croitoru, A. E., Man, T. C., Vătcă, S. D., Kobulniczky, B., & Stoian, V. (2020). Refining the Spatial Scale for Maize Crop Agro-Climatological Suitability Conditions in a Region with Complex Topography towards a Smart and Sustainable Agriculture. Case Study: Central Romania (Cluj County). *Sustainability*, 12(7), 2783.

- Projects**
- Project Director, UEFISCDI, PN-III-P2-2.1-PED-2019-2310, 292PED / 2020, Redefining areas of agro-climatic favourability for maize and winter wheat towards a smart agriculture adapted to climate change in Romania (AGROCLIMRO)
  - Project Director Research and Consulting Contract no. 1317 of 22.01.2021 - research in the field of eco-physiology of crop plants and agro-climatological consultancy in order to increase production yields and farm sustainability in the context of climate change.
  - Project Director CNCISIS 417/2002, - Research on the control of triazine-resistant weeds in some agricultural crops in Transylvania
  - CNCISIS Project Director 146/2003, - Research on the biology and control of herbicide-resistant weeds in some agricultural crops in Transylvania, especially of the species *Chenopodium album* L.
  - Member of the research team for the following projects: RELANSIN-AGRAL, no. 1619/2001 Regeneration of some valuable potato genotypes and populations from Transylvania
  - CEEEX P-CD, MEC no. 104/2006 Sustainable recovery of medicinal plants and hops with bioactive preparations (VaDuPlaMed),
  - CEEEX 116/2006 BIOTECH Unconventional Colorado potato beetle control techniques *Leptinotarsa decemlineata* Say,
  - PCCDI, 2018 - Complex, integrated system for technological optimization and superior capitalization of wine by-products
  - POCU 9690/2019, Competitive education and training on the labor market, EDU FORM-code MySmis 12164

**Memberships**

member of the EuroScience Association, Brussels  
member German Society for Agriculture (DLG) Germany  
member of the General Association of Romanian Engineers (AGIR)  
member of the Society of Horticulture and Forestry of Transylvania (SHST)  
member of the Romanian Society of Meadows (SRP)

**Specializations and qualifications**  
**Specialization courses /**  
**Research internships:**

- France, (Brittany, Loudeac), internship, 1996
- Germany (University of Hohenheim), research visit, 2000
- Certificate of pedagogical module series B no. 077143, 1999, DPPD, USAMV Cluj-Napoca,
- Certificate in Management and Preparation of European Projects, November 2007 - USAMV Cluj-Napoca.
- DECIDFR-CPCDTIM Certificate, Integration in the didactic process of educational technologies for blended-learning at university level,
- 2013, Technical University, Cluj Napoca, SPOT Certificate, Training in using the ASSISTANT-ID platform for tutors, 2014, USAMV Cluj Napoca
- ANELIS Certificate (Clarivate Analytics),
  - Electronic resources for documentation, 2016,
  - How to identify funding sources, 2018,
  - Research collaboration - why does it matter? 2018,
  - Where should I publish? 2019
  - Discover the tools available for research evaluation, 2020
  - Deepen your knowledge in your field of research, 2020
- EduForm, Education and competitive training on the labor market, 2019, USAMV Cluj Napoca

**Additional activity**

Vice Rector with social and student activities  
PhD supervisor  
Member of the Editorial Team - Agricultural Science and Practice Review  
Agriculture, AcademicPress Publishing, Cluj-Napoca  
ISI, BDI journals reviewer

**Professor PhD. Sorin Daniel Vâtcă**

**Cluj-Napoca**  
**20.04.2026**