Daniel E.C. DUNEA

Sex: Male | Date of birth: 02/01/1973 | Nationality: Romanian;

Webpages:
- Orcid: http://orcid.org/0000-0002-9423-585X
- Brainmap: https://www.brainmap.ro/daniel-dunea
- Scientific Articles: http://www.researchgate.net/profile/Daniel_Dunea/
- Reviewer and editor: https://publons.com/author/1182105/daniel-dunea#profile
- Citations: https://scholar.google.com/citations?user=FJylSMAAAAAJ&hl=en

Academic Title: **Associate Professor Dr. Eng. Habil.**

Current Position: *Head of Department*, **Department of Environmental Engineering**, Valahia University of Targoviste, Romania; Address: Valahia Campus, A Building, Room A208, Aleea Sinaia no.13, Targoviste, Romania, 130004;
e-mail: dan.dunea@valahia.ro ; ddunea@yahoo.com

Complementary: - *Romanian Local expert* **for Copernicus User Learning Services** (*Programme C3S learning services*) **-** https://climate.copernicus.eu/c3s-user-learning-services-training-event-romania
- Evaluator for the KAPPA Programme 2020 **-** Technology Agency of the Czech Republic (TACR) (https://www.tacr.cz/en/homepage/), financed from EEA and Norway Grants.

PROFESSIONAL EXPERIENCE

From October 1, 2013-present: **Associate Professor**, Valahia University of Târgovişte, Address: Bd. Carol, no. 2, 130024, Târgovişte, Dâmboviţa, Romania; http://www.valahia.ro/en/, Faculty of Environmental Engineering and Food Science; https://fimsa.valahia.ro/english ; Department of Environmental Engineering; Didactic and research activities, Titular of Courses: "*Monitoring of the Environment*", "*Plant Physiology*" and "*Remote sensing*" – B.Sc. Specialization: Environmental Engineering; "*Air Pollution Control and Prevention*" – M.Sc. Program: Systems for Control and Evaluation of the Environmental Quality; Sector Education & Research.

From January 2016: elected **Head of Environmental Engineering Department**, Valahia University of Târgovişte; Re-elected for a second mandate in November 2019.

2003-2013: **Lecturer Ph.D.**, Valahia University of Târgovişte; Sector Education & Research.

October 1997-October 2003: **University Assistant;** Valahia University of Târgovişte.

2010-2013: **Simulated Enterprise Expert** (long-term expert), Educational Development Project, Contract POSDRU/90/2.1/S/58123, "*From theory to practice with simulated enterprise*", Implementation period: November 01, 2010 – October 31, 2013, Beneficiary: Romanian Ministry of Education, Research, Youth and Sport. Project's Budget: 2.650.000 € from Romania's Operational Program for Human Resource Development; Two training stages in Vienna (Austria) with experts from ÖSB Consulting GmbH in 2011 and 2012.

EDUCATION

December 2019: Habilitation at University of Agronomical Sciences and Veterinary Medicine Bucharest (Romania) – Date of award: 30 December 2019
https://www.usamv.ro/images/Programe_de_studii/Doctorat/Profesori/DDEC/Atestatul_de_abilitare.pdf

June 2007 - April 2008: **Postdoc studies**, Petroleum-Gas University Ploieşti (Romania), Department of Automatic Control, Computers and Electronics; Address: B-dul Bucureşti, nr.

39, Ploieşti, Prahova; Project CEEX no. 1533/2006, "*Study of artificial intelligence application in environmental protection*".

2001-2006: **Doctoral Studies**, Ph. D. degree in Agronomy issued by the University of Agronomical Sciences and Veterinary Medicine Bucharest (Romania) – Date of award: 21/03/2007; 2001-2002 *Ph.D.20 Marie Curie Fellowship* at Wageningen University and Research (WUR),

2004-2005: Courses at Professional M. Sc. Program, "*Optimization of Experimental Protocols*"; Université de Bretagne Occidentale de Brest (France), UFR Sciences et Techniques; Statistical analysis and process optimization, data analysis, multivariate methods, validation of analytical methods, quality control. http://www.univ-brest.fr/opex

April 2001 - March 2002: *Marie Curie Ph.D.20 Fellow*, Wageningen University (The Netherlands), Institute of Production Ecology & Resource Conservation (PE&RC); http://www.dpw.wur.nl ; Research activities – Grant holder's budget: 22 500 €; Project Coordinator: Prof. dr. Martin Kropff; Sector Research; English Scientific Writing Course;

1992-1997: B. Sc. – **Engineer**; University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca (Romania), 5 year cycle (pre-Bologna); Average of the years of study: 8.91; Average of graduation exam: 10 (maximum) – Date of award: 08/07/1997.

PUBLICATIONS

- *h*-index 14 (Google Scholar); 11 (Clarivate Analytics Web of Science - WOS); 12 (Scopus);
- 6 books in Environmental Sciences and Agronomy (author; co-author; editor);
- **47 articles in Clarivate Analytics WoS**: journals with impact factor (4 awarded by the Romanian UEFISCDI National Research authority) and articles indexed in ISI Thomson Reuters proceedings;

Selection of the most representative research articles in peer-reviewed scientific journals with impact factor (WoS) (excluding auto-citations):

1. **Dunea D.**, Iordache S, H.-Y. Liu, Bøhler T., Pohoata A., Radulescu C., *Quantifying the impact of PM2.5 and associated heavy metals on respiratory health of children near metallurgical facilities*, **Environmental Science and Pollution Research**, 23 (15), pp. 15395–15406, 2016; (awarded article PN-III-P1-1.1-PRECISI-2016-12448: Competition 2016 UEFISCDI Romanian Authority).

2. **Dunea D.**, Iordache S., Pohoata A., *Fine Particulate Matter in Urban Environments: A Trigger of Respiratory Symptoms in Sensitive Children*, **International Journal of Environmental Research and Public Health** 13 (12), 1246, 1-18, 2016;

3. **Dunea D.**, Pohoaţă A., Iordache S., *Using wavelet - feedforward neural networks to improve air pollution forecasting in urban environments*, **Environmental Monitoring and Assessment**, 187: 477, 2015 (awarded article PN-II-RU-PRECISI-2015-9-10081: Competition 2015 UEFISCDI Romanian Authority);

4. **Dunea D**., Iordache S., Pohoata A., Frasin L.B.N., *Investigation and Selection of Remediation Technologies for Petroleum-Contaminated Soils Using a Decision Support System*, **Water, Air, & Soil Pollution**, 225 (7), 1-18, 2014;

5. Liu H.-Y., **Dunea D.**, Iordache S., Pohoata A., *A Review of Airborne Particulate Matter Effects on Young Children's Respiratory Symptoms and Diseases*, **Atmosphere**, 9(4), 150, 2018; https://doi.org/10.3390/atmos9040150

6. **Dunea D.**, Iordache S., Bøhler T., Huber F., Leitner P., *Evaluating the Air Pollution Impact Using Environmental Monitoring, Dispersion Modeling and Volunteered Geographic Information Systems*, **Revista de chimie**, 68 (4), 835-840, 2017.

7. Oprea M., **Dunea D.**, Liu H.-Y., *Development of a knowledge based system for analyzing particulate matter air pollution effects on human health*, **Environmental Engineering & Management Journal**, 16 (3), 669-676, 2017.

8. **Dunea D.**, Iordache S., Alexandrescu D.C., Dinca N., *Screening the Weekdays/Weekend patterns of air pollutant concentrations recorded in southeastern Romania*, **Environmental Engineering and Management Journal**, 14(12), 3105-3115, 2014.

9. **Dunea D.**, Iordache S., Radulescu C., Pohoata A., Dulama I.D., *A Multidimensional Approach to the Influence of Wind on the Variations of Particulate Matter and Associated Heavy Metals in Ploiesti City*, Romania, **Rom. Journ. Phys.**, 61 (7-8), 1354-1368, 2016.

10. **Dunea D.**, Iordache S., *Time Series Analysis of Air Pollutants Recorded from Romanian EMEP Stations at Mountain Sites*, **Environmental Engineering and Management Journal**, Vol.14, No.11, 2725-2735, 2015.

11. Radulescu C., Iordache S., **Dunea D.**, Stihi C., Dulama I.D., *Risks assessment of heavy metals on public health associated with atmospheric exposure to PM2.5 in urban area*, **Rom. Journ. Phys.**, 60 (7-8), 1171-1182, 2015.

12. Iordache S., **Dunea D.**, *Cross-spectrum analysis applied to air pollution time series from several urban areas of Romania*, **Environmental Engineering and Management Journal**, Vol.12, No. 4, 677-684, 2013.

- other 45 indexed articles in International Databases – IEEE Xplore, ACM, DBLP, CABI, SCOPUS, and Google Scholar;
- 22 papers in national journals and conference proceedings;
- **186 citations** in Clarivate Analytics WoS (excluding self-citations).

- **Monographs and chapters in collective volumes (selection):**

1. **Dunea D.** (editor), 2018. Plant competition in cropping systems, Ed. INTECHOpen; indexed Google Books; DOI: 10.5772/intechopen.71291, ISBN: 978-1-78984-342-2, 92 pg. Google Books indexed.

2. **Dunea D.**, 2015. Bioconversion efficiency in grass-legume forage systems. Ed. LAP Lambert Academic Publishing, Saarbrücken, Germany; Google Books indexed, ISBN 978-3-659-79200-7, 256 pg.

3. **Dunea D.**, Iordache S., Pohoata A., Lungu E., *Smart Data Infrastructure for Respiratory Health Protection of Citizens against PM2.5 in Urban* in: K.-C. Li et al., Smart Data: State-of-the-Art and Perspectives in Computing and Applications, CRC Press Taylor and Francis, Chapter 13, pp. 273-288, ISBN 978-113-85-4558-8; https://www.crcpress.com/Smart-Data-State-of-the-Art-Perspectives-in-Computing-and-Applications/Li-Martino-Yang-Zhang/p/book/9781138545588 .

4. **Dunea D.**, Iordache S., *Analyzing the impact of airborne particulate matter on urban contamination with the help of hybrid Neural Networks* in: J. L. Garcia Rosa, Artificial Neural Networks - Models and Applications, InTech, 2016, pp. 1-20, ISBN 978-953-51-4713-8. – WoS (*Downloaded: >1000 times*).

5. **Dunea D.,** Iordache S., Pohoata A., *Multiple characterizations of urban air pollution time series using a wavelet – feedforward neural network integrative approach*, in I.R. Ruiz, G.R. Garcia (ed.), "International work-conference on Time Series", Vol. 2, Granada: Springer, ISBN 978-84-15814-97-4, pp. 804-815, 2014 – WoS.

6. Iordache S., **Dunea D**. (Editors), *Methods for the Assessment of Air Pollution Impact with Particulate Matter on Children's Health* (In Romanian with English abstracts), Publisher: MATRIX ROM, Bucharest, 2014, 452 pp. ISBN: 978-606-25-0121-1, DOI: 10.13140/RG.2.1.4798.3204 – **awarded with "Ioan Ursu" prize of The Academy of Romanian Scientists** (http://www.aosr.ro/en/) and **Merit Diploma in Environmental Engineering** from The General Association of Engineers in Romania (A.G.I.R.) in 2014 - http://www.agir.ro/univers-ingineresc/numar-19-2015/premiile-agir-pentru-anul-2014-partea-a-ii-a---lucrari-publicate-in-volum_5008.html

7. Oprea M., Nichita C., **Dunea D.**, *Applications of artificial intelligence in environmental protection* (In Romanian), Ed. Universităţii Petrol-Gaze din Ploieşti, 127 pp., 2008, ISBN 978-973-719-236-3.

_____

ACADEMIC EDITING AND PEER REVIEW EXPERIENCE
EDITOR

- Member of the Editorial Board of **Environmental Monitoring and Assessment** (ENVIRON MONIT ASSESS), Springer, ISSN: 0167-6369, IF 2018 = 1.959
  https://www.springer.com/environment/monitoring+-+environmental+analysis/journal/10661?detailsPage=editorialBoard
- Topic Editor and Guest Editor for **Atmosphere**, ISSN: 0167-6369, IF2018=2.046, Special Issue "Effects of Airborne Particulate Matter on Human Health in Urban Environments" 2019
  https://www.mdpi.com/journal/atmosphere/special_issues/PM_health
- **Academic Editor for Plos One** (2018) ISSN: 1932-6203, IF 2018=2.776; Member of the Editorial Board.
- Member of the Editorial Board of the **Annals. Food Science and Technology** ISSN 2065-2828, an international scientific open-access peer-reviewed journal - http://afst.valahia.ro/editorial-board

  REVIEWER
- Reviewer for **28 Journals** with impact factor (ISI WoS) - https://publons.com/author/1182105/daniel-dunea#profile (selection) – **107 certified reviews**; many manuscripts related to modelling of Environmental Processes;
  - **Environmental Monitoring and Assessment** (ENVIRON MONIT ASSESS), Springer, ISSN: 0167-6369, IF 2018 = 1.959, 24 reviews;
  - **Environmental Pollution** (ENV POL), ELSEVIER, ISSN: 0269-7491, IF 2016 = 5.099, 12 reviews; *Certificate of Outstanding Reviewer*;
  - **BMC Public Health,** ISSN 1471-2458, IF 2016 = 2.265;
  - **ELSEVIER: Atmospheric Pollution Research; Ecological Modelling; Resources, Conservation and Recycling**
  - **Plos One; IEEE Access; Aerosol and Air Quality Research; Journal of the Air & Waste Management Association; Soil and Sediment Contamination**; **Journal of Systems and Control Engineering; PeerJ;** etc.
  - **Various MDPI Journals: International Journal of Environmental Research and Public Health; Atmosphere; Remote Sensing; Energies; Water; Sensors; Sustainability.**
- Reviewer for the **International Conference on Energy Engineering and Environmental Protection**, November 21-23, 2016, **Sanya, China**.
  http://iopscience.iop.org/article/10.1088/1742-6596/52/1/011001/pdf ;
- Scientific committee member for the 2018 and 2019 editions http://www.iceeep.org/Committee.aspx .

Peer-review activity for international programs/projects including year and program

1. 2017 - Selected as Evaluator - **Horizon 2020** - Evaluation of research proposals submitted under the Horizon 2020 topic SFS-28-2017: SFS-28-2017: Functional biodiversity – productivity gains through functional biodiversity: effective interplay of crop pollinators and pest predators.

2. 2020 - Selected as Evaluator - KAPPA Programme 2020 from Technology Agency of the Czech Republic (TACR) (https://www.tacr.cz/en/homepage/), a provider of funding (grants) in applied research and innovation; the KAPPA Programme (https://www.tacr.cz/en/kappa-programme/) is financed from EEA and Norway Grants.

OTHER RELATED ACADEMIC EXPERIENCE

1. Invited presentations to peer-reviewed, internationally established conferences:

Last 5 years: >20 participations at international conferences and symposiums including 3 ELSEVIER global conferences (selection of the most representative ones):

- **International Conference "Lakes & Reservoirs: Hot Spots and Topics in Limnology"**, 17-20 September 2019, Micorzyn (Poland) https://lakes2019.eu/
- **The 35th Annual Conference of the German Society of Limnology "Water for life"** 23-27 September 2019 Munster (Germany) http://www.dgl2019-muenster.de/index.html
- **4th International Conference** "**Water resources and wetlands**", 5-9 September, 2018, Tulcea, Romania.
- **14th International Conference on Urban Health**; Health Equity: The New Urban Agenda and Sustainable Development Goals, **ELSEVIER**; 26-29 September 2017, Coimbra, Portugal (Section: *Environmental Health and Urban Sustainability*);
- **Urban Transitions Global Summit 2016**, Towards a better urban future in an interconnected age**, ELSEVIER**; 5-9 September 2016, **Shanghai, China** (oral presentation in the section titled "*Planning for sustainable healthy urban environments*");
- The **International Society for Ecological Modelling Global Conference 2016, ELSEVIER**; 8-12 May 2016, **Towson University Maryland**, U.S.A. (oral presentation in the section "*Urban system modelling and global change*");
- **European Geosciences Union Conference**, General Assembly 2016, **Vienna, Austria**, 17–22 April 2016, section GI2.6 Sentinel 2 for Science, First results; http://meetingorganizer.copernicus.org/EGU2016/EGU2016-3704.pdf (poster)
- 12th **Urban Environment Symposium**: Futures for a Sustainable World, June 1-3, 2015, **Oslo, Norway**. (oral presentation);
- 14th **International Conference on Software Engineering, Parallel and Distributed Systems** (SEPADS '15), February 22-24, 2015, Dubai, United Arab Emirates (oral presentation);
- The ITISE 2014 **International work-conference on Time Series**, June 25-27, 2014, Granada, Spain (oral presentation) and ITISE 2016 (virtual presentation).

2. Participation in industrial innovation.

Development of the Rokidair Monitoring System including an advanced PM2.5 monitoring network system comprising 8 self-designed microstations, EWS and associated software tools, deployed in 2017 in two Romanian cities (Rokidair Project) - https://www.sciencedirect.com/science/article/pii/S1877705817330084 ; https://www.researchgate.net/project/ROKIDAIR-Towards-a-better-protection-of-children-against-air-pollution-threats-in-the-urban-areas-of-Romania-2

3. Funding received through research competitions (selection):

1. June 2018-June 2020, PN-III Complex Projects, **Scientific Coordinator of P5 partner**, *key person for Evapotranspiration Processe*s, Contract no. 34PCCDI/2018, *Modeling tools of Water--Soil-Plants-Air interface processes for intelligent and sustainable management of river basins and groundwater dependent ecosystems – INTER-ASPA*, Total cost: **1 150 000 €** http://inter-aspa.ro/index_en.html

2. June 2018-January 2019, **Scientific Coordinator**, Contract no. CNFIS-FDI-2018-0231, *ENVIRO-TRAIN: Extension of the background atmospheric pollution monitoring infrastructure in relation to the structure of vegetation*, Total cost: **47 000 €**

2. June 2017-January 2018, **Scientific Coordinator**, Contract no. CNFIS-FDI-2017-0638, *Developing of some experimental facilities for the study of grassland and forest ecosystems in Fundata mountain area, Romania – ECOPRACT*, Total cost: **40 000 €**

3. June 2014-April 2017, **Scientific Director and Team leader**, Contract no. 20SEE/30.06.2014, EEA Financial Mechanism: *Towards a better protection of children against air pollution threats in the urban areas of Romania – ROKIDAIR*, 2014-2017, EEA-JRP-RO-NO-2013-1-0096, Total cost: **1 120 000 €**, http://eeagrants.org/project-portal/project/RO14-0007;

4. 2007-2010, **Scientific Coordinator**, Contract CEEX no. D11-037/14.09.2007 – Excellence Research, Authority: Romanian CNCSIS: *Sustainable management system of resources used for monitoring and evaluating the environmental risks in order to prevent the negative effects and to manage crises situations – MEMDUR*, PC-D11-037, Total cost: **285 000 €**, http://memdur.ssai.valahia.ro/en/

5. 2007-2008, **Postdoc researcher**, Contract CEEX no. 1533/2006 – Excellence Research, Authority: Romanian CNCSIS: *Study of artificial intelligence application in environmental protection*, Total cost: **95 000 €**; Research theme: *Development of a knowledge-based system applied in environmental protection* http://ac.upg-ploiesti.ro/postdoctoral/postdoc3.html

6. 2001-2002, **Marie Curie Ph.D. fellow** (principal applicant); *Functional biodiversity in crop protection*, EC contract FP5 HPMT-CT-2000-00199, Total cost: 225.000 €, Coordinator: Wageningen University, C.T. de Wit Graduate School for Production Ecology and Resource Conservation, Grant for D.E.C. Dunea: **22.500 €**, http://cordis.europa.eu/project/rcn/62428_en.html

4. Organizational, mentoring and scientific supervision skills

- **Head of Department**, Department of Environmental Engineering, Valahia University of Targoviste (since 2016);
- Responsible for International Relations and Erasmus+ Program - Faculty of Environmental Engineering and Food Science, Valahia University of Targoviste (2012-2015);
- Member of the Senate Valahia University of Targoviste (since 2020)
- Member of Scientific Council of the Faculty of Environmental Engineering and Food Science, Valahia University of Targoviste (2 mandates);
- Member of the Biotehning Research Center from Valahia University of Targoviste: http://biotehning.valahia.ro/html/uk/members.html
- Scientific supervision of the dissertation theses (>40 students) and B.Sc. graduation theses (>100 students) in environmental engineering and ecology;
- Scientific Coordinator and President of the Dissertation Thesis Commission, M.Sc. Study program: *Systems of control and evaluation of the environmental quality* - Valahia University of Targoviste;
- Member of **Marie Curie Fellows Association "Researchers without frontiers"**;
- Member of **International Society for Ecological Modelling** – with activities supported by **Ecological Modelling** Journal (ELSEVIER);
- Member of **European Geosciences Union**;

5. International Mobilities

- 2017: **ERASMUS** *Teaching Staff Mobility* – Università degli Studi di Perugia (Italy); Duration: 5 days;
- 2014: **ERASMUS** *Teaching Staff Mobility* – Università degli Studi del Molise (Italy); Duration: 5 days;
- 2011 and 2012: *Training Mobilities in Simulated Enterprises* at University of Economics and Business Vienna (Austria) within **POSDRU/90/2.1/S/58123** project: Duration: 5 days;
- 2007: *Training Mobility in Environmental Monitoring Systems* within **CEEX 1533/2006 project** - Universidade Nova de Lisboa; Faculdade de Ciências e Tecnologia – Department of Sciences and Environmental Engineering, Grupo de Disciplinas de Ecologia da Hidrosfera (Portugal) - Duration: 10 days;

- 2006: **Leonardo da Vinci** – *Training Mobility*: Euro Competencies Transfer in vocational training on Food Security, Environment and Biotechnologies - COOPAGRI Bretagne, Laboratoire Central – Landerneau (France) - Duration: 10 days;
- 1999: **Tempus** JEP-11243 PMUR – *Research Mobility*: Universidade Nova de Lisboa; Faculdade de Ciências e Tecnologia – Department of Environmental Engineering + Parque das Nações (Portugal) – Duration: 3 months. Title of the research project: *Statistical approach to the water data acquisition in Parque das Nações, Lisboa*.

OTHER SKILLS

- Languages (spoken and written fluently): English, French, Romanian (native);
- **Development of expert systems**: eSCAP (soil protection), SBC-Mediu (management of water, air, and soil quality), Fuzzy-APA (water quality using AI techniques i.e., fuzzy logic, ANFIS, and neural network), and EnergOptimizer (optimization of Photovoltaic applications using National Instruments LabVIEW http://sine.ni.com/cs/app/doc/p/id/cs-12927);
- **Complex data analysis methods** of time series and trend analysis (TSA - Time Series Analysis): multivariate analysis, factor analysis, spectral analysis, predictive analysis and ARIMA model;
- **Geospatial analysis and GIS.**