

CURRICULUM VITAE



Name and surname: TUDOR BARBU

Birthplace: Iași, ROMANIA

Affiliation: Institute of Computer Science, Romanian Academy - Iași Branch

Position: Senior Researcher I, Dr. habil., Research Compartment Coordinator, Scientific Council Member

STUDIES AND DEGREES:

- **1988 – 1992:** High school studies at National College of Iași, Romania.
- **1992 – 1997:** Faculty of Computer Science of University *Al. I. Cuza* of Iași, finalized with a Bachelor degree in Computer Science.
- **1998 – 1999:** Master program in *Information Technology* at the University of Jyväskylä, Finland, finalized with a *EXIMIA CUM LAUDAE APROBATUR* Master of Science (MSc) degree.
- **2000 - 2005:** Doctoral studies at Faculty of Automatic Control and Computers of University *Politehnica* of Bucharest, finalized with a *CUM LAUDAE* PhD degree in Computer Science on January 17, 2005.
- **2014 - 2015:** Habilitation in Computer Science at Romanian Academy, Bucharest, the Habilitated PhD degree being achieved in April 2015.

PROFESSIONAL EXPERIENCE:

- **1997 - 2004:** Assistant Researcher at the Institute of Computer Science of the Romanian Academy, Iași
- **2004 - 2006:** Scientific Researcher at the same institute, coordinating a signal processing and analysis team
- **2006 - 2009:** Senior Researcher III, coordinator of the *Image and Video Processing and Analysis* compartment of the institute
- **2009 - 2013:** Senior Researcher II, leader of the same research collective, member of the leading Scientific Council of Institute of Computer Science
- **2013 - present:** Senior Researcher I, research compartment coordinator and member of the leading Scientific Council
- **2015 - present:** PhD Coordinator at the *School of Advanced Studies of the Romanian Academy* (SCOSAAR)

ACADEMIC VISITS AND TEACHING ACTIVITY:

- **May 2012:** Academic Visitor at the Department of Automatic Control and Systems Engineering of the University of Sheffield, UK.
- **April 2013:** Visiting Professor at the Department of Mathematics of the Bologna University, Italy.

- **August – September 2014:** Senior Researcher at the Department of Mathematics of the University of Bielefeld, Germany, with a post-doc DAAD fellowship.
- **June - July 2015:** Associate Professor at the Department of Mathematics of the Bologna University, Italy.
- **August 2016:** Visiting Academic at the Department of Scientific Computing of the Florida State University, Florida, United States of America.
- **August – September 2016:** Visiting Professor at the Department of Mathematics of the Pittsburgh University, Pennsylvania, United States of America.
- **August – September 2017:** Visiting Professor at the Faculty of Science, University of Monastir, Tunisia.
- **2014-2020:** Invited Professor, for graduate courses, at Faculty of Medical Bioengineering, “Grigore T. Popa” University of Medicine and Pharmacy of Iași, Romania.
- **June - July 2023:** Invited Professor at the Department of Computer Science of the University of Verona, Italy.

RESEARCH ACTIVITY RESULTS: disseminated in approximately 330 research works

- **Books and chapters:** 5 books and 16 book chapters, with recognized publishers
- **Articles published in recognized international journals:** 100 articles published in ISI journals with impact factor and journals indexed by major international databases
- **Articles published in volumes of recognized international scientific events:** 95 articles published in volumes of international conferences, symposiums and workshops
- **Research works at national conferences:** 40 papers presented at national scientific events, many of them published in volumes
- **Scientific reports:** 46 research reports elaborated at institute, as compartment coordinator, and 20 scientific reports related to various contract-based projects
- **Plenary Talks:** 22 keynote addresses at international scientific events and talks at several top universities
- **4 Theses:** Graduation, Master, PhD and Habilitation theses
- **Some edited Special Issues of high impact factor journals**
- **Impact of the results:** 1825 citations of these published works, according to Google-Academic
- **Hirsch index:** H-index = 26.

RESEARCH-DEVELOPMENT PROJECTS BASED ON CONTRACT:

- **2023 - 2025:** *SIMPATIA - Soluții inteligente de monitorizare a participanților la trafic utilizând instrumente avansate de viziune artificială și modelare matematică riguroasă*, GAR–2023: Cercetări avansate trans- și inter-disciplinare – baza a noi dezvoltări tehnologice, Director: **Dr. habil. Tudor Barbu**.
- **2022 - 2024:** *Generalized nonlinear Fokker-Planck equations*; Code PN-III-P4-PCE-2021-0006; **Dr. habil. Tudor Barbu** – Senior Researcher I.
- **2021** – SIPOCA project 592/08.2021, Contract Nr. 55, Ministry of Research, Innovation and Digitization; **Dr. habil. Tudor Barbu** – Expert Evaluator in Panel 4.

- **01.10.2017 - 31.12.2019:** *Analysis and Control of Schrodinger Stochastic Equations and Nonlinear Diffusion Models*; Code PN-III-P4-ID-PCE2016-0011; **Dr. habil. Tudor Barbu** – Senior Researcher I.
- **01.10.2015 – 30.11.2017:** Project ARHIMEDES – *Hybrid Image Restoration Algorithms based on Diffusion and Stochastic Equation Models*; Code: PN-II-RU-TE-2014-4-0083; Contract Number: 126/01.10.2015; Contractor: Romanian Academy, Iasi Branch; 26 months; Director: **Dr. habil. Tudor Barbu**.
- **June – July 2015:** Grant NADIR - *Nonlinear Anisotropic Diffusion Image Restoration*, GNAMPA / InDAM Project conducted at the Department of Mathematics of the Bologna University, Italy; Coordinator – **Dr. habil. Tudor Barbu**.
- **2015:** Interdisciplinary Project 4 of Romanian Academy– *Siguranța Informatică, Protecția Cibernetică, Protecția proprietății intelectuale în proiecte și publicarea electronică*, Development strategy of Romania for the next 20 years; **Dr. habil. Tudor Barbu** – Senior Researcher I.
- **Aug. - Sept. 2014:** Project VANDIRES – *Variational and Anisotropic Diffusion based Image Restoration System*, conducted at the Department of Mathematics of the Bielefeld University, Germany, as part of a DAAD scholarship for university professors and senior researchers; Coordinator – **Dr. Tudor Barbu**.
- **2011 - 2015:** Project PN-II-ID-PCE-2011-3-0027 - *Analysis and control of deterministic and stochastic diffusion equations*, Director - Prof. V. Barbu, Institute of Mathematics of the Romanian Academy, Octav Mayer, Iași; **Dr. Tudor Barbu** – Senior Researcher I.
- **2008 - 2011:** Project IDEI, CNCSIS Code 70/2008, *Ecuatii neliniare de difuzie în teoria mediilor poroase, biometrie și restaurarea imaginilor*, Director - Prof. Gabriela Marinoschi, Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Bucharest; **Dr. Tudor Barbu** – Experienced Researcher.
- **2008 - 2011:** *ADBIOSONAR - Adaptive Bio-mimetic Sonar Heads for Autonomous Vehicles*, Program 4, 2007-2013, Code 1286, Contract number 12079/2008, Director – Prof. Dorel Aiordachioaiei, *Dunărea de Jos* University of Galați; ICS Supervisor – Prof. H. N. Teodorescu; *Video processing and analysis* section coordinator – **Dr. Tudor Barbu**.
- **2006 - 2009:** *PERSIDENT: Informatic biometric system for person identification and access authorizing*, CNCSIS Code 835/2006, Director - Prof. Hariton Costin, University of Medicine and Pharmacy; **Dr. Tudor Barbu** – section coordinator.

AWARDS FOR SCIENTIFIC ACTIVITY:

- **Romanian Academy Prize “GHEORGHE CARTIANU”** in *Information Technology and Science*, awarded on December 18, 2008, for the book entitled *Modelling Multimedia Information Systems*, published by Romanian Academy Publishing House in 2006
- **Academy of Romanian Scientists Prize “CORNELIU PENESCU”** *Information Technology and Science*, awarded in May, 2021, for the book *Novel Diffusion-Based Models for Image Restoration and Interpolation*, Book Series: Signals and Communication Technology, Springer International Publishing, 2019
- **Best Paper Award** at *20th International Conference on System Theory, Control and Computing, ICSTCC 2016*, Sinaia, Romania, October 13-15, 2016, IEEE
- **Best Paper Award** at *ICDIP 2016: 18th International Conference on Digital Image Processing*, Amsterdam, Netherlands, August 4-5, 2016

- **Best Paper Award** at *World Congress on Electrical Engineering and Computer Systems and Science, EECSS '15*, Barcelona, Spain, 13-14 July 2015
- **Award** at *13th International Conference on E-Health and Bioengineering, EHB 2025*, November 13–14, 2025, Iasi, Romania
- **Diploma of Excellence** awarded by Academy of Romanian Scientists, Iași Branch, in January 2023.
- **Diploma of Excellence** awarded by City Hall of Iași on May 22, 2019, for organizing the *International Symposium DiMoGeCH 2019*
- **Award for obtaining the habilitation certificate:** PN-II-RU-ABIL-2015-2-0054, 2015
- **2 Awards for Research Results in 2021:** PN-III-P1-1.1-PRECISI-2021-53568, 2021-54117
- **2 Awards for Research Results in 2020:** PN-III-P1-1.1-PRECISI-2020-44573, 2020-43766
- **1 Award for Research Results in 2019:** PN-III-P1-1.1-PRECISI-2019-34779
- **1 Award for Research Results in 2018:** PN-III-P1-1.1-PRECISI-2018-26145
- **2 Awards for Research Results in 2017:** PN-III-P1-1.1-PRECISI-2017-16480; PN-III-P1-1.1-PRECISI-2017-14266
- **1 Award for Research Results in 2015:** PN-II-RU-PRECISI-2015-9-8817
- **1 Award for Research Results in 2013:** PN-II-RU-PRECISI-2013-7-4176
- **CNCSIS Prize for research results of 2008**, Code 789
- **CNCSIS Prize for research results of 2007**, Code 119

MEMBERSHIP IN SCIENTIFIC AND GOVERNMENT ORGANIZATIONS:

- Member of the *Comission for Informatics* of the **National Council for Titles, Diplomas and Certificates (CNATDCU)**: 2016-2020 and 2024 – present.
- Member of the *Performance Evaluation Commission for the integration of scientific research and technological development of research organizations of the Ministry of Research, Innovation and Digitization* since 2024
- Member of the **Academy of Romanian Scientists (AOSR)**:
 - Corresponding Member since May 2022
 - Associate Member in the period 2020 - 2022
- Member of the leading Council of the Mathematical Sciences Doctoral School of SCOSAAR
- **Expert Evaluator of UEFISCDI** since 2018
- **Expert Evaluator of Ministry of Research, Innovation and Digitization** – fixed-term employment contract in 2021
- Titular member of the *Romanian Society for Industrial and Applied Mathematics (ROMAI)* since 2015

EDITORIAL ACTIVITY:

- Member of the Editorial Board of *Romanian Journal of Information Science and Technology (ROMJIST)*, Publishing House of the Romanian Academy, Bucharest, IF = 3.9 (Q1)
- Member of the Editorial Topics Board of *Mathematics*, MDPI, IF = 2.592 (Q1)
- Member of the Editorial Board of *Mathematical Problems in Engineering*, IF = 1.430
- Member of the Editorial Board of *Journal of Applied Mathematics*, Hindawi, IF = 1.3
- Member of the Editorial Board of *Frontiers in Applied Mathematics and Statistics*, Frontiers, IF = 1.5

- Member of the Editorial Board of the *ROMAI Journal*, ROMAI Society
- Member of the Editorial Board of *Journal of Image Processing Theory and Applications*
- Member of the Editorial Board of *Journal of Image and Graphics*
- Member of the Editorial Board of *Journal of Information Analysis*, Innovation Forever Publishing Group Limited
- Member of the Editorial Board of *Journal of Intelligent Communication*, UK Scientific Publishing Limited
- Member of the Editorial Board of *Trends in Computer Science and Information Technology (TCSIT)*, Peertechz Publications Inc.
- Member of the Editorial Board of *IgMin Research*, IgMin Publications Inc.
- Member of the Editorial Board of *Mathematical Methods in Data Science (MMDS)*, Japan Bilingual Publishing Co.
- Member of the Editorial Board of *Annals of the Academy of Romanian Scientists, Series on Science and Technology and Information*
- Lead Guest Editor of *Advances in Variational and Partial Differential Equation-Based Models for Image Processing and Computer Vision*, Special Issue of *Mathematical Problems in Engineering*, Hindawi, IF = 1.430, April 2018.
- Lead Guest Editor of *Advanced Image Processing and Analysis Solutions using PDE-based Modeling of the Physics Phenomena*, Special Issue of *Advances in Mathematical Physics*, Hindawi, IF=1.128, 2019.
- Lead Guest Editor of *Advances in PDE-based Methods for Image Processing*, Special Issue of *Mathematics*, MDPI, IF = 2.592, 2020-2021.
- Guest Editor of *Image and Video Processing and Analysis Techniques Using Variational and PDE-based Approaches*, Research Topic of *Frontiers in Applied Mathematics and Statistics*, Frontiers, IF = 1.5, 2021.
- Lead Guest Editor of *Applications of Nonlinear Diffusion Models and Deep Learning in Computer Vision*, Special Issue of *Mathematics*, MDPI, IF = 2.2, 2025-2026.

IMPORTANT CONFERENCE ROLES:

- Main Organizer of the *International Symposium on Differential Models in Geometry, Computer Science and Hydrotechnics DiMoGeCH*, 22-25 May 2019, Iasi, Romania
- Vice-President of the Organizing Committee of *25th Conference on Applied and Industrial Mathematics - CAIM 2017, Iasi, Romania, 14-17 sept. 2017*
- Member of organizing, scientific and technical committees of the international conferences: *CAIM 2017 - 2026, ICSTCC 2014 – 2020, EHB 2017-2025, ISCBI 2018, DGDS 2019 - 2022, ICPAM 2019 – 2026, ESCC 2020 and 2021, IMPROVE 2021 – 2026, AMMCS 2021 - 2024, ICABDE 2021, ICMACS 2021, GCMSE 2022, ROBOTICS 2023, VISAPP 2026.*
- Organizer of the Special Session *Advances in Nonlinear PDE-based Models for Artificial Intelligence and Computer Vision*, of **The 14th AIMS Conference**, Abu-Dhabi, EAU, Dec. 16-20, 2024.
- Organizer of the Special Session *Recent Advances in Machine and Deep Learning-based Multi-object Detection and Tracking* of **17th International Symposium on Signals, Circuits and Systems, ISSCS 2025**, Iasi, Romania, pp. 1-4, July 17-18, 2025. IEEE
- Invited Keynote Plenary Speaker at 16 international conferences

MAJOR RESEARCH AREAS:

- Image and Video Processing and Analysis
- Machine and Deep Learning
- Artificial Intelligence
- Computer Vision
- Biometrics: person recognition based on voice, face, fingerprint and iris
- Graph Theory
- Numerical Analysis

OTHER INFORMATION:

- Member of various doctoral commissions
- Reviewer for numerous recognized international journals and conferences
- Programming languages: MATLAB, C/C++, Python etc.
- Foreign languages: English – high level.

RESEARCH PROFILES:

- **Research Gate:** <https://www.researchgate.net/profile/Tudor-Barbu-3>
- **Google-Academic:** <https://scholar.google.com/citations?user=FWpmDEgAAAAJ>
- **Web of Science:** <https://www.webofscience.com/wos/author/record/1197775>
- **Scopus:** <https://www.scopus.com/authid/detail.uri?authorId=55969625500>
- **Brainmap:** <https://www.brainmap.ro/tudor-barbu>
- **ORCID:** <http://orcid.org/0000-0002-9919-7776>
- **Academia.edu:** <https://proiectsbc.academia.edu/TudorBarbu>
- **LinkedIn:** <https://www.linkedin.com/in/tudor-barbu-56a9b617a>