

CURRICULUM VITAE



Name and surname: TUDOR BARBU

Birthplace: Iași, ROMANIA

Affiliation: Institute of Computer Science of the 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 board of the leading council
- **2015 - present:** PhD Coordinator at the *School of Advanced Studies of the Romanian Academy* (SCOSAAR)
- **2016 - 2020:** Member of the *Comission for Informatics of the National Council for Titles, Diplomas and Certificates* (CNATDCU).

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.

RESEARCH ACTIVITY RESULTS: disseminated in more than 300 authored research works

- **Books and chapters:** 4 books and 9 book chapters, with recognized publishers
- **Articles published in recognized international journals:** 90 articles published in ISI journals with impact factor and journals indexed by major international databases
- **Articles published in volumes of recognized international scientific events:** 75 articles published in volumes of international conferences, symposiums and workshops
- **Research works at national conferences:** 35 papers presented at national scientific events, many of them published in volumes
- **Scientific reports:** 40 research reports elaborated at institute, as compartment coordinator, and 15 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:** 1300 citations of these published works, according to Google-Academic
- **Hirsch index:** H-index = 21.

RESEARCH-DEVELOPMENT PROJECTS BASED ON CONTRACT:

- **2022 - 2024:** *Generalized nonlinear Fokker-Planck equations*; Code PN-III-P4-PCE-2021-0006; Dr. habil. **Tudor Barbu** – Senior Researcher I.
- **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** – voice recognition 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
- **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

OTHER IMPORTANT INFORMATION:

- **Member of the Academy of Romanian Scientists (AOSR):**
 - Corresponding Member since May 2022
 - Associate Member in the period 2020 - 2022
- **Expert Evaluator of UEFISCDI** in the period 2019-2022
- **Expert Evaluator of Ministry of Research, Innovation and Digitization** – fixed-term employment contract - SIPOCA project 592/05.08.2021
- Member of the *Romanian Society for Industrial and Applied Mathematics* (ROMAI) since 2015
- **Editorial activity:**
 - Member of the Editorial Board of the *ROMAI journal*, indexed IDB
 - Member of the Editorial Topics Board of *Mathematics*, MDPI, IF = 2.258
 - Member of the Editorial Board of *Mathematical Problems in Engineering*, IF = 1.305
 - Member of the Editorial Board of *Journal of Applied Mathematics*, Hindawi, indexed IDB
 - Member of the Editorial Board of *Frontiers in Applied Mathematics and Statistics*, Frontiers, indexed IDB
 - Member of the Editorial Board of *Journal of Image Processing Theory and Applications*
 - Member of the Editorial Board of *Journal of Image and Graphics*, indexed IDB
 - 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 = 1.305, 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 = 2.258, 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, 2021.
 - Lead Guest Editor of *Advances in PDE-based Models, Artificial Intelligence and Deep Learning*, Special Issue of *Mathematics*, MDPI, IF = 2.258, 2022-2023.
- **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: *ICSTCC 2014, CAIM 2017, EHB 2017, CAIM 2018, ISCBI 2018, ICSTCC 2019, DGDS 2019, CAIM 2019, EHB 2019, ICPAM 2019, ICPAM 2020, ESCC 2020, EHB 2020, CAIM 2020, DGDS 2020, ICSTCC 2020, EHB 2021, ESCC 2021, IMPROVE 2021, AMMCS 2021, DGDS 2021, ICABDE 2021, ICMACS 2021, IMPROVE 2022, GCMSE 2022, DGDS 2022, CAIM 2022, EHB 2022, IMPROVE 2023.*
- Invited Keynote Plenary Speaker at 15 international conferences
- Programming languages: MATLAB, C/C++, Java etc.
- Foreign languages: English – high level.

MAJOR RESEARCH AREAS:

- Image and Video processing and analysis
- Pattern Recognition and Machine Learning
- Artificial Intelligence
- Deep Learning
- Multimedia information organizing, indexing and retrieval
- Biometrics: person recognition based on voice, face, fingerprint and iris
- Computer Vision
- Partial Differential Equations (PDEs) applied in image processing and computer vision

RESEARCH PROFILES:

- **Research Gate:** https://www.researchgate.net/profile/Tudor_Barbu
- **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>