

## Europass Curriculum Vitae



### Personal information

First name(s) / Surname(s) **Vasile, Ion, MANTA**  
Address(es) No. 11, Țuțea Petre, 700730, Iasi, Romania  
Telephone(s) (40-232) 278680 int. 1309 Mobil: (40-072)3867333  
Fax(es) (40-232)231343  
E-mail vmanta@cs.tuiasi.ro  
Nationality Romanian  
Date of birth 01.01.1962, Bălănești, Gorj, Romania  
Gender Male

### Administrative Positions

- 2016 – 2024, Dean, Faculty of Automatic Control and Computer Engineering, Technical University "Gheorghe Asachi", Iași
- 2008 – 2012, Dean, Faculty of Automatic Control and Computer Engineering, Technical University "Gheorghe Asachi", Iași
- 2004 - 2008, Scientific Secretary (chancellor) Faculty of Automatic Control and Computer Engineering, Technical University "Gheorghe Asachi", Iași
- 2004 - present, Socrates/Erasmus program coordinator, Department of Computer Engineering, Faculty of Automatic Control and Computer Engineering
- 2005 - 2011, Executive Director of the Research Centre of type C "Intelligent devices and software", Faculty of Automatic Control and Computer Engineering

### Work experience

Dates 2007 → present; **PhD supervisor** in the field "*Computer Engineering and Information Technology*"  
- 2009-2012, Director, Doctoral School, Faculty of Automatic Control and Computer Engineering  
- **20** PhD theses validated by the Ministry of Education:  
1. *Image processing algorithms for object motion tracking*, Adrian Burlacu, 2009  
2. *Graphical processing in high performance computing*, Simona Caraiman (Aruștei), 2010  
3. *Parallel algorithms and implementation solutions for data mining applications*, Alexandru Archip, 2010  
4. *Remote monitoring of vital parameters using embedded systems*, Cristian Rotariu, 2010  
5. *Contributions to design, development and implementation of information systems in medical education*, Gabriela Gladiola Petroiu (Andruseac), 2011  
6. *Parallel applications design for computer clusters*, Cristian-Mihai Amarandei, 2011  
7. *Visualization and graphical processing of volume data*, Marius Gavrilescu, 2011,  
**PhD Joint Doctoral Agreement** Technical University of Vienna, Institute of Computer Graphics and Algorithms, prof. Eduard Groller  
8. *Image processing techniques and segmentation evaluation*, Cristian-Ionuț Smochină, 2011,  
**PhD Joint Doctoral Agreement** Technical University of Vienna, Institute of Computer Graphics and Algorithms, Reviewers: Prof. Werner Purgathoffer, prof. Walter G. Kropatsch  
9. *Analysis and visualization of biomedical datasets*, Paul Hergehelegiu, 2011  
10. *Energy consumption optimization for secure embedded systems*, Nicolae Botezatu, 2011

11. *New techniques for data processing and transmission in medical telemonitoring applications*, Robert-Gabriel Lupu, 2012
12. *Location-based applications*, Andrei Tabarcea, **PhD Joint Doctoral Agreement**, University of Eastern Finland, prof. Pasi Franti, 2014
13. *Comparative classical and quantum information processing*, Iulian Petrila, 2015
14. *Genetic algorithms for multiobjective optimization*, Corina Agrigoroaie (Cîmpanu), 2018
15. *Artificial intelligence applications in modeling and data analysis*, Tiberius Dumitriu, 2019
16. *Advances in digital research repositories*, Adrian Pănescu, 2020
17. *Quantum Information Processing Applications in Steganography and Cryptography*, Alexandru Tudorache, 2022
18. *Environment perception and understanding for intelligent mobile systems*, Otilia Jacota (Zvoristeanu), 2023
19. *Visual Scene Understanding using Artificial Intelligence Methods*, Ștefan Achirei, 2023
20. *Applications of Electro-Optical Neural Networks in Robotics*, George Uleru, 2023

- **opponent** PhD thesis of Karol Waga, *Processing, Analysis and Recommendation of Location Data*, University of Eastern Finland, 2015

- PhD thesis **committee member** Himath Shah, *Automatic keyword extraction for webpages*, University of Eastern Finland, 2022.

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- 6 (six) current PhD students

- 2011 -2013, supervisor for 2 postdoctoral students:

1. Simona Caraiman (Aruștei) - *Quantum computing models. Applications of quantum algorithms in processing graphics*
2. Cristian Rotariu – *Networks of embedded systems for biomedical applications*

Dates 2009 – present, **expert ARACIS** in the field “*Computer Engineering and Information Technology*”  
 2012 - present, **member CNATDCU**, commission “*Computers, Information Technology and Systems Engineering*”  
 2022 – **associate member** of Technical Sciences Academy of Romania, Section 5 – Information and Communications Technology - Computers and Telecommunications  
 2024 - **corresponding member** of Technical Sciences Academy of Romania, Section 5 – Information and Communications Technology - Computers and Telecommunications

Dates 2006 → present

Occupation or position held Professor, Department of Computer Engineering

Main activities and responsibilities Courses taught: *Fundamentals of Computer Science, Computer Graphics, Graphics Processing Systems, Introduction to Quantum Computing* (introduced for the first time in a technical university in Romania in the academic year 2010-2011), *Quantum computing with applications in security, Image Processing, Computer Vision, Advances in Computer Vision*

Name and address of employer Research areas: *quantum computing* (Quantum information processing, quantum algorithms, simulation of quantum computing, quantum steganography, Quantum communication and quantum-based cybersecurity), *Computer Graphics, Computer Vision, Neural Networks, Artificial Intelligence*.

Technical University "Gh Asachi" Iasi, Faculty of Automatic Control and Computer Engineering, Dimitrie Mangeron no. 53A, Iași

Type of business or sector Education and research

Dates 2001 → 2006

Occupation or position held Associate professor, Department of Computer Engineering

Main activities and responsibilities Courses taught: *Introduction to Computers and Systems Science, Data Structures and Algorithms, Physics, Graphics Processing Systems*

Research areas: *quantum computing* (information representation, quantum calculations, quantum algorithms), computational physics (analytical and numerical computation methods in high energy physics, theories of calibration), computer graphics (modeling and displaying three-dimensional surfaces and solids, synthesis of photo-realistic images, algorithms of image processing and image analysis), *computer vision, laser physics* (laser beam characteristics, laser beam modification, applications of laser systems, optical communications)

Name and address of employer Technical University "Gh Asachi" Iasi, Faculty of Automatic Control and Computer Engineering, Dimitrie Mangeron no. 53A, Iași

Type of business or sector	Education and research
Dates	1994 → 2001
Occupation or position held	Lecturer, Department of Physics, basic norm in the Faculty of Automatic Control and Computer Engineering
Main activities and responsibilities	Courses taught: <i>Physics, Introduction to Computers and Systems Science, Laser Physics and Applications, Computer Programming</i> Research areas: quantum computing (information representation, quantum calculations, quantum algorithms), computational physics (analytical and numerical computation methods in high energy physics, theories of calibration), laser physics (laser beam characteristics, laser beam modification, applications of laser systems, optical communications), gauge theories, general relativity, high energy physics
Name and address of employer	Technical University "Gh Asachi" Iasi, Faculty of Automatic Control and Computer Engineering, Dimitrie Mangeron no. 53A, Iași
Type of business or sector	Education and research
Dates	1989 → 1994
Occupation or position held	Assistant, Department of Physics, basic norm in the Faculty of Automatic Control and Computer Engineering
Main activities and responsibilities	Seminars and laboratories for the courses: Physics, Computer Programming Research areas: computational physics (analytical and numerical computation methods in high energy physics, theories of calibration), laser physics (laser beam characteristics, laser beam modification, applications of laser systems, optical communications), gauge theories, general relativity, high energy physics
Name and address of employer	Technical University "Gh Asachi" Iasi, Faculty of Automatic Control and Computer Engineering, Dimitrie Mangeron no. 53A, Iași
Type of business or sector	Education and research
Dates	1986 → 1989
Occupation or position held	Research Engineer
Main activities and responsibilities	Designing, implementing and testing of software products
Name and address of employer	Institute of Computation Technique Bucharest, Iasi branch
Type of business or sector	Research and development

## Education and training

Dates	1991 - 1998
Title of qualification awarded	PhD in Physics, theoretical physics
Principal subjects/occupational skills covered	PhD Thesis: <i>Symbolic computation methods in high energy physics</i> , supervisor Prof. Dr. Gheorghe Zet, Technical University "Gh. Asachi" Iasi. In the PhD thesis I developed applications in symbolic computing languages (REDUCE, Mathematica, MAPLE) in theoretical physics.
Name and type of organization providing education and training	"Al. I. Cuza" University Iasi, Faculty of Physics
Dates	1988 - 1993
Title of qualification awarded	Bachelor diploma, physics specialization
Principal subjects/occupational skills covered	5 years (evening school), physics specialization
Name and type of organization providing education and training	"Al. I. Cuza" University of Iasi, <b>Faculty of Physics</b>
Level in national or international classification	Overall years of study average of 8.98
Dates	1981 - 1986
Title of qualification awarded	Engineer diploma, Automatic Control and Computer Engineering specialization
Principal subjects/occupational skills covered	5 years (electrical profile), Automatic Control and Computer Engineering specialization, major in the microprocessor's domain.
Name and type of organization providing education and training	Polytechnic Institute "Gh. Asachi" of Iasi, <b>Faculty of Electrical Engineering</b>

Level in national or international classification

Overall years of study average of **9.95**, diploma exam average grade 10.

Dates

1976-1980

Name and type of organization providing education and training

Mathematics-Physics High School "Tudor Vladimirescu", Tg. Jiu, Gorj

**Personal skills and competences**

Mother tongue(s)

**Romanian**

Other language(s)

Self-assessment

*European level (\*)*

**English**

**French**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B2	Independent User	B2	Independent User	B1	Independent User	B1	Independent User	B1	Independent User
B2	Independent User	B2	Independent User	B1	Independent User	B1	Independent User	B1	Independent User

*(\*) Common European Framework of Reference for Languages*

Social skills and competences

Communication and negotiation skills.

Organizational skills and competences

Experience in managing international and local academic activities (projects/collaborations on educational or scientific areas).

Technical skills and competences

Technical – engineering training.

Computer skills and competences

Advanced user - in accordance with professional tasks

Driving license

B category.

## Additional information

### 176 scientific papers from which:

- 45 published in international journals (43 in WOS journals)
- 40 published in national journals;
- 85 published in volumes of international conferences (with reviewers);
- 2 published in volumes of national conferences (with reviewers);
- 4 national symposia.

- h-index WOS: 11 (over 400 WOS citations - without self-citation)  
<https://www.webofscience.com/wos/author/record/C-4254-2011>
- h-index SCOPUS: 13 (over 650 citations SCOPUS – without self-citations)  
[https://www.scopus.com/cto2/main.uri?ctold=CTODS\\_1780471236&authors=6603231376&origin=AuthorNamesList](https://www.scopus.com/cto2/main.uri?ctold=CTODS_1780471236&authors=6603231376&origin=AuthorNamesList)
- h-index Google Scholar: 15 (over 1100 citations)  
[https://scholar.google.com/citations?user=AdkxA\\_AAAAAJ&hl=en&oi=ao](https://scholar.google.com/citations?user=AdkxA_AAAAAJ&hl=en&oi=ao)
- author or co-author of 8 (eight) books with ISBN: 1 (one) single author, 2 (two) first author;
- contributions in 2 (two) books with ISBN publisher;
- co-author of 9 (nine) manuals and laboratory guides, publishing house of the Technical Univ. "Gh. Asachi";
- involved in 26 research grants with national funding (23 with MEN – 2 (two) director, 3 with Univ. "Al I Cuza ", Iasi, 1 with CFS Iasi)
- involved in 2 international grants (1 (one) FP6 and 1 (one) Leonardo).
- **responsible/coordinator** of international grants:
  - Local coordinator international grant H2020: *Natural sense of vision through acoustics and haptics*, grant H2020, No. 643636, 2015 -2017, partner budget 424,709.5 EUR (coordinator: University of Iceland, partners: University "Politehnica" of Bucharest (Romania), Technical University of Iasi (Romania), Szechenyi Istvan University (Hungary), Lodz University of Technology (Poland), Fondazione Istituto Per L'interscambio Scientifico (Italy), Icelandic National Institute For The Blind (Iceland), Info World (Romania), Fundacja Instytut Rozwoju Regionalnego (Poland); total budget: 4,000,000 EUR)
  - director (coordinator, until December 2021, after this date Simona Caraiman) Technical University of Iasi, POC RO-MD - HARD, Priority 3.1 – Development of cross border transport infrastructure and ICT Infrastructure, Project title: Joint Cross-Border Networking Infrastructure of Technical Universities of Iasi and Moldova, No.: 1HARD/3.1/75, Lead Beneficiary: "Gheorghe Asachi" Technical University of Iasi (TUIASI, EUR 1,049,030), Beneficiary 2: Technical University of Moldova (TUM, EUR 945,385), Total budget: 1 994,415 EUR, period 2021-2023
  - responsible from Technical University of Iasi, Romanian National Quantum Communication Infrastructure (RoNaQCI), project within the Digital Europe Program (DIGITAL), call: DIGITAL-2021-QCI-01 (EU Secure Quantum Communication Infrastructure), topic: DIGITAL-2021-QCI-01-DEPLOY-NATIONAL, financed by the European Commission-EU, project number: 101091562, period: January 1, 2023- June 30, 2025, total budget - 9,999,877.60 EUR, of which 143,454.90 EUR for TUIasi.
- **recent proposals:**
  - February 2024: responsible TUIASI in the national consortium *Romanian Artificial Intelligence HUB* (RoAIHub, 2024-2028: USTPB, UTCN, UVT, TUIASI, UPT, UBB and UNIBUC), request 65 million EUR of which 3.1 million EUR for TUIASI
  - May 2024: responsible TUIASI, Excellence center: RExQTCS: *Romanian Excellence in Quantum Technologies enhancing Cybersecurity* (national center: USTPB, TUIASI, UVT, UPT UTCN, UAIC, UCv), request 20 million EUR of which 2.3 million EUR for TUIASI

### Selected papers:

1. Tudorache, Alexandru-Gabriel; **Manta, Vasile**; Caraiman, Simona, Quantum Steganography Based on the B92 Quantum Protocol, MATHEMATICS, ISSN: 2227-7390, no. 16, vol. 10, 2022, IF 2.592, <https://doi.org/10.3390/math10162870>
2. Zvoristeanu, Otilia; Caraiman, Simon; **Manta, Vasile-Ion**, Speeding Up Semantic Instance Segmentation by Using Motion Information, MATHEMATICS, ISSN 2227-7390, nr. 14, vol. 10, 2022, FI 2.592, <https://doi.org/10.3390/math10142365>

3. Tudorache, AG; **Manta, V** and Caraiman, S, Integration of a Quantum Voting Scheme into Grayscale Images Using the Novel Enhanced Quantum Representation and Qiskit Framework, *MODELLING AND SIMULATION IN ENGINEERING*, ISSN 1687-5591, Volume 2022, IF 3.2, <https://dl.acm.org/doi/10.1155/2022/8128754>
4. Achirei, Stefan-Daniel; Heghea, Mihail-Cristian; Lupu, Robert-Gabriel; **Manta, Vasile-Ion**, Human Activity Recognition for Assisted Living Based on Scene Understanding, *APPLIED SCIENCES-BASEL*, ISSN 2076-3417, nr. 21, vol. 12, 2022, FI 2.838, <https://doi.org/10.3390/app122110743>
5. Pănescu, A.-T. **Manta, V.**, Smart Contracts for Research Data Rights Management over the Ethereum Blockchain Network, *Science and Technology Libraries*, Volume 37, Issue 3, 3 July 2018, Pages 235-245. ISSN:1541-1109, (indexed ISI), DOI: 10.1080/0194262X.2018.1474838
6. Petrila, Iulian; Ungureanu, Florina; **Manta, Vasile**: Effects of laser beam modulation on all-optical switching phase diagrams in magneto-optical ultrafast storage device, *JOURNAL OF COMPUTATIONAL ELECTRONICS*, Volume: 14, Issue: 2, Pages: 627-633, 2015, IF: 2.1, DOI10.1007/s10825-015-0698-9
7. Caraiman, S., **Manta, V.**, Image Segmentation on a Quantum Computer, *Quantum Information Processing*, 2015, Volume: 14 Issue: 5 Special Issue: SI Pages: 1693-1715, ISSN: 1570-0755, IF: 2.5, DOI10.1007/s11128-015-0932-1
8. Caraiman, S., **Manta, V.**, Histogram-based segmentation of quantum images, *Theoretical Computer Science*, Elsevier, Volume 529, pp. 46-60, 2014, ISSN: 0304-3975, IF: 1.1, DOI: 10.1016/j.tcs.2013.08.005
9. Petrila, I; **Manta, V.**, Metropolis Monte Carlo analysis of all-optical switching, *Computer Physics Communications*, Volume 185, Issue 11, pages 2874-2878, 2014, IF. 6.3, DOI10.1016/j.cpc.2014.07.00
10. Smochina, C., **Manta, V.**, Kropatsch, W., Crypts detection in microscopic images using hierarchical structures, *Pattern Recognition Letters*, Volume 34, Issue 8, 1 June 2013, Pages 934–941, IF. 5.1, <http://dx.doi.org/10.1016/j.patrec.2012.11.008>
11. Herghelegiu P, **Manta V.**, Perin R., Bruckner S., Gröller E., Biopsy Planner - Visual Analysis for Needle Pathway Planning in Deep Seated Brain Tumor Biopsy, *COMPUT GRAPH FORUM*, Volume 31, Issue 3pt2, 2012, pp. 1085-1094, DOI: 10.1111/j.1467-8659.2012.03101.x (IF. 2.5 SRI= 2.284)
12. Smochina C., **Manta V.**, Kropatsch W.G., Semantic segmentation of microscopic images using a morphological hierarchy, In Proc. *14th International Conference on Computer Analysis of Images and Patterns*, Seville, SPAIN Date: AUG 29-31, LNCS 6854, pp. 102-109, 2011. (indexed ISI)
13. Smochina C., Rogojanu R., **Manta V.**, Kropatsch W.G., Epithelial area detection in cytokeratin microscopic images using MSER segmentation in anisotropic pyramid, In Proc. *6th IAPR International Conference on Pattern Recognition in Bioinformatics*, Delft, NETHERLANDS NOV 02-04, LNBI 7036, pp. 318, 2011. (indexed ISI)
14. S. (Caraiman) Arustei and **V. Manta**. New Applications of Quantum Algorithms to Computer Graphics: the Quantum Random Sample Consensus Algorithm. In *CF '09: Proceedings of the 6th ACM Conference on Computing frontiers*, pages 81–88, New York, NY, USA, 2009. ACM. (indexed ISI)
15. Cristian Rotariu, Dragos Arotaritei, **Vasile Manta**, Wireless System for Remote Monitoring of Atrial Fibrillation, *Proceedings of the 5th European DSP Education & Research Conference*, EDERC 2012, Amsterdam, The Netherlands, September 13-14, 2012, pp.129-133, ISBN: 978-1-4673-4597-2, (indexed ISI)

**Participation in institutional programs (TEMPUS, SOCRATES, etc.);**

University of Joensuu, Department of Computer Science, Finland (2004)  
 Vienna University of Technology, Department of Computer Science, Austria (2005)  
 University of Joensuu, Department of Computer Science, Finland (2006)  
 Vienna University of Technology, Department of Computer Science, Austria (2007)  
 Berufsakademie Mannheim, Department of Computer Science, Germany (2007)  
 Institut National Polytechnique de Toulouse, France (2008)  
 University of Odensee, Denmark (2009)  
 Institut National Polytechnique de Toulouse, France (2010)  
 University of Helsinki, Finland, (2010)  
 University of Minho, Portugal, (2014)  
 University of Eastern Finland, (2015)  
 Vienna University of Technology, Department of Computer Science, Austria (2017)

**Invited Professor:** Karlsruhe Institute of Technology, March 2011, University of Eastern Finland, September 2015

#### **Awards**

- the **second place**, physics, national scientific-professional contest for students "Traian Lalescu" 1983, subsection High Technical Education of engineers year II;
- **mention**, systems theory, National Session of Scientific Student Circles, 1986, with the paper "Designing a robust PID controller".
- nominated in "Who's Who in the World", editions 2003-present;
- nominated in "International Biographical Center", Cambridge, 2003-present;
- nominated in American Biographical Institute, Raleigh, North Carolina, 2004-present.

#### **Activities in scientific societies**

- TENSOR Society (Japan);
- Editorial board of the Bulletin of the Polytechnic Institute of Iasi, Automatic Control and Computer Engineering section (2005 to present)
- Editorial board of Advanced in Electrical and Computer Engineering, ISI journal (2009 to present).

May 02, 2024

prof.dr.ing.fiz. Vasile Manta

