RESUME

Biographical Data:
Name and Surname: Radu-Emil Precup.
Day and place of birth:
Civil status:
Office Address:
Politehnica University of Timisoara
Faculty of Automation and Computers
Department of Automation and Applied Informatics
Bd. V. Parvan 2, 300223 Timisoara, Romania
Phone: +40-256-403226 (office), -403229, -403230, -403240 (lab.)
Fax: +40-256-403214 (Dean's office)
E-mail: radu.precup@aut.upt.ro
http://www.aut.upt.ro/~rprecup/

Education (*http://www.aut.upt.ro/~rprecup/bio.html*)***:***

❑ *1992-1996:* Ph.D. in Automatic Systems, "Politehnica" University of Timisoara, Romania, Faculty of Automation and Computers (supervisor: Prof.Dr.-Ing. Stefan Preitl, thesis entitled "Contributions Concerning Fuzzy Control of Non-minimum Phase Systems with Applications to Hydro-generators Control").

❑ *1988-1993:* graduated The Faculty of Mathematics, West University of Timisoara, Romania, Mathematics area of specialization, final grade after five years of study of 9.05 and license grade of 10 on the 1-10 scale with 1 the minimum and 10 the maximum.

❑ *1982-1987:* Dipl.-Ing. Degree, graduated with honours The Faculty of Electrical Engineering, "Traian Vuia" Polytechnical Institute of Timisoara, Romania, Automation and Computers area of specialization, Computerized Process Control stream, final grade after five years of study of 9.98 and diploma grade of 10 on the 1-10 scale.

❑ *1977-1981:* Baccalaureate in Mathematics-Physics, Industrial no. 1 High School, Lugoj, Romania.

Working Experience (*http://www.aut.upt.ro/~rprecup/bio.html*)***:***

❑ *2022 – ...:* Senior researcher (CS I) and head of the Data Science and Engineering Laboratory of the Center for Fundamental and Advanced Technical Research, Romanian Academy – Timisoara Branch, Romania.

❑ *2022 – ...:* Member of the External Scientific Advisory Board (ESAB) of the Center for Automation and Robotics (CSIC-UPM) of Spanish National Research Council and Technical University of Madrid, Spain.

❑ *2020 – 2024:* Director of the Council of Doctoral Studies of the Politehnica University of Timisoara, Romania (http://www.upt.ro/Informatii_scoala-doctorala_310_ro.html).

❑ *2023 – ...:* Member of the Information Science and Technology Committee of the National Research Council (CNCS), Bucharest, Romania (www.cncs-nrc.ro).

❑ *2016 – 2022:* Adjunct Professor within the School of Engineering, Edith Cowan University, Joondalup, WA, Australia (Staff of ECU).

❑ *2016 – 2020:* Dean of the Faculty of Automation and Computers, Politehnica University of Timisoara, Romania.

❑ *2016 – 2024:* Member of the Council of the Doctoral School Automatic Control and Computers, Politehnica University of Bucharest, Romania (doctorat.acs.pub.ro, doctorat.acs.pub.ro).

❑ *2017 – 2020:* Member of the National Research Council (CNCS), Bucharest, Romania (www.old.research.gov.ro).

❑ *January – April 2017*: Member of the Engineering Sciences Committee of CNCS.

❑ *January – April 2017*: Member of the Committee 2: Information and communication technology, space and security as part of the National Advisory Board for Research, Development and Innovation (CCCDI), Bucharest, Romania.

❑ *2012 – 2016:* Vice-Dean of the Faculty of Automation and Computers, Politehnica University of Timisoara (previously named, till 2013, "Politehnica" University of Timisoara), Romania.

❑ *March – June 2012*: President of the Research Committee of the University Senate of the "Politehnica" University of Timisoara, Romania.

❑ *2011 – 2012:* Vice-president of the Computers, information technology and systems engineering committee as part of the National Council for the Approval of Academic Titles, Diplomas and Certificates (CNATDCU), Bucharest, Romania, and member of the P2. Engineering sciences panel.

- ❑ *2012 – ...:* Member of the Computers, information technology and systems engineering committee as part of the CNATDCU (http://www.cnatdcu.ro/paneluri-cnatdcu/).
- ❑ *2011 – ...:* Director of the Automatic Systems Engineering Research Centre with the Politehnica University of Timisoara, Romania (http://www.aut.upt.ro/centru-cercetare/index.EN.php).
- ❑ *2009 – 2013:* Member of the Doctoral School of Applied Informatics and Applied Mathematics with the Óbuda University (previously named Budapest Tech Polytechnical Institution), Budapest, Hungary, as Doctoral Supervisor (www.doktori.hu).
- ❑ *2008 – 2012:* Head of the Students Information and Counselling Office (OICS) with the Faculty of Automation and Computers, "Politehnica" University of Timisoara, Romania.
- ❑ *2005 – 2009:* Researcher, Crabel Capital Research, Timisoara, Romania, subsidiary of Crabel Capital Management, Milwaukee, WI, USA.
- ❑ *2004 – ...:* Doctoral Supervisor of Automation and Systems Engineering, Politehnica University of Timisoara, Romania (http://www.aut.upt.ro/~rprecup/stud.html). Six **graduated doctoral students**: Elena-Lorena Hedrea (September 2022), thesis title: "Tensor Product-based Model Transformation Used in Control System Modeling and Design", thesis grade Excellent (Summa cum Laude), Raul-Cristian Roman (March 2018), thesis title: "Model-free techniques for controller tuning" (in Romanian: "Tehnici de tip model-free de acordare a parametrilor regulatoarelor automate"), Recipient of the Honorary Mention in the 2020 IEEE Robotics & Automation Society Romania Chapter Best PhD Thesis Competition, Radu-Codruţ David (April 2015), thesis title: "Contributions to modeling and optimization of fuzzy control systems", Mircea-Bogdan Rădac (September 2011), thesis title: "Iterative Techniques for Controller Tuning", Ovidiu Baniaş (May 2009), thesis title: "Contributions to urban road traffic control using a wireless sensor network as traffic detector" (in Romanian: Contributii la conducerea traficului rutier urban utilizand o retea de senzori wireless ca detector de trafic), and Zsuzsa Preitl (April 2008), thesis title: "Model Based Design Methods for Speed Control Applications". 16 **doctoral students currently supervised**: Iuliu Alexandru Zamfirache (since 2018) approaching the subject "Machine learning techniques applied to automation", Ion Panfilii (since 2019) approaching the subject "Information processing algorithms specific to evolving systems applied to automation", Alexandru Nicolae Drăguş (since 2019) approaching the subject "Image processing algorithms applied to automation", Vlad Negru (since 2020) approaching the subject "Data and signal proceesing techniques with medical applications", and Cristian-Vasile Pop (since 2020) approaching the subject "Machine learning techniques with financial systems applications", Miruna-Maria Damian (since 2021) approaching the subject "Data processing techniques specific to medical applications", Monica-Lavinia Nedelcea (since 2021) approaching the subject "Modeling and control solutions with medical applications", Flavius-Cătălin Paulescu (since 2021) approaching the subject "Control solutions for multi input-multi output systems", Alexandru-Marian Chiru (since 2021) approaching the subject "Optimization algorithms with automation applications", Anamaria-Ioana Borlea (since 2022) approaching the subject "Nonlinear control techniques", Mihai Muntyan (since 2022) approaching the subject "Networked control techniques", Denisa-Adina Pleş (since 2023) approaching the subject "Control techniques with medical applications", Darius-Octavian Negîrla (since 2023) approaching the subject "Sensor fusion approaches in process control", Robert-Alexander Ţibre (since 2023) approaching the subject "Optimization algorithms with automation applications", Cristiana-Diana Marcovici (since 2023) approaching the subject "Control algorithms for robots", Andrei-Lucian Deac (since 2023) approaching the subject "Automation applications in medicine".
- ❑ *2018 – ...:* Mentoring four postdoctoral researchers: Călin-Adrian Popa, Politehnica University of Timisoara (UPT), aproaching the subject "Dynamics of hypercomplex-valued neural networks (DHVNN)", financed by UEFISCDI in the project PN-III-P1-1.1-PD-2021-03, 2022-2023, Raul-Cristian Roman, UPT, approaching the subject "Data-driven controllers dedicated to tower crane systems", financed by European Union in the project POCU/993/6/13/153437, 2022-2023, Alexandru Topîrceanu, UPT, aproaching the subject "IMproving the PREdiction of opinion dynamics in temporal Social networks: Mathematical modeling and Simulation framework (IMPRESS)", financed by UEFISCDI in the project PN-III-P1-1.1-PD-2016-0193, 2018-2020, Alexandra-Iulia Szedlak-Stînean, UPT, aproaching the subject "NONlinear OBServers-based control structures applied to MEChatronics Systems (NOBSMECS)", financed by UEFISCDI in the project PN-III-P1-1.1-PD-2016-0331, 2018-2022 (http://www.aut.upt.ro/~rprecup/postdoc.html).
- ❑ *2001 – 2011:* Deputy Director of the Research Centre in Automation and Computers with the "Politehnica" University of Timisoara, Romania, and Director of the Automation and Applied Informatics Division.

- ❑ *2000 – …:* Professor with the Department of Automation and Applied (previously named Industrial) Informatics, Faculty of Automation and Computers, Politehnica University of Timisoara, Romania.
- ❑ *1998 – 2000:* Associate Professor with the Department of Automation and Industrial Informatics, Faculty of Automation and Computers, "Politehnica" University of Timisoara, Romania.
- ❑ *1994 – 1998:* Lecturer with the Department of Automation and Industrial Informatics, Faculty of Automation and Computers, "Politehnica" University of Timisoara, Romania.
- ❑ *1991 – 1994:* Assistant Professor with the Department of Automation and Industrial Informatics, Faculty of Automation and Computers, Technical University of Timisoara, Romania.
- ❑ *1987-1991*: Automation engineer with the Timisoara Branch of Infoservice S.A. (previously named SIRECA) Bucharest, Romania, with professional preoccupations in the field of analog and digital control systems.

Other Management and Administration Experience (*http://www.aut.upt.ro/~rprecup/bio.html*)***:***
- ❑ *2020 – 2025:* Appointed to the Review College of the Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO), Brussels, Belgium.
- ❑ *2023 – …:* Reviewer of the German Research Fund (Deutsche Forschungsgemeinschaft, DFG), Bonn, Germany.
- ❑ *2022 – …:* Reviewer of the Natural Sciences and Engineering Research Council of Canada (NSERC), Ottawa, Canada.
- ❑ *2022 – …:* Reviewer of the National Science Centre (Narodowe Centrum Nauki, NCN), Warsaw, Poland.
- ❑ *2021 – …:* Reviewer of the French National Research Agency (Agence Nationale de la Research, ANR), Paris, France.
- ❑ *2021 – …:* Reviewer of the Swiss National Science Foundation (SNSF), Bern, Switzerland.
- ❑ *2021 – …:* Reviewer of CINECA, Bologna, Italy.
- ❑ *2019 – …:* Reviewer of the National Council of Science and Technology (CONACYT), Ciudad de Mexico, Mexico.
- ❑ *2019 – …:* Reviewer of the Mobility and Reintegration Programme (MoRePro) of the Slovak Academy of Sciences, Bratislava, Slovakia.
- ❑ *2019 – …:* Reviewer of the Science Fund of the Republic of Serbia, Belgrade, Serbia.
- ❑ *2017 – …:* Reviewer of the Slovenian Research Agency (ARRS), Ljubljana, Slovenia.
- ❑ *2014 – 2019:* Member of the Informatics and Electrical Engineering review panel of the Hungarian National Research, Development and Innovation Office (NKFIH), with the previous name Hungarian Scientific Research Fund (OTKA), Budapest, Hungary.
- ❑ *2012 – …:* Reviewer of the Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO), Brussels, Belgium.
- ❑ *2011 – …:* Reviewer of the Member of the Informatics and Electrical Engineering review panel of the Hungarian National Research, Development and Innovation Office (NKFIH), with the previous name Hungarian Scientific Research Fund (OTKA), Budapest, Hungary, Budapest, Hungary.
- ❑ *2011 – …:* Reviewer of the Czech Science Foundation (GACR), Prague, Czech Republic.
- ❑ *March – June 2012:* Member of the University Senate of the "Politehnica" University of Timisoara, Romania.
- ❑ *2000 – 2022:* Member of the Faculty Council of the Faculty of Automation and Computers, Politehnica University of Timisoara, Romania.
- ❑ *2020 – 2022, 2008 – 2012 and 2000 – 2004:* Member of the Department Council of the Department of Automation and Industrial Informatics, Politehnica University of Timisoara, Romania.
- ❑ *2000 – …:* Expert and evaluator of the National Research Council (with the abbreviation CNCS, the previous name National University Research Council and the previous abbreviation CNCSIS), Bucharest, Romania, in the fields of Automation, Robotics and Systems Engineering.
- ❑ *2007 – …:* Expert and evaluator of the Romanian Agency for Quality Assurance in Higher Education (with the abbreviation ARACIS), Bucharest, Romania, in the field of Systems Engineering.
- ❑ *2008 – 2009:* Coordination of the accreditation activity of the Master program in Automotive Embedded Software within the Faculty of Automation and Computers, "Politehnica" University of Timisoara, Romania.
- ❑ *2008 – 2009:* Coordination of the research part of the accreditation activity of the Bachelor program in Systems Engineering and of the Master programs in Automatic Systems Engineering, and Informatics Systems Applied to Manufacturing and Services, within the Faculty of Automation and Computers, "Politehnica" University of Timisoara, Romania.

The Address of the researcherid.com Profile:
- • http://www.researcherid.com/rid/A-6993-2009.

The Address of the Open Researcher & Contributor ID (ORCID):
- https://orcid.org/0000-0002-2060-7403.

Fields of Scientific Interest (http://www.aut.upt.ro/~rprecup/research.html):
- Development and analysis of new control structures and algorithms including conventional control, fuzzy control, data-driven control, model-free control, sliding mode control, neuro-fuzzy control, etc.
- Theory and applications of soft computing.
- Systems modelling, identification and optimization (including nature-inspired algorithms).
- Computer-aided design of control systems.
- Applications to mechatronic systems (including automotive systems and mobile robots), embedded systems, control of power plants, servo systems, electrical driving systems, etc.

Previous Research Areas (http://www.aut.upt.ro/~rprecup/research.html):
- Development of methods for the algorithmic design of linear control systems: state feedback, controllers for time delay systems with and without integral component, optimization techniques (since 1993).
- Development of advanced / intelligent control structures and algorithms: sliding mode control, fuzzy control, neuro-fuzzy control (since 1992).
- Modernizing the speed controllers for hydro-generators (since 1991).
- Development of control structures and algorithms dedicated to electrical and electro-hydraulic servo-systems and drives (since 1995).

Scientific Publications (please see the attached Publication List and also http://www.aut.upt.ro/~rprecup/public.html):
- Co-author of one book published in **CRC Press, Taylor & Francis** (Boca Raton, FL, USA, 2021) (www.routledge.com), **voted by the Editorial Board of CRC Press as 2021 Outstanding Title in STEM** (https://www.aut.upt.ro/~rprecup/Outstanding_Title_STEM.jpeg), one book published in **Butterworth-Heinemann, Elsevier** (Oxford, UK, 2019) (www.elsevier.com, www.sciencedirect.com), one book published in Editura Tehnica Publishers (Bucharest, 1997), author / co-author of ten books in Editura Orizonturi Universitare Publishers (Timisoara, 1999-2009) and four books in Editura Politehnica Publishers (Timisoara, 2001-2022) (http://www.aut.upt.ro/~rprecup/books.html).
- Editor of three books published in **Springer** (2012, 2019) (https://www.springer.com/gp/book/9783642283048, https://www.springer.com/gp/book/9789811359941, https://www.springer.com/gp/book/9789811361500).
- Co-author of 29 book chapters published in Springer, Academic Press, Kluwer Academic Publishers, IET Digital Library, World Scientific and Atlantis Press (http://www.aut.upt.ro/~rprecup/bookch.html).
- Co-author of 115 papers published in Clarivate Analytics Web of Science (formerly ISI Web of Knowledge) journals (http://www.aut.upt.ro/~rprecup/isijournals.html): Automatica, IEEE Transactions on Fuzzy Systems, IEEE Transactions on Cybernetics, IEEE Transactions on Neural Networks, IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Industrial Electronics, IEEE/ASME Transactions on Mechatronics, Information Sciences, IEEE Transactions on Industrial Informatics, IEEE Transactions on Instrumentation and Measurement, Expert Systems with Applications, Fuzzy Sets and Systems, ISA Transactions, Computers in Industry, Engineering Applications of Artificial Intelligence, Applied Soft Computing, Journal of The Franklin Institute, Robotics and Autonomous Systems, European Journal of Control, Asian Journal of Control, Mathematics and Computers in Simulation, Knowledge-Based Systems, IEEE Transactions on Education, IEEE Systems Journal, International Journal of Systems Science, International Journal of General Systems, Acta Astronautica, IET Control Theory & Applications, Neurocomputing, Electrical Engineering, Journal of Aerospace Information Systems, Scientific Reports, etc., in Elsevier, Springer, John Wiley and Sons, Taylor & Francis, Nature, The American Institute of Aeronautics and Astronautics, etc.
- **12 Highly Cited Papers according to Clarivate Analytics Web of Science** as of September/October 2023, May/June 2023, July/August 2022, March/April 2022, September/October 2021, May/June 2018 and November/December 2015 (http://www.aut.upt.ro/~rprecup/TIE_2017_Highly_Cited_Paper.png, http://www.aut.upt.ro/~rprecup/EJC_2021_Highly_Cited_Paper.png, http://www.aut.upt.ro/~rprecup/TIM_2020_Highly_Cited_Paper.png, http://www.aut.upt.ro/~rprecup/KBS_2021_Highly_Cited_Paper.png,

- **Five Hot Papers according to Clarivate Analytics Web of Science** as of May/June 2023, November/December 2022, July/August 2022, March/April 2022 and November/December 2015 (http://www.aut.upt.ro/~rprecup/TFS_2022_Hot_Paper.png, http://www.aut.upt.ro/~rprecup/INS_2022_1_Hot_Paper.png, http://www.aut.upt.ro/~rprecup/EJC_2021_Hot_Paper.png, http://www.aut.upt.ro/~rprecup/IJSS_2021_Hot_Paper.png, http://www.aut.upt.ro/~rprecup/CiI_2015_Hot_Paper.jpg).
- **One Top Cited Article in 2020-2021 and 2021-2022 according to Wiley** (http://www.aut.upt.ro/~rprecup/AJC_2021_Top_Cited_Article_2020-2021.pdf, http://www.aut.upt.ro/~rprecup/AJC_2021_Top_Cited_Article_2021-2022.pdf).
- Co-author of 51 papers published in refereed journals / contributions to books (http://www.aut.upt.ro/~rprecup/journals.html).
- Author / co-author of more than 150 papers published in refereed academic conferences (IEEE, IFAC, IFSA, EUFIT, ECC and others) organized in Austria, Brazil, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Egypt, France, Germany, Greece, Hungary, Italy, Malta, Poland, Portugal, Russia, Serbia, Slovak Republic, Slovenia, South Africa, Spain, Switzerland, Tunisia, Turkey, UK, USA, Zambia (http://www.aut.upt.ro/~rprecup/confe.html).
- Author / co-author of more than 50 papers published in refereed academic conferences organized in Romania.
- **Cumulative Clarivate Analytics Web of Science (formerly ISI Web of Knowledge) impact factor (IF) = 305.215, cumulative IF according to 2020 Journal Citation Reports (JCR) released by Clarivate Analytics in 2021 = 553.786** (http://www.aut.upt.ro/~rprecup/isijournals.html, the IF of leader journals in my field is around 3).
- **My Erdös number is 3**.
- Editor, Proceedings of 7th and 8th International Conferences on Technical Informatics CONTI'2006 and CONTI'2008, Timisoara, Romania, Editura Politehnica, Timisoara, 2006 and 2008.

Invited Papers and Talks (http://www.aut.upt.ro/~rprecup/invite.html):

- R.-E. Precup, Metaheuristic Algorithms and their Applications to Fuzzy Control, Fuzzy Modeling and Learning-based Control, 9th International Conference on Control and Optimization with Industrial Applications COIA 2024, Istanbul, Turkey, 2024.
- R.-E. Precup, Applications of metaheuristic algorithms to fuzzy control and model building, learning-based control, and mobile robot navigation, 15th European Symposium on Computational Intelligence and Mathematics ESCIM 2024, Krakow, Poland, 2024.
- R.-E. Precup, Metaheuristic Algorithms and Their Application to Fuzzy Control, Fuzzy Modeling, Mobile Robot Navigation, and Finger Dynamics for Prosthetic Hand Myoelectric-Based Control, 2024 6th International Conference on Robotics and Computer Vision ICRCV 2024, Wuxi, China, 2024.
- R.-E. Precup, Model-based and model-free low-cost fuzzy controllers, International Seminar on Computational Intelligence ISCI'2024, Tijuana, Mexico, 2024.
- R.-E. Precup, Evolving Fuzzy Models and Transportation Applications, International Semiconductor Conference CAS 2024, Sinaia, Romania, 2024.
- R.-E. Precup, Metaheuristic Algorithms and their Applications to Fuzzy Control, Fuzzy Modeling and Mobile Robot Navigation, Keynote Speech, 10th User Conference on Advanced Automated Testing UCAAT 2023, Timisoara, Romania, 2023.
- R.-E. Precup, Nature-inspired optimization algorithms applied to fuzzy control, fuzzy modeling and mobile robot navigation, 4th International Symposium on New Trends in Computational Intelligence NTCI 2022, Qingdao, China, 2022.
- R.-E. Precup, 2-DOF Fuzzy Controllers and Mechatronics Applications, Invited Lecture, China University of Petroleum (East China), 266580, Qingdao, China, 11 October 2022.

- R.-E. Precup, Evolving Takagi-Sugeno-Kang Fuzzy Models and Applications, International Seminar on Computational Intelligence ISCI'2022, Tijuana, Mexico, 2022.
- R.-E. Precup, Evolving Fuzzy Models and Laboratory Applications, 23rd International Carpathian Control Conference ICCC'2022, Craiova, Romania, 2022.
- R.-E. Precup, Evolving Fuzzy Models and Applications, 3rd International Symposium on New Trends in Computational Intelligence ISNTCI 2021, Qingdao, China, 2021.
- R.-E. Precup, Evolving Fuzzy and Neural Network Models of Finger Dynamics for Prosthetic Hand Myoelectric-based Control, 9th IEEE International Conference on e-Health and Bioengineering EHB 2021, Iasi, Romania, 2021.
- R.-E. Precup, Fuzzy Controller Structures for Servo Systems, Cycle of Conferences "Horizonte de la Automática y la Robótica más allá de la 4ta. Revolución Industrial (HORIZON-CAR)", Center for Automation and Robotics (CSIC-UPM) of Spanish National Research Council and Technical University of Madrid, Madrid, Spain, 18 November 2020.
- R.-E. Precup, 2-DOF Fuzzy Controller Structures and Nature-Inspired Optimal Tuning, Keynote at Romanian AI Days, Virtual Brasov, Romania, 2-4 December 2020.
- R.-E. Precup, Evolving Fuzzy Models of Mechatronics Applications, 17th IEEE International Symposium on Intelligent Systems and Informatics SISY 2019, Subotica, Serbia, pp. 1-2, 2019.
- R.-E. Precup, T.-A. Teban and A. Albu, Evolving Fuzzy and Neural Network Models of Finger Dynamics for Prosthetic Hand Myoelectric-based Control, Proceedings of 11th International Conference on Electronics, Computers and Artificial Intelligence ECAI 2019, Pitesti, Romania, pp. 1-8, 2019.
- A. Albu, R.-E. Precup and T.-A. Teban, Medical Applications of Artificial Neural Networks, Proceedings of XIV International SAUM Conference on Systems, Automatic Control and Measurements SAUM 2018, Niš, Serbia, pp. 1-11, 2018.
- R.-E. Precup, Selected topic, The XXIV International Conference on Robotics ROBOTICS 2018, Iasi, Romania, 2018, the conference was canceled.
- R.-E. Precup, St. Preitl, C.-A. Bojan-Dragoş, M.-B. Rădac, A.-I. Szedlak-Stînean, E.-L. Hedrea and R.-C. Roman, Technical and Non-Technical Applications of Evolving Takagi-Sugeno-Kang Fuzzy Models, Proceedings of 4th International Conference on Electrical, Electronic and Computing Engineering IcETRAN 2017, Kladovo, Serbia, pp. 1-8, 2017.
- R.-E. Precup, St. Preitl, C.-A. Bojan-Dragoş, M.-B. Rădac, A.-I. Szedlak-Stînean, E.-L. Hedrea and R.-C. Roman, Evolving Takagi-Sugeno Fuzzy Modeling Applications of Incremental Online Identification Algorithms, Proceedings of XIII International SAUM Conference on Systems, Automatic Control and Measurements SAUM 2016, Niš, Serbia, pp. 3-10, 2016.
- R.-E. Precup, Nature-inspired optimization algorithms applied to fuzzy control, fuzzy modeling, mobile robots and optical character recognition, Proceedings of IEEE 9th International Symposium on Applied Computational Intelligence and Informatics SACI 2014, Timisoara, Romania, pp. 11, 2014.
- St. Preitl and R.-E. Precup, Linear and Fuzzy Control Extensions of the Symmetrical Optimum Method, Proceedings of Special International Conference on Complex Systems: Synergy of Control, Communications and Computing COSY 2011, Ohrid, Republic of Macedonia, pp. 59-68, 2011.
- St. Preitl, R.-E. Precup and Zs. Preitl, Aspects Concerning the Tuning of 2-DOF Fuzzy Controllers, Proceedings of Xth Triennial International SAUM Conference on Systems, Automatic Control and Measurements SAUM 2010, Eds. Nikolić, V., Antić, D. and Mitić, D., Niš, Serbia, pp. 210-219, 2010.
- C.-A. Dragoş, R.-E. Precup, St. Preitl and M.-B. Rădac, Low-cost Fuzzy Control Solutions for Electromechanical Applications, Proceedings of 2nd International Scientific and Expert Conference TEAM 2010, Kecskemét, Hungary, vol. 1, pp. 10-23, 2010.
- St. Preitl, R.-E. Precup and Zs. Preitl, Development of 1-DOF and 2-DOF fuzzy controllers. Applications on servo-systems, Tutorial invited and given at 2004 IEEE-TTC International Conference on Automation, Quality and Testing, Robotics AQTR 2004 (THETA 14), Cluj-Napoca, Romania, 2004.
- St. Preitl, Zs. Preitl and R.-E. Precup, Tuning Methodologies for PI and PID Controllers for Second and Third Order Systems, Proceedings of 7th Conference on Systems, Automatic Control and Measurements SAUM'01, Ed. Nedić, N.N., Vrnjačka Banja, Serbia, pp. 24-29, 2001.
- St. Preitl and R.-E. Precup, Tuning of PI and PID Controllers by a Generalized Form of the Symmetrical Optimum Method, Proceedings of 6th Conference on Systems, Automatic Control and Measurements SAUM'98, Ed. Bucevac, Z., Niš, Serbia, pp. 34-48, 1998.

Research Contracts and Grants (http://www.aut.upt.ro/~rprecup/contracts.html):

- 48 national research contracts and grants in the field of automatic control, director to eight of them, director of the Politehnica University of Timisoara partner to four of them.
- One international research contract (director) in 2023-2025 with Zhejiang University (China), partners: Swedish National Road and Transport Research Institute (Sweden), Chalmers University of Technology (Sweden), Chongqing University (China), The Hong Kong Polytechnic University Shenzhen Research Institute (China), WSP Sverige AB (Sweden), FellowBot AB (Sweden), Hangzhou Comprehensive Transportation Center (China), Enjoyor Ltd Co. (China).
- One international research contract (director) in 2008-2009 with University of Ljubljana (Slovenia).
- Three international research contracts (principal investigator) in 2003-2009: one with Budapest University of Technology and Economics (Hungary) and two with Budapest Tech Polytechnical Institution.
- Four research industrial contracts in the field of automatic control with a Romanian company.
- Consulting for Romanian and American companies in systems modelling, optimization and automatic control.

Courses Taught (http://www.aut.upt.ro/~rprecup/teach.html):

- ❑ *2008 – ...:* System Theory and Automatization (in English, lectures, B.Sc. program in Computers and Information Technology), Optimization in Machine Learning (in English, lectures, M.Sc. program in Machine Learning), Optimization Techniques (lectures, B.Sc. program in Automation and Applied Informatics), Control Engineering (lectures + laboratories, B.Sc. program in Automation and Applied Informatics), Computer Assisted Mathematics (lectures, B.Sc. program in Automation and Applied Informatics), Process Control Structures and Algorithms (laboratories + projects, B.Sc. program in Automation and Applied Informatics), Fuzzy Control Systems (lectures + laboratories + projects, B.Sc. program in Automation and Applied Informatics), Intelligent Control Systems (lectures + laboratories + projects, M.Sc. program in program in Automatic Systems Engineering), Dynamic Systems and Stability in Automotive Control (in English, lectures + laboratories + projects, M.Sc. program in Automotive Embedded Software), Mathematical Signal Processing (lectures + laboratories, M.Sc. program in Informatics Systems Applied to Manufacturing and Services), Dynamic Systems and Stability (lectures + laboratories + projects, M.Sc. program in Mathematical Algorithms in Engineering), Multi-agent Systems (in English, lectures + projects, M.Sc. program in Automotive Embedded Software).

- ❑ *2000 – 2008*: Advanced Control Systems (lectures + laboratories + projects, Dipl.Ing. program in Automation and Applied Informatics), Advanced Control Strategies (lectures + laboratories, Dipl.Ing. program in Automation and Applied Informatics), Control Engineering (lectures + laboratories + projects, Dipl.Ing. program in Automation and Applied Informatics), Fuzzy Control Systems (lectures + laboratories + projects, Dipl.Ing. program in Automation and Applied Informatics), Computer Assisted Mathematics (lectures, Dipl.Ing. programs in Automation and Applied Informatics, and Computers), Computer-Aided Optimization (lectures + laboratories, Dipl.Ing. program in Automation and Applied Informatics), Modern Approaches to Process Control I (lectures + projects, M.Sc. program in Automatic Systems), Elements of Automatic Control (lectures, Dipl.Ing. program in Power Systems), Intelligent Control in Automotive Embedded Systems (in English, lectures + laboratories + projects, M.Sc. program in Automotive Embedded Software), Multi-agent Systems (in Romanian and English, lectures + laboratories + projects, M.Sc. programs in Automatic Systems, and Automotive Embedded Software), Process Control Structures and Algorithms (laboratories, Dipl.Ing. program in Automation and Applied Informatics).

- ❑ *1998 – 2000:* Advanced Control Systems (lectures + laboratories, Dipl.Ing. program in Automation and Technical Informatics), Control Engineering (laboratories, Dipl.Ing. program in Automation and Technical Informatics), Computer Assisted Mathematics (lectures, Dipl.Ing. programs in Automation and Technical Informatics, and Computers), Optimization Techniques (lectures + laboratories, Dipl.Ing. program in Automation and Technical Informatics), Modern Control Techniques (projects, M.Sc. program in Modern Approaches to Informational Control), Intelligent Control Systems (lectures + projects, M.Sc. program in Automatic Systems), Elements of Automatic Control (lectures, Dipl.Ing. program in Power Systems), System Theory and Automation (lectures, Dipl.Ing. program in Mechanical Engineering), Speed and Voltage Control Systems of Synchronous Generators (lectures + laboratories, M.Sc. program in Stability Analysis of Power Systems).

- ❑ *1994 – 1998:* Advanced Control Systems (lectures + laboratories, Dipl.Ing. program in Automation and Technical Informatics), Control Engineering (laboratories, Dipl.Ing. program in Automation and Technical Informatics), Optimization Techniques (lectures + laboratories, Dipl.Ing. program in Automation and Technical Informatics), Modern Control Techniques (projects, M.Sc. program in

Modern Approaches to Informational Control), Elements of Automatic Control (lectures, Dipl.Ing. program in Power Systems), System Theory and Automation (lectures, Dipl.Ing. program in Mechanical Engineering).

❑ *1991 – 1994:* Control Engineering (laboratories, Dipl.Ing. program in Automation and Technical Informatics), System Theory (laboratories, Dipl.Ing. programs in Automation and Technical Informatics, and Computers), Elements of Automatic Control (laboratories, Dipl.Ing. program in Power Systems).

Cooperation with Academia and Industry (*http://www.aut.upt.ro/~rprecup/coop.html*)***:***

- Université Polytechnique Hauts-de-France, Valenciennes, France, since 2023, cooperation with Assoc. Prof. Anh-Tu Nguyen and his team in the area of fuzzy control systems.
- Hungarian Academy of Sciences, Budapest, Hungary, since 2008, and next Szechenyi Istvan University, Gyor, Hungary, and University of Pannonia, Veszprem, Hungary, cooperation with Prof. Péter Baranyi and his team in the area of tensor product-based model transformation.
- University of Ottawa, Canada, since 2007, cooperation with Prof. Emil M. Petriu and his team in the areas of soft computing and signal processing.
- University of Ljubljana, Slovenia, since 2007, cooperation with Prof. Igor Škrjanc, Prof. Sašo Blažič and their teams in the area of fuzzy control systems.
- Coventry University, UK, since 2007, and next University of Wolverhampton, UK, cooperation with Prof. Keith J. Burnham and his team in the areas of control systems and system identification.
- Delft University of Technology, The Netherlands, since 2007, cooperation with Prof. Hans Hellendoorn and his team in the area of industrial applications of fuzzy control.
- Bremen University, Germany, since 2005, cooperation with Prof. Axel Gräser and his team in the areas of Iterative Feedback Tuning and automotive control.
- Óbuda University (previously named Budapest Tech Polytechnical Institution, BMF), Budapest, Hungary, since 2003, cooperation with Prof. Imre J. Rudas, Prof. János Fodor, Prof. Levente Kovács and their team in the area of fuzzy systems.
- Budapest University of Technology and Economics (BME), Hungary, since 2003, and next University of Debrecen, Hungary, cooperation with Acad. István Nagy, Prof. Péter Korondi and their teams in the area of control algorithms for mobile robots operating in Intelligent Space (Hashimoto Lab, University of Tokyo, Japan).
- Université Savoie Mont Blanc (previously named Université de Savoie), France, since 2002, cooperation with Prof. Laurent Foulloy and his team in the area of fuzzy control systems.
- Crabel Capital Research, since 2005, in the area of systems modelling for financial applications.
- UCM Resita, since 1992, in the area of control algorithms for speed control of hydro-generators.

Timişoara, 01.10.2024   *RADU-EMIL PRECUP*