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RESEARCH GRANTS AND CONTRACTS OF RADU-EMIL PRECUP (SHORT VERSION)
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2023-2025: director of the project coordinator Europe, Politehnica University of Timisoara (UPT), Electric Multimodal Transport Systems for Enhancing Urban Accessibility and Connectivity (e-MATS), 699469 EUR to the European partners, 250000 EUR to UPT, 4000000 RMB (equivalent 510509.63 EUR) to the Chinese partners, director of the project coordinator China: Prof. Sheng Jin (Zhejiang UniversityChina), 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) (JPI Urban Europe ERA-Net Co-fund Urban Accessibility and Connectivity (EN-UAC) Sino-European call).

2021-2023: director, Data-driven fuzzy control with experimental validation, 249844.58 EUR, national exploratory research grant (PCE, Research, Development and Innovation Funding - UEFISCDI).

2022-2024: principal investigator, Artificial intelligence based control system for legged robots used in autonomous navigation, mapping and surveillance of unstructured environments (AI-LegRob), 120962 EUR, demonstrative experimental project (PED, UEFISCDI), director: Prof. Sorin Grigorescu, Transilvania University of Brasov.

2022-2024: principal investigator, Dynamics of hypercomplex-valued neural networks (DHVNN), 33333 EUR, national postdoctoral research project (PD, UEFISCDI), director: Assoc. Prof. Calin-Adrian Popa, UPT.

2018-2019: principal investigator, IMproving the PREdiction of opinion dynamics in temporal Social networks: Mathematical modeling and Simulation framework (IMPRESS), 38245 EUR, national postdoctoral research project (PD, UEFISCDI), director: Lect. Dr. Alexandru Topirceanu, Politehnica University of Timisoara (UPT).

2018-2022: principal investigator, NONlinear OBServers-based control structures applied to MEChatronics Systems (NOBSMECS), 47207 EUR, national postdoctoral research project (PD, UEFISCDI), director: Lect. Dr. Alexandra-Iulia Szedlak-Stinean, UPT.

2014-2017: director of the UPT partner, Advanced control systems for bioprocesses in food industry (ADCOSBIO), 238637 EUR, national joint applied research project (PCCA, UEFISCDI), director: Prof. Dan Selisteanu, University of Craiova.

2014-2017: director of the UPT partner, Advanced control system of a biorefinery plant (BIOCON), 284091 EUR, national joint applied research project (PCCA, UEFISCDI), director: Prof. Sergiu Caraman, "Lower Danube" University of Galati.

2015-2017: principal investigator, Learning techniques for improving control systems performance using model-free approaches (LTIPerforM), 83114 EUR, national research Young Teams grant (TE, UEFISCDI), director: Lect. Dr. Mircea-Bogdan Radac, UPT.

2014-2017: principal investigator, Experimental model for an automatic capacitive compensator designed for improving the power factor and for load balancing in low-voltage electricity distribution networks (CAEREDJT), 235102 EUR, national joint applied research project (PCCA, UEFISCDI), director: Assoc. Prof. Adrian Pana, UPT.

2012-2016: director of the UPT partner, Software products based on artificial intelligence algorithms applied to modelling and optimization of chemical systems (AISoftChim), 362903 EUR, national joint applied research project (PCCA, UEFISCDI), director, Prof. Silvia Curteanu, "Gheorghe Asachi" Technical University of Iasi.

2011-2016: director, New performance improvement techniques of control systems using experiment-based tuning, 339907 EUR, national exploratory research grant (PCE, UEFISCDI).

2008-2009: director of the Romanian partner, UPT, New results in development and applications of fuzzy control systems, 16000 EUR, international research contract (bilateral project Slovenia-Romania, CNMP), Prof. Igor Škrjanc, director of the Slovenian partner, University of Ljubljana.

2008-2009: principal investigator, Integration of Iterative Learning Control (ILC) and fuzzy methods in intelligent control systems, 16000 EUR, international research contract (bilateral project Hungary-Romania, CNMP), Prof. Stefan Preitl, director of the Romanian partner, UPT, Prof. János Fodor, director of the Hungarian partner, Budapest Tech Polytechnical Institution.

2006-2007: principal investigator, Analysis and development of intelligent systems, 16000 EUR, international research contract (bilateral project Hungary-Romania, Romanian Ministry of Research), Prof. Stefan Preitl, director of the Romanian partner, UPT, Prof. János Fodor, director of the Hungarian partner, Budapest Tech Polytechnical Institution.

2003-2005: principal investigator, Nonlinear systems and control in the field of power electronics, 16000 EUR, international research contract (bilateral project Hungary-Romania, Romanian Ministry of Research), Prof. Stefan Preitl, director of the Romanian partner, UPT, Acad. István Nagy, director of the Hungarian partner, Budapest University of Technology and Economics.

2008-2011: director of the UPT partner, Real-time informatics technologies for embedded-system-control of power-train in automotive design and applications (SICONA), 500000 EUR, national research contract (CNMP), director, Prof. Corneliu Lazar, "Gheorghe Asachi" Technical University of Iasi.

2009-2011: principal investigator, Research concerning new cognitive systems based on experimenting causal relations, 250000 EUR, national research contract (CNCSIS), director, Assoc. Prof. Claudiu Pozna, Transilvania University of Brasov.

2009-2011: principal investigator, Research concerning the design and implementation of modern solutions for information security in distributed systems, SCADA, DCS and remote control applied to gas distribution, 65000 EUR, national research contract (CNCSIS), director, Prof. Ioan Silea, UPT.

2007-2010: principal investigator, Integrated real-time networked control systems (SICOTIR), 500000 EUR, national research contract (CNMP), director, Prof. Cosmin Ionete, University of Craiova.

2007-2008: principal investigator, Analysis and development of intelligent control systems with fuzzy controllers dedicated to servo systems, 35000 EUR, national research contract (CNCSIS), director, Prof. Stefan Preitl, UPT.

2006-2007: director, Development of new fuzzy controller structures for embedded systems using Iterative Feedback Tuning algorithms, 18000 EUR, national research contract (CNCSIS).

2004-2005: director, Development of new fuzzy controller structures based on sensitivity theory, 15000 EUR, national research contract (CNCSIS).

2004-2005: principal investigator, Development of new control structures and controller development methods for positioning systems, 12000 EUR, national research contract (CNCSIS), director, Prof. Stefan Preitl, UPT.

2001: director, Research concerning the development of new stability analysis methods for a class of fuzzy control systems applied to the development of Takagi-Sugeno fuzzy controllers, 1400 USD, national research contract (CNCSIS).

2001: principal investigator, Research concerning the development of new robustness analysis methods for fuzzy control systems based on the parametric sensitivity analysis, 1500 USD, national research contract (CNCSIS), director, Prof. Stefan Preitl, UPT.

2000: principal investigator, Research concerning the development of new stability analysis methods for fuzzy control systems applied to power systems processes, 2000 USD, national research contract (CNCSIS), director, Prof. Stefan Preitl, UPT.

1998-1999: principal investigator, Research concerning the development of new control structures and controller development methods for variable inertia drives, 11000 USD, national research contract (CNCSU, CNCSIS), director, Prof. Stefan Preitl, UPT.

1998-2001: principal investigator, Intelligent process control systems, 170000 USD, national research contract (CNCSIS, World Bank), director, Prof. Ioan Dumitrache, corresponding member of Romanian Academy, Politehnica University of Bucharest.

1998-2001: principal investigator, Transient and voltage stability in power systems, 50000 USD, national research contract (CNCSIS, World Bank), director, Prof. Stefan Kilyeni, UPT.

1996-1997: principal investigator, Research concerning the development of control strategies for synchronous generators based on fuzzy set theory, 3500 USD, national research contract (CNCSU), director, Prof. Stefan Preitl, UPT.

1996: director, Research concerning the implementation of fuzzy control algorithms dedicated to electro-hydraulic and eletromechanical servo systems, 2000 USD, national research contract (CNCSU).

1996: principal investigator, Fuzzy control structures with dynamics and fuzzy-based parameter adaptation dedicated to control of nonminumum phase systems, 2700 USD, national research contract (Romanian Academy), director, Prof. Stefan Preitl, UPT.

1995: principal investigator, Development of control strategies and structures, and controllers applied to hydrogenerator control, 2000 USD, national research contract (CNCSU), director, Prof. Stefan Preitl, UPT.

1993: principal investigator, Development of control algorithms based on fuzzy set theory, 1000 USD, national research contract (Romanian Ministry of Education), director, Prof. Stefan Preitl, UPT.

1993: principal investigator, Control systems structures for small and medium power hydrogenerators, models and structures for applications, 1000 USD, national research contract (Romanian Ministry of Education), director, Prof. Toma-Leonida Dragomir, UPT.