

PERSONAL DATA

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EDUCATION

- 1981** B.Sc. in Computer Science
University of Ljubljana, Faculty of Electrical Engineering.
1987 M.Sc. in Computer Science
University of Ljubljana, Faculty of Electrical Engineering.
1991 Ph.D. in Computer Science
University of Ljubljana, Faculty of Electrical Engineering and Computer Science.

EMPLOYMENT

Main

- 1981 – present** Institut Jožef Stefan, Ljubljana.
Department of Knowledge Technologies.
Current position: Scientific Councillor.

Additional

- 2001 – 2005** University of Ljubljana, Faculty of Administration.
2007 – present University of Nova Gorica, School of Engineering and Management.
Current position: Professor of Computer Science.

RESEARCH ACTIVITIES

Principal research areas

Decision Making, Decision Analysis, Decision Modelling, Decision Support Systems, Artificial Intelligence, Expert Systems, Machine Learning, Data Mining, Integration of Data Mining and Decision Support, Information Systems, Computer Programming – and Cognitive Aspects and Applications of these.

Long-term research projects

Computer information systems (1979–1982)

Information systems and data bases (1983–1985)

Information systems and artificial intelligence (1986–1991)

Knowledge engineering (1991–1994)

Automated knowledge synthesis (1992–1994)

Knowledge synthesis from data (1995–1997)

Analysis of clinical databases and synthesis of medical knowledge (1995–1997)

Methods for developing hierarchical models (1997–1999; principal investigator)

ARRS P2-9193: Knowledge technologies (Research programme, 2004–2008)

Sol-Eu-Net: Data mining and decision support for business competitiveness (EU Fifth Framework Project SolEuNet IST-1999-11495, 2000–2002; coordinator of Work Package 6 “Decision Support”)

ECOGEN: Soil ecological and economic evaluation of genetically modified crops (EU Fifth Framework Project ECOGEN QLK5-2002-01666, 2003–2006)

SIGMEA: Sustainable introduction of genetically modified organisms into European agriculture (EU Sixth Framework Project SIGMEA SSP1-2003-502981, 2004–2006)

Co-Extra: GM and non-GM supply chains: their co-existence and traceability (EU Sixth Framework Project Co-Extra FP6-IP-2005-7158, 2006–2009)

HEALTHREATS: Integrated decision support system for health threats and crises management (EU Sixth Framework Project STREP 2006203, 2007–2010)

ARRS J7-9792: Methodological aspects of cognitive process research — learning and decision-making (Metodološki vidiki raziskovanja kognitivnih procesov — učenje in odločanje, 2007–2009)

ARRS P2-0103(C): Knowledge technologies (Research programme, 2009–2014)

e-LICO: e-Laboratory for interdisciplinary collaborative research in data mining and data-intensive sciences (EU Seventh Framework STREP Project, 2010–2013)

FIRST: Large scale information extraction and integration infrastructure for supporting financial decision making (EU Seventh Framework Project ICT-257928, 2010–2013)

ConCreTe: Concept creation technology (EU Seventh Framework Project FP7-ICT-FET-611733, 2013–2016)

DECATHLON: Development of cost efficient advanced DNA-based methods for specific traceability issues and high level on-site applications (EU Seventh Framework Project FP7-KBBE-613908, 2013–2016)

PD.manager: mHealth platform for Parkinson’s disease management (EU H2020 Project H2020-PHC-643706, 2015–2017)

ARRS P2-0103(B): Knowledge technologies (Research programme, 2015–2020)

Research and development projects

Development of multi-attribute decision support systems ABACON (1980), DECMAC (1980–1987), and DEX (1988–1993).

Over 80 consulting projects involving the application of systems ABACON, DECMAC and DEX in supporting real-world decision problems such as: selection and evaluation of computer hardware and software, evaluation of companies and business partners, personnel management, project evaluation, land-use planning, risk assessment in medicine and health-care.

Development of SI2000, a distributed switching system (1981–1986 and 1992–1993).

Development of an information system for ranking applications for nursery schools (1983–1985).

Development of BES, an expert system for liquidity planning in banks (1984–1985).

Development of expert systems for performance evaluation of enterprises (in collaboration with International Center for Public Enterprises, Ljubljana, and Corporacion Nacional de Desarrollo, Lima, Peru; 1988–1989).

Ptah: Information system for supporting medical therapeutic activities (in collaboration with Infonet, d.o.o., Kranj; 1994–1996; principal investigator).

Expert system for the remediation of waste disposals (in collaboration with Oikos, d.o.o., Domžale; 1994–1995; principal investigator).

Talent: Expert system for advising children in choosing sports (Ro Programme, Project ESi “Expert Systems in Education”, 1996–1999).

DEXi (“DEX for Instruction”): Educational computer program for qualitative multi-attribute modelling (<http://kt.ijs.si/MarkoBohanec/dexi.html>; 1999–present).

JDEXi: Open-source Java library implementing part of DEXi (2004–2013).

MediMap: Knowledge management in medicine and healthcare (Analiza podatkov za upravljanje znanja na področju zdravstva; 2003–2004).

MediNet: Analysis of factors in setting up a network of health care personnel (Analiza dejavnikov za postavitev mreže zdravstvenih delavcev), Ministry of Health (2005).

MediNet+: Development of a primary health-care network in Slovenia (Izdelava modela mreže zdravstvenih delavcev primarne ravni Slovenije), Ministry of Health (2006).

ESQI: ECOGEN Soil Quality Index Web page (<http://ai.ijs.si/MarkoBohanec/ESQI/ESQI.php>; 2006).

DEXiEval: A command-line utility for batch DEXi evaluation (<http://kt.ijs.si/MarkoBohanec/dexieval.html>; 2007–2014).

DEXiTree: A program for pretty drawing of DEXi trees (<http://kt.ijs.si/MarkoBohanec/dexitree.html>; 2007–2008).

ARRS V4-0314: Harmonisation of technologies for following genetically modified organisms in food and feed production chain and its co-existence with conventional and ecological production chains (Harmonizacija tehnologij za celovito sledljivost gensko spremenjenih organizmov v proizvodnji kmetijskih pridelkov in živil ter njihov soobstoj s konvencionalno in ekološko pridelavo, 2007–2008).

ARRS V4-0351: Guidelines for national strategy of preservation of forest trees genofond due to introduction of genetically modified organisms in agriculture (Priprava podlag za izdelavo nacionalne strategije za zagotavljanje ohranjanja genofonda gozdnih drevesnih vrst ob uporabi gensko spremenjenih dreves v kmetijstvu, 2007–2008).

ARRS V5-0226: Development of quality management system in tertiary education (Razvoj sistema kakovosti v terciarnem izobraževanju, 2007–2008).

DUNE: Evropski enoviti sistem za povezovanje digitalnih informacij javnega značaja (RR projekt za spodbujanje raziskovalno razvojnih projektov razvoja e-vsebin in e-storitev) (2008).

MediNet++: A web page for presenting the primary health-care network in Slovenia (Internetna predstavitev rezultatov analiz za spremljanje mreže zdravstvenih delavcev primarne ravni v Sloveniji), Ministry of Health (2008).

ARRS L4-4091: Ekološka sanacija naravnih ujm v gozdovih (2011–2014).

OVJE PR-04868-1: Sustainability assesment of energy production in Slovenia until 2030 with emphasis on nuclear technology (Ocena vzdržnosti za razvoj energetike v Sloveniji do leta 2030 s poudarkom na jedrski tehnologiji) (2013–2014).

ACADEMIC ACTIVITIES

Academic Positions

2009 – present	Professor of Computer Science. University of Nova Gorica.
2004 – 2009	Assistant Professor of Informatics in Administration. University of Ljubljana, Faculty of Administration.
2004 – 2009	Associate Professor of Information Systems. University of Maribor, Faculty of Organisational Sciences, Kranj.
1997 – 2004	Assistant Professor of Information Systems. University of Maribor, Faculty of Organisational Sciences, Kranj.
1991 – 1996	Assistant. University of Ljubljana, Faculty of Computer and Information Science.

Courses

1991 – 1995	University of Ljubljana, Faculty of Electrical and Computer Engineering. Course: <i>Models and Decision Systems</i> (as Assistant).
1997 – 2010	University of Maribor, Faculty of Organisational Sciences, Kranj. Courses: <i>Business Expert Systems</i> , <i>Artificial Intelligence Methods</i> .
1998 – 2001	Nova Gorica Polytechnic. Course: <i>Introduction to Computer Science</i> .
2001 – 2005	University of Ljubljana, Faculty of Administration. Course: <i>Informatics: Information Technology</i> .
2004	Albert-Ludwig-Universität Freiburg, Germany. One-semester postgraduate course <i>Decision Support and Decision Modeling</i> .
2004 – 2010	University of Ljubljana, Faculty of Administration. Course: <i>Decision Support Systems in Administration</i> .
2004 – present	International Postgraduate School “Jožef Stefan”, Ljubljana. Courses: <i>Systems and Techniques of Decision Support</i> , <i>Decision Support</i> .
2007 – present	University of Nova Gorica, School of Engineering and Management. Courses: <i>Methods and Systems for Decision Support</i> , <i>Business Information Systems</i> .

Other educational activities

Invited lectures and courses in Computer Science, Informatics, Artificial Intelligence, Expert Systems, Machine Learning, Decision Support Systems and Multi-Attribute Decision Making at

- University of Ljubljana, Slovenia.
- University of Maribor, Slovenia.

- Executive Training Centre, Brdo pri Kranju, Slovenia.
- International Center for Public Enterprises, Ljubljana, Slovenia.
- Intertrade ITS, Radovljica.
- Faculty of Commercial and Business Sciences, Celje, Slovenia.
- Universität für Bildungswissenschaften, Klagenfurt, Austria.
- Queen Mary College, London, UK.
- Universidad del Pacifico, Lima, Peru.
- University of Porto, Porto, Portugal.
- Joanneum Institute, Graz, Austria.
- Istituto Superiore di Sanita, Rome, Italy.
- Honda Deutschland, Offenbach, Germany.

Domestic seminars and courses in Artificial Intelligence, Expert Systems, Machine Learning, and Decision Support Systems.

ORGANISATIONAL ACTIVITIES

At Institut Jožef Stefan: SLAIS Seminars (1994–2002).

ECML/PKDD-2002: Workshop IDDM-2002: *2nd International Workshop on Integration and Collaboration Aspects of Data Mining, Decision Support and Meta-Learning*.

International conference *Intelligent Systems*, Ljubljana (annually 2001–2012).

Information Society 2012: Conference *100 Years of Alan Turing and 20 Years of SLAIS*

IFORS 2014, 20th Conference of the International Federation of Operational Research Societies, Barcelona, Spain, 13.-16.7.2014, stream *Qualitative Multiple Criteria Decision Making* (with V. Rajkovič)

SOR 2015, The 13th International Symposium on Operations Research in Slovenia, 23.-25.9.2015, Bled, Slovenia, Special session on *Qualitative MCDM* (with V. Rajkovič and M. Kljajić Borštnar)

Chair (2006–2010) and vice-chair (2010–2014) of SLAIS - Slovenian Artificial Intelligence Society.

Member of IFIP WG 8.3 on Decision Support Systems.

Member of EURO EWG-DSS: The Association of European Operational Research Societies, Working Group on Decision Support Systems.

Member of EURO EWG-MCDA: The Association of European Operational Research Societies, Working Group on Multi-Criteria Decision Aiding.

Member of the Slovenian Society for Cognitive Science.

Member of the Senat of the School of Engineering and Management (University of Nova Gorica).

MENTORSHIP OF YOUNG RESEARCHERS

At Institut Jožef Stefan:

Blaž Zupan Ph.D., 1997.

Aleš Dobnikar Ph.D., 1997.

Robert Špendl M.Sc., 1998.

Damjan Demšar Ph.D., 2003.

Martin Žnidaršič Ph.D., 2007.

Nejc Trdin Ph.D., student since 2011.

At the University of Nova Gorica:

Mojca Stubelj Ars Ph.D., 2014.

At the International Postgraduate School “Jožef Stefan”:

Aleksander Pur Ph.D. 2011.

Biljana Mileva Boshkoska Ph.D., 2013.

At the University of Maribor:

Viljem Pavlovič Ph.D. (co-supervisor), 2011.

AWARDS

1990 Boris Kidrič Award for research results in the field of computer-aided decision making (with Vladislav Rajkovič).

2013 Outstanding Paper Award at the 26th Bled eConference eInnovation (with Irina Alić and Michael Siering).

2015 Best Paper Award at CompSystech 2015, 16th International Conference on Computer Systems and Technologies, Dublin, Ireland (with Bojan Cestnik and Tanja Urbančič).

INNOVATIONS

1987 Technical innovation of the operating system of the distributed switching system SI-2000.