

Damir Bosnar - CV

- Place and date of birth: Zagreb, 20. 01. 1961
- 1990. PhD in physics at the Department of Physics, Faculty of Science, University of Zagreb, experimental nuclear physics

Appointments:

- 2010-now Full professor at the Department of Physics, Faculty of Science, University of Zagreb
- 2003- 2010 Associated professor at the Department of Physics, Faculty of Science, University of Zagreb
- 1998-2003 Docent at the Department of Physics, Faculty of Science, University of Zagreb
- 1991-1998 Higher assistant at the Department of Physics, Faculty of Science, University of Zagreb
- 1986-1991 Assistant at the Department of Physics, Faculty of Science, University of Zagreb

Scientific work, projects and achievements:

- 1986-1996 participation in the international scientific collaborations (Basel- Karlsruhe-Zagreb collaboration and LADS collaboration) in experimental nuclear physics, pion absorption in nuclei, at Paul Scherrer Institute, PSI, Switzerland.
- 1998- now leader of Zagreb group in A1 collaboration at Mainz Microtron (MAMI), electron scattering experiments on nucleons and nuclei.
- 2009-now leader of Zagreb group in the international collaborations at the Laboratori Nazionali di Frascati, LNF, in the preparation of AMADEUS experiment and in the preparation of SIDDHARTA-2 experiment (since 2012) for kaonic atoms experiments.
- 2011-now leader of Zagreb group in n_ToF collaboration at CERN in the studies of neutron induced reactions on nuclei.

Damir Bosnar has participated in pion absorption experiments at PSI during the work on PhD and as postdoc, 1986-1996. In that time he spent in total more than 2 years at the experiments at Paul Scherrer Institute and Institute for Physics in Basel working on data analysis. In 1996 participated in hyper-nuclear formation experiment using stopped kaons at Brookhaven National Laboratory, USA. Since 1998 he is member of A1 collaboration at MAMI and leader of Zagreb group in the collaboration. Since 1998, every year, he spends approx 2-3 months at the experiments at MAMI. In Zagreb has been performed data analysis and since establishment of laboratory in 2003 also tests and preparation of detectors for the measurements at MAMI and other experiments are possible. As the leader of Zagreb group he is co-author of more than 30 publications in A1 collaboration published in the high-quality scientific journals. One PhD thesis has been completed under his supervision at the experiment at MAMI: M. Makek "Development of a Silicon Detector System for Proton Detection and Triple Coincidence Measurements in Electron Scattering", 2009. One of the main achievements in this work is development and successful employment of a silicon detector system based on fast digitizers in electron scattering experiments. This system opens possibilities for more efficient realization of triple coincidence experiments. The work on the other PhD thesis under his supervision at MAMI was completed in 2015, I. Frišćić "Cross-section measurement of the $p(e,e'n^+)n$ reaction with the short-orbit spectrometer at $Q^2=0.078$ (GeV/c)² ", and in this work first physical measurements with a new Short-Orbit-Spectrometer, SOS, for pion detection and cross section determination at lowest Q^2 till now has been performed.

At DAPHE accelerator at LNF he is currently participating in the preparation of SIDDHARTA-2 experiment, collaboration formed in 2012 with the aim for the measurements of transitions in kaonic atoms. The physical experiments should start in the second half of 2016.

Since 2011 he is leader of Zagreb group in n_ToF collaboration at CERN and the work on one PhD thesis under his supervision was completed in 2014., P. Žugec "Measurement of the ⁵⁸Ni neutron capture cross section". In the n_ToF collaboration D. Bosnar is co-author of more than thirty articles as the leader of Zagreb group in the high quality scientific journals.

Since 2003 he has had leading role in establishing nuclear physics laboratory at the Department of Physics, Zagreb for education and preparation of various detectors that are used in nuclear physics experiments abroad. The laboratory has been established by support of

several national and international projects (total amount of acquired equipment approx. 400.000 EUR). With a part of this equipment education in experimental nuclear physics at undergraduate and graduate level is also being performed. In the laboratory at the Department and within several bilateral collaborations the work on positron annihilation spectroscopy and its applications in material research (positron annihilation lifetime spectroscopy) and medicine (PET) has been started. Till now he was supervisor of 11 diploma thesis. He is participating in doctoral studies of physics at the Department ("Experimental Nuclear Physics" and "Experimental Techniques in Nuclear Physics"). In the years 2012-2014 he is participating as invited lecturer in the Erasmus Course (2 weeks) at Medical University, Plovdiv, Bulgaria.

He has published as co-author more than 90 scientific articles in refereed scientific international journals, with more than 900 citations (inSPIRE). He has given 8 talks at international conferences and workshops, 4 invited.

Leader of international scientific projects:

- 2009-(december 2013) EU-FP7 projects in "Transnational Access to Research Facility MAMI"
- 2009-(June 2013) EU-FP7 projects in "Transnational Access to Research Facility LNF"
- 2012-June 2014) International Atomic Energy Agency Coordinated Research Project
- 2006-2009 EU-FP6 project in "Transnational Access to Research Facility MAMI"
- 2008-2009 Bilateral Croatian-Austrian scientific project "Positron Annihilation Spectroscopy for the investigation of materials properties on the nano-scale"
- 2007-2009 Bilateral Croatian-Hungarian project "Nanostructures and surfaces, native and induced structural imperfections investigated by positron annihilation spectroscopy"
- 2004-2006 Bilateral scientific Croatian-Hungarian project "Surface and near-surface investigations of highly porous materials and their precursors using positron annihilation measurements"

Leader of national scientific projects

- 2014-2018 "High precision measurements of hadronic system properties and low energy QCD"
Croatian Science Foundation
- 2007-2013 "Nuclear physics and QCD; Applications of Nuclear Methods: Materials, Medicine and Environment", Ministry of Science, Education and Sport, Republic of Croatia scientific project 119-1191005-1021,
- 2002-2006 "Many-body structure of the hadrons"
Ministry of Science, Education and Sport, Republic of Croatia scientific project 0119259
- 1998-2001 Ministry of Science and Technology, Republic of Croatia:
Scientific project for young scientists.

Leader of international educational and infrastructural projects:

- 2014-2015 International Atomic Energy Agency National Technical Cooperation project, "Improving Capabilities for Positron Annihilation Spectroscopy"
- 2009-2011 International Atomic Energy Agency Regional Technical Cooperation Project, "Improving Educational and Training Capabilities in Nuclear Science and Applications"
- 2007-2008 International Atomic Energy Agency National Technical Cooperation project, "Setting Up of a Demonstration Positron Emission Tomography Model for Teaching Purposes"
- 2005-2006 International Atomic Energy Agency National Technical Cooperation project, "Upgrading Training Laboratory for Nuclear Science, Phase II"
- 2003-2004 International Atomic Energy Agency National Technical Cooperation project, "Upgrading Training Laboratory for Nuclear Science, Phase"