

PERSONAL INFORMATION	Surname / First name Nationality Date of birth Gender and personal context	BÜHNOVÁ, Barbora Czech Republic 18th February 1981 Female, married, née ZIMMEROVÁ, two children
CONTACT INFORMATION	Faculty of Informatics Masaryk University Botanická 68a 602 00 Brno, Czech Republic	<i>Phone:</i> +420 549 494 494 <i>Skype:</i> bara.buhnova <i>E-mail:</i> buhnova@fi.muni.cz <i>WWW:</i> https://www.fi.muni.cz/~buhnova https://www.muni.cz/en/people/39394-barbora-buehnova
PROFESSIONAL INTERESTS	Software engineering, software architecture, critical infrastructures, quality attributes of software systems (reliability, security, performance), big data, software engineering education.	
UNIVERSITY EDUCATION AND DEGREES	<p>Doc. – Associate Professor Faculty of Informatics, Masaryk University, Brno, Czech Republic <i>Thesis:</i> Quality-Driven Architecture Design of Software Systems Awarded in September 2017</p> <p>Ph.D. – University doctoral degree Faculty of Informatics, Masaryk University, Brno, Czech Republic <i>Thesis:</i> Modelling and Formal Analysis of Component-Based Systems in View of Component Interaction From September 2004 to October 2008</p> <p>RNDr. – Rerum Naturalium Doctor degree Faculty of Informatics, Masaryk University, Brno, Czech Republic <i>Thesis:</i> Formal Analysis of Component-Based Systems in View of Component Interactions Awarded in May 2008</p> <p>Ing. – University master degree Faculty of Business and Economics, Mendel University, Brno, Czech Republic <i>Thesis:</i> Application of the Automata Theory to Modelling of Socio-Economic Systems From September 2006 to January 2009</p> <p>Mgr. – University master degree Faculty of Informatics, Masaryk University, Brno, Czech Republic <i>Thesis:</i> Analysis and Design of Internet Applications using Patterns From September 1999 to June 2004</p>	
UNIVERSITY POSITIONS	<p>Vice-Dean for Industrial Partners Faculty of Informatics, Masaryk University, Brno, Czech Republic From September 2019 to present</p> <p>Chair of the Association of Industrial Partners With 30+ companies, see https://www.fi.muni.cz/for-partners/index.html.en Faculty of Informatics, Masaryk University, Brno, Czech Republic From January 2018 to present</p>	

Associate Professor

Faculty of Informatics, Masaryk University, Brno, Czech Republic
Department of Computer Systems and Communications
From **September 2017** to **present**

Disciplinary Committee member

Faculty of Informatics, Masaryk University, Brno, Czech Republic
From **November 2018** to **present**
From **November 2006** to **November 2008**

Deputy Head of the Department of Computer Systems and Communications

Faculty of Informatics, Masaryk University, Brno, Czech Republic
From **September 2014** to **September 2019**

Academic Senate member

Faculty of Informatics, Masaryk University, Brno, Czech Republic
From **January 2018** to **September 2019**

Assistant Professor

Faculty of Informatics, Masaryk University, Brno, Czech Republic
Department of Computer Systems and Communications
From **July 2009** to **September 2019**

Specialist

Faculty of Informatics, Masaryk University, Brno, Czech Republic
Highly Parallel and Distributed Computing Systems
From **January 2005** to **June 2009**

External Teacher

Faculty of Informatics, Masaryk University, Brno, Czech Republic
Department of Computer Science
& Department of Computer Systems and Communications
From **February 2003** to **June 2008**

**RESEARCH
FELLOWSHIPS AND
AFFILIATIONS****Deputy Head** – Lab of Software Architectures and Information Systems (LaSArIS)

Faculty of Informatics, Masaryk University, Brno, Czech Republic
From **June 2009** to **present**

Member – Parallel and Distributed Systems Laboratory (ParaDiSe)

Faculty of Informatics, Masaryk University, Brno, Czech Republic
From **September 2004** to **September 2011**

Visiting researcher – Swinburne University of Technology, Melbourne, Australia

Faculty of Information and Communication Technologies, Group of Dr. Lars Grunske
From **April 2009** to **May 2009**

PostDoc researcher – Research Centre for Inf. Technology (FZI), Karlsruhe, Germany

Department of Software Engineering (SE/SEQ), Group of Prof. Dr. Ralf H. Reussner
From **September 2008** to **February 2009**

Guest researcher – Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Chair for Software Design and Quality (SDQ)
From **April 2007** to **June 2007**

OTHER
EMPLOYMENTS

Web-based software analyst

INSPIRE CZ s.r.o, Brno, Czech Republic
Analysis and design of IS (UML, WebML, A&D Patterns), consultancy
From **January 2003** to **December 2004**

Web-based software developer

INSPIRE CZ s.r.o, Brno, Czech Republic
Programing in Java, PHP, HTML, CSS, JavaScript, Flash
From **April 2001** to **January 2003**

TEACHING

Ongoing Courses

PB007 Software Engineering I, PV167 Seminar on Design and Architecture Patterns,
PV260 Software Quality, PV178 Introduction to Development in C#/.NET, PV179
System Development in C#/.NET, PV239 Mobile Application Development, PV226
LaSArIS Seminar, DPITS Enterprise IT Systems and Services

Past Courses

IB102 Automata and Grammars, IB108 Algorithm Design II, PB162 Java, PB007 Sys-
tems Analysis and Design, PV167 Project in Object-oriented Design of Information Sys-
tems
Since **February 2003**

SELECTED
RESEARCH
PROJECTS

**CyberSecurity, CyberCrime and Critical Information Infrastructures Center of
Excellence (CZ.02.1.01/0.0/0.0/16_019/0000822)**

Funded by the Ministry of Education, Youth and Sports of the CR / Operational Pro-
gramme Research, Development and Education
From **April 2018** to **December 2022**
Leader of Research Program 2

CERIT Scientific Cloud (CZ.02.1.01/0.0/0.0/16_013/0001802)

Funded by the Ministry of Education, Youth and Sports of the CR / Operational Pro-
gramme Research, Development and Education
From **May 2017** to **April 2021**
Scientific Leader of the project

Application of Bayesian Belief Networks in the Smart Grid Domain

Funded by the South Moravian Innovation Centre, Czech Republic
From **July 2014** to **June 2015**
Project leader

SELECTED
TEACHING
PROJECTS

**Support of talented students from elementary and high-schools at the Faculty
of Informatics MU (project no. 0039/7/NAD/2020)**

Funded by the Ministry of Education, Youth and Sports, Czech Republic
From **January 2020** to **December 2020**
Project leader

**Advancement of practical software development education in C#/.NET via in-
novation of the PV179 course**

Funded by FRMU, Masaryk University, Brno, Czech Republic
From **January 2018** to **December 2018**
Project leader

Advancement of the Teaching of Software Quality at FI MU

Funded by FRMU, Masaryk University, Brno, Czech Republic
From **January 2015** to **December 2015**

Project leader

SELECTED
INDUSTRIAL
PROJECTS

Study of secure data provisioning from an electro-meter to the customer in consumption location

Contractual research for ČSRES, Czech Association of the Regulated Power Supply Companies, Czech Republic

From **September 2016** to **January 2017**

Preparatory research for AMM (Advanced Metering Management)

Contractual research for ČEZ Distribuce, a.s., Czech Republic

From **July 2015** to **December 2015**

SCIENTIFIC
COMMUNITY
RECOGNITIONS

Steering Committee chair

Nominated and elected

ICSA: International Conference on Software Architecture (CORE rank A)

From **2018** to **present**

Editorial Board member

Appointed by the editor in chief

EMSE: Empirical Software Engineering (Springer, IF 3.156)

From **2018** to **present**

Review Board member

Appointed by the editor in chief

TSE: IEEE Transactions on Software Engineering (IEEE, IF 6.112)

From **2018** to **present**

GARI International Advisory Board member

Appointed by the GARI President

GARI: Global Arena Research Institute

From **2019** to **present**

Steering Committee member

Nominated and elected

ICSA: International Conference on Software Architecture (CORE rank A)

From **2017** to **present**

Steering Committee member

Nominated and elected

CompArch: Federated Events on Component-Based Software Engineering and Software Architecture

From **2011** to **2016**

ROLES IN OCS
OF SELECTED
CONFERENCES

ECSA 2020: 14th European Conference on Software Architecture

Tool Demos co-chair

ETAPS 2019: European Joint Conferences on Theory and Practice of Software

Publicity chair

ICSA 2018: 15th International Conference on Software Architecture

Program committee co-chair

ICSE 2018: 40th International Conference on Software Engineering

Proceedings co-chair

ICSA 2017: 14th International Conference on Software Architecture

Tool Demonstrations co-chair

MOBILESoft 2017: IEEE/ACM International Conference on Mobile Software Engineering and Systems

Conference chair

FESCA 2009-2017: 6th-14th International Workshop on Formal Engineering approaches to Software Components and Architectures

Program committee co-chair, Workshop co-organizer

WICSA and CompArch 2016: Joint International Conference on Software Architecture

Young Researchers Forum co-chair

WCOP 2010-2015: 15-20th International Doctoral Symposium on Components and Architecture

Program committee co-chair, Symposium co-organizer

MOBILESoft 2016: IEEE/ACM International Conference on Mobile Software Engineering and Systems

Tutorials & Technical Briefings chair

ESEC/FSE 2013: 9th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering

Workshop selection co-chair, Local organization assistant

QoSA 2012: 8th International Conference on Quality of Software Architecture

Program committee co-chair, Conference co-organizer

PC MEMBERSHIP
AND REVIEWING

Selected journals

- TSE: IEEE Transactions on Software Engineering (IEEE, IF 6.112)
- TSC: IEEE Transactions on Services Computing (IEEE, IF 5.823)
- IEEE Software (IEEE, IF 2.589)
- JSS: Journal of Systems and Software (Elsevier, IF 2.450)
- TOSEM: Transactions Software Engineering and Methodology (ACM, IF 2.071)
- Computing (Springer, IF 2.044)
- SoSyM: Software and Systems Modeling (Springer, IF 1.876)
- SCP: Science of Computer Programming (Elsevier, IF 0.775) - Guest editor of the Special Issue on Component-Based Software Engineering and Software Architecture

CORE rank A* conferences

ICSE (2012, 2014-2015, 2018-2019) – Technical, SEET, Poster tracks

CORE rank A/B conferences

APSEC (2017), CBSE (2010), ECSA (2020), ESEC/FSE (2020), ICSA (2017-2020), QoSA (2011-2014), iFM (2017), SEAA (2020), SOFSEM (2020), WICSA (2016)

Other conferences and workshops

ASWEC (2013-2015), BCI (2012), CEJISS (2018), DEMESA (2019), DeMobile (2014), DoCEIS (2016-2020), ECASE (2019), FASSI (2015-2016), FMICS (2005, 2007), GE@ICSE (2019), MB4SP (2015), MEMICS (2008), MOBILESoft (2016-2019), QEST (2009), SANCS (2015), SERENE (2015-2016), SHIFT (2019), TAMC (2010), WCOP (2010)

Project boards

GAUK (2010-2011, Charles University in Prague)

PhD defense committees outside my institution

- Chalmers University of Technology and Gothenburg University, Sweden – Federico Giaino (2020)
- Faculty of Mathematics and Physics, Charles University, Czech Republic – Rima Al-Ali (2020)
- Brno University of Technology, Faculty of Information Technology, Czech Republic – M. Mohammed Kazzaz (2020)

SELECTED JOURNAL PUBLICATIONS

- [1] M. Ge, H. Bangui and B. Buhnova. Big Data for Internet of Things: A Survey. *Future Generation Computer Systems* (**Journal IF 6.125**), Elsevier, 2018, Volume 87, Issue 1, pages 601-614. ISSN 0167-739X.
- [2] F. Caputo, B. Buhnova and L. Wallezky. Investigating the role of smartness for sustainability: Insights from the Smart Grid domain. *Sustainability Science* (**Journal IF 5.301**), Springer, 2018, Volume 13, Issue 5, pages 1299-1309. ISSN 1862-4065.
- [3] L. Happe, B. Buhnova and R. Reussner. Stateful component-based performance models. In *Software and Systems Modeling* journal (**Journal IF 1.876**), Volume 13, Issue 4, pages 1319-1343. Springer-Verlag, October 2014. ISSN 1619-1374.
- [4] A. Aleti, B. Buhnova, L. Grunske, A. Koziolok and I. Meedeniya. Software Architecture Optimization Methods: A Systematic Literature Review. In *IEEE Transactions on Software Engineering* journal (**Journal IF 6.112**), Volume 5, Issue 39, pages 658-683. IEEE Computer Society, May 2013. ISSN 0098-5589.
- [5] F. Brosch, H. Koziolok, B. Buhnova and R. Reussner. Architecture-Based Reliability Prediction with the Palladio Component Model. In *IEEE Transactions on Software Engineering* journal (**Journal IF 6.112**), Volume 38, Issue 6, pages 1319-1339. IEEE Computer Society, Nov.-Dec. 2012. ISSN 0098-5589.
- [6] N. Beneš, L. Brim, B. Buhnova, I. Černá, J. Sochor, and P. Vařeková. Partial Order Reduction for State/Event LTL with Application to Component-Interaction Automata. In *Science of Computer Programming* journal (**Journal IF 0.775**), Volume 76, Issue 10, pages 877-890. Elsevier, October 2011. ISSN 0167-64
- [7] I. Meedeniya, B. Buhnova, A. Aleti, and L. Grunske. Reliability-driven deployment optimization for embedded systems. In *Journal of Systems and Software* (**Journal IF 2.450**), Volume 84, Issue 5, pages 835-846. Elsevier, May 2011. ISSN 0164-1212.

Barbora Buhnova is a (co-)author of over **100 papers** in renowned journals and proceedings (with over **20 journal publications**). Find the complete list in Google Scholar at <https://scholar.google.com/citations?user=3J7jHK4AAAAJ>.

VOLUNTEERING

Co-Founding and Governing Board member of Czechitas

Non-profit organisation aiming at making IT skills more accessible to youth and women
From **February 2015** to **present**

Women in Informatics Research and Education (WIRE) member

Informatics Europe working group
From **January 2020** to **present**

TEDx Organizing Team member

TEDxYouth@Brno 2017
TEDxBrnoWomen 2016

Mentor

Mentoring programme of the NKC – Gender & Science (2015)

LANGUAGE SKILLS **Native** in Czech
Proficiency in English
Basic Level in German, French, Spanish, Slovak