Curriculum vitae

Personal information

Surname(s) / First name(s)	KARAC, Aleksandar
Address(es)	Fakultetska 1, 72000 ZENICA, Bosnia and Herzegovina
Telephone(s)	Fixed: +387 (0)32 449 129 Mobile: +387 (0)62 145 569
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E-mail(s)	akarac@mf.unze.ba ; aleksandar.karac@ucd.ie
Nationality	Bosnia-Herzegovina
Date of birth	April 13, 1971
Gender	male
Marital status	married
Children	daughter, son

Work experience

Dates	April 2009 – present
Occupation or position held	Associate professor
Main activities and responsibilities	teaching, managing final year projects, master and doctoral students, consultancy work
Name and address of employer	University of Zenica, Faculty of Mechanical Engineering, Fakultetska 1, 72000 Zenica, Bosnia and Herzegovina
Dates	September 2003 – April 2009
Occupation or position held	Lecturer
Main activities and responsibilities	teaching, managing final year projects, consultancy work
Name and address of employer	University of Zenica, Faculty of Mechanical Engineering, Fakultetska 1, 72000 Zenica, Bosnia and Herzegovina
Dates	April 1999 – September 2003
Occupation or position held	Teaching assistant in Fundamentals of Machine Design
Main activities and responsibilities	Teaching assistant in Fundamentals of Machine Design, tutoring
Name and address of employer	University of Zenica, Fakultetska 1, 72000 Zenica, Bosnia and Herzegovina
Dates	May 1998 – April 1999
Occupation or position held	Control engineer
Main activities and responsibilities	Controlling manufacturing process, preparing technical documentation
Name and address of employer	“METALNO” Zenica, Sarajevska 364, Zenica, Bosnia and Herzegovina

Education and training

Dates	May 2009 – present
Occupation or position held	Senior Postdoctoral Research Fellow in project: *Science and Engineering of Advanced Composites*
Main activities and responsibilities	Development of Finite Volume based procedures for characterisation of adhesives and adhesively bonded joints, co-supervision of PhD projects
Name of organisation	University College Dublin, School of Electrical, Electronic and Mechanical Engineering, Dublin, Ireland

Dates	November 2007 – May 2009
Occupation or position held	Senior Postdoctoral Research associate in project: *Towards better understanding and predicting blast trauma to human lungs: combined experimental-numerical study*
Main activities and responsibilities	Development of Finite Volume based procedures for impact phenomena, co-supervision of PhD projects
Name of organisation	University College Dublin, School of Electrical, Electronic and Mechanical Engineering, Dublin, Ireland
Dates	November 2004 – March 2007
Occupation or position held	Postdoctoral Research associate in project: *Towards Early Diagnosis of Atherosclerosis: A Novel Combined Numerical/Experimental Investigation*
Main activities and responsibilities	Development of Finite Volume based fluid-structure interaction procedures, co-supervision of PhD projects
Name of organisation	University College Dublin, School of Electrical, Electronic and Mechanical Engineering, Dublin, Ireland
Dates	October 1999 – Jun 2003
Title of qualification awarded	PhD in Mechanical Engineering
Principal subjects/Occupational skills covered	Computational continuum mechanics (Finite Volume Method), testing plastic products, testing plastic materials, fluid-structure interaction simulations
Name of organisation	Imperial College London, Mechanical Engineering Department
Dates	October 1992 – March 1998
Title of qualification awarded	MEng
Principal subjects/Occupational skills covered	Mechanical engineering in metallurgy, numerical simulations of fluid flows
Name of organisation	University of Zenica, Faculty of Mechanical Engineering

Foreign languages

	Understanding		Speaking		Writing
Self-assessment	Listening	Reading	Spoken interaction	Spoken production	
English	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
German	A1 Basic user	A1 Basic user	A1 Basic user	A1 Basic user	A1 Basic user

Additional information

Areas of Scientific Interest

- Development of Finite Volume Method for multi-physics problems (fluid-structure interaction procedures: drop impact of fluid-filled containers, atherosclerosis, blood flow problems; problems with crack propagation: adhesively-bonded joints, diamonds, asphalt; other: impact resistance of internal organs, contact analysis, thermal analysis, ...)
- Measuring fracture properties of polymeric materials, adhesives, diamonds
- High expertise in C++ programming, OpenFOAM application developments (C++ library of tools for computational continuum mechanics), MathCAD, numerical methods, Linux and Windows operating systems

Awards

- A school representative and winner of town and regional competitions in Mathematics and Physics (1984-1990)
- Awarded scholarships by WUS Autria, Soros, and “METALNO” Zenica at Mechanical Engineering Faculty of Zenica (1994-1998)
- Awarded a scholarship by British Petroleum at Imperial College London (1999)
- Overseas Research Students award granted by the University of London (1999)

Publications

- 1 monograph
- 2 text-books
- 14 peer-reviewed journal papers
- 64 conference papers
- 8 research projects

Supervision/co-supervision

- 10 PhD students
- 2 MSc students
- 8 finial year students

Membership of professional organizations

- UK Impact Club
- Organizational Committee of International Scientific-Expert Conference TMT (Trends In The Development Of Machinery And Associated Technology)