

Curriculum Vitae

RNDr. Pavel Kůs, Ph.D.

Date of birth: Feb 24, 1982, Prague, Czech Republic

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Professional experience

2015–present Post-doc, Institute of Mathematics, Academy of Sciences CR

2012–2015 Post-doc, Faculty of Electrical Engineering, University of West Bohemia

2007–2013 Junior Researcher, Institute of Thermomechanics, Academy of Sciences CR

2007–2011 Junior Researcher, Institute of Mathematics, Academy of Sciences CR

2006–2007 Teaching assistant, University of Texas at El Paso, USA

Education

2006–2011 Doctoral study of computational mathematics, Faculty of Mathematics and Physics, Charles University, Prague

Doctoral thesis: Automatic hp-adaptivity on meshes with arbitrary-level hanging nodes in 3d, supervised by Doc. RNDr. Tomáš Vejchodský, Ph.D

2006–2007 Graduate studies of mathematics at University of Texas at El Paso

2001–2006 Faculty of Mathematics and Physics, Charles University, Prague

Master thesis: Solution of convection-diffusion equations with adaptive methods of higher order in space and time, Supervised by Prof. RNDr. Vít Dolejší, Ph.D

1997–2001 High School Gymnázium Christiana Dopplera in Prague

Research visits

8/2014–11/2014 CIMNE, Universitat Polytechnica de Catalunya, Barcelona, Spain. Host Santiago Badia, Department of High Performance Scientific Computing.

6/2007–8/2007 Summer internship, CSRI, Sandia National Laboratories, Albuquerque, New Mexico, USA. Host Pavel Bochev, Group of Compatible Discretizations.

Teaching

2012–2015 Faculty of Electrical Engineering, University of West Bohemia, Pilsen: mathematical modeling in electrical engineering, applications of theoretical electro-magnetics

2006–2007 University of Texas at El Paso, USA: calculus and linear algebra courses

Supervision experience

Jana Kuthanová: Diploma thesis “Numerical model of induction furnace for low-temperature metals casting”, defended 2014

Co-organization of conferences

- ESCO 2014, member of the organizing committee
- PANM 14, 2008, local organizing committee

Languages

Czech – native, English – fluent, Spanish – intermediate

Computer skills

- professional knowledge: C/C++, Linux
- advanced knowledge: Matlab, Fortran, MPI, Python, L^AT_EX, Matplotlib

Computational software projects

Fempar. Adaptivity implementation for massively parallel domain decomposition solver.

Agros2D. A multi-platform application for the solution of physical problems based on the Hermes library, developed at the University of West Bohemia in Pilsen. Member of the core development team.

Transformer. Software for calculation of electromagnetic forces in the transformer window.

Intrepid. Hierarchy of interoperable software tools developed in Sandia National Laboratories, Albuquerque, USA. I contributed to the implementation of the higher-order FEM functionality.

Hermes3D. Implementation of hexahedral meshes with arbitrary-level hanging nodes, higher-order basis functions and *hp*-adaptivity for elliptic and electromagnetic problems.