Curriculum vitae

Josephin Giacomini

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EDUCATION

Ph.D. in Applied Mathematics — University of Camerino — 2013 - 2016

M.S. in Mathematics and Applications, *cum laude* — University of Camerino — October 2012

B.S. in Mathematics and Applications, *cum laude* — University of Camerino — October 2010

TEACHINGS

Computational Fluid Dynamics — Master's Degree Lectures, University of Camerino — 2014 - 2015

- Course for students with different scientific backgrounds
- Introduced fundamentals of Fluid Dynamics
- Provided classical techniques to obtain numerical solutions

Mathematics — Bachelor's Degree Lectures, University of Camerino — 2013 - 2014

- Introduced mathematical formalism and basics to first-year students

RESEARCH EXPERIENCES

Doctoral Project — University of Camerino — 2013 - 2016

- Conducted detailed studies on *analytical and numerical modelling* of the flow problem and the heat transfer problem in turbulent state, applied to geothermal heat exchangers
- Developed *ad-hoc numerical simulation* tools
- Validated numerical results by a *comparison* with experimental and analytical results

Master's Degree Thesis — University of Camerino — 2012

- Conducted an opening research about the *existence of singularities* in a spherically symmetric *spacetime*
- Proposed an *analytical method* to search for naked singularities
- Created a starting point to confirm or deny the *Penrose hypothesis*

FAR Project MATREND — University of Camerino — 2015 - now

- Arranged the task about the developing of a numerical model for heat exchange in geothermal probes

PUBLICATIONS

1. P. Antonini, N. Egidi, J. Giacomini, P. Maponi, "Mathematical Models for Geothermal Heat Exchangers", *MASCOT13 Proceedings, IMACS Series in Computational and Applied Mathematics 19 (2016) 11-20.*

2. N. Egidi, J. Giacomini, P. Maponi, "Solution Strategies for Finite Elements and Finite Volumes Methods applied to Flow and Heat Transfer Problem in U-shaped Geothermal Exchangers", *AIP Conf. Proc. 1738, 480045 (2016); doi: 10.1063/1.4952281*

3. N. Egidi, J. Giacomini, P. Maponi, "A Mathematical Model for the Analysis of the Flow and Heat Transfer Problem in U-shaped Geothermal Exchangers". Submitted to Applied Mathematical Modelling. *To be accepted.*

CONFERENCE PRESENTATIONS

a. **ICNAAM15** International Conference. Rodos Palace Hotel, Rhodes Island, Greece. September 23-29, 2015. *Speaker* and *chair* in General Session.

b. 19th **IMACS** Word Congress. Real Centro Universitario El Escorial Maria Cristina, El Escorial, Spain. August 26-30, 2013. *Speaker* in the MASCOT13 Section.

HONOURS AND AWARDS

▪ Fellowship	University of Camerino	August - October 2016
▪ Doctoral Fellowship	University of Camerino	2013 - 2016
▪ Accepted the Class C Project IsC23 (PEGHE)	Super Computing department of CINECA	September 2014 - June 2015
▪ Academic Scholarship	University of Camerino	2007 - 2012

EDUCATIONAL TRAVELS

University of Zagreb
Faculty of Mechanical Engineering and Naval Architecture — April - July 2015
CFD team of Prof. Hrvoje Jasak

- **OpenFOAM** software: from a beginning user to an expert user and a developer of a part of C++ code about matrix handling.

University of Genova
DICCA — July 8-12, 2013

- Introductory OpenFOAM course

ADDITIONAL INFORMATION

Languages	Italian (mother tongue) English (B2 – FCE certification)

Last update: February 2017