



# Alumna Laura Iapichino

## Alumni Portrait Nr. 08—2017

Assistant Professor for  
Mathematics, Department  
of Mathematics and  
Computer Science,  
University of Eindhoven



# Laura Iapichino



**“When I’m able to predict physical phenomena through my models, through my equations, I feel like a magician!” laughs Laura Iapichino, now an Assistant Professor for Mathematics at the University of Eindhoven. For her, mathematics is literally the basis of everything and she loves the feeling her research can give her: “I feel like I can let my brain and thoughts run free. Consequently, at the end of the day, it feels tired and overloaded. But it is a kind of brain training, something that keeps my mind alive and reactive with other aspects of my daily life.”**

It seems that dealing with equations, numbers and calculations has always been the most natural thing for Laura. It started in school, where she always received high marks – “Without any effort!” So it’s no wonder she decided to pursue this interest and studied applied mathematics at the University of Catania. It certainly also helped that her father is a mathematician and motivated her to go down her chosen path. Another aspect was the future job situation: Laura Iapichino felt that good positions were more available with a degree in a STEM (science, technology, engineering and mathematics) field. After all, at the beginning of her scientific career, she did not plan to become a professor; she simply took one step at a time.

After finishing her studies with a M. Sc. at twenty-three, she started working at APL Italia, a software company. She worked on a computer programming language and the specific software written in it, which is used by insurance companies. Although it was a permanent position, Laura Iapichino realised that she wanted to continue her academic education. She wanted to learn more and focus on active research in the field of numerical analysis and mathematical modelling. Apart from that, she says, “I was simply too young to work permanently in a company!”

Because she was very interested in working with Professor Alfio Quarteroni, Laura Iapichino decided to do her PhD at the École Polytechnique Fédérale de Lausanne in Switzerland, where he holds the Chair of Modelling and Scientific Computing. “I really wanted to work with him, since he is simply one of the best professors in my field!” She had to have some patience, because initially there were no openings available. Finally, after eight months, she was able to start.

For her PhD thesis, she researched numerical models for cardiovascular flows, focussing on computational

fluid dynamics, which she is still investigating. “In my work, I basically mimic physical phenomena with numerical models. In some sense, I predict life and my calculations can be applied to different kinds of fluids and systems. There is no restriction as to where they can be used.” She also developed competitive methods for the rapid-solving of mathematical models with high accuracy, but at drastically lower computational cost than classical already existing methods. At a conference, she had the great luck of meeting Professor Volkwein from the Department of Mathematics and Statistics at the University of Konstanz. Not only was he very interested in her research and working with her, he also recommended the Zukunftskolleg as an excellent option for her after her PhD. “Although I didn’t know if my application for the Zukunftskolleg was successful, I went to Konstanz anyway.” In 2013 Laura Iapichino became a Fellow and stayed until 2015.

“It was amazing! I had this huge opportunity there; I had freedom in my research”, says Laura about her start at the Zukunftskolleg. She has fond memories of the *Jour Fixe*<sup>7</sup> and the struggle of preparing a talk for that occasion. “It was funny how I had to twist my thoughts into an understandable language. How on earth could I explain what I do to a broad audience!?” She admits that it was great training for other talks. During her time at the Zukunftskolleg, she did lots of travelling and went to many conferences – something that helped in her career. “I was connected to a lot of people and that is important when you do research. Don’t lock yourself away in your office! If you have a problem with your research, go outside and talk with other people.” She also thinks it is crucial to take it further, that you have to get out and see other universities to create a reliable network. After the Zukunftskolleg, she was a postdoctoral researcher at the Technical University of Delft, a position she obtained by visiting and being proactive. She gave a talk and

although there were no openings advertised, she was invited to work there. “Don’t be afraid of getting out there. If you don’t move, nothing will come your way!”

Since February 2017, Laura Iapichino has been an Assistant Professor. It is not permanent – yet – but it is exactly what she wants and how she wishes to continue: very happy in academia, achieving “the dream of my life!”



“Being a professor in mathematics is the dream of my life!”

## Curriculum Vitae

### Education

- 2012** PhD Degree in Applied Mathematics, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland  
„Reduced basis methods for the solution of parametrized PDEs in repetitive and complex networks with application to CFD“
- 2009 – 2012** PhD student under the supervision of Prof. Alfio Quarteroni and Prof. Gianluigi Rozza, Swiss Federal Institute of Technology in Lausanne (EPFL), Switzerland
- 2005 – 2007** M.Sc. in Applied Mathematics, University of Milan, Italy
- 2002 – 2005** B.Sc. in Applied Mathematics, University of Catania, Italy

### Scientific Career

- since 2017** Assistant professor, Scientific Computing Group, Centre for Analysis, Scientific computing and Application (CASA), Department of Mathematics and Computer Science, TU Eindhoven, The Netherlands.
- 2015 – 2017** Postdoctoral Researcher, Department of Precision and Microsystems Engineering, Delft University of Technology, the Netherlands
- 2012 – 2015** Postdoctoral Researcher, Department of Mathematics and Statistics, University of Konstanz
- 2009 – 2012** PhD Research Assistant, Chair of Modeling and Scientific Computing, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- 2008** Software Developer at APL Italiana S.p.A, Milano, Italy
- 2007** Research Intern, European Space Agency (ESA), Noordwijk, The Netherlands

### Distinctions, Awards and Honorary Posts

- 2013 – 2015** Fellow of the Zukunftskolleg, University of Konstanz