



Seminar



**UNIVERSITÀ
DI TRENTO**

**Dipartimento di
Ingegneria Industriale**

Info

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Modeling: false but useful

February 8th, h. 14:00 pm

Aula A220, Polo Ferrari 1, Via Sommarive 5, Trento

Speaker

Roberto Zecca, PhD, UniTN & Duke University (USA) alumnus

Analytical and numerical modeling are powerful approaches in research that complement and aid experimentation. The specific modeling techniques are many and varied. In this talk, rather than focusing on individual methods, I will advocate for the usefulness of having a wide-ranging toolbox of modeling techniques at one's fingertips, ranging from theoretical models to finite-element analysis. I will illustrate through examples, drawn from literature as well as my own academic and professional experience, some of the most appealing benefits of modeling approaches, which include improved experiment design, reduced trial-and-error in prototyping, and enhanced design and sensing techniques with iterative methods.



Roberto Zecca obtained his B.S. in Industrial Engineering and M.S. in Materials Engineering cum laude from the University of Trento. He carried out experiments at the European Synchrotron Radiation Facility in Grenoble, France for his B.S. thesis and at the Institute of Metallurgy and Materials Engineering of the Polish National Academy of Sciences in Kraków, Poland for the M.S. thesis. Both theses were supervised by Prof. Matteo Leoni. He performed some research activity on glass surface treatments in Prof. V.M. Sglavo's laboratory at the University of Trento before joining Prof. David R. Smith's research group for the doctorate at Duke University (Durham, North Carolina, USA), where he graduated with a Ph.D. in Electrical and Computer Engineering in 2019. His dissertation was titled "Symphotic devices: volumetric electromagnetic metamaterials for information processing". He currently lives in Italy and works as engineering and simulations consultant.