

CV of Matteo D'Este

Matteo's approach to Biomaterials Science has been unconventional.

He graduated with a MSc in **Physical Chemistry** in 2002 and he earned his PhD in Chemical Sciences at the University of Padova (Italy) with a research project in **Theoretical Chemistry**, completing his academic education without ever using PubMed.



After the PhD graduation he started working as a researcher in the **pharmaceutical industry**, where he became interested in naturally occurring biopolymers, and their chemical modification and use as medical devices and medicinal products. During his time in industry, among other projects Matteo was involved in developing a hydrogel-based class III medical device from scratch. For this product he developed the chemistry of the production process, obtained a patent now granted worldwide, contributed to the development of analytical methods and quality aspects, regulatory dossier with achievement of CE mark, and clinical studies. This product is currently available on the market. Additionally, he gained experience in engineering/industrial aspects related to GMP production scale-up, GMP production of pilot-scale batches for clinical trials, process validation and in project management.

After almost 5 years in industry, he joined the **AO Research Institute Davos**, Switzerland in March 2011 as Research Scientist, working with David Eglin, Mauro Alini and Geoff Richards. This move gave him the opportunity to start his path in Biomaterial fundamental and translational Research. Between 2017 and 2018, Matteo spent more than half a year as **Visiting Scholar** at the Department of Bioengineering of the **University of Pennsylvania**, Polymeric Biomaterials Laboratory Prof **Jason Burdick**. Since July 2020, **Matteo is Adjunct Professor** at the Laval University, Quebec City, Canada.

Matteo was recently promoted to **Leader of the Biomedical Materials Focus Area** at the AO Research Institute Davos, committed to the design of advanced biomaterials and the development of manufacturing technologies to achieve improved patient care and outcome in musculoskeletal disorders.

Matteo's core competencies include biopolymer modification, **3D printing**/bioprinting, electrospinning of hydrogel-based stimuli-responsive nanofibers, tissue engineering of the musculoskeletal system for fundamental and translational research, musculoskeletal infection and drug delivery, medical devices **development**, and teamwork with multidisciplinary international teams. He is currently involved in four H2020 European projects, and he is Principal Investigator of the Swiss National Foundation bi-lateral project INDEED, aimed a 3D bioprinting of intervertebral disc models of physiology and disease.

Matteo has supervised around 25 students and guest scientists at AO, and he teaches Biomaterials for Musculoskeletal Repair and Advanced Hydrogels at the ETH Zürich.

Matteo is author of 6 patents and around 50 papers. Besides ESB, he is member of the Executive Committee of the Swiss Society for Biomaterials and Regenerative Medicine, a member of the Society for Biohydrogels, and the International Society for Biofabrication. He is reviewer for major journals in the field of Biomaterials and Tissue Engineering and for European national funding agencies.

Other Interests:

Matteo enjoys staying physically active spending some time in the nature. Matteo is genuinely passionate about jazz and he plays saxophone.

Matteo D'Este



Davos, February 2021.

Dear ESB Members,

Ever since I started my career in Biomaterials, ESB has always been enormously important for me. The annual conference has been the place to learn about science, get to know colleagues and to deep dive into the world of biomaterials. The ESB meetings have been the place where I could ask a student at a poster session about experimental details, and the place where I could approach Giants in our field asking their views on the next big directions in Science.



After having so fruitfully benefited from ESB and its events, now I feel that the time is ripe for me to actively contribute to ESB through the council.

Besides my personal gratitude to ESB, I have strong institutional ties binding me to the Society. Our former Institute vice Director, Prof. Dr. Berton Rahn was one of the ESB fathers and he helped to organise the fourth ESB meeting in Davos, back in 1984 and also in Davos in 1993, together with our present director Prof. Geoff Richards. I will have the duty and the honour to help organizing the same event 39 and 30 years after in the same place, being co-chair of the 2023 ESB meeting in Davos. Therefore, with my application to the ESB council I would like to connect the past and future of the Society.

In the last few years ESB has undertaken giant steps in several aspects, including a much better visibility and web platform, a very active section of young scientists, and a stronger accent on diversity and gender balance, which I fully support. It is my intention to continue in this direction sustaining and consolidating these positive changes, but I feel I can bring more to the Society. I would like ESB to be the place where industry can find scientists, and the place where scientists can find industry. I would like to propose the implementation of a platform for facilitating this exchange, especially for the younger members.

My career path has been singular, with education in a subject quite far away from biomaterials science, the absence of a real post-doctoral training, with most time spent in industry and translational research. If elected, I believe that this unconventional experience will bring to the council different areas of expertise and a different perspective and overall enrichment. Being part of 4 different EU H2020 projects, my daily routine involves working in multidisciplinary, international teams. I think I can say that I am an open person with the ability to manage conflicting opinions in a rational and diplomatic manner, and I would like to use these abilities for the benefit of the Society which has been fundamental for making me a better biomaterials scientist.

For all these reasons I would like you to give me the chance to be part of the ESB council.

Your Sincerely,

Matteo D'Este

A handwritten signature in blue ink that reads "Matteo D'Este". The signature is written in a cursive, slightly stylized font.