

# Spain@MIT Student, PostDoc and Research Scientist Directory

(Last updated: October 2019)

People are sorted by course number and in alphabetical order according to surname.

Clicking on the name of the person in the table below will direct you to his/her biography.



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# STUDENTS

## Course 1: CIVIL AND ENVIRONMENTAL ENGINEERING



### Lluís Saló

*PhD Student (Civil and Environmental Engineering)*

I was born in 1992 in Barcelona, and joined MIT's CEE department in 2017. Prior to MIT, I received a BS in Geology from the University of Barcelona and a MS in Geotechnical Engineering from the Technical University of Catalonia. My initial research exposure was in the fields of seismology and seismic signal analysis. Here, I am working with Prof. Juanes on field-scale numerical modeling of geologic carbon storage, with emphasis on geologic faults.

**Research:** Geologic carbon storage, CO<sub>2</sub> sequestration, fault zone, flow in porous media, geomechanics

**Interests:** sport climbing, mountain sports, healthy lifestyle, personal development, entrepreneurship

**Email:** lsalo(at)mit(dot)edu

**Web:** <http://juanegroup.mit.edu/lsalo>

## Course 2: MECHANICAL ENGINEERING



### Jose del Aguila Ferrandis

*PhD Student (Mechanical Engineering)*

I am a PhD student in Computational and Mechanical Engineering. Prior to starting my studies in 2018 at MIT I carried out research as a visiting student in my current laboratory during 9 months under the supervision of Prof. Chrysostomidis. Now I work with Prof. Triantafyllou on characterizing non-linear phenomena associated with extreme weather at sea by using Computational Fluid Dynamics, Statistics and Machine Learning.

Before coming to MIT I earned a B.S. in Naval Architecture and M.Sc. in Ocean engineering from the Technical University of Madrid. During my M.Sc. I did a 6 month exchange period in NTNU, in Norway.

In summer 2017 I was awarded a Fulbright Fellowship and a 'la Caixa' Fellowship. I am currently funded by the last one.

**Research:** Computational design and optimization

**Interests:** Linux, High Performance Computing, sailing & running

**Email:** jaguila(at)mit(dot)edu

**Web:** <http://jaguila.mit.edu/>



## Alex Armengol Urpi

*PhD Candidate (Mechanical Engineering)*

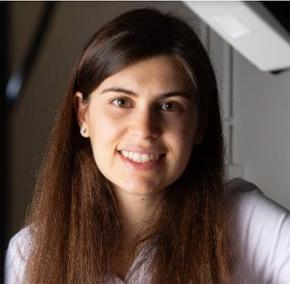
I was born in 1992 in Manhattan, New York. I first came to MIT in 2015 as a visiting student for my undergraduate thesis, where I worked on RFID-based sensing. In 2016 I joined the Field Intelligence Lab as a graduate student. In 2018 I received my Master of Science in Mechanical Engineering. I am currently a PhD Candidate and my research focuses on brain-computer interfaces for virtual and augmented reality, seeking to develop more natural and smooth interfaces with these devices by exploiting the user's brain activity. My research advisor is Professor Sanjay Sarma. I am grateful to "La Caixa" Foundation for supporting me during my graduate studies. Previous to coming to MIT, I earned my Bachelor's Degrees in Industrial and Telecommunications Engineering at the Technical University of Catalonia (UPC/CFIS).

**Research:** human-computer interfaces, brain computer interfaces, Internet of Things, Augmented and Virtual Reality.

**Interests:** music, piano, basketball, cooking

**Email:** Armengol(at)mit(dot)edu

**Web:** <https://www.linkedin.com/in/alex-armengol-urpi-b6285190>



## Maria Bauza

*PhD Candidate (Mechanical Engineering)*

I am a PhD student working on the intersection of robotics and machine learning at the Mcube lab directed by Prof. Alberto Rodriguez. The goal of my research is to leverage robots with combined tactile and visual perception systems to enhance their manipulation dexterity. I am the proud recipient of both the LaCaixa and the Facebook fellowships.

Prior to MIT, I did a dual degree in mathematics and engineering physics thanks to the CFIS center at UPC in Barcelona.

**Research:** robotics, robotic manipulation, machine learning, perception.

**Interests:** sports (especially tennis and ping-pong), traveling, hiking, cooking.

**Email:** bauza(at)mit(dot)edu

**Web:** <http://web.mit.edu/bauza/www/>



## Helena Briones Panadero

*Graduate Student (Course 15 and 2, Integrated design and management)*

I was born in Barcelona, Spain where I studied Architecture Engineering and Environment at the Technical University of Catalonia (BarcelonaTECH). I lived in the Italian Switzerland (Ticino), where I pursued my Master's degree in Architecture Studies funded by the Swiss Government. At MIT, I focus in the intersection of Design, Engineering and Management while completing my IDM degree. My research spans from industrial design to fabrication and manufacturing processes with concentration in Mechanical Engineering.

I am sponsored through my studies by “La Caixa” Foundation scholarship program.

**Research:** Agriculture, architectural design, product and industrial design, manufacturing and fabrication of consumer goods.

**Interests:** Art, culture, design, photography, travelling, women in STEM and outdoor sports.

**Email:** briones(at)mit(dot)edu

**Web:** [www.helenabriones.com](http://www.helenabriones.com)



## Álvaro Fernández Galiana

*PhD Candidate (Mechanical Engineering)*

I am a PhD candidate in Mechanical Engineering doing my research at the [LIGO Laboratory](#). My research is in the engineering of optical devices and vibration isolation systems. My advisors are Prof. [Nergis Mavalvala](#), Prof. [Matthew Evans](#), Prof. [George Barbastathis](#) and Prof. [David Trumper](#). Prior to coming to MIT, I earned a M.Sc in Aerospace Engineering from ISAE-[Supaero](#) (Toulouse, France) and a M.Sc in Mechanical Engineering from the Polytechnic University of Catalonia-[UPC](#) (Barcelona, Spain). I am originally from Barcelona.

**Research:** Precision Engineering, Quantum Optics, Vibration Isolation, Gravitational Waves Detectors, Applied Controls

**Interests:** Scuba diving, Travelling, Machine Design

**Email:** alvarofernandezgaliana(at)gmail(dot)com

**Web:** [www.linkedin.com/in/álvaro-fernández-galiana-046145ab](http://www.linkedin.com/in/álvaro-fernández-galiana-046145ab)



## Carlos Muñoz-Royo

*PhD Candidate (Mechanical Engineering)*

I am a Naval Architect and Ocean Engineer from Valencia. Currently, I conduct my research at the Environmental Dynamics Laboratory and the Materials Systems Laboratory at MIT. My work is focused on the study of the environmental impact and economics of deep-sea mining to support the development of international and national regulations in close collaboration with the International Seabed Authority (United Nations). In 2018 I finished my MSc in Mechanical Engineering at MIT, funded by La Caixa Foundation. Before coming to MIT, I earned my BSc in Naval Architecture and MSc in Naval Architecture and Ocean Engineering at Universidad Politécnica de Madrid. In 2018 I received the National Award for Academic Excellence from the Spanish Government.

**Research:** Ocean Engineering, Environmental Impact and Economics of Deep-Sea Mining, Development of National and International Environmental Regulations and Royalty Payment Mechanisms.

**Interests:** Sailing, skiing, cooking, reading.

**Email:** carlosmr@mit.edu

**Web:** <https://www.linkedin.com/in/carlos-munoz-royo/>

## Course 4: ARCHITECTURE



## María Esteban Casañas

*Graduate Student (Architecture)*

I am a second-year Master of Science in Architecture Studies student at MIT, researching at the intersection of digital fabrication technologies, computation, design, art and architecture. I received my Master's degree in Architecture from University College London (The Bartlett, UCL) and my Bachelor's degree in Architecture from The University of Edinburgh. I am originally from Madrid.

**Research:** Architectural design, technology, computation.

**Interests:** Art, culture, design.

**Email:** mariaest(at)mit(dot)edu

**Web:** [www.mariaestebancasanas.com](http://www.mariaestebancasanas.com)

## Isabel Moya Camacho

*Graduate Student (Course 4 and 15, Architecture and Sloan School of Management)*



Bachelor and Master of Science in Architecture and Urbanism from Universidad Politécnica de Madrid with professional experience both for the public and private sectors in different countries. Awarded by Madrid Government.

**Research:** Real Estate

**Interests:** Harvard & MIT Sloan Real Estate, Entrepreneurship and Design clubs

**Email:** imoya@mit.edu

**Web:** <http://isabelmoya.mit.edu/>

## Course 6: ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

### Ferran Alet Puig

*PhD Student (EECS)*



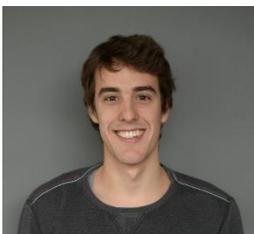
I am a PhD student in MIT CSAIL working at the Learning and Intelligent Systems laboratory with professors Leslie P. Kaelbling and Tomás Lozano-Pérez and mentoring multiple master and undergrad students. I work on making Machine Learning systems generalize more broadly and with less data. Before that, I studied two degrees in Mathematics and Engineering Physics at the Polytechnic University of Catalonia, while participating with the university team in international programming competitions. I completed my bachelor's thesis with professor Alberto Rodriguez at the MIT Mechanical Engineering department. I am grateful to “La Caixa” Foundation for supporting me during my graduate studies. I am originally from Barcelona.

**Research:** Machine Learning (meta-learning, graph neural networks, combinatorial generalization), Robotics

**Interests:** Ping-pong, tennis, basketball and reading

**Email:** alet(at)mit(dot)edu

**Web:** alet-et al.com



## Marc de Cea Falcó

*PhD Candidate (EECS)*

I started at MIT as a PhD candidate in the EECS department in 2018. I conduct my research at the Physical Optics and Electronics group lead by Prof. Rajeev Ram. My research focuses on Integrated Optics and Silicon Photonics, with a high emphasis in communications applications. Prior to coming to MIT, I got my Undergraduate Degree in Engineering Physics and Telecommunications Engineering from the Polytechnic University of Barcelona (UPC/CFIS). I am originally from Barcelona.

**Research:** Integrated Optics, Silicon Photonics, Electro-Optics

**Interests:** Traveling, Sports (Waterpolo, Tennis), Reading

**Email:** mdecea(at)mit(dot)edu

**Web:** <https://www.linkedin.com/in/marc-de-cea-falc%C3%B3-6a5993137/>



## Xavier Puig

*PhD Candidate (6 Computer Science)*

Xavier Puig is a PhD candidate at MIT CSAIL, advised by Antonio Torralba. His research interests lie in the area of scene and activity understanding, particularly in modeling and predicting human activities through vision, language and structured representations. Prior to that, he received his M.Sc in Computer Science at MIT and his B.Sc. at the Politechnical University of Catalonia (UPC), doing a double degree at the CFIS excellence program. He is a recipient of La Caixa Fellowship 2016. Xavier has worked as a visiting research assistant at MIT and the University of Toronto and has interned at Google in 2017 and 2019.

**Research:** Computer Vision, Machine Learning, Artificial Intelligence, ...

**Interests:** Artificial Intelligence, Cognitive Science, Entrepreneurship, Cinema

**Email:** xpuig(at)mit(dot)edu

**Web:** <https://people.csail.mit.edu/xavierpuig/>

## Course 8: PHYSICS



### Daniel Rodan Legrain

*PhD Candidate (Physics)*

I have been at MIT since 2015, and I am currently a PhD Candidate in the Physics Department. I carry out my research in Condensed Matter Experimental Physics in the group of Prof. Jarillo-Herrero, working with graphene and other 2D materials (the thinnest materials in the world, only 1 atom thick). My research interests are in the topic of graphene-based nanodevices, where we can induce and study superconducting phenomena. Prior to coming to MIT, I got my Undergraduate Degree in Engineering Physics and Mathematics from the Polytechnic University of Barcelona (UPC/CFIS) and my High School Degree from the Lycée Français de Barcelone. I am originally from Barcelona.

**Research:** Condensed Matter Physics, Graphene, Nanotechnology, Quantum Nanoelectronics

**Interests:** Running, Squash, Basketball, Soccer, Cinema, Science

**Email:** drodan(at)mit(dot)edu

**Web:** [www.linkedin.com/in/daniel-rodan-legrain-958198144](http://www.linkedin.com/in/daniel-rodan-legrain-958198144)

## Couse 15: SLOAN SCHOOL OF MANAGEMENT

### Isabel Moya Camacho

*Graduate Student (Course 4 and 15, Architecture and Sloan School of Management)*



Bachelor and Master of Science in Architecture and Urbanism from Universidad Politécnica de Madrid with professional experience both for the public and private sectors in different countries. Awarded by Madrid Government.

**Research:** Real Estate

**Interests:** Harvard & MIT Sloan Real Estate, Entrepreneurship and Design clubs

**Email:** imoya@mit.edu

**Web:** <http://isabelmoya.mit.edu/>

## Course 16: AERONAUTICS AND ASTRONAUTICS

### Ximo Gallud

*PhD Candidate (AeroAstro)*



I am a graduate student at the Space Propulsion Laboratory. My research is about developing multiphysics simulation models to assist the design of propulsion systems for small satellites. My advisor is Professor Paulo Lozano. I did my undergrad in Aerospace and Physics Engineering at the Polytechnic University of Catalonia. I am originally from Paella Land aka Valencia city.

**Research:** Space propulsion, multiphysics, numerical methods.

**Interests:** Food, politics, jazz music

**Email:** ximogc(at)mit(dot)edu

**Web:**

### Juan José Garau Luis

*PhD Student (AeroAstro)*



I started the graduate program in the department of Aeronautics and Astronautics in 2018. I conduct my research at the System Architecture Lab, focusing on AI for dynamic resource management in high throughput satellites. My advisor is Prof. Edward Crawley. Prior to MIT, I completed a double degree in Telecommunications Engineering and Industrial Engineering at UPC/CFIS in Spain. I am originally from a small paradise known as Mallorca.

**Research:** AI for Dynamic Resource Management in HTS, Deep Reinforcement Learning

**Interests:** Travelling, Food, Sports (running, soccer, and weightlifting)

**Email:** Garau(at)mit(dot)edu

**Web:** <https://www.linkedin.com/in/juanjosegarau/>  
<https://twitter.com/juanjogarau>

## Course 18: MATHEMATICS



### Juncal Arbelaiz Mugica

*PhD Candidate (Applied Mathematics)*

I was born in 1992 in San Sebastian (Spain). Since 2016, I am a PhD Candidate in Applied Mathematics at MIT. My current research addresses the effects that stochastic disturbances have in optimal structured controllers for large-scale and spatially distributed dynamic systems. My research advisors are [Prof. Ali Jadbabaie](#) and [Prof. Anette \(Peko\) Hosoi](#). I am grateful to Google, Akamai Technologies, la Caixa Foundation and the Rafael del Pino Foundation for supporting me during my graduate studies. Previous to coming to MIT, I earned my Bachelors and Masters in Industrial Engineering in Spain, where I was granted the National Award for Academic Excellence by the Spanish Government.

**Research:** control theory (optimal, model-predictive, robust, decentralized), spatially distributed and interconnected dynamical systems, large-scale optimization, uncertainty handling.

**Interests:** women in STEM, mentoring, running and indoor cycling, music, philosophy, AI

**Email:** arbelaiz(at)mit(dot)edu

**Web:** <https://www.linkedin.com/in/juncalarbelaiz/>

# POSTDOCS and RESEARCH SCIENTISTS

## Course 2: MECHANICAL ENGINEERING



### Álvaro Moreno Soto

*Postdoctoral Associate in Varanasi Group, Dept. Mechanical Engineering*

I was born in Sevilla in 1990. My passion has always been the world of aerospace, so I studied Aeronautical Engineering at the Universidad de Sevilla. I lived in Munich, Germany, for two and a half years to get my Master in the Technische Universität München. After a kind of traumatic experience in industry, I decided to move to academics in 2015. I lived in The Netherlands for 4 years to get my PhD in Physics of Fluids in the University of Twente. During my PhD I had the opportunity to do a collaboration project with the University of Utah, so I lived in Salt Lake City for 6 months. And now, Boston is the next step of my career and my life...

**Research:** Fluid mechanics, bubble dynamics, nano/micro textures

**Interests:** Aerospace, sports, travelling

**Email:** amorenos@mit.edu

**Web:** <https://www.linkedin.com/in/álvaro-moreno-soto-543b997b/>



### Juan José Giner Sanz

*Post-doc (The Electrochemical Energy Laboratory)*

Born in Valencia, and after travelling all around the World during my childhood and early adolescence, I returned to Valencia to obtain my Chemical Engineering degree (5-year program) from Universitat Politècnica de València (UPV). I then obtained a MSc. in Process Systems Engineering from Cranfield University (United Kingdom), a MSc. in Nuclear Safety and a MSc. in Radiation Protection in Nuclear and Radioactive Facilities, both from UPV. Simultaneously, I pursued my doctoral studies at the IEC group at UPV. During my thesis, I worked on modelling, simulation, optimization and control of PEM fuel cells, and on electrochemical impedance spectroscopy. Late 2017, I obtained my international PhD degree with Cum Laude mention and I earned the 2018 extraordinary doctoral thesis award. In 2018, I joined Prof. Shao-Horn's group at MIT as a postdoctoral fellow. During these years, I have received funding from UPV, Generalitat Valenciana, and the European Social Fund.

**Research:** Electrochemistry; Fuel cells; Power sources; Redox flow batteries.

**Interests:** Board, role-playing and videogames; Reading and writing fantasy and science fiction; Sports; Technology.

**Email:** juagisan(at)mit(dot)edu

**Web:** [www.linkedin.com/in/jjginer](http://www.linkedin.com/in/jjginer)

## Couse 16: AEROASTRO



### Ferran Vidal Codina

*Postdoc (AeroAstro)*

I was born in Torelló, a great town an hour away from Barcelona, where I went to study the double Bachelor's degree in Mathematics and Civil Engineering (UPC). I came to MIT in 2011, supported by a La Caixa fellowship, to complete the S.M. in Computation for Design and Optimization, and in 2017 earned the Ph.D. in Computational Science and Engineering. My Ph.D. research focused on numerical methods to simulate the interaction of electromagnetic waves with metals at the nanoscale, supervised by Prof. Jaime Peraire. After completing the dissertation I continued my doctorate research as a postdoc for two years. In 2019 I started as a research scientist in the Sports Lab working on applying science and technology in sports.

**Research:** Numerical methods, plasmonics, machine learning, AI, sports analytics

**Interests:** Traveling, running, squash, football, food, reading

**Email:** fvidal(at)mit(dot)edu

**Web:**

## MIT ENERGY INICIATIVE

### Pablo Duenas Martinez

*Research Scientist (MIT Energy Initiative)*

I am a Research Scientist with the MIT Energy Initiative, where my main area of research comprises the economic and regulatory modeling and analysis about to the role of new distributed generation technologies (renewable- and gas-based, and batteries) to shape the energy systems of the future within a carbon-constrained world. I am also heavily involved in proposing solutions to help developing economies achieve universal access to energy. Previously, I obtained my PhD in electrical engineering from Universidad Pontificia Comillas in Madrid.

**Research:** energy policy, energy economics, sustainable universal access to energy, operations research.

**Interests:** travelling, mentoring, running, parenting.

**Email:** pduenas(at)mit(dot)edu

**Web:** [www.linkedin.com/in/pablo-duenas-martinez-411b2334](https://www.linkedin.com/in/pablo-duenas-martinez-411b2334)