

POLITECNICO DI MILANO



Massachusetts  
Institute of  
Technology

FONDAZIONE  
FRATELLI AGOSTINO  
ENRICO ROCCA



Fellows at the center  
Re-engineer your future and make a  
difference through top-level Research

**PROGETTO ROBERTO ROCCA**



# Mission

The “**Progetto Roberto Rocca**” is a collaboration between MIT and Politecnico di Milano, funded by the Fondazione Fratelli Agostino and Enrico Rocca. The initiative is meant to honour and remember Roberto Rocca (1922-2003), the co-founder and Chairman of Techint group who was an alumnus of both institutions (Master of Science in Mechanical Engineering, Politecnico di Milano, 1945; PhD in Metallurgical Sciences, MIT, 1950). The Progetto promotes academic excellence through joint research projects between Politecnico di Milano and MIT faculty and research stays for Politecnico students at MIT and viceversa. In keeping with Roberto Rocca’s lifelong passion for scientific discovery, priority is given to young faculty and researchers and innovative projects that would lead to long term collaborations. The Progetto also supports a professional network for the young researchers it funds (**Rocca Fellows**).

## The “Progetto”

Launched in 2005, the Progetto has provided more than \$ 2 million to faculty, post docs and PhD students. It has supported more than 35 new collaborations between MIT and Politecnico di Milano faculty and funded more than 80 doctoral and post-doctoral fellowships in the areas of bio-technologies and health, material sciences, mechanics, physics and mathematics, energy, electronics and information technologies, buildings and infrastructures, industrial products and processes. Applications are submitted to a final review by the MIT Scientific Committee.

### Faculty Opportunities

- **Seed funds** - \$ 15,000 max - to support building collaborations between Politecnico di Milano and MIT faculty. Applications must be submitted by an MIT and a Politecnico PI and the funds can be shared between the two teams, to cover travel and research stays at MIT by Politecnico researchers or viceversa. For deadline, application and details go to <http://web.mit.edu/misti/faculty/seed.html>
- **Workshop and Colloquia funds** - \$ 40,000 max - to enable collaborating faculty teams to discuss their research and bring them to the next level. Joint application, deadlines October 30th and May 30th.
- **Travel grants** - \$ 2,500 - to enable faculty to make their research known at the partner institution. Grants are conditional upon giving a public presentation. No deadline.

## Student Opportunities

- **Doctoral fellowships** (5-6 per year) for outstanding PhD students of the Politecnico di Milano for a 6 -12 months research stay at MIT as visiting students. The selected Rocca Fellows receive \$ 6,500 per term, plus a una tantum travel allowance of \$ 1,500. Candidates must have a Faculty sponsor at Politecnico di Milano as well as at MIT who will act as their “host supervisor” in the context of a joint research interest or project with Politecnico. The Progetto will also cover MIT term fees. Applications are due May 1st - for the Fall Semester - and October 1st, for the Spring Semester.

- **Post-doctoral fellowships** (2 per year) for recent Politecnico di Milano PhD graduates who are involved in innovative research projects between Politecnico di Milano and MIT and wish to spend 12 months at MIT working on these projects. Fellowships amount to \$ 44,000 a year. MIT Applicants must have access to a similar 12 months post-doc fellowship opportunity at Politecnico upon returning from their stay at MIT. The deadlines for the submission are May 1st and October 1st.

- **Early-applications:** the Progetto is also accepting early applications from qualified students with the required high-quality profile and whose research falls in the areas covered by the Progetto, but who do not have an MIT faculty host. Those applicants need to present the same supporting documents as regular candidates, but should submit the material 6 months in advance (for semester) before the deadline to make it possible to identify the MIT host, through the project professors in MIT.

- **Research grants** for MIT graduate and advanced undergraduate students for a 1-6 month stay at Politecnico, in the context of an ongoing collaboration or to explore its feasibility. Successful applicants must have an academic “host supervisor” at Politecnico di Milano. Grants vary depending on the length of stay.

## **Achievements**

This year we celebrate 8 years of the Progetto life. In this period, the Progetto has built a solid bridge between Politecnico di Milano and MIT, sending more than 80 doctoral and post-doctoral researchers from the Politecnico di Milano to MIT and 13 from MIT to Politecnico di Milano. With talent and enthusiasm they have embarked in Politecnico di Milano - MIT visit exchanges to pursue with passion challenging research studies in more than 55 collaboration projects involving more than 45 research groups from the two Institutions. At the same time, the Progetto has also supported more than 35 joint research projects between MIT and Politecnico di Milano faculty, and several workshops to present and discuss the results of these collaborations. Many of these collaborations have resulted in publications and further research support by other sources grants. Beyond numbers, the Progetto takes great pride in the individual and group talents it has helped bring to the fore, and in the strengthening of the scientific and personal ties between the participating institutions it has made possible. We hope the results of the next years will further consolidate these achievements and make them permanent.



## **Roberto Rocca: a lifetime dedicated to Techint**

Roberto Rocca was born in Milan in 1922. He graduated at Politecnico di Milano (1945) with a degree in Mechanical Engineering. He continued his studies at the Massachusetts Institute of Technology where he obtained a PhD in Metallurgical Sciences in 1950.

### **1945**

In 1945, Roberto Rocca joined his father Agostino, one of the key players in the Italian steel industry between the two World Wars, in the foundation of Techint. During the Fifties and Sixties, he contributed to the rapid growth of the new company operating in the steel, engineering and construction industries, with offices in Buenos Aires, Milan, São Paulo and Mexico City.

On February 7, 1945, he married Andreina Bassetti, with whom he had three children: Agostino, Gianfelice and Paolo.

## 1978

When in 1978 he succeeded to his father as Head of the Group, Techint was an organization with 15 thousand employees, two steel manufacturing facilities in Argentina (Siderca in Campana, producer of seamless steel tubes, and Propulsora Siderúrgica in Ensenada, producer of flat steel products) and international activities in the field of engineering and construction, mainly concentrated in Latin America.

## Eighties

In the Eighties, Roberto Rocca fostered the rapid growth of Techint's industrial activities through a series of investments and acquisitions, as well as fostering research and development.

## 1987

In 1987 Roberto Rocca was honored with the title of the Cavaliere del Lavoro honour by the President of the Italian Republic.

## Nineties

In the Nineties, Techint's steel tube activities expanded with the incorporation into the Group of Tamsa in Mexico and Dalmine in Italy – where Roberto Rocca became President in 1996. This was closely followed by the incorporation of NKK Tubes in Japan, Algoma Tubes in

Canada, Confab in Brazil and Tavsa in Venezuela. This laid the foundation for the creation of Tenaris in 2002, a company listed on the New York Stock Exchange (NYSE) and the stock exchanges in Buenos Aires, Milan and Mexico, under which all Techint's activities in the steel tubes business are consolidated and of which Roberto Rocca was elected Chairman. The engineering, construction and industrial engineering activities also witnessed strong development under his leadership and he led the Group into other areas of business: oil, with the creation of Tecpetrol in 1981; services, entering the telecommunications field with Techtel; and healthcare, with the Humanitas network of hospitals.

## Today

Today the Techint Group is a global reality, with more than 50 thousand employees and a network of industrial plants and representative offices on five continents.

His commitment to the industrial development of the countries where the Group operates, and his profound awareness of the social responsibility of the company, have been at the center of his managerial practice. Investments in the mills; the creation of a leading research and development organization; the attention paid to the development of professional human resources educated at the best universities in the world; the establishment of transparent relations with investors, personnel and communities; the search for quality and excellence. All these aspects extended beyond the activities of the Techint Group and have been transferred as values to the whole community.



# Rocca Fellows

## What they say about Progetto Rocca

[www.linkedin.com](http://www.linkedin.com) - Rocca Fellows Group



### Simone Bersini

PhD Student in Bioengineering, Rocca Fellow 2012-2013.

**Research topic: Advanced microfluidic models to study breast cancer metastasis to bone.**

"MIT: the final frontier! Technology, ideas, creativity, new way of thinking...The Progetto Rocca allowed me to discover a new world, know people, establish relationships and live a unique and priceless human and professional experience."

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### Maria Vittoria Diamanti

PhD student in Materials Engineering at Politecnico di Milano. Rocca Fellow in 2007.

**Research topic: Study of the relationship between crystallographic structure and oxidation behavior of titanium surfaces.**

"The Progetto Rocca drives you in the stimulating international environment of the top-ranked university worldwide, and gives you the opportunity to make

connections with internationally recognized research group in all engineering fields. This project creates a network of excellence between MIT and Politecnico that doesn't disappear at the end of your stay, but extends throughout your future career."

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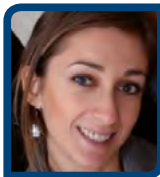
## Kevin Farino

Advanced Undergraduate Researcher in Bioengineering at Politecnico di Milano. Rocca Fellow in 2010.

**Research topic: PDMS Microfluidic Devices.**

"The Progetto exemplifies the true purpose of science: breaking down barriers on the path to discovery through collaboration. The highly driven personalities at Politecnico di Milano and MIT make it a great fit. There is nothing worse than coming into a new situation with the bar set low. My lab had high expectations for me, quickly integrating me into the project while pushing me to learn quickly on the job. As a young researcher, this experience reignited my ambitions and left me with a feeling of great accomplishment."

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## Flavia Libonati

PhD student in Mechanical Engineering at Politecnico di Milano. Rocca Fellow in 2011-12.

**Research topic: Molecular based modeling of bone nanocomposite.**

“It was a 360° experience, where work, colleagues, friendships... all of them contribute to make it unique! Thanks to Progetto Rocca, I could explore a new field of research, learning something new every day in a lively and stimulating environment, like MIT, and creating a bridge with my lab at Politecnico.”

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## Giulia Preti

PhD student in Bioengineering at Politecnico di Milano. Rocca Fellow in 2011.

**Research topic: Neuroimaging for the study of aging and dementia.**

“The Progetto Rocca opened a new world for me, extremely interesting and full of great people. It allowed me to do my research at the highest possible level in my field and to start a collaboration that will last in the future.”

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## Andrea Ratti

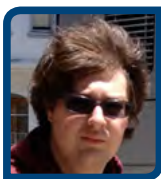
Post Doctoral Fellow in Mechanical Engineering at Politecnico di Milano. Rocca Fellow in 2011.

**Research topic: Performance evaluation of complex manufacturing system with approximate analytical models.**

The Progetto Rocca has been a valuable and unforgettable experience that changed my mind-set

both from professional and personal viewpoint. MIT is a stimulating environment for exploring new research areas, learning new methodologies and meet people from different cultures. The combined experience of MIT and Polimi ease the creation of collaborations between people, resulting in a unique framework to improve your own talent.”

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## Filippo Sironi

PhD Student in Computer Science. Rocca Fellow 2012-2013.

***Research topic: Design and Implementation of Scalable Operating Systems for Multicores.***

“The Progetto Rocca allowed me to fulfill a common dream for engineering students: work at MIT. In addition, I was able to understand how research is carried on by the best professors in one of the best facilities in the world coming back to Politecnico di Milano as a better researcher in the hope of improving our university.”

## Note

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## **HOW TO BECOME PART OF A SUCCESSFUL STORY**

Progetto Rocca MIT website:

<http://web.mit.edu/progettorocca>

Contact the Progetto's representatives at MIT  
and Politecnico di Milano:

[ssferza@mit.edu](mailto:ssferza@mit.edu) - [sciuto@elet.polimi.it](mailto:sciuto@elet.polimi.it)

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