



## **DISTINGUISHED CHAIR AT THE POLYTECHNIC OF TURIN**

**A.Y. 2010 – 2011**

**AWARD #0027 GRANT CATEGORY:** Distinguished Lecturing/Research

**NUMBER OF AWARDS:** 1

**DEADLINE:** August 1, 2009

**DISCIPLINE:** Hydrology and Hydraulic Engineering

**SPECIALIZATION (s):**

Mass, energy, and momentum exchange within the soil-plant-atmosphere system

**DESIRED QUALIFICATIONS OF SCHOLAR**

Full Professor with a PhD degree for at least a decade and highly productive research

**HOST INSTITUTION:** Politecnico di Torino

**Dipartimento di Idraulica, Trasporti ed Infrastrutture Civili (DITIC)**

**LENGTH OF GRANT:** 10 months

**GRANT START DATE:** January 2011

**GRANT ACTIVITY**

Teach two courses: (1) A class for Ph.D. students in the first semester titled “Complexity in the Environment: Hydrodynamics and Carbon Transport” (2 hours per week for 4 weeks), with an expected class size of 10-15 students; (2) A class for PhD students titled “Lagrangian models for Air Pollution” (2 hours per week, 6 weeks), with an expected class size of 10 students.

**DIDACTIC MATERIAL**

Both courses will use materials based on journal articles and other similar publications.

**OTHER ACADEMIC ACTIVITIES ASSIGNED TO THE GRANTEE**

The grantee will offer one or two seminars in area of specialization and advise graduate and PhD students. The Distinguished Chair will have the opportunity to collaborate with colleagues on current research exploring the impact of climate and anthropogenic landscape changes on rainfall (the source of water) and concomitant replenishment of usable water supplies. (e.g. ground- and stream- water) given their high priority to any future water resource planning.

**LANGUAGE REQUIREMENTS**

Lecturing is in English.

**AWARD AMOUNT**

The grant amounts to €86.500. This sum includes a maintenance allowance of € 84.000, a settling-in allowance of € 1.000 and a travel allowance of € 1.500. Additional benefits: free annual public transportation card, museum, theatres season tickets, and season tickets for ski resorts.

The grantee will be covered by Health and Accident Insurance for the whole grant period, provided by *United States Department of State*.

**LETTER OF INVITATION**

Candidates are not required to submit a letter of invitation from the Politecnico di Torino

**ENTRY VISA TO ITALY**

The Fulbright scholar will need to obtain a visa for study purposes (*visto per studio*) for the whole duration of his/her stay in Italy

**LOGISTIC INFORMATION**

A department office will be provided to the grantee. The Politecnico will also assist in finding housing.

**CONTACT PERSON(S) AT THE HOST INSTITUTION (for applicants' questions about this award):**

Prof. Luca Ridolfi

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**CONTACT PERSON AT THE FULBRIGHT COMMISSION**

Barbara Pizzella

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## TORINO



Torino is an ancient city, which was Italy's first capital, and is now a great industrial district. Each moment in history has left its mark on the city, creating a legacy of culture, architecture and monuments. Torino 2006 Olympic Winter Games showed the world an unexpected city, surprising not only people who previously couldn't have found the city on a map, but even surprising those who were already familiar with it.

Since the 1990s Torino has been following an intense process of transformation from an industrial capital - a sector which continues to play a fundamental role in the territory's economy - into a pole of innovation, culture and improved quality of life. From an area dedicated to material production into a center of creation and the sharing of knowledge: a path which requires new infrastructures - for education, for shared knowledge, for opportunities for young people, for the quality of the environment.

From this platform, Torino is looking to the future, to the important appointments already programmed for the upcoming years. 2011 is on the horizon, the 150th anniversary of the Unity of Italy. A century and a half after it spearheaded the country's unification and served as its first capital, Torino will present itself more dynamic than ever, open to the world - a new, driving force for development, just like in 1861.

Torino's central geographical position puts it in the vicinity of many attractive destinations. A one hour's trip will take you to the mountains of the 2006 Winter Olympics and their 400 kilometers of ski runs; Genoa and the beaches of the Ligurian Riviera and, a bit further down the road, the Côte d'Azur; the lake district with the marvelous Lago Maggiore and Lago d'Orta, which are surrounded by the Monte Rosa massif; the rolling hillsides of the Langhe and Monferrato, the land of Piemonte's *savoir vivre*; and the splendid Crown of Delights, the perimeter of Savoy residences that UNESCO has declared a Patrimony of Humanity. All within one hundred kilometers of the center of a city that is at the center of everything.

### **Art and culture**

Torino is a city that is accustomed to beauty: from the extraordinary Baroque and Belle Époque buildings to the royal residences which UNESCO has declared a "Patrimony of Humanity" (like the very central and recently renovated Palazzo Madama, or Venaria Reale, the Italian "Versailles") and the Egyptian Museum, the most important in the world after Cairo's. But this rich heritage hasn't hindered the city and its artists from looking forward, in constant pursuit of new expressive forms. Today Torino is recognized as one of the major European capitals of Contemporary Art, thanks to a tightly-woven fabric of public and private initiatives; collections and foundations; museums and galleries, like the GAM, the Museum of Contemporary Art at the Castello di Rivoli, the Fondazione Sandretto Re Rebaudengo, Palazzo Bricherasio, the Pinacoteca Agnelli and the trade fair "Artissima".

Famous international directors are once again shooting their films in the shadow of the Mole Antonelliana, thanks in part to the hospitality, advice and services offered by the Film Commission Torino e Piemonte, one of the most active in Italy. And the phantasmagorical National Cinema Museum has found its home inside the Mole Antonelliana – the museum was designed by the Swiss architect François Confino and has recently been enhanced with new installations.

Torino Film Festival is one of the most interesting in Europe, and it's only the most famous of the many cinematographic kermesses that take place in town. Book lovers will find authors, editors, schools specialized in literary subject matters (like the Scuola Holden), the prestigious publishing house Einaudi and world-famous events like the International Book Fair, all of which helped award Torino the designation as the 2006/2007 World Capital of Books, with Rome.

The Teatro Regio – the temple of opera -, the Auditorium Giovanni Agnelli at the Lingotto and the RAI Auditorium host seasons that are top-class in the panorama of international classical music. While dozens of summer festivals satisfy lovers of extra-cultured music. For decades now Torino has been one of Italy's most prolific cities on the national pop-rock scene. The Teatro Stabile and many important theatrical companies are dedicated to people who love prose.

## **Nature**

In the city with the most beautiful natural position – as Le Corbusier noted – new projects will restore to the people an environment that is even more pristine. Even famous philosophers like Rousseau and Nietzsche were in agreement – when they defined Torino as one of the most charming cities around. They were referring to the extraordinary setting of the Alps, the rolling hillsides two steps from downtown, and the Po and the other rivers – the Dora Riparia, the Stura and the Sangone – that flow through the city. And to the 18 million square meters of parkland and the 300 kilometers of tree-shaded streets that make the city one of the world's best from an environmental point of view.

This patrimony is fully enjoyed by Torino's citizens – who love to pass their free time outdoors – and it is valorized by important public projects like the new river park of the Dora, which is giving the people back an immense green area dotted with installations, paths for cycling and walking, and play areas.

Walks and trekking excursions in the Parco della Collina Torinese – composed of the Bosco del Vaj, the Collina di Superga, the Collina della Maddalena and Cavoretto – represent an opportunity and a patrimony of inestimable naturalistic value for Piemonte's capital. The Parco del Meisino is a natural oasis and home to one of Europe's largest colonies of gray herons living in an urban environment. A visit to the historic Royal Gardens, a canoe trip on the Po river, a jog through the Parco del Valentino all the way to the Parco d'Italia '61, a bicycle ride along the many sylvan bike paths – these are all opportunities that people who live in Torino, or visitors discovering the city, mustn't miss.

## **Food Culture**

Torino is the heart of Piemonte's gastronomy. The city has always been the native soil of famous chefs and grand gourmets, and it has brought forth extraordinary, inimitable and world-famous specialties, like gianduja crème, a delicacy made with cocoa and hazelnuts that has made its name around the world thanks to the small "gianduiotti" and the famous Nutella spread. But chocolate – a favorite of the Savoy dynasty since the 17th century that today has been taken to new heights of excellence by the many artisan laboratories – is only the sweetest of Torino's culinary inventions.

One of the bitterest is a famous recipe that is based on a masterly infusion of flavors: vermouth, a wine mixed with thirteen herbs and spices that Antonio Benedetto Carpano began preparing in Piazza Castello in 1786. The most famous drink in the world still stars in a typically local rite: the aperitif. In the most modern bars, like in the historical cafés – which for centuries have welcomed intellectuals, tourists and business people to its tables – a before-dinner drink accompanied by countless nibbles is a rite that can't be missed.

After the aperitif, mealtime features one of the world's most varied cuisines: grissini, agnolotti, bagna caoda, mixed boiled meats, cheeses, precious truffles, all washed down with Piemonte's grand red wines like Barolo, Barbaresco, Nebbiolo, Dolcetto, Barbera, plus marvelous white wines such as Spumante, Arneis, Moscato and prized Passito. And afterwards, a coffee, one of Italy's excellences that artisan laboratories and important local producers have valorized to the utmost.

All these flavors – along with all the other flavors of the world – are celebrated every other year at the world's most important food and wine manifestation, which has chosen Torino as its headquarters. The Salone del Gusto is organized by Slow Food, the Piemonte association that now, in every corner of the globe, propagates the passion for flavors, good taste and the quality of life. The Salone is flanked by Terra Madre – the world meeting of food communities: a unique event that brings over 5,000 chefs, breeders, farmers and producers, representing 1,500 food communities and over 200 universities from all over the planet, to Torino to dialog about their state of affairs.

And last but not least, Eataly, the first megastore dedicated to taste in Italy, is a true “wine and food city,” created in collaboration with Slow Food. Because in Torino, food isn't just flavors; above all, it's culture.

## **Innovation**

After a century as the Italian capital of automobiles, Torino has diversified its vocations and, at the same time, is concentrating on productive sectors requiring a high level of knowledge. Investments in production with strong immaterial values based on research and innovation: this is the path that the city's economy has chosen to follow as it designs its future.

Four strategic sectors have been pinpointed: the automotive industry, ICT, the aerospace industry and finance. Automobiles are and remain – albeit in a different form – a strongpoint of the urban and regional economy. A high concentration of businesses, a re-found competitiveness, areas of excellence like design (in which Torino stands out in more than just the automobile sector, thanks to famous designers like Bertone, Giugiaro and Pininfarina), as well as research in alternative sources of energy like hydrogen - these are the ingredients of a renewed star status on international markets.

Information and Communication Technology has created in Torino the first “wireless” district in Southern Europe – Torino Wireless – besides various research centers of companies like Microsoft, Motorola and Tilab of Telecom Italia. The aerospace sector benefits from the presence of different competences in town that range from metallurgy to electronics and of important companies like Alcatel Alenia Space.

Finance is the indispensable motor for guaranteeing the growth of the system, and the existence of realities like the Gruppo Intesa Sanpaolo – which has become the third most important banking pole in the Euro zone – guarantees favorable conditions for investments.

These are the strategic lines that will allow the 228,000 urban businesses that every year export goods totaling almost sixteen billion Euros (with a positive balance on imports of four billion Euros) to become increasingly competitive in Europe and throughout the world. The challenge posed by internationalization is, in fact, a proving ground of Torino's new economy. This challenge – to be a leader in Europe – is being met both by business and by the institutions: Torino is the headquarters of the ITC-ILO, the specialized international agency for training staff workers of the International Labour Organisation; the United Nations Interregional Crime and Justice Research Institute; the United Nations Staff College; and the European Training Foundation of the European Union.









Politecnico di Torino is ranked among the top 100 world universities in Engineering (57<sup>th</sup> place in the world and 7<sup>th</sup> in Europe in the Shanghai Jiao Tong University ranking). Worldwide recognized as a high-quality centre for training and research, it has been able to reconcile tradition and innovation, by being deeply rooted as a service provider in the region and at the same time by establishing itself as a University where students and talents from all over the world come to work and study.

The Politecnico di Torino ([www.polito.it](http://www.polito.it)), was founded in 1859 as Technical School for Engineers, taking its present name in 1906. It is a centre of education and research and one of the most important universities in Europe for engineering and architecture studies, strongly committed to collaboration with industry.

With its 27.000 students, over 900 lecturers and researchers, 4 Engineering Schools and 2 Architecture Schools, it offers more than 120 study curricula towards Undergraduate, Graduate and PhD degrees. A lively research environment draws up more than 800 research contracts with public institutions and industries per year.

The diversified education offer includes Aerospace Engineering, Telecommunications, Biomedics, Mechatronics, Industrial Design, Automotive Engineering, Engineering for Cinema and the Media, Logistic and Production Engineering. 35% of all courses are taught in English and distance-learning programs are also available.

Every year nearly 1.000 foreign students travel to Italy to attend programmes at different levels at Politecnico. Altogether, 2.500 international students are presently enrolled in its different Schools. Student mobility is made easy with 300 international agreements with Universities around the world including Europe, Latina America, Asia and Australia; moreover students can obtain double degrees with 90 foreign Universities.

The Politecnico is expanding the present premises with the “Cittadella Politecnica”, a 170.000 sq.m. project part of a major urban transformation in a central city area, a modern, efficient extension intended to improving the quality of teaching with new spaces for students as well as offering cutting-edge research facilities and especially a place for technology transfer attracting major investments from industry. The Cittadella hosts the Business Research Centre, where offices, labs and services are available to companies interested in establishing a research structure within Politecnico, as well as the I3P Incubator, supporting innovative start-up companies with valuable services such as tutorship, administrative and management consultancy and streamlined access to credit and venture capital funding through a Venture Capital Hub.