

# Rector's programme for the University School for Advanced Studies IUSS Pavia for the 2025-2031 term

by Mario Martina

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## Who I am

I was born in Brindisi in 1976, I am married and the father of two daughters aged 19 and 16.

After graduating from classical high school in 1995, I moved to Bologna, where I still live, to study Environmental and Civil Engineering at the University of Bologna. I graduated in 2000 and continued my academic career by obtaining a master's degree in Risk Engineering and Loss Adjustment at the CINEAS (University Consortium for Engineering in Insurance) of the Politecnico di Milano in 2001 and a PhD in Physical Modelling for Environmental Protection at the University of Bologna under the supervision of Prof. Ezio Todini in 2004.

Until 2011, I carried out research activities at the University of Bologna, initially as a post-doc and later as a research fellow funded by the Willis Research Network in London, focusing on mathematical-statistical models for the estimation of natural hazards, with particular attention to hydro-meteo-geological events. During those same years, I spent several research periods abroad at the University of Newcastle-upon-Tyne, MIT Boston and Oregon State University. Until 2014, I also worked as an engineer and consultant for insurance companies and brokers on risk assessment and estimation of economic damages due to natural disasters, such as earthquakes, floods and landslides.

In 2014 I was recruited to the IUSS School as a researcher, from 2017 as an associate professor and from 2021 as a full professor of Hydraulic and Maritime Constructions and Hydrology. During these years I have consolidated international collaborations, in particular with the University of Exeter, where I hold the position of honorary associate professor at the Department of Mathematics, with the GFZ in Potsdam and with the University of Porto. My research and teaching activities have addressed the topics of risk, uncertainty assessment and modelling of socio-economic impacts related to climate change. Since 2020 I am the coordinator of the National Doctorate in Sustainable Development and Climate Change, which I helped found, design and manage, and I am a member of the research centre CARISMA, Climate change impAct studies for RISk MANagement. Since 2021 I have chaired the CRUI table dedicated to Italian Doctorates of National Interest (DIN).

At the IUSS School, I have held several institutional roles. In 2017, I was appointed Director of the Area of Uncertainty Treatment and Risk Assessment, later transformed into the Department of Science, Technology and Society, of which I was Director from 2018 to 2023. By delegation of the Rector, I chaired several committees, including the School Planning Committee (2017-2019). Since 2023, I have held the position of Pro-rector for International Relations.

I have set up and am a partner in companies involved in the development of engineering models or consultancy services for the quantification of risk from natural disasters. In 2023 I established, together with other colleagues, MATE a Spin-off of the IUSS School for the valorisation of research products in the field of sustainable finance and climate risk.

## **Why I am running for Rector**

I have lived my more than 10 years at the IUSS School intensely and with deep passion. I have a strong sense of belonging and a deep gratitude towards this institution, but above all towards the people who, like me, have believed in and contributed with commitment to the design and construction of a unique, different and prestigious university.

The IUSS School has been for me not only a place of academic and professional growth, but also a path of human enrichment. In my eagerness to do, I have sometimes made mistakes or been imprudent, but I have always found someone more experienced or patient than me who, available for comparison, has helped me to grow and improve.

It was a great thrill and satisfaction to see the realisation of ambitious and visionary projects. The search for solutions to new and unknown problems has been an exercise in sharing and collaboration that has strengthened relationships, esteem and trust. I believe that such an experience is rare and is reserved for a few institutions where the burden of responsibility is intertwined with the privilege of being a decisive actor of change.

I have shared moments of excitement at the intuition of original ideas and gratification at their materialisation, but also moments of disappointment at failed projects and frustration at the rigidity of bureaucracy. I have forged genuine and esteemed relationships with both teaching and administrative colleagues.

I got involved in teaching transdisciplinary topics and tried to explore engaging forms of teaching, simulating real problems and situations to stimulate the search for original solutions and reversing perspectives in the teacher-learner relationship. I experienced the profound pleasure of learning by teaching.

I now feel called and ready to make an important commitment for myself and for the IUSS School. I feel that I have the energy and the ability to take on the work begun by generous and far-sighted people and to continue with devotion and passion for the realisation of an inclusive, innovative and open university.

I believe that this is not only my ambition and my feeling, but that it is that of many people with whom we have already come a long way together or who have recently entered the School moved by our enthusiasm and full of expectations of growth, not only personal.

This is why the School's new Rector will have to be able to channel the great energies and extraordinary skills present within it and be a facilitator of the discussion and decision-making processes of a community that is now ready to design its own future.

If I am elected, I will experience significant change and take on significant personal responsibility. However, I am certain that I will be able to count on the support and cooperation of many people, sharing with them my hard work and satisfaction. It is with this awareness and serenity that I have decided to run for the office of Rector of the IUSS School.

## **My point of view on School**

The IUSS School in Pavia is a unique university on the national and international scene.

It is a special-statute university that, compared to ordinary universities, enjoys particular autonomy and independence in its internal organisation, administrative management and the definition of its teaching and research activities. It is a small institution (approximately 45 structured lecturers and researchers), but with a broad coverage of academic disciplines (10 out of a total of 14 disciplinary areas in the university system). It is located in a city historically and structurally devoted to scientific research, home to the prestigious University of Pavia and its renowned Colleges of Merit, with which it has a constitutive link. The School is located in an area of great cultural and economic vitality, in the region with the highest density of universities (15) and university students (330 thousand) in Italy.

From its establishment in July 2005 to the present day, the IUSS School has experienced extraordinary academic and scientific growth, led by the three successive rectors: Roberto Schmid, Michele Di Francesco and Riccardo Pietrabissa. Looking at the last rectorate alone, the number of lecturers, researchers and technical-administrative staff has doubled, while the number of ordinary students and doctoral students has more than quadrupled. The educational offer, research projects and scientific results have recorded an unprecedented increase, positioning the School as a unique example of development in Italy in so few years.

Thanks to the agreements with the Colleges of Merit and the University of Pavia, the undergraduate courses were extended free of charge to all students and the competition procedure for the admission was rationalised. In the pre-doctoral training offer, partnerships with the State University of Milan, the University of Bergamo and the University of Cagliari have been added to the consolidated collaboration with the University of Pavia.

In the doctoral field, the training offer was greatly enhanced and enriched, collaborations were extended to 60 Italian universities and research institutes, as well as to the Eucentre Foundation and the National Centre for Oncology Hadrontherapy (CNAO) in Pavia.

The quality of research and teaching has become a structural objective that motivates not only the teaching and research staff, but pervades all institutional bodies, organisational units and administrative procedures, systematically ensuring the conditions for its achievement and monitoring.

Activities and research projects are developed in collaboration with numerous prestigious international universities and research institutes in all the School's disciplines. The School is part of the Venice International University network, which brings together 15 international universities to provide advanced teaching on topics of global interest.

The community of the IUSS School has widened and expanded by also recovering the relationship with the alumni and alumnae, people who have had the time to process their academic experience from the countless and diverse professional perspectives they have attained and who make it available so that it may be enriching and inspiring for the present students.

For this and much more, I believe that the IUSS School is a unique university for the concentration of educational and work opportunities, for its distinctly international environment and for the extraordinary growth it is experiencing.

The credit for this development, which did not slow down even during the pandemic, which, on the contrary, turned into an opportunity for renewal, goes to the undergraduate students, doctoral students, post-docs, researchers, lecturers, technicians and administrators who believed in the ambitious projects of past rectors. In particular, the current rector has been able to bring forward an innovative vision, personally investing energy and ideas to realise a long-term strategic plan.

At this stage of development, the IUSS School has to face some historical criticalities and new challenges, inextricably linked to the growth process and to internal and external factors.

The financial resources, used in an effective and far-sighted manner, come largely from national and regional funding plans of an extraordinary nature. Structural ministerial funding, on the other hand, has not grown in proportion to the development the School has experienced in its first twenty years.

The facilities, although significantly expanded, are not sufficient for the School's current size and needs. The new CampIUSS project, which is already being implemented for some sections, will require a bold and rational design of the remaining sections to meet future needs as well.

The increase in projects, activities and personnel inevitably increased the workload not only for lecturers and researchers, but also for the administration. The technical and administrative staff showed a great sense of responsibility, working under pressure during the transition to the new staff configuration, as proposed by the Director General and still being finalised. The new workflow required a detailed mapping and rationalisation of processes, the computerisation and optimisation of which are still ongoing.

The process of change and the richness of the School's training and research activities have not yet been fully represented by diversified, targeted and integrated communication actions in a strategy that systematically involves both institutional and informal media channels.

We have different histories and ages, we speak different languages, we have different sensitivities, we work and live together in the same school. The beauty of living in an international, multicultural and heterogeneous community is intertwined with our ability to relate to unique and different people. We are a young community that is still exploring and learning the language, gestures, signs and forms of relationships that represent the multiplicity of identities and in which everyone feels recognised and valued.

We have made sustainability an objective of scientific research and training. We must now turn our attention internally to these issues and apply the principles and good practices of sustainability to the various components of our development, social, structural, financial, environmental and organisational with the support of the RUS (Network of Universities for Sustainable Development) of which we are a member.

The IUSS School is about to experience a period of great momentum in the coming years, supported by the strategic choices and investments already made, as well as by the extraordinary scientific and professional skills of its staff. However, the School will be called upon to face important challenges and to take crucial decisions in order to take full advantage of the opportunities of the new socio-economic context and to overcome the criticalities linked to its growth path.

## **My programme for the School**

I would like to outline the values, aims and working method that will underpin my work and the planning of the School's activities in the event that I am the Rector. Indeed, I believe that the 'Project' for the next six years of the School must be the result of collective work. My task will be to indicate the strategic guidelines, to ensure the conditions for discussion and to follow an efficient and transparent decision-making process.

### **Values**

There are founding values of the university that I draw inspiration from to guide the planning and management of the School. I believe they are unquestionably shareable, but translating them into concrete daily actions requires courage and lucidity that cannot be taken for granted.

#### *Knowledge*

Recognise the value of knowledge, research and innovation. Ensuring access to knowledge for all, striving to maintain its high quality and to promote its transfer to society, so that it can generate a positive and lasting impact.

#### *Freedom*

Defending and promoting freedom of thought, teaching, research and expression. To ensure that everyone has the opportunity to represent their ideas and opinions in an open and inclusive environment.

#### *Autonomy and Responsibility*

Ensuring that everyone has the conditions to work and make decisions autonomously, free from conditioning, with the awareness that autonomy is inextricably linked to responsibility, the ability to be accountable for one's choices and actions.

#### *Transparency and Efficiency*

Operate with transparency, making data, information and decisions accessible. Follow efficient and streamlined organisational processes that ensure the effectiveness of actions taken and the trust of all stakeholders.

#### *Inclusion and Diversity*

Promote equal access to education and value cultural, social and intellectual diversity. Fostering an environment in which each individual can express his or her potential, contributing with his or her uniqueness to the growth of the community.

#### *Being Community*

Cultivate a strong sense of belonging to a group of individuals who not only share the same work environment, but also ideals and interests. Fostering collaboration to achieve common goals and the development of a shared vision.

#### *Social Commitment*

Promote the cultural, economic and social growth of local and global communities. To contribute to the formation of responsible and aware citizens, capable of facing the challenges of the present with competence and integrity.

## **Aims**

While respecting the founding values, I believe that there are high and inalienable goals that must be translated into concrete actions in the planning phase of the School.

### *Asserting the School's identity and be capable to communicate it*

The IUSS School is a young, dynamic and courageous university. It has been able to experiment with new organisational forms, formulate innovative training proposals and transdisciplinary research themes. In a short time. A coherent and recognisable identity is emerging. It is necessary to support this process of affirming its identity in the local, national and international context. In the local context, the School must express its design and operational autonomy in its constant commitment to its host territory and in its prosperous collaboration with the University of Pavia and the Colleges of Merit in Pavia and with the University of Milan in Lombardy. In the national context, it must always maintain an alliance with the other Higher Schools that strengthens their important role in the national university system and it must relate to the other Italian universities in the awareness of its agility and capacity for action. In the international context, it must enhance its educational model and the multidisciplinary nature of its research.

In all these dimensions, the School must invest energy and professional skills in communication without which its identity remains opaque. It is necessary to develop an integrated communication strategy that coordinates all means, the institutional website, social channels, newsletters and traditional media. It is also necessary to know how to communicate knowledge outside the academic world, to create visual and multimedia content that makes even the most complex scientific topics comprehensible to everyone.

### *Doing research for the development and progress of society*

For the development and progress of a society, it is first and foremost necessary to defend the advancement of knowledge and its teaching, research and teaching at the most advanced and international level possible. This means securing our best science, our strongest humanistic, social and legal sectors in our School. Having the courage to open up new fronts, experiment new forms of collaboration and foster international mobility. It is indispensable to select teaching and research staff on the basis of merit and quality criteria and to attract talent from all over the world by enhancing academic and scientific excellence.

The School must ensure the conditions for research to progress by encouraging participation in national, European and international competitive research projects, strengthening the support provided by the Research Office, supporting the creation and management of laboratories and research centres on core topics and increasing their level of autonomy.

But to translate research into development and progress, it is not enough to engage in the training of students, but it is necessary to promote the transfer of knowledge and technology into society, outside the walls of the School, in all subject areas. Collaboration with public institutions and companies does not mean limiting the potential of research, but enhancing it, bringing it to the surface and making it truly fruitful. The IUSS School in doing advanced research must always keep alive the dialogue with the territory through initiatives of scientific dissemination and active participation in public engagement projects.

### *Education, growth and people development*

Teaching does not only mean having skills and tools to transfer knowledge. It means being in a relationship of trust, having an attitude of willingness to share one's own experience, caring about the development of skills and the maturation of others. If this is the attitude of those who



want to teach, then it inevitably influences all the activities of a School's life, not only those directly related to teaching. And it becomes the School's primary objective to strive to ensure that it is cultivated and preserved in each member of its community.

Undergraduate and doctoral students are the first beneficiaries of the attention of the teachers and the entire staff for their quality education (and relationship). The School has interpreted this task not only by guaranteeing the conditions for an advanced, high-level education, but also by pursuing the objective of educating students to become competent and responsible citizens, exposing them to the complexity of society without academic filters or disciplinary limits, starting with the orientation phases of the student candidates. This means fostering a broad vision of reality, connecting knowledge by looking outside the academic world. The IUSS School, by its very nature, has fewer constraints and greater autonomy in management and planning than an ordinary university. We must make the most of this opportunity, continue to invest in orientation activities, expand transdisciplinary teaching courses, have the agility to organise training on emerging topics, consolidate collaborations with partner universities and promote joint programmes with prestigious international institutions.

The interest in the growth of others must affect all other areas of the School's action beyond those of education in the strict sense. It translates, already in the planning stages, into paying attention to the academic and professional growth of researchers and post-docs who do not yet have a clear place in the academic staff in our system.

The same attitude must be addressed to technical and administrative staff. We must go beyond the activation of professional training courses and the evaluation of skills in the execution of administrative procedures, enhance individual skills and promote personal initiative and empowerment by encouraging everyone's participation in the planning of the School's activities.

We need to invest in the well-being of students, teachers, researchers, post-docs and staff, fostering an inclusive and stimulating environment to ensure a healthy and resilient community.

#### *Seizing all opportunities to support growth*

The School's growth ambition and the support of research projects and training activities need adequate financial and instrumental resources. Efforts must be made to find resources in awareness of the role that the School can play in the Italian university system, in the international research system and in that of public institutions and enterprises.

The priority is the stability of the structural financing fund by the Ministry of Universities and Research, with which a direct institutional dialogue has been built by Rector Pietrabissa. It is crucial to strengthen this dialogue by committing to the correct representation of the tangible results achieved and the leadership responsibilities on a national scale that the School has assumed in recent years.

But it is also necessary to know how to seize all the other funding opportunities. The Region of Lombardy, which has already financed strategic structures for the School, has shown interest, for example, on the issues of sustainability and research infrastructures for technology transfer on the basis of a shared, long-term project. The municipality of Pavia has shown that it appreciates the role that the IUSS School has committed itself to playing on a local scale and may be willing to support initiatives for the dissemination of science, cultural promotion and enhancement of the territory. In recent years public institutions and private companies have invested in the School's ability to do research and create value in various fields. It is necessary to cultivate this relationship, not only for the funding opportunities, but

also for the recognition that the School can have of its contribution to the social and economic progress of the country.

The great success in recent years in raising funds for national and international research projects is confirmation of the scientific capabilities of the School's groups and research centres. This funding component can therefore continue to be relevant in the future and must also become structural in the planning phase.

#### *Envisioning and shaping a sustainable future*

CampIUSS is emblematic of the historical period our School is going through. Until now, the School did not hold a site of its own. Now it has land and buildings on which and in which to shape the physical space of its identity. This was the result of intelligent, generous and far-sighted action by the governance and the current Rector. It is a project that has been designed, initiated, and is well underway, but still to be completed. It is a symbol of the legacy of these past years of work and investment to the next academic generation. It marks the handover of the responsibility and freedom to imagine and build a sustainable future. It will be necessary to imagine the future needs, modes of relationship and applications of research to consequently and coherently organise spaces and build structures. It will be a collective test of design skills and vision that go beyond the horizon of one's academic activity. It will be an opportunity to concretely apply the principles of sustainability in all its different components, financial, social, structural and environmental.

#### **The approach to work**

The IUSS School is an institution, a complex organisation with an important public function. The periodic accreditation process of universities and study courses and the quality assurance system have introduced requirements, standards and guidelines adopted throughout the European Higher Education Area. The planning of objectives, the monitoring of activities and the implementation of improvement actions must necessarily respect these guidelines.

In our School, great emphasis has been placed on this issue and there has been a significant investment of high-level teaching and administrative staff. I intend to continue to adopt this approach as a systematic way of organising work in order to smoothen administrative processes by promoting quality and continuous improvement.

However, the pursuit of organisational effectiveness and efficiency and the fluidity of administrative processes must be based on listening to and involving the technical-administrative staff, lecturers, researchers and ordinary and doctoral students, who are the actors and recipients of these processes.

I strongly believe that the goals an organisation sets itself can only be achieved by involving all the components of the organisation itself from the discussion and planning stage onwards, and by adopting decision-making processes that allow for informed participation.

I look forward to a lively and free debate from the discussions that will accompany this election period, and I welcome suggestions and constructive criticism.

Pavia, 10 January 2025

Mario Martina

