

**SPECIAL
ISSUE ON EUROPE**

INTERNATIONAL ASSOCIATION FOR HYDRO-ENVIRONMENT ENGINEERING AND RESEARCH

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TO BE (EUROPEAN) OR NOT TO BE, THAT IS THE QUESTION

EDITORIAL BY MICHELE MOSSA

On the 27-28th June, 2012 the second Europe Congress of the IAHR is held in Munich. This is an occasion to encourage the exchange of ideas between researchers and engineers from all over the world, but mainly from Europe. Surely it is also an opportunity to take stock of the potential scientific and technical collaborations within Europe.

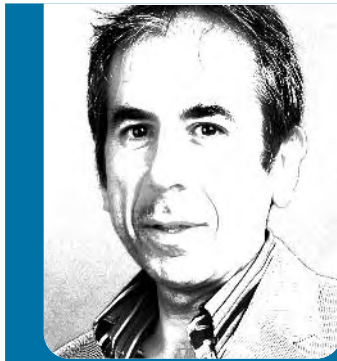
Europe: how should we interpret this word today? Historically, the first embryonic stage of the present European Union (EU) started with the European Economic Community (EEC), which was created by the Treaty of Rome of 1957. At first it was only an international organisation created with the idea of bringing about economic integration, including a common market, among its six original members -

Belgium, France, Germany, Italy, Luxembourg and the Netherlands. The Maastricht Treaty of 1993 established the European Union under its current name. The latest amendment to the constitutional basis of the EU, the Treaty of Lisbon, came into force in 2009. The new name of the EU was chosen to reflect the wider policy base covered by the treaty.

According to the Maastricht Treaty, the former European Community, now the EU, has an obligation to promote harmonious, balanced and sustainable economic activities, a high level of employment and social protection and equal opportunities between women and men, non-inflationary and sustainable growth, a high level of competitiveness and convergence of economic performance, a high level of protection and improvement of the environment, raising the level and quality of life, economic and social cohesion and solidarity among Member States. To achieve this, the EU prepared a set of policies in the following sectors 1) employment and social rights, 2) freedom, security and justice, 3) economics and finance and, of particular interest to researchers and engineers, 4) culture, education, science and technology.

What is the present situation regarding this last point?

The twenty-first century can be considered, even more than the previous one, the century of science, technology and research. Technological development appears today, more than ever, one of the most promising sectors for the future. In Europe, however, research is facing a serious situation. In the absence of concerted corrective interventions, the current trend could be due to slower growth and loss of economic competitiveness in an increasingly global economy. The distance between Europe and other technologically advanced countries continues to increase, also putting the transition towards a knowledge economy further at risk.



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What are the reasons which have led to such a critical situation? With the "Communication from the Commission of the European Communities to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions" of 2000 it was already observed "that the average research effort in the Union (the differences being significant from one country to another) was only 1.8% of Europe's GDP, as against 2.8% in the United States and 2.9% in Japan. What is more, this gap seems to be on the increase. The difference between total public and private expenditure on research in the US and Europe amounted to some EUR 60 billion in 1998, as against 12 billion in 1992." At the same time, this report observed that "research and technology account for 25 to 50% of economic growth and have a strong influence on

competitiveness and employment and the quality of life of Europeans". Furthermore, "if technological progress creates the jobs of tomorrow, it is research which creates the jobs of the day after tomorrow. The current trends in research could therefore have a negative influence on the development of employment in Europe in the years ahead."

It should be remembered that Europe produces a third of the world's scientific knowledge. It is at the forefront in many areas and has had notable success stories in technology. This potential must be maintained, increased and fully exploited, not only for Europe but for the good of the whole world. To better reach this goal, it is important to create or improve 1) a network of centres of excellence, 2) a European approach to research infrastructures, 3) the establishment of a common system of scientific and technical reference, 4) greater coordination between national and European research programmes, 5) closer relations between European organisations for science and technology cooperation.

The EU has been attempting to achieve some of these goals for many years and surely it is possible to judge what has been successful and what has to be improved. This is why in the present issue of Hydrolink you will see an interview with prof. Aronne Armanini, chair of the IAHR European Division and many other articles on the activities of institutions, boards and companies working in Europe and of great interest for the rest of the world. To paraphrase the famous soliloquy from William Shakespeare's Hamlet, it is time to ask the question: "To be (European) or not to be?". Each of us, with our work, may be able to provide an answer to this question, and not simply wait for institutions to do this for us.



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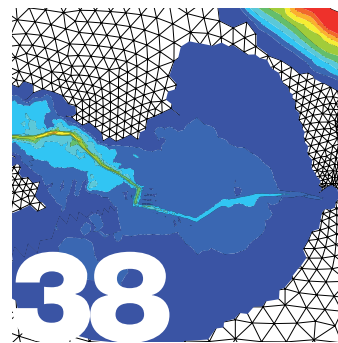


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10 QUESTIONS TO...

prof. Aronne Armanini

INTERVIEWED BY MICHELE MOSSA, EDITOR



Prof. Armanini has been Chair of the Europe Division of IAHR since 2008. He is Professor of Fluid Mechanics in the Faculty of Engineering of the University of Trento, Italy one of the top three schools of Engineering in Italy for 15 years. In this University he has been Dean of the Faculty of Engineering and Member of the Board of Governors. He is a founder of CUDAM- Centre of Excellence on Hydrogeological Risks in Mountain Areas. He is external evaluator for various national and international universities and research institutions.

1. Could you briefly explain why the European Division of IAHR was created?

The regional divisions were created inside IAHR to cement the different national communities of members in the different regions, such as the Latin American Division, the Asian-Pacific Division and the Africa Division.

For a long time the IAHR community did not feel the need to create a European Division because the Association was created in Europe and the Secretariat was based in Europe. It should be noted that IAHR has never had a North American Division, presumably because in North America ASCE works as an Association of professionals and university academics specifically devoted to problems of hydraulics and its applications. The European Division was created in 2005 to try to provide a platform to the professional component of IAHR within the region, as an interface to the various hydrotechnical associations active in the different European countries.

Another motivation was to reflect the rapid increase in scientific collaboration within Europe as a result of the European Research Framework Programme and an increasing perceived need to be more influential in helping define future research programmes of the European Commission, especially in comparison with other scientific and technical non-engineering communities, pushing to have more visibility and weight in hydro-environment issues at Community level.

2. Do you think that the IAHR Europe Division is sufficiently active in the engineering and research community?

For several reasons it has always been much more difficult to establish an active dialogue with the professional community than the academic one. Perhaps because, despite good intentions and our efforts in this direction, the professional component of IAHR is numerically small and much more contained than the academic one. Having taken note of these difficulties, the Committee of the Europe Division has identified the new generation as an aggregation point to a new European Community of IAHR, responding to the aspirations of students and young professionals towards the new European research and knowledge area.

3. A recent key action of the IAHR Europe Division is the Europe Congress. Could you tell us the main objectives of this congress?

The Europe Congress was created with the specific aim of providing students of the different doctoral European schools, young researchers and young professionals recently graduated from those schools an opportunity to meet at a reasonable distance and at low cost.

Another important issue is scientific quality so that the Congress would be attractive to researchers and an opportunity to meet with colleagues from other countries in the region.

But the part of the program oriented to the profession is also important. The Europe Congress must be attractive also for the best young professionals, those open to the European labour market.

4. Do you think that these objectives of the Europe Congress have been achieved? If not, in your opinion, what are the main goals still to be reached and how?

The first Congress, organized in Edinburgh by Professor Garry Pender and

his staff in 2010, was very successful with a good participation of young researchers. The quality of the presentations and the discussion was in many cases above average. We must now make an effort to further improve the quality of the Congress and, above all, we must find new formulas so that the European Congress becomes established as an attractive venue for young professionals. I believe, however, that we do still have a long way to go. The Europe Congress should avoid duplicating the IAHR specialist congresses, organized every two years in different countries. It should not be a showcase for the site which hosts the congress.

5. In recent years IAHR membership has shifted from the “old world” (Europe and North America) towards Asia, especially Japan, Korea and China. What is your opinion on this point?

IAHR is an international scientific organization, and its major diffusion in all continents has been hailed as a success of the association in accordance with its institutional duties. Besides, research does not have national or regional boundaries, otherwise it is not research. The recent increased involvement of countries like China certainly represents a success of IAHR's recent policy. I believe that we must continue with conviction and determination in this direction, knowing that Europe will, however, continue to provide an important role in this framework.

6. Do you think that Europe is losing its former role in the world scientific and technological communities?

Europe with North America has had a determinant role in the birth of the IAHR, but, especially after the second world war, IAHR, with the committed support of the European members, has aimed to give the Association a much wider geographical structure. Widening horizons has represented an enrichment for Europe. The current problem for European members is to insert IAHR in a more consistent and active way in the newly-active European arena of research and advanced education.

7. One of the big resources for the future is the scientific and technical communities of young engineers and researchers. What are the main actions of the Europe Division on this point?

The Europe Division Committee is convinced that one of the strategic targets of the Division is to make it clear to the community of young professionals and scientists that IAHR can be their association. To do this, we must clearly indicate the benefits that they can obtain as members of IAHR. For the scientific community, and in particular for students of doctoral schools, IAHR must offer a network to facilitate contact between students doing research in the same scientific areas, make them able to communicate, to exchange ideas and information, and if possible to cooperate. These contacts may be virtual, but also real: Europe is sufficiently small and equipped with an extensive network of transportation in order to make possible internal mobility within the region at low cost. This is certainly one of the objectives of the Europe Congresses. We should act in the same manner also towards young professionals, offering them opportunities to enhance and improve the impact of their professional activity. This second objective is less straightforward, but again the Europe Congress should be structured in such a way as to be useful in this regard.

8. The European Union funded Hydralab Concerted Action is a network of research institutes started in 1997 within the context of the EU Research Framework Programme, to enhance access to physical modelling laboratories. After about twenty years it is possible to take stock of Hydralab. What is your opinion on this action?

The project was established by the major European hydraulics laboratories to provide access to researchers throughout Europe to their large installations. The project has been very successful in fomenting cross-European collaboration and breaking the former historic national boundaries. In the current phase IAHR has become a formal partner in this project to help in dissemination of the results of the project and we hope that we can help give permanency to this network once the current funding phase is completed.

Through our Congresses and publications we can help promote transnational actions such as Hydralab.

9. We often talk of American, Chinese, Russian, Indian, etc. scientific communities. Do you think that it is possible to identify a European scientific community, or the idea of European science? If not, what other actions are needed for this purpose and how can the Europe Division of IAHR work to achieve this goal?

I think the term “Scientific community” refers basically to a community of people who share the same objectives, methods, and opportunities of meeting within the framework of scientific research. In the case of Europe, there is no doubt that there is an historic tradition of reciprocal action and relations between scientists of different disciplines. Suffice it to say that the first universities 10 centuries ago (Bologna, Sorbonne, Prague, etc) were supra-national institutions of a European dimension. In this respect, speaking of the regional scientific community is rapidly losing significance, in that the scientific community has acquired an international dimension and this applies to all national or regional communities. However, in the case of Europe this regional dimension is gaining importance especially in respect of the EU's initiatives in order to establish the European space of culture and higher education. The Europe Division must work in this direction especially with respect to the young generation, and through the Student Chapters.

10. In the last few years the EU countries, as with many other countries, have faced a hard economic crisis which starts to have repercussions on the scientific community. On this point is there anything else the scientific EU communities and the Europe Division of IAHR can do?

The economic crisis is not a phenomenon only in Europe, but is hitting countries in all continents, in particular the USA and Japan, and previously some countries in South America. In a period of crisis we must invest in culture. The EU member states are doing it. In the area of hydraulic engineering and hydro-environment science, the Europe Division can and must play a very active role especially in co-operation between different EU countries. This role will be much more effective, if we will be able to create an effective cooperation between the various components: universities, research agencies, large labs and professional associations. This is one of the most important tasks, more difficult and challenging of the Europe Division Committee.