



# MECOM 2004

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## VIII Argentinian Congress on Computational Mechanics Buenos Aires, Argentina, November 16-18, 2005

Organized and hosted by: **School of Engineering and Sciences, and Center for Advanced Studies, Universidad Argentina de la Empresa (UADE).**  
Sponsored by: **Argentine Association for Computational Mechanics (AMCA).**

In the year of its 20th anniversary, the Argentine Association for Computational Mechanics is pleased to inform that the Call for Abstracts for MECOM 2005 has resulted in more than 230 contributions. The conference has largely exceeded its original national scope, as papers have been received from many American and European countries. The contributions came mainly from Argentina, Brazil, Venezuela, Chile, and USA, but some have also been received from Spain, Uruguay, Ecuador, México, Canada, Italy, and Germany.

Besides the usual Ordinary Sessions on Fluid Mechanics, Solid Mechanics, etc., there are sixteen Invited Sessions under way, organized by researchers from Argentina and other American countries. Additionally, there will be a Poster Session, devoted to papers in which the first author is an undergraduate or graduate student, which will include awards for the best papers.

The Call for Full Papers for contributions with accepted abstracts is open until **August 19th, 2005**. Both papers and talks are welcomed in Spanish, Portuguese, and English.

### Organizing Committee:

#### Local Committee

Axel Larreteguy  
(Chairman)

Gabriel Zamonsky  
(Proceedings)

Marcelo Raschi  
(Logistics)

Paola Dellepiane  
(Secretary)

Lelia Zielonka  
(Secretary AMCA)

#### Honorary Presidents

Sergio Idelsohn,  
CIMEC (Argentina)

Juan Carlos Ferreri,  
ARN (Argentina)

**Invited Session Organizers:** Marcela Cruchaga & Gustavo Nonato (Moving interface problems); Ángel Menéndez, Marcelo Venere & Carlos Vionnet (Water resources and environmental engineering); Diego Celentano & Carlos García Garino (Constitutive modeling of materials); Jorge Crempien Laborie (Dynamics of structures); Gustavo Sanchez Sarmiento (Heat transfer in industrial processes); Gabriel Barrenechea (Mathematical aspects of finite elements); Fabián Bombardelli (Simulation of turbulent flows using DNS, LES and RANS); Pablo Tarela & Fernando Camelli (Numerical simulation of atmospheric dispersion processes); Gabriel Zamonsky & Pablo Lacentre (Petroleum reservoir simulation); Norberto Nigro (Computational mechanics applied to automobile industry and other terrestrial vehicles); Luis Godoy & Fernando Flores (Stability and non-linear behavior of slender structures); Mario Storti, Jorge D'Elía, Victorio Sonzogni, Guillermo Marshall & Carlos García Garino (Distributed Computing: HPC, GRID and Access Grid); Jorge Luis Baliño (Modeling and Simulation of Dynamic Systems using Bond Graphs); Miguel Cerrolaza & Gabriela Martinez (Biomedical devices modeling); Sergio Elaskar, Eduardo Zapico & José Tamagno (Space Technology); Juan Carlos Ferreri (Computational Fluid Dynamics in the nuclear industry)

The congress will be held in the premises of Universidad Argentina de la Empresa, a non-profit private university (a Foundation) created more than 40 years ago by the Cámara de Sociedades Anónimas. With more than 14,000 students, it is one of the largest private universities in the country (see [www.uade.edu.ar](http://www.uade.edu.ar)). ●

#### Further information:

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By fax: (54.11) 4000-7495

Or visit: [www.fain.uade.edu.ar/mecom2005](http://www.fain.uade.edu.ar/mecom2005)

Figure 1:

Universidad Argentina de la Empresa - Congress venue



## The 20th anniversary of the Argentinean Association for Computational Mechanics (AMCA)

### *Some reflections by Juan Carlos Ferreri*

This note is aimed at clarifying a paradox and stating, according to my view, who the people are that contributed to establish the AMCA, our national association for Computational Mechanics, and kept it proudly growing along its first twenty years of existence. The obvious risk in mentioning people is to forget someone, but I will accept being blamed for it.

AMCA nucleates people from different scientific disciplines with the common interest of promoting:

- a) the advancement of knowledge in the field of Computational Mechanics,
- b) the exchange of experience on the use of numerical methods and computational tools in both the academy and the industry,
- c) the improvement of teaching at the academy and professional training in the industry and,
- d) forums dedicated to discussing the way of performing research and development leading to sustainable technological development.

Now let's consider the paradox. In the January 2005 issue of the IACM Bulletin the reader may find an article related to ENIEF-2004, the XIV Congress on Numerical Methods and their Applications. ENIEF is the Spanish acronym for National Meeting of Researchers (and Users) of the Finite Elements Method. For an Argentinean freshperson in Computational Mechanics it may be hard to associate said acronym with its expanded form. This is the simple paradox that I will consider firstly.

The reason for it lasts on the first ENIEF, held at Bariloche, near the Andes Mountains in 1983. In one plenary after-session meeting, one of the organizers advanced the idea of founding a society devoted to promote the FEM as a sort of unique tool in Computational Mechanics. By these years I specialized (I still do) on the Finite-Differences Method as applied to Fluid Dynamics and Heat and Mass Transfer. I used to publish on numerical methods like linearized, alternating-direction methods applied to the Navier-Stokes equations and Heat and Mass Transfer in 3D unsteady systems. Also, natural circulation in the same physical context was the subject of my interest. Then, the objectives of such a society seemed conceptually restrictive to me. I felt discriminated and, due to this, I expressed my feelings and went away, accompanied by Prof. José Converti. Obviously, people finally agreed to promote the creation of a society with a broader scope in their objectives. However, quite reasonably, the acronym for the meeting was maintained but its full meaning changed to what I mentioned before. This should close the question on the acronym-meaning paradox.

What really counts is that the first ENIEF originated the meetings saga and lead to the creation of the AMCA two years later, i.e. 1985. Prof. Sergio Idelsohn was elected as the President of the AMCA. He still rules the society. Correspondingly, the Secretariat was established at INTEC, Province of Santa Fe, Argentina. Prof. Victorio Sonzogni soon started to contribute very effectively. The INTEC is a well-known research center for Chemical Technology that contributed to establish many of the important lines of research and development in Argentina. Computational Mechanics was no exception to this, but it must be mentioned that the National Atomic Energy Commission, through Prof. Fernando Basombrío and Dr. Gustavo Sanchez Sarmiento, who was one of the young professionals involved in this early group, were also active in this field. Dr. Sergio Pissanetzky joined this group later. In fact, they organized the first ENIEF conferences at the Bariloche Atomic Center. Other people involved in these activities were Prof. Patricio A.A. Laura from Universidad Nacional del Sur, Profs. Carlos Prato and Luis Godoy, from the University of Córdoba (Argentina) and Prof. Guillermo Marshall from the University of Buenos Aires. Dr. Eduardo Dvorkin had also begun to develop his activities at the industry by these years. All these persons constituted a bunch of outstanding professionals emerging in this field at that time. Profs. Angel Menéndez, Alberto Cardona, Guillermo Etse, Carlos Garcia Garino, Mario Stori and other important people started later. By the way, Prof. Marshall organized the 1st Symposium on Numerical Methods in Continuum Mechanics that was held in Buenos Aires by mid 1977. This meeting may be considered the real initiating event for Computational Mechanics in Argentina. About fifty papers were presented and about one hundred fifty researchers attended the meeting.

Coming back to ENIEFs, it is nice looking at the pictures in the AMCA web-site (<http://www.amcaonline.org.ar>) and verifying the steady increment of attendees. In these pictures you may also find world wide outstanding people, like in the 1st ENIEF just for example, where Professor Richard H. Gallagher delivered a course on FEM and participated actively. It is also possible to verify the increasing quality of contributions by looking at the corresponding proceedings. The ENIEFs and other meetings, like their regional equivalents named MECOMs and their associated series of publications are one way of finding documented support for a part of the AMCA's activities. The more recent IACM Bulletin constitutes another valid documentation site.

For sure there is more than one person that may be given credit for the success of the AMCA along these twenty years. However, out of any doubt, it was Prof. Idelsohn that marked all its development. He also used inviting influential members of the world wide academy to come to Argentina. Because of this, most young people belonging to the Computational Mechanics community benefited from these presences by attending seminars, courses and conferences. Obviously, one milestone in the history of the AMCA was the organization of the IACM International Congress on Computational Mechanics in 1998. All the "living textbooks" were present at the sessions, delivering plenary conferences facing some eight hundreds attendees here, down earth. A huge social dinner including a tango show was also a remarkable event. In this opportunity, the close collaboration of the Spaniard friends was noticeable. It was nice being there. Once again, Prof. Idelsohn left his imprint on the activities. I think that it is the time to mention Mrs. Lelia Zelonka, Sergio's wife and factotum at the AMCA Secretariat, who was key to the persistence of administrative order at the AMCA and to the organization of all the ENIEFs.

It should be obvious that, after twenty years, a number of younger people must have appeared, coping with the leading roles in the organization of major events. Once again, they have been allowed, after discussing pros and cons with AMCA's ad hoc committees, to organize the meetings at their institutions. This activity contributed to consolidate most recently established groups.

AMCA is now firmly established in Argentina as a professional and academic society; it has nearly two hundred members, participates at the IACM activities promoting knowledge in this particular area, seems internationally recognized and, more importantly in my view, supports the idea of a "familia" of dedicated senior friends (we joked by calling ourselves "the cousins") who join regularly to enjoy exchanging experience among them and with foreign experts in a friendly atmosphere, surrounded by an always increasing number of skilled, younger colleagues. It seems assured that the latter will pursue on the AMCA present tradition. This should be enough for most of us. ●

*Juan Carlos Ferreri,  
July 2005*

*Researcher and Staff Member at the Nuclear Regulatory Authority of Argentina, and founder member of AMCA*