

The International Congress of Mathematicians (ICM) is the main international event in Mathematics. It is held once every four years as is the most important activity of the International Mathematical Union (IMU), an organization that encompasses almost 70 countries and all mathematical societies the world over.

The general Assembly of the IMU, convened in Shanghai in 2002, unanimously agreed to designate Spain as the host of the next ICM, to be held in Madrid, August 22-30, 2006. ICM2006 is the twenty-fifth congress of a series started in 1897 in Zurich.

Each ICM constitutes a forum for the presentation of fundamental advances in mathematical research and for the official award ceremony of the Fields Medal, the highest distinction in the world of Mathematics. These medals for achievement in Mathematics are widely regarded as comparable to the Nobel Prize in other scientific areas.





#### HONORARY COMMITTEE

President His Majesty, the King of Spain

Members The Prime Minister of Spain The President of the Community of Madrid The Minister of Education and Science The Minister of Culture The Minister of Foreign Affairs The Minister of Industry Tourism and Trade The Mayor of the City of Madrid The Rector of the Universidad Complutense de Madrid The Rector of the Universidad Autónoma de Madrid The Rector of the Universidad Politécnica de Madrid The Rector of the Universidad de Alcalá de Henares The Rector of the Universidad Carlos III de Madrid The Rector of the Universidad Rey Juan Carlos The Rector of the Universidad Nacional de Educación a Distancia The President of the Consejo Superior de Investigaciones Científicas

## THE CONGRESS IN SPAIN

For the first time in its more than 100-year history, this Congress will take place in Spain, thus becoming the greatest public event in the history of Spanish Mathematics. It symbolizes the recognition of the spectacular growth of mathematical research in our country over the last 20 years. Currently, Mathematics represents the third largest scientific discipline in Spain in terms of its contribution and its international relevance.

The congress will bring *the globe* together 5,000 mathematicians from around the globe, an almost unprecedented number for any scientific event ever held in our country.

As a concomitant event, the General Assembly of the IMU will hold a plenary session in Santiago de Compostela during the weekend before the start of the ICM in Madrid. At the same time, it is expected that about 40 satellite conferences will take place throughout Spain just before or after ICM2006. Spain will become, therefore, the focus of attention of the international mathematical community over the next three years.

Mathematical research in Spain is nowadays internationally competitive For the first time in Spain

5,000 mathematicians from around the globe

40 satellite conferences

#### **HORIZON 2006**

Even though Madrid is the official host of ICM2006, we aim at mobilizing the whole Spanish mathematical community towards the consolidation of Mathematics in our country by the year 2006. This is what we call Horizon 2006.

As Spanish mathematicians we look forward to:

• Empowering mathematical research in Spain and highlighting its international presence;

• Stressing the role of Mathematics as a key to all sciences and a driving force of technology, thereby achieving a higher level of involvement of Spanish Mathematics with technological development and innovation;

• Improving the various educational levels in Mathematics;

• Achieving a greater appreciation of Mathematics by the public at large.

Towards these objectives, we will organize a number of parallel activities such as: debates, symposia, exhibitions, games, seminars, contests, festivals, etc., to illustrate the role that mathematical thought plays in human culture, development and progress.

## KEY TO SCIENCE AND TECHNOLOGICAL DEVELOPMENT

As the oldest of all sciences developed by humankind, Mathematics constitutes the foundation of scientific knowledge and technological development.

Solid and Fluid Mechanics, Number Theory, Algebraic Geometry, Theory of Functions, Differential Equations, Probability Theory, Statistics, etc., are the substrate of those technologies that have made Aviation, Weather Forecasting, Robotics. Error Correction in Compact Discs, Message Encryption, Computerized Axial Tomography, Decoding the Human Genome. Financial Market Analysis and the development of the Internet possible. Medicine uses mathematical methods borrowed from Analysis, and Business Administration utilizes sophisticated statistical methods. Scientific computing is an omnipresent tool in modern society.

It is not just technology and basic sciences that benefit from mathematical discoveries: Music, Architecture and all the Arts derive some of their formal structure from Mathematics, as can be appreciated in the fractal nature of Bach's music. in Gaudi's or Le Corbusier's architecture, or in neogeometric, serial and computerized painting. Mathematics is indeed one of the most solid of all intellectual edifices ever built by human beings.

## MATHEMATICS AND EDUCATION

Mathematics is considered worldwide as fundamental to the educational system. Along with language, it constitutes one of the pillars upon which the education of our children and youth rests.

ICM2006 will organize parallel discussion events dealing with educational issues and the methodology to tackle them.







Foundation of scientific knowledge and technological development

> Inspiration and method for all the Arts

Bringing mathematics close to the population





A reference for Europe, Latin America, and the Mediterranean countries

# Spain's contribution to culture

SPECIFIC AIMS OF ICM2006

As a branch of the international mathematical community, the fundamental features of the ICM are its universality and openness to all mathematicians around the world. In this spirit, and also taking advantage of Spain's geographical and cultural position, we are planning to place special emphasis on three particular "realms":

• The European realm: recovering perhaps for Mathematics the cultural interrelationship symbolized in the Middle Ages by the Camino de Santiago (the road of St. James), we will foster the insertion of the Spanish mathematical community into the wider framework of European institutions, while increasing the cooperation with Eastern European countries.

• The Latin American realm: we will encourage a significant participation of Latin American mathematicians through a program of scholarships and we will campaign with both central and autonomous administrations towards an increased cooperation with Latin America in the areas of research and education.

• The Mediterranean realm: in addition to its European geographical context, Spain forms part of the Mediterranean basin, a determinant factor in its history and culture. Arab and Jewish mathematicians and philosophers helped to forge a unique Spanish scientific identity. We will foster the participation of mathematicians of this geographical area, which includes countries in Europe, Northern Africa and the Middle East, and sponsor the organization of satellite conferences in the region.

We feel particularly committed to these objectives as a means to mirror the specific historic role that Spain has played in history.













### EXECUTIVE COMMITTEE OF ICM2006

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The ICM2006 Committee has been appointed by the Spanish IMU Committee, with the participation of the Royal Spanish Mathematical Society (RSME), the Catalan Mathematical Society (SCM), the Spanish Society for Applied Mathematics (SEMA) and the Society for Statistics and Operational Research (SEIO).



Palacio Municipal de Congresos de Madrid August 22-30, 2006 www.icm2006.org

> General Assembly Santiago de Compostela August 19-20, 2006