

# Presentation of **EWM** and **AWMA**

**European Women in Mathematics  
(1986-)**

**African Women in Mathematics Association  
(2013-)**

*Marie-Françoise Roy,  
Women in Mathematics Seminar  
Konstanz, 2014*

# I : A pictorial history of EWM

***Set by Bodil Branner and Caroline Series***

**Presented at EWM General Meeting at Barcelona,  
September 2011**

***Updated by Marie-Françoise Roy,***  
**AIMS South-Africa, 2013**  
**Konstanz, 2014**



European Women  
in Mathematics

# European Women in Mathematics (EWM)

[www.europeanwomeninmaths.org](http://www.europeanwomeninmaths.org)

- Founded in 1986 to support, encourage and bring together women mathematicians across Europe
- Membership organisation open to all
- Organises biennial general meetings and other local or specialist conferences
- Has several hundred members and 32 coordinators in 27 countries
- Has email net, newsletter and website



# EWM and EMS (European Mathematical Society)

Excellent cooperation

EMS has a committee for women in mathematics

EMS and EWM have a joint scientific committee

EWM organized satellite meeting at ECM Krakow

EWM funded the participation of women mathematicians at ECM  
Krakow (thanks to Google and Compositio)

EMS Lecturer lectures at EWM general meeting



## EWM Aims

- to encourage women to study mathematics.
- to support women in their careers.
- to provide a meeting place for like-minded people.
- to promote scientific communication.
- to cooperate with groups and organizations with similar goals.



Ingrid Daubechies  
EMS Lecturer  
EWM Meeting, Novi Sad 2009  
President of IMU

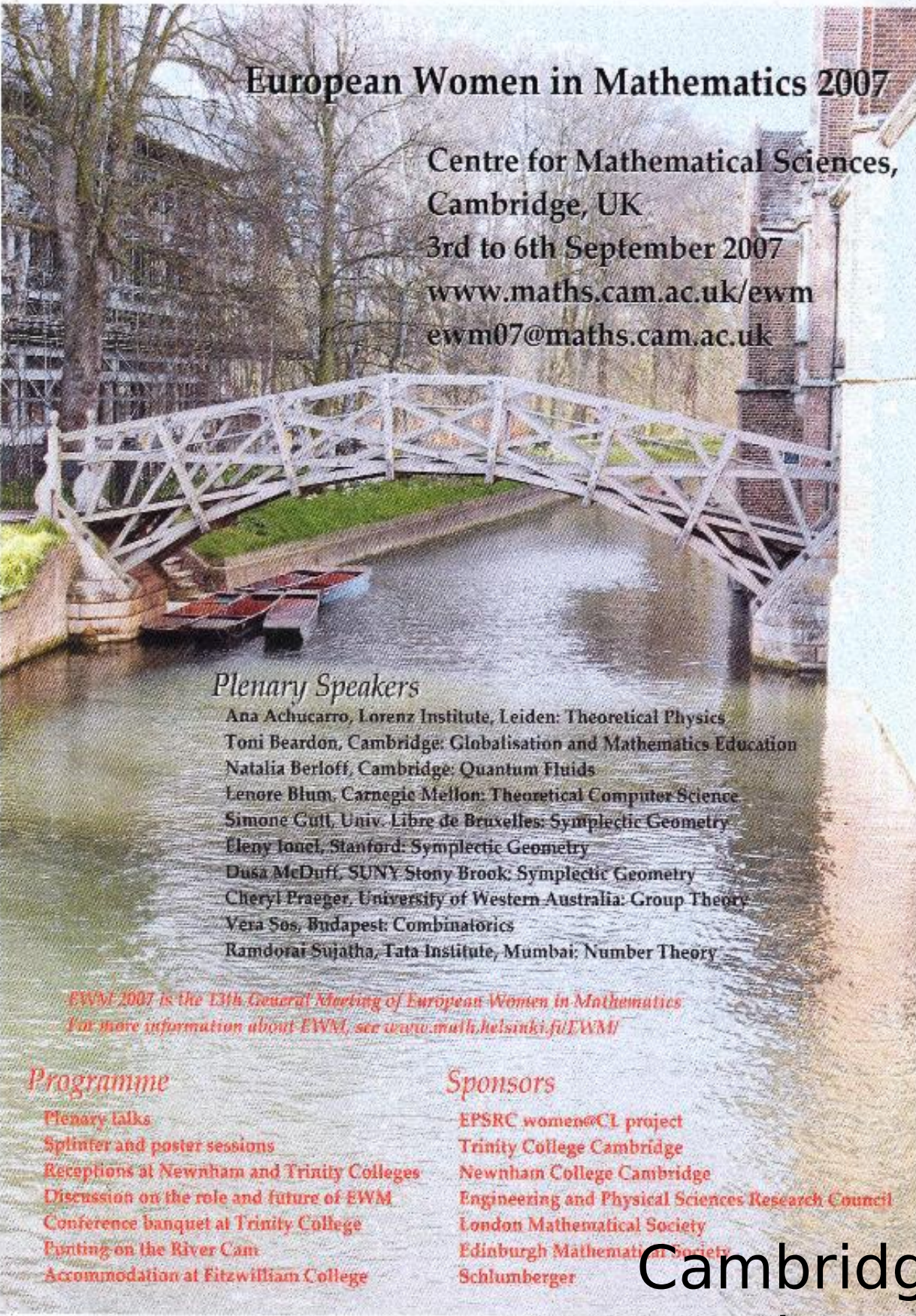


Current Convenor  
Susanna Terracini



# Biennial general meetings

Novi Sad, Serbia.  
August 2009



**European Women in Mathematics 2007**

Centre for Mathematical Sciences,  
Cambridge, UK  
3rd to 6th September 2007  
[www.maths.cam.ac.uk/ewm](http://www.maths.cam.ac.uk/ewm)  
[ewm07@maths.cam.ac.uk](mailto:ewm07@maths.cam.ac.uk)

*Plenary Speakers*

Ana Achucarro, Lorenz Institute, Leiden: Theoretical Physics  
Toni Beardon, Cambridge: Globalisation and Mathematics Education  
Natalia Berloff, Cambridge: Quantum Fluids  
Lenore Blum, Carnegie Mellon: Theoretical Computer Science  
Simone Gult, Univ. Libre de Bruxelles: Symplectic Geometry  
Eleny Ionel, Stanford: Symplectic Geometry  
Dusa McDuff, SUNY Stony Brook: Symplectic Geometry  
Cheryl Praeger, University of Western Australia: Group Theory  
Vera Sos, Budapest: Combinatorics  
Ramdorai Sujatha, Tata Institute, Mumbai: Number Theory

*EWM 2007 is the 13th General Meeting of European Women in Mathematics  
For more information about EWM, see [www.math.helsinki.fi/EWM/](http://www.math.helsinki.fi/EWM/)*

**Programme**

Plenary talks  
Splitter and poster sessions  
Receptions at Newnham and Trinity Colleges  
Discussion on the role and future of EWM  
Conference banquet at Trinity College  
Punting on the River Cam  
Accommodation at Fitzwilliam College

**Sponsors**

EPSRC women@CL project  
Trinity College Cambridge  
Newnham College Cambridge  
Engineering and Physical Sciences Research Council  
London Mathematical Society  
Edinburgh Mathematical Society  
Schlumberger

Cambridge UK  
September 3-6, 2007





# Biennial Meetings

Paris 1986

Copenhagen 1987

Warwick, UK, 1988

Lisbon 1991

Warsaw 1993

Madrid 1995

Marseille, France, 1995

Trieste, Italie, 1997

Loccum, Germany 1999

Malta 2001

Marseille, France 2003

Volgograd, Russia 2005

Cambridge, UK 2007

Novi Sad, Serbia 2009

Barcelona, Spain 2011

Bonn, Germany 2013

Cortona, Italy 2015

Berlin, Germany 2016 (ECM)



# Biennial Meetings

Mathematically speaking : a wonderful opportunity to discover new topics, questions, specially naive ones, are encouraged

EMS lecturers (Tamar Ziegler 2013)

Invited lecturers with synergy between talks

Contributed lectures from young participants

Also : general assembly, forum discussion, round table

# Other EWM activities

## Summer schools

main organizers are  
young women  
mathematicians

Leyden 2011

ICTP 2013

Mittlag-Leffler 2014

**Lorentz center** **4th European Women in Mathematics Summer School**  
Workshop: 6 – 10 June 2011, Leiden, the Netherlands

**Scientific Organizers**

- Dion Coumans, Nijmegen
- Andrea Hofmann, Oslo
- Janne Kool, Utrecht
- Erwin Torrado Dassen, Leiden

**Scientific Committee**

- Mai Gehrke, Nijmegen
- Tinne Hoff Kjeldsen, Roskilde
- Sylvie Paycha, Aubière

**Topics**

- Logic
- Geometry
- History of Mathematics
- Gender Issues

**Speakers**

- June Barrow-Green, Milton Keynes
- Marieke van den Brink, Nijmegen
- Ana Cannas da Silva, Lisbon
- Robbert Dijkgraaf, Amsterdam
- Lisbeth Fajstrup, Aalborg Øst
- Rosalie Iemhoff, Utrecht
- Marianne Løken, Oslo
- Anca Muscholl, Bordeaux
- Jeanne Peiffer, Paris
- Marie-Françoise Roy, Rennes
- Annette Vogt, Berlin
- Carol Wood, Connecticut

[www.lorentzcenter.nl](http://www.lorentzcenter.nl)

# Other EWM activities

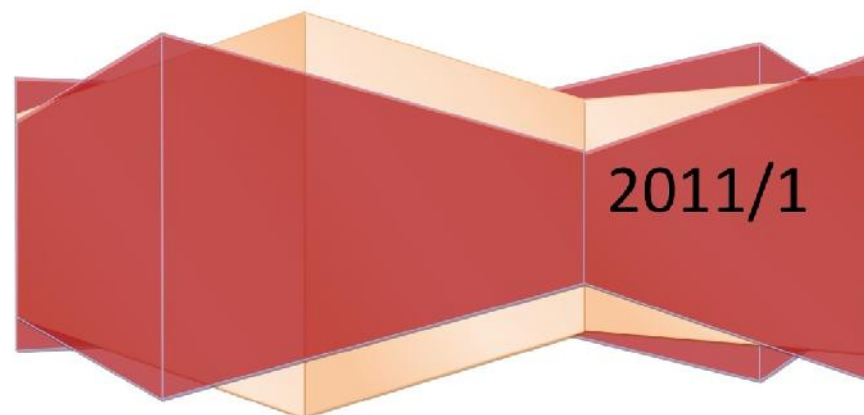


*25th Anniversary*

**EUROPEAN WOMEN IN  
MATHEMATICS**

Newsletter 18

Edited by Sara Munday (University of St. Andrews, UK)  
and Elena Resmerita (University of Klagenfurt, Austria)



Newsletter

Twice a year

Portraits of women

Reports on countries

Reports on EWM  
activities



# Other EWM activities

At ICM

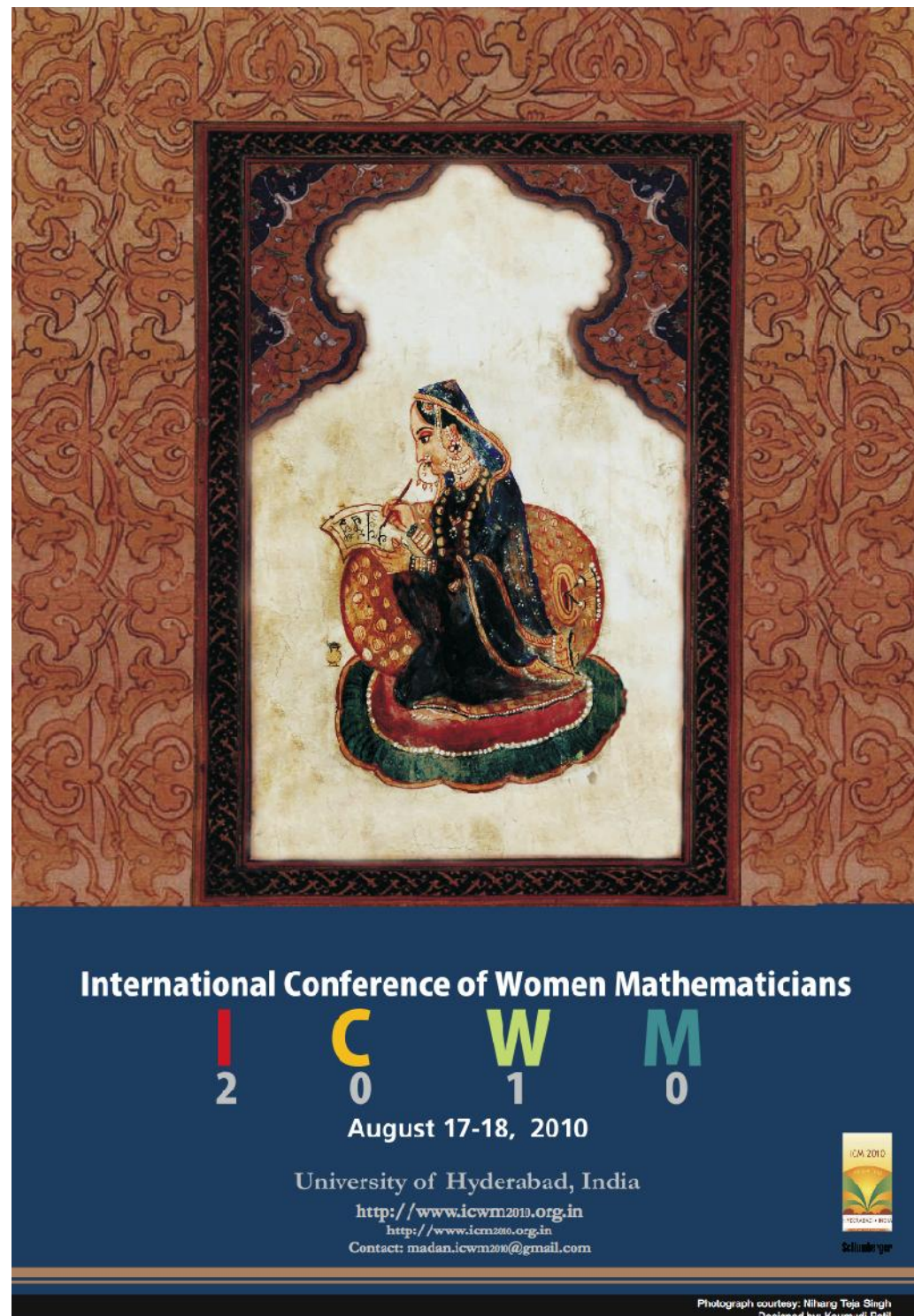
Round tables

(starting in Berkeley 1986)

ICWM

Hyderabad 2010

Seoul 2014



# The beginning

EWM began at the International Congress of Mathematicians in Berkeley, August 1986.

ORGANIZED BY THE

Association for Women in Mathematics

Panel

WOMEN IN MATHEMATICS:  
AN INTERNATIONAL PERSPECTIVE  
EIGHT YEARS LATER

International Congress of Mathematicians  
University of California, Berkeley

Wednesday, August 6

7:30 -- 8:30 p.m.

in

Physical Science Lecture Hall

Participants Include:

Josefina Alvarez-Alonso (Argentina)  
Lenore Blum (USA), Moderator  
Bodil Branner (Denmark)  
Marie-Francoise Coste-Roy (France)  
Gudrun Kyllbach (Federal Republic of Germany)  
Bokunola Osibodu (Nigeria)  
Maria Jose Pacifico (Brazil)  
~~Reiko Sakamoto (Japan)~~  
Jenny Seberry (Australia)  
Caroline Series (England)

There will be a RECEPTION immediately following the Panel Discussion.

If you are interested in more information about AWM while attending the Conference, please feel free to talk to Linda Keen the President, Bettye Anne Case the Meetings Chair or any member of the Local Arrangements Committee: Lenore Blum, Lisa Goldberg, and Evelyn Silvia.

ASSOCIATION FOR WOMEN IN MATHEMATICS  
Box 178, Wellesley College  
Wellesley, Massachusetts 02181

## EUROPEAN BRANCH OF THE ASSOCIATION FOR WOMEN IN MATHEMATICS

At the International Congress in Berkeley this summer, the AWM organised a panel discussion on the situation of women mathematicians worldwide. A full account of the meeting is to be found in the September AWM newsletter, obtainable from AWM, Box 178, Wellesley College, Wellesley, MA 02181, U.S.A. As a result of that meeting, it was decided to form a European branch of AWM.

A preliminary working meeting to discuss the form which this organisation should take will be held in Paris, on December 13th-14th 1986. Anyone who would like to participate in this meeting, or who has suggestions relating to the organisation, or who would be interested in joining or receiving future mailings should contact either Caroline Series, Mathematics Institute, Warwick University, Coventry CV4 7AL or Dona Strauss, Department of Mathematics, University of Hull, Newland Park, Hull HU5 2DW.

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# The next steps

Universität Ulm

Abteilung für Mathematik III

Prof. Dr. G. Kalmbach

D-7900 Ulm, den *Nov. 11, 1986*  
Oberer Eselsberg  
F: (0731) 176 - 2928

Dear *Caroline*,

this is our second circular letter concerning our first meeting of the A. W. M., European Branch. It will be in

Paris, Institut Henri Poincaré (IHP),  
Rue Piere et Marie Curie (near the Luxemburg)  
December 13, (Saturday) 1 pm to December 14, 1 pm

If you did not write to me up to now: please return the attached form if you want to attend the meeting. Everyone should make her own hotel reservation. The tentative schedule is:

- Dec. 13: 1 - 1:45 pm Bodil Branner "Iteration of Complex Polynomials"  
2 - 2:45 pm Gudrun Kalmbach "Measures and Orthomodular Spaces"  
3 - 6:30 pm General Meeting
- Dec. 14: 10 - 10:45 am Marie-Francoise Coste-Roy "Les Ecoles Normales Supérieure of Rue d'Ulm and of Sèvres"  
11 - 1 pm General Meeting.

Specific topics for the discussion (to be completed) and general meeting are:

- (a) The future of scientific education for girls.  
(b) Why do women take a longer time than men to acquire self-confidence? (Michelle Schatzman)  
(c) Discussion on the french "competative examination". (M.-F. Coste-Roy)  
(d) Discussion on an "European Statute" for the European Branch of A. W. M. (G. Kalmbach)  
(e) Vote for a committee: chair, vicechair, treasurer, secretary.  
Volunteers until now are: B. Branner (Denmark), M.-F. Coste-Roy (France), G. Kalmbach (W-Germany), D. Strauß (England).

On behalf of the temporary committee, sincerely yours,

*Gudrun Kalmbach*

(Gudrun Kalmbach)

**Paris  
December 1986  
10 women from  
5 countries**

BRIEF REPORT ON THE

**EWM MEETING**

DECEMBER 12/13, 1987, COPENHAGEN

The second meeting of the European Women in Mathematics was attended by 22 participants from nine countries and reports were given about the situation in each country.

A detailed report will be written by Catherine Goldstein, Dépt. de Math., Univ. de Paris XI, F-91405 ORSAY, Cedex. It will be distributed by Marion Kimberley, Goldsmiths' College, Lewisham Way, LONDON SE14 6NW, England. Marion also has a list of the national coordinators.

Ragni Piene from Oslo Universitet gave an invited address on "Some differential-geometric aspects of algebraic geometry". Several committees have been formed for special issues. The next meetings are planned for

Warwick, England, November/December 1988  
Lisboa, Portugal, 1989 and provisionally for  
1990, Roma, Italy.

The meeting was partially supported by the Danish Ministry of Education, the Danish Natural Science Research Council, the Danish Social Science Research Council, the Otto Mønsted Foundation, private donations and the Technical University of Denmark.

## EUROPEAN WOMEN IN MATHEMATICS

Detailed report of the second annual

EWM MEETING

December 12-13, 1987, Copenhagen (Lyngby).

*G. Kalmbach*

(G. Kalmbach)

*Marketa Novak*

(Marketa Novak)

**Copenhagen  
December 1987  
22 women from 9  
countries**



Second Announcement

Third Annual Meeting of European Women in Mathematics.

Warwick University, Coventry, England,

December 10th - 12th, 1988.

The programme will consist of:

(i) *Expository talks*

The third day of the conference (Monday) will take the form of an open mathematical meeting. There will be talks on research mathematics given by women prominent in their fields.

(ii) *Meeting for local schoolgirls*

On the Sunday afternoon fifth and sixth form girls from local schools will be invited to attend the meeting. There will be a mathematical talk followed by tea and general discussion.

(iii) *General Discussion: Family versus career*

This theme was selected as a result of overwhelming demand at the last annual meeting in Copenhagen.

(iv) *Business Meetings for EWM.*

These will be to discuss the possibilities for future action and various organisational and constitutional questions.

(v) *Social events.*

An evening out for a meal will be organised on Sunday.

More details of the programme and a report on the last annual meeting are available on request from the organisers (Sarah Rees and Caroline Series) at the Mathematics Institute, University of Warwick, Coventry,

# Warwick December 1988

43 women from 13  
countries

EUROPEAN CONFERENCE  
of WOMEN in MATHEMATICS



10-12 DECEMBER 1988  
UNIVERSITY of WARWICK  
ENGLAND





## EUROPEAN WOMEN IN MATHEMATICS

This organisation is an affiliation of women in Europe bound by a common interest in the position of women in mathematics. We are a sister organisation of the American *Association for Women in Mathematics*. Our purposes are:

To encourage women and girls to take up and continue their studies in mathematics.

To support women with or desiring careers in mathematics or mathematics related fields.

To provide a meeting place for these women.

To promote equal opportunity and equal treatment of women in the mathematical community.

To cooperate with groups and organisations, in Europe and elsewhere, with similar goals.

Our organisation was conceived at the International Congress of Mathematicians in Berkeley, August 1986, as a result of a panel discussion organised by the Association for Women in Mathematics, in which several European women mathematicians took part. There have since been three European meetings, the first in Paris in December 1986, the second in Copenhagen in December 1987, and the third in Warwick (England) in December 1988. The fourth meeting will take place in Lisbon in December 1989. The fifth meeting is provisionally planned for Italy in 1990.

At the time of writing, there are participating members in the following countries: Denmark, Finland, France, Greece, Italy, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom, West Germany, and contacts in Czechoslovakia and Hungary. Activities and publicity within each country are organised by national co-ordinators. Each country or region is free to form its own regional or national organisation, taking whatever organisational or legal form is appropriate to the local circumstances. Such organisations already exist in France (*Femmes et Mathématiques*), Scandinavia (*The Nordic Group*) and at Warwick University, England (*Warwick Women in Mathematics*). Details of the activities of these groups can be obtained directly from their organisers. Other members are encouraged to consider the possibility of forming such local, regional or national groups themselves.

For further information please contact your national co-ordinator or the general co-ordinator Dr. Marion Kimberley, National Heart and Lung Institute, Dovehouse Street, London SW3 6LY, England. Tel: 01-352-8121 ext.3057.

# Getting organised



Between 1987 and 1991 we set up our basic structure of convenor, standing committee and regional co-ordinators. By 1993 we had established an office in Helsinki and were registered as a legal organisation in Finland ... as the EMS had been in 1990.



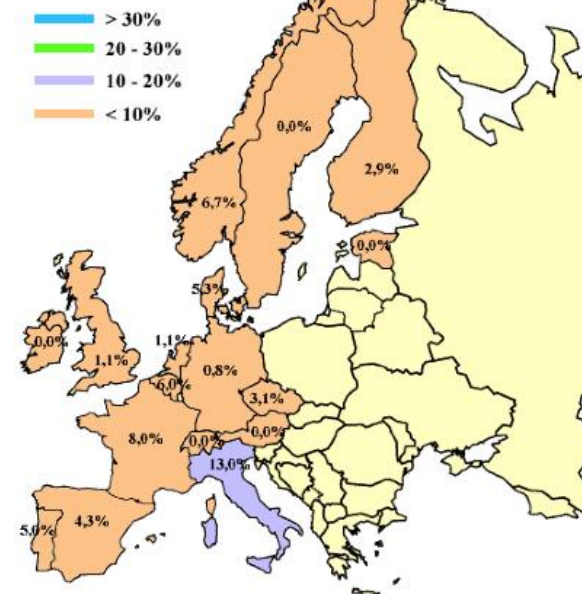




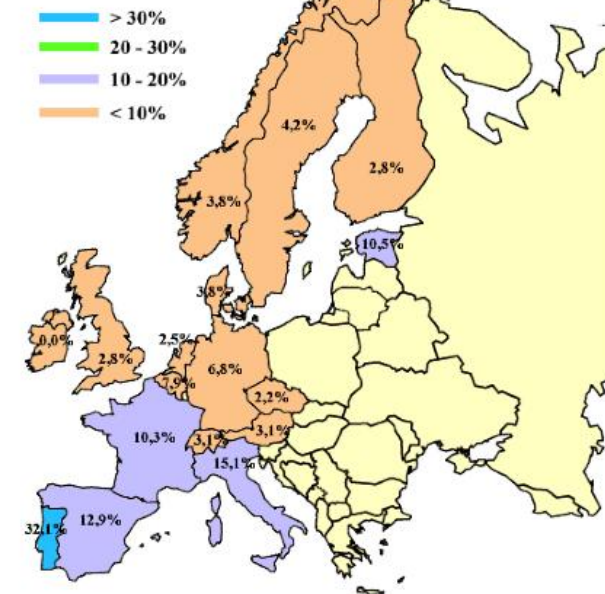
# Statistics

In 1991 Eva Bayer suggested that the EMS set up a Women in Maths committee. With EWM's help, they collected statistics about women mathematicians across Europe.

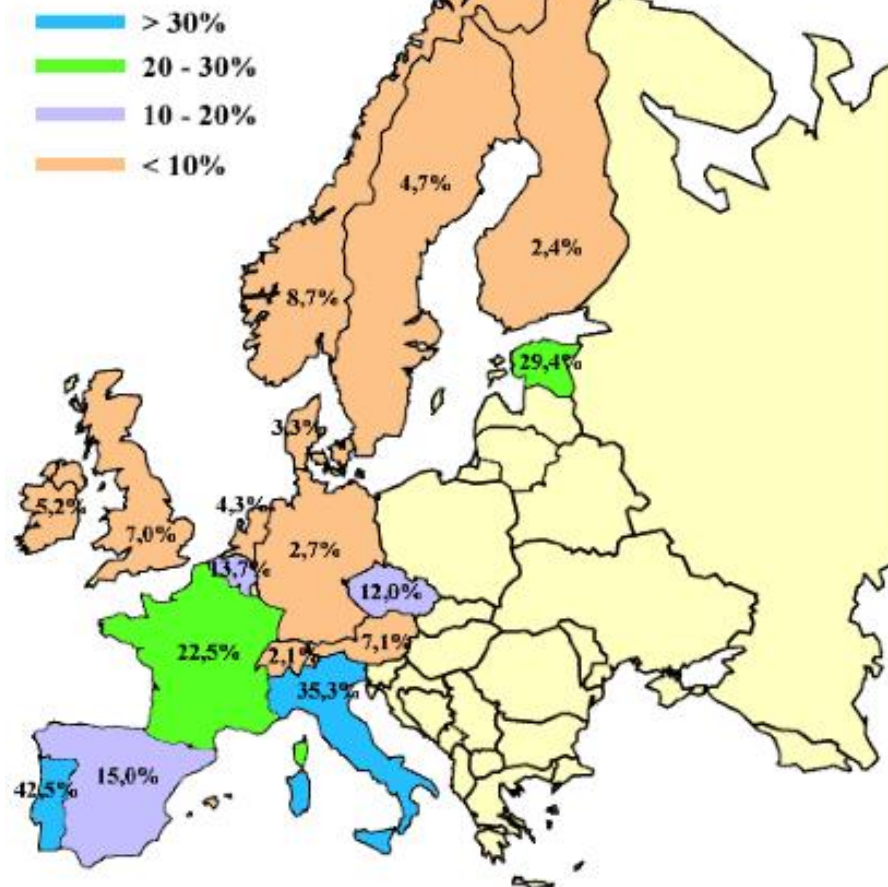
Percentage of women full professors in 1993.



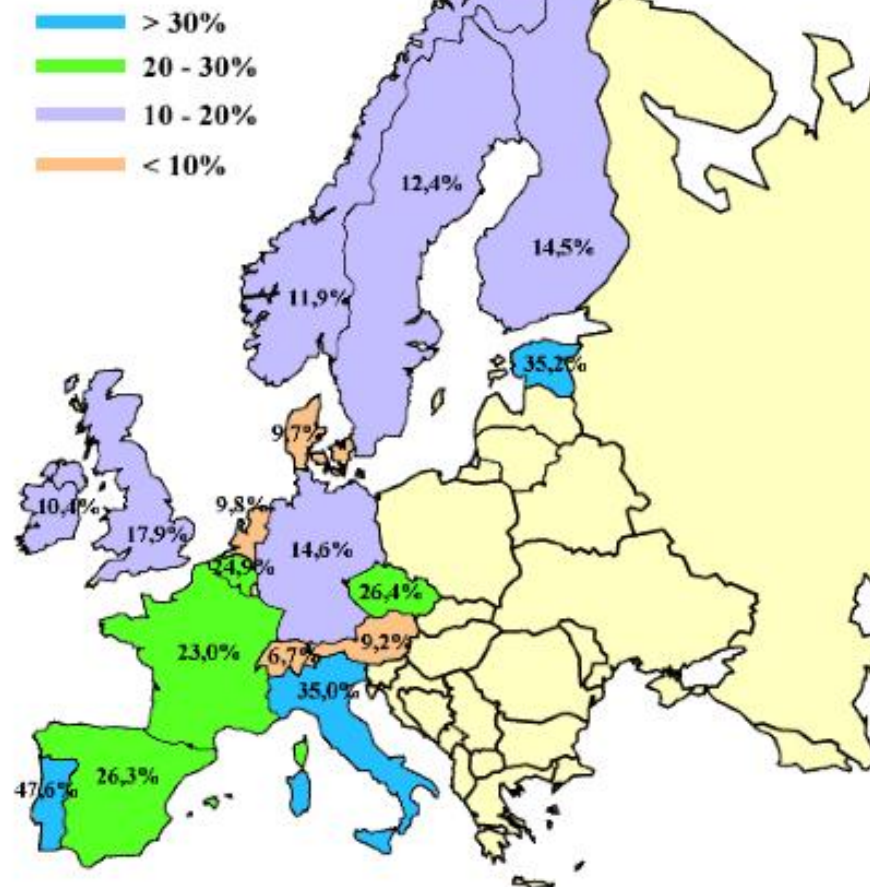
Percentage of women full professors in 2005.



Percentage of women mathematicians in 1993.



Percentage of women mathematicians in 2005.



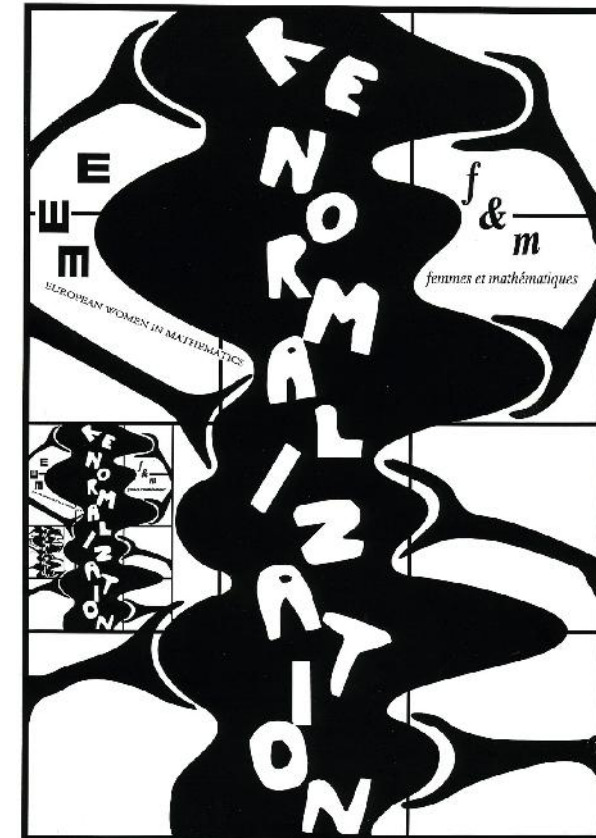
The WiM committee organised a round table discussion in Paris 1992 at the first European Congress of Mathematics



EWM continued with a main meeting every two years and other events between.



Madrid 1995  
46 women from 14 countries



Paris 1996 - Workshop  
organized jointly  
between EWM and f&m  
(Femmes et Maths)

During the Madrid meeting  
a **video** was filmed



# The WiM committee of EMS organised a round table discussion at the second European Congress of Mathematics in Budapest 1996

## Women and Mathematics across Cultures

EWM - European Women in Mathematics



EWM, Department of Mathematics,  
P.O. Box 4,  
00014 University of Helsinki, Finland

$$\left. \begin{array}{c} \widetilde{\mathbb{Q}}(X) \\ | \\ \mathbb{Q}(X) \\ | \\ K(X) \end{array} \right\} \left. \begin{array}{c} \hat{\pi}_1(X) \\ G_K \end{array} \right\} G$$

$$\mathrm{Hilb}_{(1+n)}^{\mathbb{A}^n} = \mathrm{Grass}$$

$$Z = \int_{\mathrm{Emb}(\Lambda) \times M}$$

First EWM video  
Also exists on DVD

The round table discussion was focused on  
Women and Mathematics across Cultures.

## Women and Mathematics across Cultures

EWM - European Women in Mathematics

A video made by European Women in Mathematics.

Why are there many more women mathematicians in Italy and Brazil than in Norway, England or Germany? What is it about Latin culture that encourages women mathematicians, while that of Northern Europe mitigates against them?

Mathematics is a universal and cross-cultural discipline; European Women in Mathematics is the organisation which supports women mathematicians right across Europe. Gathering statistics and comparing experiences raises many fascinating and unexpected questions about the effects of traditional cultural values on women's role in the modern world.

This video explores the impact of cultural differences on the female condition by allowing four women mathematicians who have studied and worked in Europe and North and South America to tell their stories.

Following a five minute introduction to EWM, including some surprising statistics about women mathematicians in Europe, the four women recount their personal experiences.

This thought-provoking video should stimulate a novel discussion about the impact of cultural influences on the status of women, with implications extending well beyond the world of mathematics.

Length: 25 minutes.

Directed by Marjatta Nääänen in collaboration with Bodil Branner, Kari Hag and Caroline Series, 1996.

<http://www.math.helsinki.fi/EWM>

$$\left. \begin{array}{c} H \\ G/H \end{array} \right\} G$$

$$(f^*g)_{ab} = g_{ab}$$

$$f_{ab} = \sum_{c,d=1,2} g_{cd} \frac{dx^c}{dy^a}$$

$$C \xrightarrow{\Delta} C$$

$$C \xrightarrow{1 \otimes \Delta} C \otimes C$$

$$Diff(\Lambda) \times Me(f,g)$$

$$\Delta e = \sum_{(i)} e_{(i)} \otimes e_i$$

$$g(e) = f(e)g(e).$$

$$C(\Lambda)/D(f(\Lambda))$$

$$[g] \equiv \{c^{\phi}g, \phi \in M$$

$$Me(\Lambda)/W(\Lambda)$$

$$\beta: W(\Lambda) \times W(\Lambda) \rightarrow (G^H, g)$$

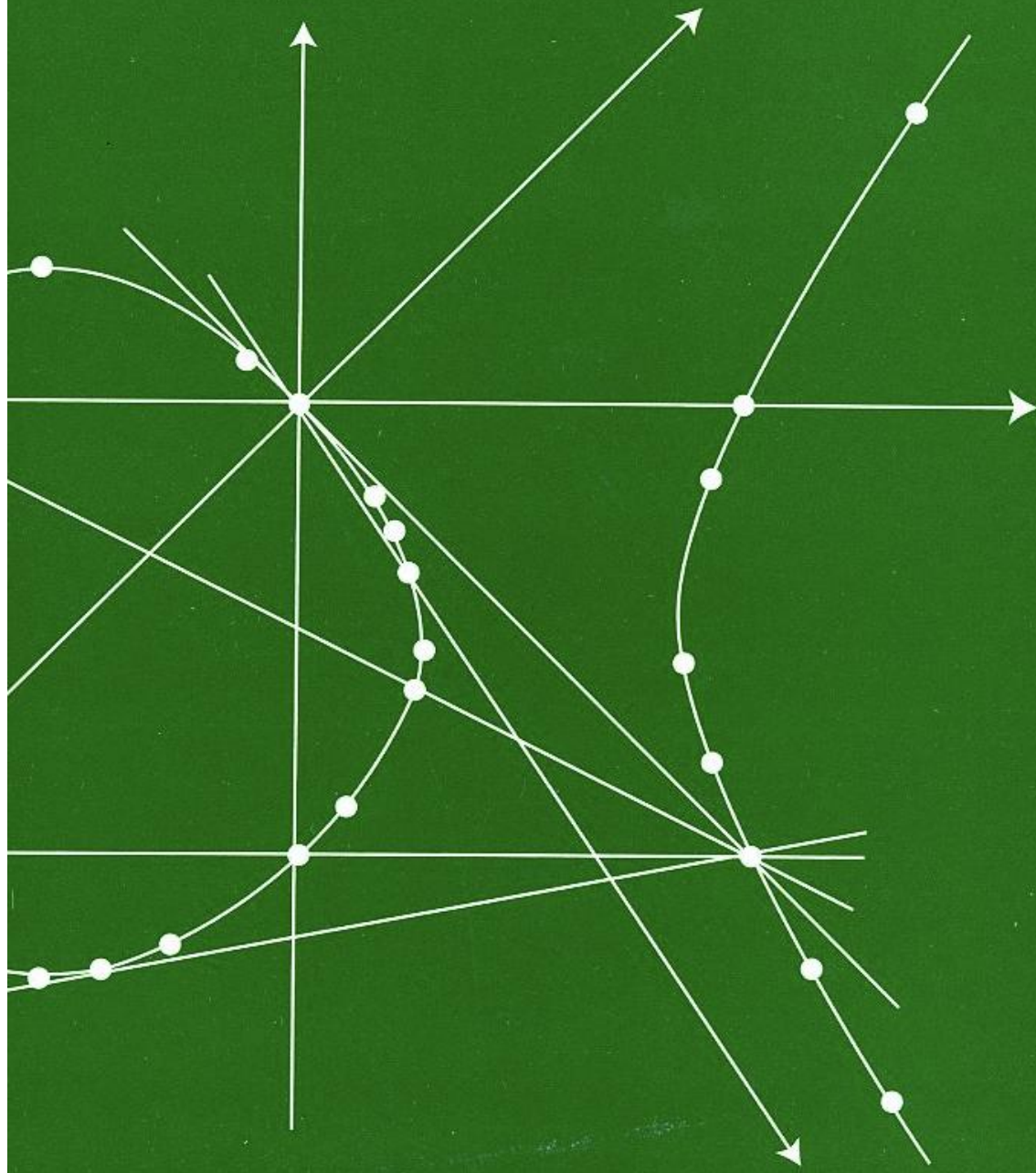
$$A(x \circ f, f^*g) = A$$

$$Z = \int_{\mathrm{Emb}(\Lambda)}$$

$$\mathrm{Hilb}_{(1+n)}^{\mathbb{A}^n} = \mathrm{Grass}$$



*International Centre for Theoretical Physics  
Trieste, Italy, 12-17 December 1997*



## **Trieste 1997**

98 women from 30 countries  
(150 applicants)

Most European countries  
as well as  
Chile, Egypt, India, Iran, Kyrgystan,  
Nepal,  
Tunisia, Uzbekistan, the West Bank

The ICTP supported fully three women  
from developing countries to participate  
in the EWM meeting and to stay ICTP  
as visitors for two months.



In 1994 we set up an email net and in 1997 we announced a web page!



*Loccum 1999  
50 women from 13  
countries*



Michele Vergne  
EMS Lecturer 2001,  
Malta

*Malta 2001  
76 participants from 21  
countries  
and 4 continents*







## Cambridge 2007

85 women from 25 countries

## **Collaboration with the EMS Women in Maths Committee**

Following the Cambridge meeting we worked with the EMS Women in Maths committee to set up a group of leading women mathematicians to advise on scientific programs and speakers for EWM meetings and other related events.

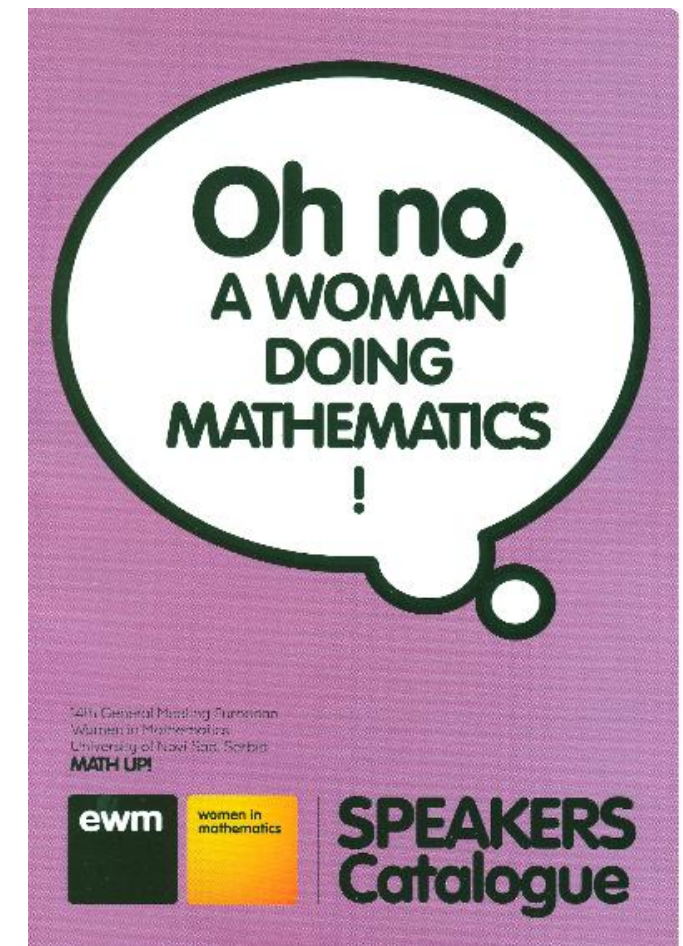
We are co-ordinating about our web presence and other matters.

### **EMS-EWM joint scientific committee**

See current list on

<http://www.europeanwomeninmaths.org/about-us/organization>





In 2009 we had a wonderful meeting in **Novi Sad, Serbia**.  
70 women from 25 countries came.

Ingrid Dabechies 2009 EMS lecturer gave 3 of her lectures at our conference.

All lectures were filmed and there is an EWM promo video on YouTube.





# Our new website (2012)

The screenshot shows the website of the European Women in Mathematics (EWM) association. The browser's address bar displays 'www.europeanwomeninmaths.org'. The website features a header with the EWM logo and a navigation menu. A dropdown menu is open under 'activities', listing 'about activities', 'conferences', 'summer schools', and 'meetings in countries'. The main content area includes a description of the association, its founding in 1986, and information about its activities and membership. A sidebar on the right lists 'next conferences' and a 'support us' section with a 'Donate' button and payment logos.

Fichier Édition Affichage Historique Marque-pages Outils Aide

European Women in Mathema...

www.europeanwomeninmaths.org

Google

**EWM** European Women in Mathematics

home about us activities women in math resources contact us

log in become member

about activities  
conferences  
summer schools  
meetings in countries

**ewm association**

European Women in Mathematics is an international association of women working in the field of mathematics in Europe.

Founded in 1986, EWM has several hundred members and coordinators in over 30 European countries. Every other year, EWM holds a general meeting and a summer school. A newsletter is published at least twice a year, EWM has a website and an e-mail network.

Several videos have been produced by EWM, such as Women in Mathematics Movie Part I, Part II and Part III.

If you want to join us, register [here](#). Once you are registered, you can pay your fees, [details here](#).

It is also possible to make a donation without becoming member, [details here](#).

If you notice typos, omissions, or mistakes [contact us](#).

**next conferences**

The 16'th General meeting of EWM

**support us**

Donate

MasterCard VISA



2013

▪

ICTP summer school

5th Women in Math summer school

Mathematics of the Planet Earth

EWM general meeting in Bonn

2-6 september

2013 (Bonn)



Yukari Ito

(Nagoya University)  
with her poster



# International networks

▪

Association for Women in Mathematics (US)

European Women in Mathematics

International Conference of Women in Mathematics (2010,  
2014)

Indian women in Mathematics

African Women in Mathematics Association

## **II : African Women in Mathematics Association**

Created in july 2013 at AIMS South Africa

Aims and constitution similar to those of EWM

Starting point : proportion of women in mathematics in Africa ?

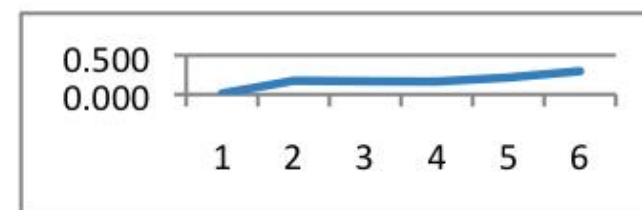


# Percentage of women participants in CIMPA-ICPAM research schools

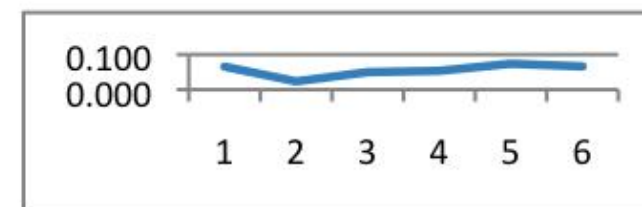
## CIMPA

79-84 85-89 90-94 95-99 00-04 05-10

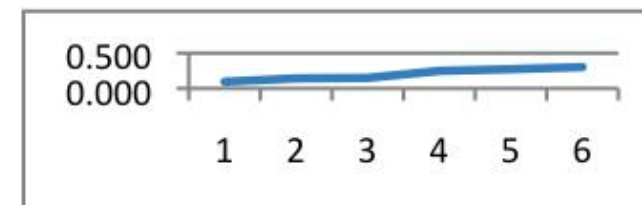
|         |  |       |               |       |       |       |       |       |       |
|---------|--|-------|---------------|-------|-------|-------|-------|-------|-------|
| f       |  | 294   | Mediterranean | 1     | 21    | 41    | 24    | 51    | 156   |
| h       |  | 1054  | Mediterranean | 77    | 99    | 202   | 122   | 185   | 369   |
| f/(f+h) |  | 0.218 |               | 0.013 | 0.175 | 0.169 | 0.164 | 0.216 | 0.297 |



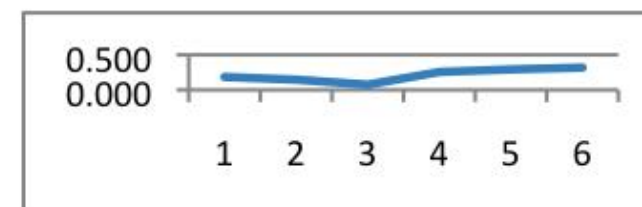
|         |  |       |                    |       |       |       |       |       |       |
|---------|--|-------|--------------------|-------|-------|-------|-------|-------|-------|
| f       |  | 83    | Sub-saharan Africa | 4     | 2     | 9     | 12    | 31    | 25    |
| h       |  | 1266  | Sub-saharan Africa | 57    | 83    | 172   | 212   | 389   | 353   |
| f/(f+h) |  | 0.062 |                    | 0.066 | 0.024 | 0.050 | 0.054 | 0.074 | 0.066 |



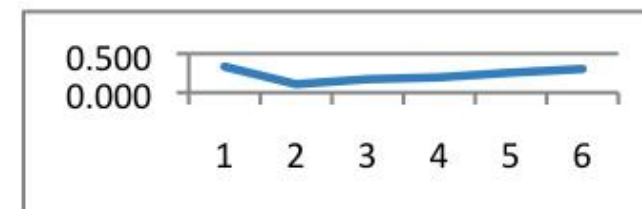
|         |  |       |         |       |       |       |       |       |       |
|---------|--|-------|---------|-------|-------|-------|-------|-------|-------|
| f       |  | 565   | America | 2     | 2     | 25    | 60    | 258   | 218   |
| h       |  | 1541  | America | 19    | 12    | 142   | 181   | 686   | 501   |
| f/(f+h) |  | 0.268 |         | 0.095 | 0.143 | 0.150 | 0.249 | 0.273 | 0.303 |



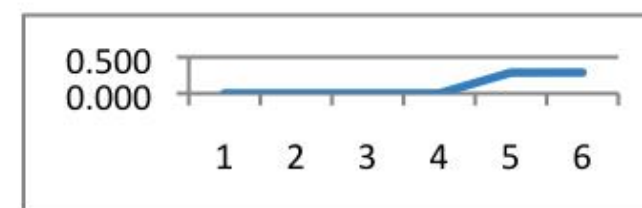
|         |  |       |      |       |       |       |       |       |       |
|---------|--|-------|------|-------|-------|-------|-------|-------|-------|
| f       |  | 388   | Asia | 5     | 6     | 16    | 43    | 118   | 200   |
| h       |  | 1092  | Asia | 22    | 35    | 197   | 125   | 285   | 428   |
| f/(f+h) |  | 0.262 |      | 0.185 | 0.146 | 0.075 | 0.256 | 0.293 | 0.318 |



|         |  |       |        |       |       |       |       |       |       |
|---------|--|-------|--------|-------|-------|-------|-------|-------|-------|
| f       |  | 234   | Europe | 26    | 4     | 57    | 28    | 41    | 78    |
| h       |  | 772   | Europe | 52    | 33    | 274   | 115   | 119   | 179   |
| f/(f+h) |  | 0.233 |        | 0.333 | 0.108 | 0.172 | 0.196 | 0.256 | 0.304 |



|         |  |       |             |       |       |       |       |       |       |
|---------|--|-------|-------------|-------|-------|-------|-------|-------|-------|
| f       |  | 131   | Middle east | 0     | 0     | 0     | 0     | 35    | 96    |
| h       |  | 370   | Middle east | 15    | 5     | 9     | 17    | 87    | 237   |
| f/(f+h) |  | 0.261 |             | 0.000 | 0.000 | 0.000 | 0.000 | 0.287 | 0.288 |



CIMPA

# Initiatives

Committee on women and mathematics of the AMU  
(African Mathematical Union),

New chair Marie-Françoise Ouedraogo, from Burkina Faso  
Invited by EWM to come to general meeting in Barcelona,  
funded by CIMPA and EMS





# Initiatives



Marie-Françoise Ouedraogo



# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso, 2012)

forum for the promotion of mathematics and women  
mathematicians in Africa  
gather african women in mathematics and female Ph D  
students  
create a permanent framework of exchanges between them.

## Program

Round table on the situation of women mathematicians in the  
various regions of Africa,  
General audience mathematical lectures  
Contributed mathematical talks by the participants



# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso)

## Participation

At least 70 people including 40 women coming from Bénin, Burkina Faso, Congo Brazzaville, Congo Kinshasa, Côte d'Ivoire, Éthiopie, France, Ghana, Kenya, Madagascar, Malawi, Mali, Maroc, Mozambique, Nigeria, Pérou, Sénégal, Tanzanie, Zimbabwe.

# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso, 2012)

## Round table

Representatives from the five regions of Africa

- Ibtissam Medarhri, Northern Africa
- Senelani Dorothy Hove-Musekwa, Southern Africa.
- Fanja Rakotondrajao, Eastern Africa
- Rebecca Walo, Centra Africa
- Marie Françoise Ouedraogo, Western Africa
- +
- Marie-Françoise Roy, EWM convenor, CIMPA representative
- Pétronille Kafando, professor of physics



# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso, 2012)

## Recommendations Women in Mathematics

- organize a permanent framework to create an « African Association for Women in Mathematics», in contact with similar organizations in the world such as European Women in Mathematics, the Association for Women in Mathematics in the USA, the association Women in Mathematics in India, and African institutions such as AMU and the African Union,
- set national or regional coordinators, a mailing list and a website,
- write a booklet in several languages promoting African women in mathematics and disseminating they realizations, so that they can be used as role models

# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso, 2012)

## Recommendations

### Young girls and Mathematics

- train all professors, men and women, starting from primary school professors, to gender awareness and equality among men and women, specially to avoid that young girls leave school early,
- pay a particular attention to the situation in secondary schools, which is a crucial step for keeping girls in the educational system,
- modify the methodology of teaching and promote active and participative techniques,



# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso, 2012)

## Recommendations

### Young girls and Mathematics (cont .)

- disseminate the information on actions taken to encourage the young girls in secondary school to mathematics and generalize them to more countries. Such as: Miss Mathematics in Ivory Coast or Benin, or summer camps in mathematics in Zimbabwe,
- improve the image of mathematics by organizing popularization activities such as the mathematical week, the mathematical clubs, and pay attention to the participation of young girls,
- encourage young girls to participate in mathematics olympiads,

# Workshop Women in Mathematics in Ouagadoudou (Burkina Faso, 2012)

## Recommendations

### Equality between men and women

- fight violence against young girls by enforcing existing laws and punishing professors and students involved in such violence,
- raise awareness of the importance of education to women among fathers and mothers and the whole family environment,

## Conclusion

- act in a coordinated way with all the users of mathematics and all the other scientist in an interdisciplinary framework, with active collaboration between secondary and higher education, and participation of all, men and women.

# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## Objectives

- bring together women from various countries within the continent to a Mathematics Workshop
- presenting their work
- discussing the situation and status of women in mathematics in each of their countries and
- creating the Association of African Women Mathematicians
- update the data on African Women in the Mathematical Sciences
- part of the Mathematics of Planet Earth (<http://mpe2013.org>) initiative



# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)



# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## Participation

42 participants from at least 17 African Countries :  
South Africa [ 13], Algeria [1], Benin[1], Burkina Faso [3], Cameroon [1], Cote D'Ivoire [1], DRC Congo [1], Ethiopia [2], France [1], Ghana [1], Kenya [2], Malawi [1], Morocco [1], Mozambique [1], Nigeria [1], Senegal [2], South Africa [5], Tanzania [1], Uganda [1], Zimbabwe [1].

# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## AWMA Constitution and Election

AWMA constitution was discussed and adopted with  
President - Marie-Francoise Ouedraogo (Burkina Faso)

Vice Presidents

West Africa: Joséphine Guidy-Wandja (Côte D'Ivoire)

Central Africa: Rebecca Walo Omana (D.R. Congo)

North Africa: Schehrazad Selmane (Algeria)

East Africa : Yirgalem Tsegaye (Ethiopia)

Southern Africa -Sibusiso Moyo (South Africa)

Secretary Senelani Dorothy Hove-Musekwa (Zimbabwe)

Treasurer Fagueye Ndiaye (Senegal )



# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## Ethnomathematics

Paulus Gerdes (Mozambique) « Mathematical Ideas, Creativity, and Invention in African Female Cultural Practices ».

A number of case studies from the Makwe, Tonga mat and basket weavers in Mozambique was presented.

Illustrates universal contribution of women to culture and mathematics

# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## History of African Women in Mathematics

Joséphine Guidy-Wandja gave a talk « Women and Mathematics: History and Nowadays Situation ».

« African Women, constituting half of the population, are still strongly underrepresented in scientific and technological careers where mathematics plays an important role. »

According to some (very incomplete) sources 10% of african mathematicians are women.

# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## History of African Women in Mathematics Afro American Women in Mathematics in the US

1943 Uphemia Lofton Haynes PhD at Catholic University  
1949 Evelyn Boyd Granville PhD at Yale University.  
1950 Marjorie Lee Browne PhD at University of Michigan.  
1960, Argelia Velez-Rodriguez PhD at University of Havana.  
1961 Sadie Gasaway PhD at Cornell University.  
1961 Lillian K. Bradley PhD at University of Texas  
1962 Gloria Conyers Hewitt PhD at University of Washington –Seattle  
1962 Louise Nixon Sutton PhD at New York University.  
1965 Beryl Eleonor Hunte PhD at New York University  
1965 Thyrsa Frazier Svager PhD at au State University de Ohio  
1966 I Eleanor Dawley Jones PhD at Syracuse University  
1966 Shirley Mathis McBay PhD at University of Georgia  
1966 Vivienne Malone Mayes PhD at University of Texas à Austin.  
1967 Geraldine Darden PhD at Syracuse University.  
1968, Mary Lovenia DeConge-Watson PhD at St. Louis University.  
1969, Etta Zuba Falconer PhD at Emory University.  
1970, Genevieve Knight PhD (Math Education) at University of Maryland.  
1971 Joella H. Gipson PhD at University of Illinois  
1971 Dolores Spikes PhD at Louisiana State University).  
1972, Rada Higgins McCreadie PhD State University de Ohio.



# Workshop Women in Mathematics in AIMS Muizenberg (South Africa, 2013)

## History of African Women in Mathematics Some African Women in Mathematics

- 1963, Grace Lele WILLIAMS from Nigeria Ph D in Math Education at University of Chicago.
- 1971, Joséphine GUIDY-WANDJA from Côte d'Ivoire "Doctorat de 3ème cycle" at University Paris VII. France
- 1985. Kewamoi SOGOMO from Kenya Ph D in Math Education at Patrice Lumumba University at Moscow in Russia
- 1991, Okikiolu Kent from Nigeria Ph.D at UCLA
- 1996, Kbenesh W BLAYNEH from Ethiopia Ph D
- 1996, Wade Aïssa from Senegal Ph D at University of Montpellier, France.
- 1999 Marie-Françoise OUEDRAOGO from Burkina Faso "Doctorat de 3ème cycle" at Ouagadougou University .
- 2001, Patricia ZOUNGRANA from Burkina Faso "Doctorat de 3ème cycle" at Ouagadougou University .
- 2002, Sarifa Abdul MAGIDE-FAGILDE from Mozambique Ph D University of the Western Cape (Bellville, South Africa) in Math education
- 2002. Iris Gugu MOCHE from South Africa Ph.D at Howard University.
- 2002. Kgomo Gertrude GAREGAE from Botswana Ph D University of Manitoba (Winnipeg, Manitoba, Canada) in Math education
- 2003. Janvière NDIRAHISHA from Burundi Ph D University of Antwerp (Antwerp, Belgique)
- 2003. Miranda Ijang TEBOH-EWUNGKEM from Cameroun Ph D at Lehigh University (Bethlehem, Pennsylvania, USA)
- 2004. Kizito NAMUKASA from Uganda. Ph D at University of Alberta in Math Education

# Workshop Women in Mathematics in AIMS Muizenberg (Kenya, 2015)

## Projects

Organize new workshop in Kenya

Booklet of rôle models with african women  
mathematicians