

Presentation of EWM, AWMA and CWM

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

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

**International Mathematical Union
Committee for Women in Mathematics
(2015-)**

***Marie-Françoise Roy,
Paris, 2015***



European Women
in Mathematics

European Women in Mathematics (EWM)

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 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
Past President of IMU



Current Convenor
Susanna Terracini

EWM NEWSLETTER

<http://www.europeanwomeninmaths.org>

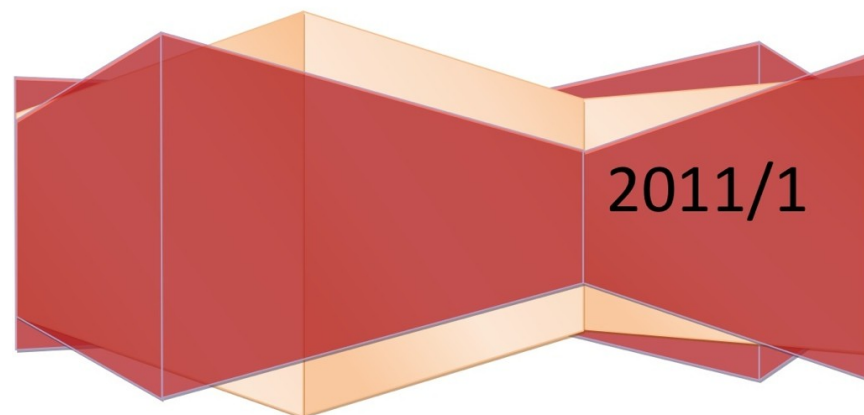


25th Anniversary

**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

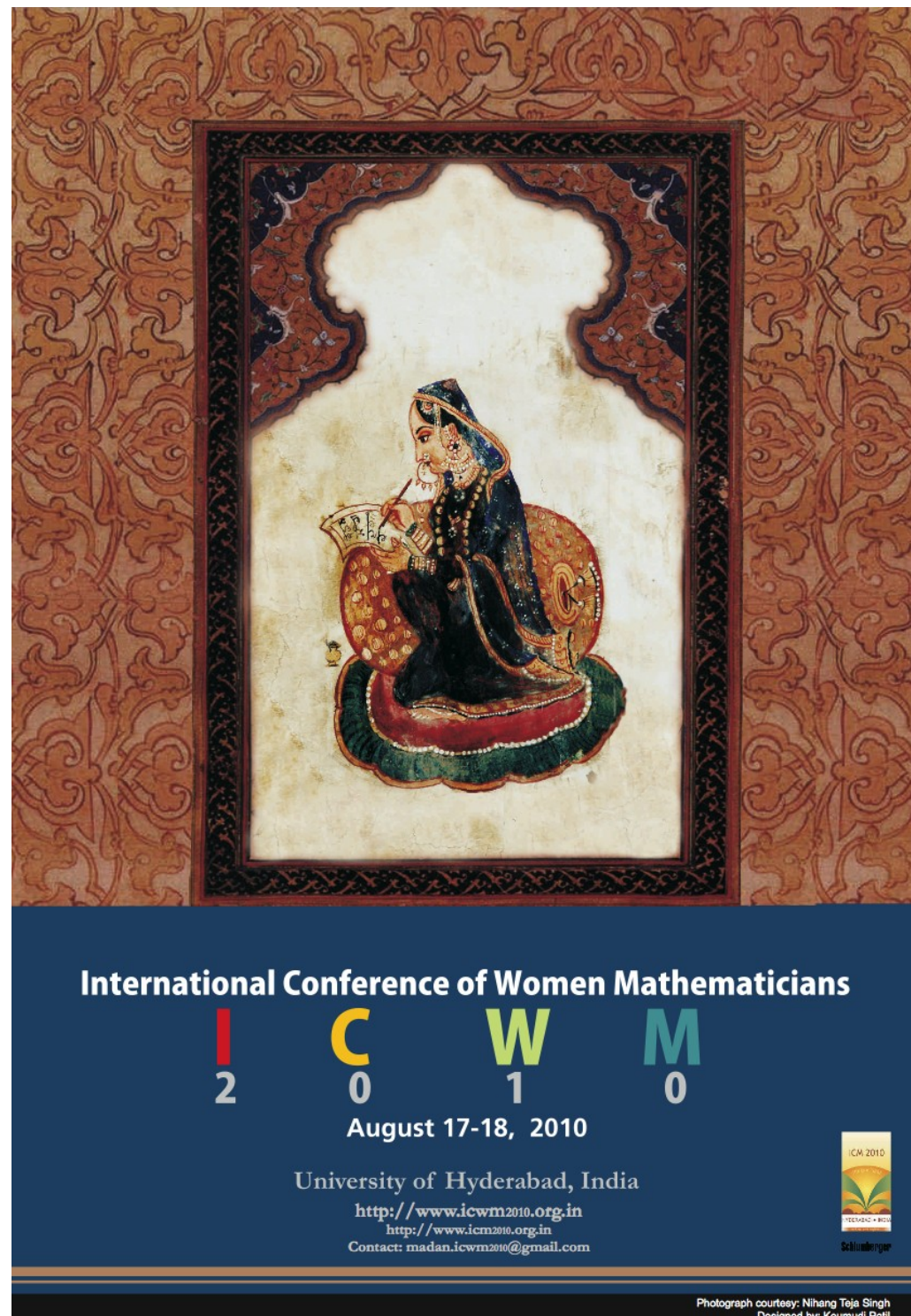
Round tables

(starting in Berkeley 1986)

ICWM

Hyderabad 2010

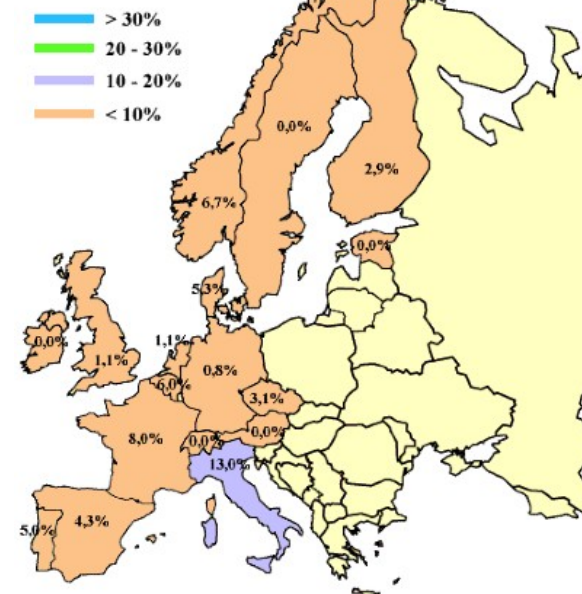
Seoul 2014



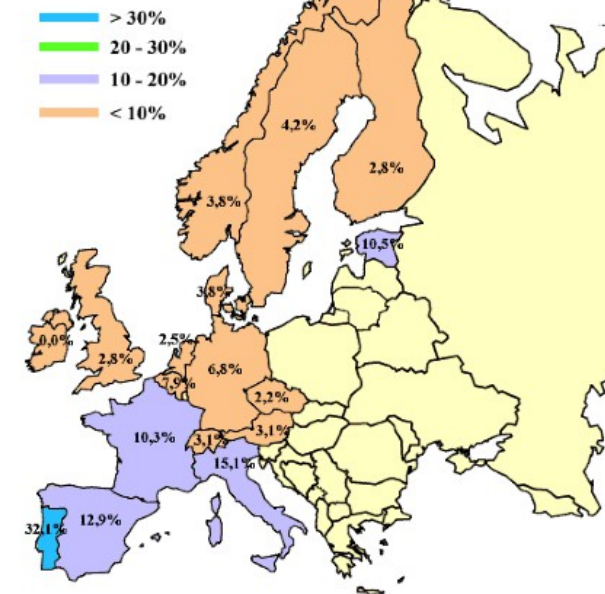
Statistics

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.

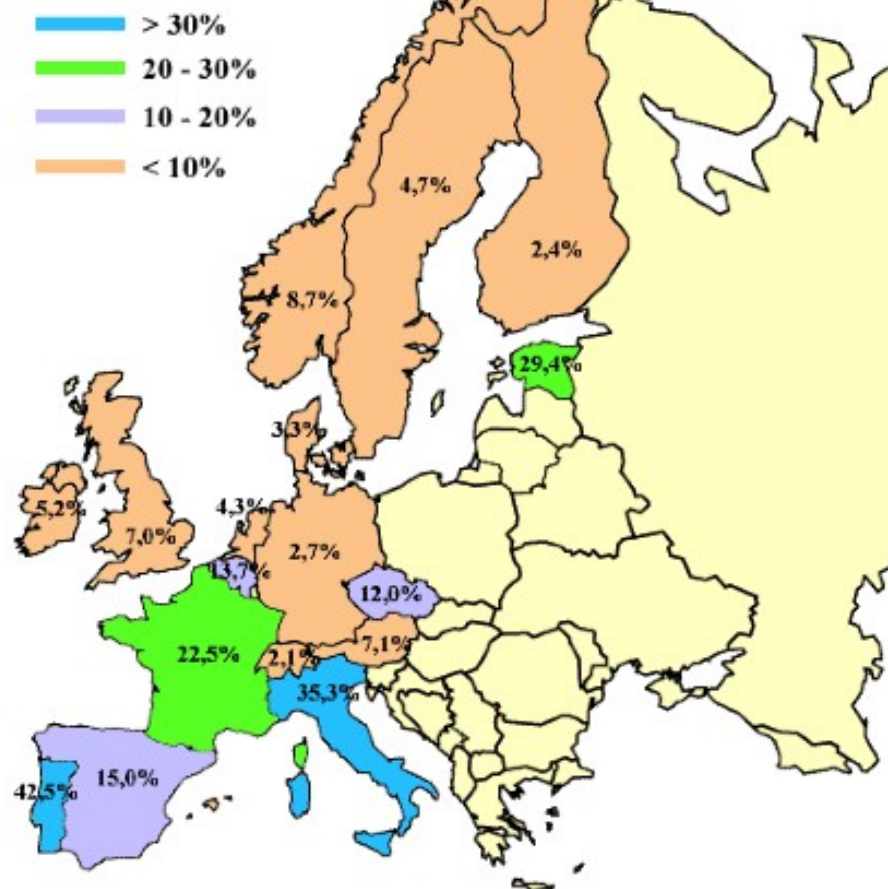
Percentage of women full professors in 1993.



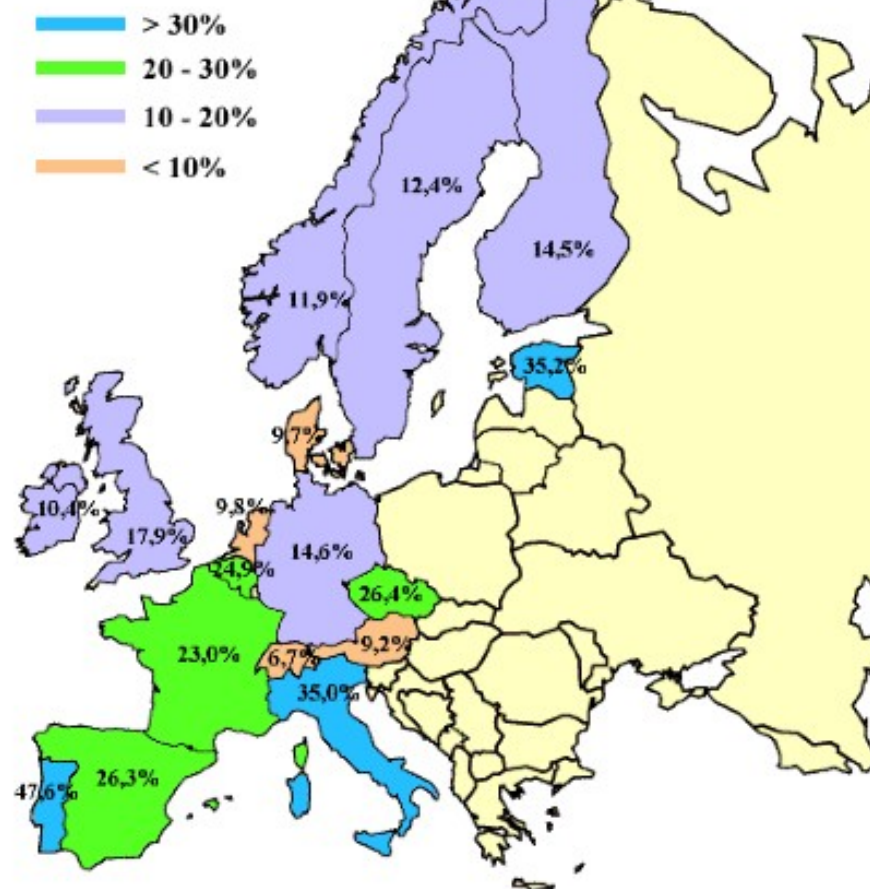
Percentage of women full professors in 2005.



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

2014-2015

▪

EMS-EWM Summer school on Apollonian circles (Sweden)

Meetings in Germany, France, Netherlands ...

EWM general meeting in Cortona

31 august-4 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

International Committee for Women in Mathematics

(proposed to IMU EC in march)

II : African Women in Mathematics Association

Created in july 2013 at AIMS South Africa

Aims and constitution similar to those of EWM

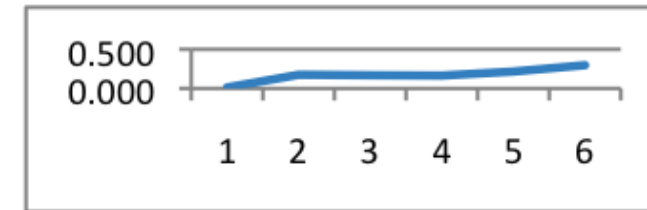
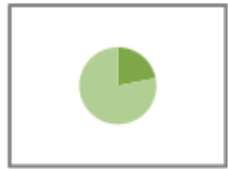
Starting point : proportion of women in mathematics in Africa ?

Percentage of women participants in CIMPA-ICPAM research schools

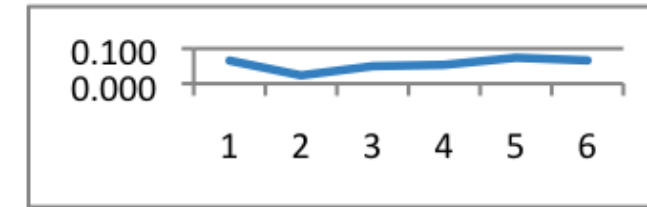
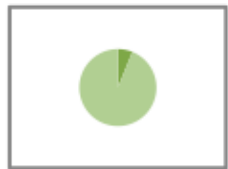
CIMPA

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

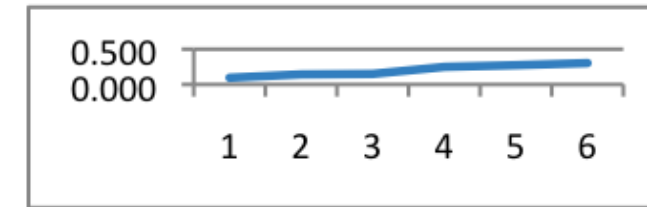
f		294	Mediterranean	1	21	41	24	51	156
h		1054	Mediterranean	77	99	202	122	185	369
f/(f+h)		0.218		0.013	0.175	0.169	0.164	0.216	0.297



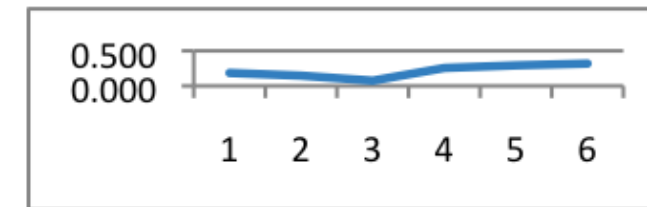
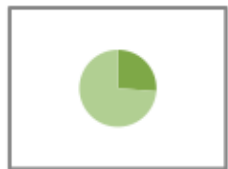
f		83	Sub-saharan Africa	4	2	9	12	31	25
h		1266	Sub-saharan Africa	57	83	172	212	389	353
f/(f+h)		0.062		0.066	0.024	0.050	0.054	0.074	0.066



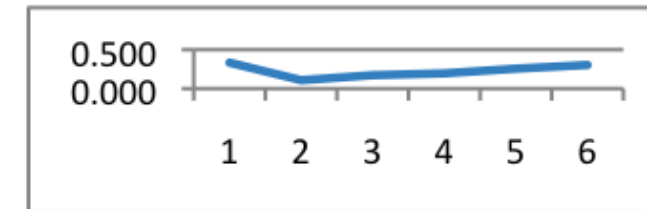
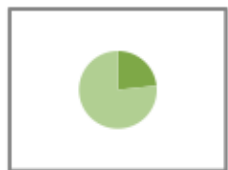
f		565	America	2	2	25	60	258	218
h		1541	America	19	12	142	181	686	501
f/(f+h)		0.268		0.095	0.143	0.150	0.249	0.273	0.303



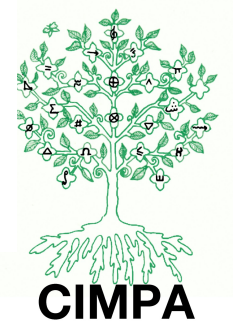
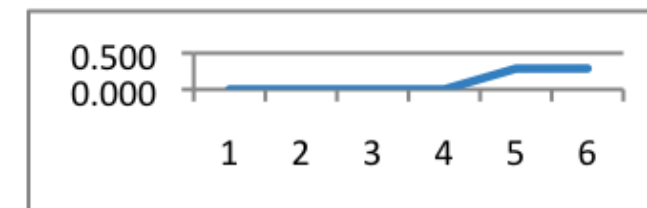
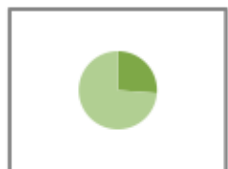
f		388	Asia	5	6	16	43	118	200
h		1092	Asia	22	35	197	125	285	428
f/(f+h)		0.262		0.185	0.146	0.075	0.256	0.293	0.318



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),

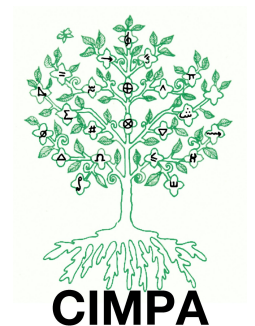
New chair Marie-Françoise Ouedraogo, from Burkina Faso
Invited by EWM to come to general meeting in Barcelona,
funded by CIMPA and EMS



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 » (passed away 10/11/2014)

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. Kgomotso 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 Kenya, 2015

Projects

Organize workshop in Kenya 16-18 july

Booklet of rôle models with african women
mathematicians

IMU

Committee for Women in Mathematics

New (march 2015)

- To promote international contacts between national and regional organizations for women in mathematical sciences;
- To maintain up-to-date content on the Women in Mathematics part of the IMU website and, with appropriate assistance from the IMU, to ensure its technical development;
- To consider how best to facilitate electronic communications among the community of women mathematicians internationally;
- To work with groups, committees and commissions of IMU on topics pertaining to women mathematicians and their representation;

IMU

Committee for Women in Mathematics

New (march 2015)

- To publicise, and where needed to suggest, working practices that ensure equal opportunities for women mathematicians in universities and research institutions, for example appropriate funding arrangements, family friendly policies and facilities;
- To report annually to the IMU Executive Committee, and to the IMU General Assembly, and to propose actions that would foster equal treatment of women in the mathematical community and lead to an increase in the representation of women in mathematics at all levels

IMU

Committee for Women in Mathematics

Members

Membership of CWM for the period 2015-2018

Chair: Marie-Françoise Roy (France)

Vice-chair and responsibility for the website : Caroline Series (England)

Members at large

Carolina Araujo (Brazil)

Bill Barton (New Zealand)

Ari Laptev (Sweden/UK)

Kristin Lauter (USA)

Sunsook Noh (Korea)

Marie Françoise Ouedraogo (Burkina Faso)

Sujatha Ramdorai (India)

Betul Tanbay (Turkey)

IMU-EC liaison (observer) : John Toland

IMU

Committee for Women in Mathematics

First meeting

**4 and 5 september 2015
in Cortona (Italy)**

IMU

Committee for Women in Mathematics


<http://www.mathunion.org/cwm>

HOME | CWM


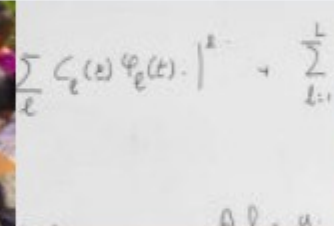





[www.mathunion.org/cwm](#)

Rechercher

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Committee for Women in Mathematics



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HOME

This website provides information for and about women in mathematics worldwide.

Before anything else, we are delighted to congratulate Maryam Mirzakhani on becoming the first woman to win the Fields medal, as announced at the ICM in Seoul on August 13th, 2014. For more information and comment, see [here](#).

IMU Committee for Women in Mathematics (CWM) At its meeting on August 12, 2014, the IMU Executive Committee decided to set up a working group aimed at the establishment of a committee whose remit would be to promote international

NEWS

Top Links

[Association for Women in Mathematics \(AWM\)](#)