

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



# **EUROPEAN WOMEN IN MATHEMATICS**

*Newsletter 11*

Edited by  
Sofie Castella & Stine Timmermann

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**2004**

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# I

## EUROPEAN WOMEN IN MATHEMATICS

### The 11th General Meeting,

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## REPORT

by

**Laura Fainsilber (Sweden) and Valérie Berthé (France)**

The 11th General Meeting of EWM took place near Marseille, France, from the 3rd to the 7th of November 2003. Forty-four women participated, from France, Italy, the UK, Germany, Denmark, Sweden, Norway, Finland, The Netherlands, Serbia and Montenegro, Russia, Ukraine, the Czech Republic, Algeria, Morocco and the USA.

The venue for the conference was the CIRM (Centre International de Rencontres Mathématiques) in Luminy, between the city of Marseille and the "Calanques" coastal cliffs, a very pleasant and welcoming center for mathematical conferences.

The mathematical program consisted of three series of talks. The session on Functional Analysis and Spectral Theory (with a orientation towards Ergodic Theory) chaired by Karma Dajani, had talks by her and by Paola Loreti, Svetlana Katok, Kathy Merrill, Martine

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Queffelec, Anne Siegel. The applied session devoted to Biomathematics was chaired by Alessandra Carbone, with talks by Natasha Jonoska, Marie-France Sagot, Rebecca Wade, Susan Holmes. The interdisciplinary session devoted to Numerical Methods, chaired by Rosa Maria Spitaleri, had talks by her and by Tatyana Kozubskaya, Michelle Schatzman, Tatiana Vasilevva, Zorica Uzelac, Dahbia Boukari.

Titles and abstracts of the talks can be found at  
<http://www.math.helsinki.fi/ewm/meetings/luminy03.html>

A poster session was held, where all the participants were invited to present themselves and their work.

The new EWM web-based mentoring scheme formed the basis for a discussion session on the theme of mentoring.

Those who had not seen it before watched the EWM video "Women and Mathematics across Cultures". The exhibit "Women in mathematics, Why not you" produced by the French association femmes et mathematiques" with beautiful portraits of 16 contemporary women mathematicians was hanged in the library of the CIRM and will stay there for one month to be admired also by participants in other conferences. This exhibit (in French or in English) is available to be shown in other places. Contact "femmes et mathematiques" if you wish to borrow it (fetm@ihp.jussieu.fr).

Karma Dajani and Jennifer Von Reis will edit the proceedings of the meeting.

During the week, a pre-general assembly gave an opportunity to inform about EWM and discuss actual issues in preparation for the General Assembly, which took place on Thursday, November 6th. New members of the Standing Committee Tatiana Ivanova and Badrieh Kojok were elected, and "old" members re-elected. The convenor was chosen to be Laura Tedeschini-Lalli.

Tatiana Vassilieva offered to organize the 12th General Meeting in Volgograd, Russia in the late summer 2005. Plans for a possible EWM event at the European Congress of Mathematicians summer 2004 were also dicussed but not finalized. If you are thinking of attending ECM and would like to meet with other women there or organize a small event, please contact Sheung Tsun Tsou (tsou@maths.ox.ac.uk). A group of 19 women mathematical physicist will be holding a workshop in Oberwolfach next year. The minutes of the General Assembly are available on the EWM web page:  
<http://www.math.helsinki.fi/EWM/info/minutes03.html>

The organizing committee consisted of Laura Fainsilber (Sweden), chair, Valérié Berthé (France), Elisabeth Remy (France), Aviva Szpirglas (France), Tatiana Ivanova (Russia), Sheung Tsun Tsou (United Kingdom), Irene Sciriha (Malta).

The meeting was sponsored by the CIRM, the Institut Mathematique de Luminy, the city of Marseille, the region Provence-Alpes-Cote d'Azur, and donations from participants, Michelle Schatzman and others.

The French organization "Femmes et Mathematiques" organized on Saturday 8th a special

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day entitled "Mathematiques au feminin en Mediterranee" in Marseille, attended by some of the participants of the EWM meeting.

Along with mathematical talks, it focused on the living and working conditions of three women mathematicians from Algeria, Morocco and Tunisia. A report (in French) on that meeting will be available on "femmes et mathematiques"'s web site <http://www.femmes-et-maths.fr.fm/>.

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## II Other meetings

### Report

by

**Catarina Rudälv (Sweden)**

#### **The 2<sup>nd</sup> Nordic summerschool for female PhD-students in mathematics**

In april 2002, on a conference organized by the swedish network "Kvinnor och Matematik", we raised the question about having a follow-up to the Nordic summerschool for female PhD-students in mathematics which was held in Luleå in 1996. A committee consisting of female mathematicians from Norway, Denmark, Finland and Sweden were selected. The committee got financial support from all nordic countries. Contributions were given by MaDaMe, NorFa, Danish and Swedish Mathematical Societies, Vetenskapsrådet, Wenner-Gren stiftelsen and stiftelsen Clara Lachmann.

After more than a year of planning the summerschool started on Saturday the 9<sup>th</sup> of August 2003. The place where it was going to be held was Matematikcentrum at Chalmers, Gothenburgs university in Sweden. We were expecting 22 female students to come. Both PhD-students and those who might be interested in becoming PhD-students. 21 of them attained the summerschool (9 from Denmark, 11 from Sweden and one from Norway).

The program were organized in the same way as the first summerschool. 12 speakers were invited. Three minicourses, a number of one-hour lectures, contributions from the participants and of course a lot of social activities. One of the goals was to encourage female mathematicians to participate in research, to create an environment which made it possible for the participants to present ideas and future project. Another important goal was to create informal networks, both national and international. The social activities gave several opportunities for this. All speakers as well as the organizingcommittee were invited to participate in all activities during this week.

The week went well. The nice weather made all the social activities easy to organize. Everyone seemed to be happy about the summerschool. At the end of the week we discussed the possibility to organize a third summerschool, this time in a different nordic country than Sweden and Norway was suggested.

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## The 2<sup>nd</sup> Nordic Summer School from the Participants Point of View

by

**Sofie Castella, Newsletter Editor**

*“I remember the summer school as a good, hot and summery week in Gothenburg.”*

This sentence describes my memories of the summer school well, though it is not my words. When I decided to do a piece for the newsletter about the summer school from the participants' point of view, I wrote every participant and asked them to write a few lines about their thoughts on the event. And the above sentence seems to have captured not only the authors and my memories, but also the general mood and atmosphere of that week.

*“Relaxed and friendly atmosphere, which makes it easy to exchange ideas and experiences.”*

*“There was a very relaxed atmosphere, which I experienced very safe (not that I normally walk around being scared, but still).”*

*“There existed a mood of wanting to give each other self-confidence. And it helped.”*

The summer school gave us as participants a lot on the academic side, such as concrete inspiration on further work and practise on giving conference talks.

*“I appreciated the opportunity to present my own research in front of a smaller, informal crowd.”*

For those who weren't Ph.D. students the summer school seems to have been an eye opener for the Ph.D. possibility.

*“Many of us left with a feeling of it definitely being possible to obtain a Ph.D. scholarship, even though we do not have only top grades.”*

*“One good thing about the summer school was the motivation I got to continue my mathematical education.”*

*“Academically it also contributed to kill some prejudice, because it all became much more down to earth and I for example found that no one knows everything about everything, which I had imagined one should as a researcher.”*

During the summer school gender discussions were many.

*“I have never really thought that the fact of being part of a minority would be a problem. (..) Not only the experiences (“oh, I thought I was the only one”) that many of us shared, but also the gender course convinced me that organising a summer school only for girls was justified.”*

*“It opened my eyes to the problems that can arise, when being a female in a “male” field, problems that I haven't experienced myself yet.”*

*“It contributed to killing some prejudices about whether it is bearable to be the only woman at a mathematical institute (it doesn't appear to be as bad as I had thought).”*

These discussions, and others, took place during organised sessions, or on a trek in the archipelago, a stroll down the center of Gothenburg, or in the coffee break.

*“A good way of getting to know other mathematicians and their research. It was a good way of making contacts and discussing mathematics.”*



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*“We were also given time to get to know each other and we have all stayed in contact since then. A very fruitful and inspiring event!”*

Goals of the summer school posted by the organizers were among others the following:

- to encourage female mathematicians to participate in research
- to create an environment which made it possible for the participants to present ideas and future project.
- to create informal networks.

These goals were achieved as you could read from the participants' own formulations. Of course each participant had a different experience, but there certainly are many positive experiences around the Nordic mathematics departments.

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## Report from the Workshop “Gender and Power in the New Europe”

by

**Birgit Blättel-Mink and Anina Mischau**  
(University Stuttgart, Germany)

Report on a workshop held at the 5<sup>th</sup> European Feminist Research Conference "Gender and Power in the New Europe" 20-24 August 2003, Centre for Gender Studies, Lund University, Sweden; Stream: VII. Science, Technology Studies and Feminism.

With the workshop titled “*Women in Mathematics - From Deviance to Normality?*” it was foreseen to more closely explore the situation of women in mathematics in different European countries. Regarding the situation in mathematics in higher education in “post-modern” Western societies, the ratio of women is increasing today. The main question of the workshop has been, if structural changes like this effect cultural changes in mathematics, and what strategies evolve in order to foster such a development.

Barbro Grevholm (Agder University College and Luleå University of Technology, Sweden) with her paper on “*Women and mathematics – an intervention through networking*” argued that the imbalance between women and men in mathematics at higher levels in Sweden seems to be worse than in most countries. Girls and women achieve better results in school and educational institutions but as soon as mathematics is no longer compulsory they choose to leave the subject to a much higher degree than boys and men. Many projects have been started during the years since the Sixties with the aim of attracting more girls to mathematics (and science and technology). Girls should be convinced that they did not know their own best, girls should change, girls should be attracted, girls should be given a special quota for less demanding entrance to higher education and so on. All projects had a limited effect as long as they run but at the end not much had changed. As a contrast to this way of working Barbro started a durable long term intervention for women and mathematics in 1990. A network for women and mathematics was created with the aim of supporting girls and women interested in studying mathematics. The network has arranged five conferences and documented them in solid books. Following this development reveals the raising level of women’s consciousness and ability to express themselves. Through the network women have entered the ‘official world’ by taking the chance to run projects in their own work place, present these in the conferences and appear in press with their reflections and thoughts. In her presentation Barbro presented the effects of the intervention through the network: Women and mathematics has placed the issue of gender and mathematics on the agenda, contributed to making women visible in mathematics, worked on raising awareness of research result on gender issues, created lasting documentation on gender and mathematics, proved that women are there and are willing to contribute in mathematics, and inspired investigations and essays by students and teachers on gender issues.

Marja van den Heuvel-Panhuizen (Utrecht University, The Netherlands) who unfortunately couldn’t attend the conference but had prepared a paper for it, formulated the following question: “*Why are Dutch girls still lagging behind boys in primary school mathematics?*” Marja then described the specific situation in her country, underlining that the Netherlands may be considered one of the leading Western countries in mathematics education. Dutch textbooks and approach to mathematics teaching (“Realistic Mathematics Education” - RME),

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Marja argued, are used as inspiration for mathematics education in many countries. In contrast with many countries, in Dutch primary schools, girls systematically have lower mathematics scores than boys. Those facts lead to the question as to what mechanisms and factors might cause this gender gap in mathematics achievements. How is it possible that boys outperform girls even at primary school level, while in other countries differences - if there are any in the advantage of boys - emerge in secondary school or later? What made the lower average in mathematics scores of girls emerge within RME, which is considered a girl-friendly teaching method and curriculum? Marja then referred to the MOOJ study (1996-1999), a joint research of the Freudenthal Institute of Utrecht University and the University of Leiden, that was carried out to find answers to these questions. Among other things the study revealed remarkable gender-specific differences in the percentage of correct answers to particular mathematical problems. Analysing the most 'extreme' problems (i.e. that are either clearly better solved by boys or by girls) revealed gender-specific problem perception. Another related finding is that boys and girls use different calculation strategies. And finally, through classroom observations, some aspects of the teaching methods that favour or disadvantage girls, could be traced.

Heather Mendick (University of London, UK) in her paper "*Telling choices: an exploration of the gender imbalance in participation in advanced mathematics courses in England*" drew on the findings of a qualitative research project, involving interviews with young people (aged between 16 and 19) and observations of their mathematics classes. The project focused on the reasons for the gendered pattern of participation in mathematics beyond compulsory education in England. Working within a post-structuralist framework, Heather argued that gender is a project and one that is achieved in interaction with others. She then moved on to look at the ways in which choosing to do or to reject mathematics can become part of this project; that is how this choice can be read as a way of doing gender. Heather analysed the ways that students work the socio-cultural stories about mathematics (as 'hard', a signifier of intelligence, useful, and so on) into their own narratives of self. She was particularly concerned to trace the relationships between the social construction of mathematics, masculinity and femininity, and to look at the way that gender intersects with other aspects of identity projects such as class or ethnicity, to produce social inequality. Overall Heather argued, using queer theory, that it is useful to understand doing mathematics as doing masculinity and so as something which creates more tensions for women and girls who are students of the subject than for men and boys.

Anina Mischau and Birgit Blättel-Mink (University Bielefeld and University Stuttgart, Germany) presented a paper on "*Women in mathematics – from deviance to normality?*". Focusing on the situation of today, on a first stance, the discipline still seems to be a "male" one, at least in Germany. Female professors of mathematics show a ratio of 5% of all professors in this discipline. The situation in extra-university research institutes is even worse. But, on a second stance, we can observe that mathematics seems to become more and more interesting for women. During 1988 and 1998 the ratio of female PhDs has doubled up to 22%. The ratio of female beginners in mathematics at winter term 2001/02 in Germany was 44%. What do these figures stand for? Do we participate in a process where gender relations become more equal in mathematics? Do women slowly but continuously (re-)gain this discipline? In order to give answers to these questions Anina and Birgit conducted a survey into students of mathematics at two German universities. Where to still identify gender differences and where to observe growing gender equality? Main themes were: reasons for subject decision, attitudes towards and interests in mathematics as a scientific discipline,

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expectations concerning the studies, ideas about a career, family, work, and life planning. Opposite to their assumption that gender differences more and more disappear Anina and Birgit identified remarkable gender differences that are still reproducing the “vicious circle” of inequality in mathematics. Though pushed towards mathematics by their teachers (as well as by their mothers) female students of mathematics still experience – without being a numeric minority – discrimination by male students and (in general male) professors. Women do not have the same feeling as the male students of belonging to the faculty and they feel that the studies are less consistent with their own needs.

Contact: PD Dr. Birgit Blättel-Mink, University of Stuttgart, SOWI – Sociology of Work and Organisation, Seidenstr. 36, 70174 Stuttgart, Tel. 0049 711 121 3890/91, Fax 0049 711 121 2487, [birgit.blaettel-mink@soz.uni-stuttgart.de](mailto:birgit.blaettel-mink@soz.uni-stuttgart.de), <http://www.uni-stuttgart.de/soz/ao>

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## III Other Contributions

### The Secretarial Shift at EWM

by

**Stine Timmermann and Sofie Castella**  
Newsletter Editors

The 11th General Meeting at Luminy, France, the EWM got a new secretary. To inform the EWM members about the secretarial shift, we present here two short interviews with the former secretary, Riitta Ulmanen and the new secretary Mari Laakso.

#### **Interview with Riitta Ulmanen:**

*When and why did you start working as the secretary of EWM?*

I started in late 1992. It all began when Marjatta Näätänen asked if I could help her and Caroline Series with the statutes of the EWM. When the statutes were ready to be presented at the Warsaw meeting, Marjatta asked if I wanted to be the secretary for the EWM. I was not very keen about the idea, but she got me persuaded. I went to the Warsaw meeting as a secretary nominee and returned as one.

*Why have you decided to stop as the secretary?*

I think that ten years is a suitable time for one secretary.

*What were the advantages and disadvantages about the job?*

The advantages is to meet and getting to know all the lovely people. And the disadvantages are the lack of time. I had the feeling that I was not doing my best, so I saw it best to quit.

Riitta wants to thank all the people that she has met during these years for their kindness.

#### **Interview with Mari Laakso:**

*Who are the new secretary?*

My name is Mari Laakso and I am a 23 years old BBA, living in Espoo, near Helsinki.

*What is your background?*

I studied at Helsinki Business Polytechnic in a programme for secretarial work and languages and I graduated last spring. During my studies, I worked as a part time secretary at the University of Helsinki, first at Rolf Nevanlinna Institute and then at the Department of

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Mathematics. I have been working here full time for 7 months and at the beginning of the year 2004 I will start working at ConsultingKORTES Ltd.

*How did you come in contact with EWM?*

I heard about EWM from Ph.D:s Ritva Hurri-Syrjänen and Marjatta Näätänen and I also heard that it needed a new secretary. The task seemed interesting, especially the possibility to work in an international association.

*What assignments do the secretary have?*

According to Riitta Ulmanen the job includes for example book keeping, maintaining the member register, writing the minutes of the general meeting and being one of the contact persons of the EWM. She said that it is difficult to estimate how much time this work takes per week, because it varies very much.

Mari is looking forward to work with the European Women in Mathematics!

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## **EWM Mentoring Scheme**

**by**

**Cathy Hobbs, mentoring scheme administrator**

The EWM web-based mentoring scheme, at <http://ewm.brookes.ac.uk> has now been running or just over a year. In that time we have had over 5000 visitors to the site. About 50 mentors and mentees have signed up, and around 30 pairs have been matched up. It can be quite difficult to find good matches - we have discovered that we actually need many more mentors than mentees to give a good chance of finding a match.

Our funding from the European Union has now finished, but we have a small amount of funding from other sources to continue the project for a while longer. We recently won an award in the UK for the innovative use of IT in helping women in mathematics (the Royal Society's Athena Award). This will help support the project in 2004.

We carried out an evaluation of the scheme in July 2003 and found some very positive results. Almost all the mentees felt they had gained something from having a mentor. Some had found a job through talking with their mentor, others had gained confidence to continue their research. It was interesting that the mentors felt they had benefitted too. Mentoring another woman gave them a chance to reflect on their own careers. Of course there were some problems which arose - mainly related to our difficulty of finding mentors for everyone. This could be frustrating for those who expected to be given a mentor very quickly. However, almost all participants said we should continue the scheme if possible.

We do encourage people to visit the site and consider signing up as mentors and mentees. You can also download a poster from the site to display in your university. If you have applied for a mentor we will try to match you as soon as possible.

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## **Renewed Website for EWM**

**by  
Marjo Lipponen-Salhi**

When I started the website project two years ago I did not know much about our organization. After going through all the files and converting them to a new format I can say that my knowledge has improved a lot! I am especially happy having found many interesting stories in old Newsletters as well as in the proceedings of the old meetings. Take a look at these articles in the new Archive-page.

Also I have enjoyed adding information provided by our regional coordinators about the situation in each country.

My goal has been, and still is, to make the information of EWM accessible to all of our members. Also, as we found out at the Luminy meeting, it is handy to be able to print out everything needed of the past meetings.

If there is something you think is currently missing, please send me an email to [marlip@utu.fi](mailto:marlip@utu.fi).



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## Report from "Women in Mathematics" (Russia)

by  
**Inna Yemelyanova**

Vice-president of RAWM and RAWSE, member of The Standing Committee of EWM  
Professor at Nizhny Novgorod University

Over the years the Russian organization "Women in Mathematics" (RAWM) that was founded in 1993 and now works as the main part of the more wide Russian organization "Women in Science and Education" (RAWSE) has expanded its traditional activity for supporting mathematical research through conferences, publications and other initiatives. RAWM and RAWSE are the initiators of all forms of activity and we invite all the scientists to participate in our actions.

Every year we organize three international conferences in Russia. We publish abstracts and proceedings of all the conferences. The first of them was our traditional conference "Mathematics. Computer. Education". It took place in the academician center Puschino (near Moscow) during student vacation (January 20-25, 2003, the Chair of Organizing committee was professor Galina Riznichenko, Moscow state University) and was tenth conference of this profile. More than 150 scientists participated actively the conference. The considerable part of them were young (post graduates, students and schoolchildren). The second one was our tenth conference of RAWM "Mathematics. Education. Ecology. Gender problems" (Voronezh, May 26-31, the Chair of Organizing committee was professor Irina Gudovich, Voronezh state University). The setting was particularly conducive to interdisciplinary exchanges, and we cultivated this aspect as much as we could. Our third international conference was the 8-th conference of "Nonlinear world" series. Its title was "Ecology and human health. Ecological education. Mathematical simulation and informational technologies" (Astrakhan, September 15-19, the Co-chairs of Organizing committee were Galina Riznichenko and professor of Astrakhan state University Nadezhda Ammosova). The remarkable anniversary issue "Nonlinear world" with the articles of the most considerable participants of all the series conferences was prepared for the Astrakhan conference.

All our conferences are accompanied by several interdisciplinary seminars. For example our Voronezh conference had the following three seminars: "Nonlinear models of complicated systems", "Gender problems of science and education in changeable Russia", "Gender researches: heyday or crisis?" A special program for children "Kiddies and Nurses" as a part of our project "Scientists for children" was organized. Two Round Tables "Women public organizations: support of science and education" and "Cultural space of Russia: books, magazines, conferences, Internet" were held.

Our next conferences are "Mathematics. Computer. Education" (Dubna, January 26-31, 2004), "Mathematics in higher education" (Cheboksary, May, 2004).

Everybody can see some of the points of RAWM and RAWSE activity reflected in of this article in

<http://www.biophys.msu.ru/awse>

<http://jinr.ru>

<http://www.vsu.ru>

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<http://www.unn.ru/math>

The last Internet site is located at Nizhny Novgorod state University and devoted new journal "Mathematics in Higher Education".

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## **Study on Finnish Women in Mathematics**

**by**

**Marjo Lipponen-Salhi (Finland) and Jennifer von Reis (USA)**

Finland was the first country in Europe to grant women suffrage. It is a country widely known for its progressive policies in gender equality. However, this equality is not visible in the field of mathematics. For example, in Finland there is no woman professor of mathematics. Also, the participation in the EWM has been alarmingly low compared to the number of women involved in mathematics. This discrepancy was the inspiration for our study.

The methods of our study include a questionnaire sent out to all women in mathematics departments who have at least a M.Sc. degree. Included in the questionnaire was information about the EWM, the mentoring project, and the forthcoming meeting in Luminy. We asked for statistics from each mathematics department about the number of graduate students, people in the department, visiting researchers, and degrees granted separated by gender. We also requested information on all Ph.D. degrees granted in mathematics from the Statistics Finland. The Department of Women Studies at the University of Turku has helped to provide a larger context for the study.

For the results of the study, please see our website: [www.math.utu.fi/FWM](http://www.math.utu.fi/FWM)

Funding for the project has been provided by a Fulbright Grant and by Research Programme MaDaMe funded by the Academy of Finland.

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## On the EMS Committee for Women and Mathematics

by  
**Emilia Mezzetti**  
**University of Trieste - Italy**

The European Mathematical Society - EMS - was founded in 1990. Its declared purpose, as it is written in the opening page of the web site (<http://www.emis.de/ems-general.html>) is "to further the development of all aspects of mathematics in the countries of Europe. In particular, the Society aims to promote research in mathematics and its applications. It will assist and advise on problems of mathematical education. It concerns itself with the broader relation of mathematics to society. In short, it seeks to establish a sense of identity amongst European mathematicians. Created by and for the European mathematical community, the EMS is an effective intermediary between mathematicians and those in charge of politics and funds in Brussels".

The governing body of the EMS is its Council, which meets once every two years. The work of the Society is mainly done through committees set up by the Executive Committee to cover all areas of mathematics. The list of the committees comprises Applied Mathematics, Developing Countries, Education, Electronic Publishing, European Research Centres of Mathematics, General Meetings, General Purposes, Relations with European Institutions, Publications, Raising Public Awareness of Mathematics, Special Events, Support of East European Mathematicians, Women and Mathematics.

This last committee has the purpose to work as a fact-finding unit exposing the problems and supporting the recognition of achievements of women in mathematics. It is directed to take such actions as it deems appropriate to encourage more women to study mathematics at school level, at university level, and at research level; and to support women mathematicians in the academic profession. For example, this may involve the holding of special meetings, competitions, publicity, summer schools, and the organization of mentor rings directed to women interested in pursuing careers in mathematics, as well as actively supporting such activities initiated by other mathematical societies such as European Women in Mathematics and Association "femmes et math", and closely liaising with them.

It is directed to work towards the goal of achieving a sound (arguably equal) balance between the numbers of men and women involved in mathematics at all levels, with mutual respect towards each other as mathematicians, and with equal career opportunities in mathematics.

Presently the structure of the committee is the following: the members of the committee are Polina Agranovich (Ukraine), Nicole Berline (France), Bodil Branner (Denmark), Catherine Hobbs (UK), Ina Kersten (Germany), Kiriakie Kiriaki (Greece), Emilia Mezzetti (Italy), Daniela Nikolova Popova (Bulgaria), Irene Sciriha (Malta), Tsou Sheung Tsun (UK) and Zorica Uzelac (Serbia & Montenegro). I have been appointed to be the chair of the committee in 1999, after Christine Bessenrodt, and I will end my term next year, Irene Sciriha is the vice-chair and Bodil Branner, who is Vice President of the EMS, acts as EC responsible member.

The main issue of the Committee in the last years has been to distribute and analyze the results of a questionnaire on the careers of mathematicians.

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The questionnaire, which was published also in this newsletters, contained questions about progression in the career (age, age of Ph.D., age of first permanent position, number of temporary positions...), about family (job of parents and of partner, number of children,...), about scientific activity (age when wrote best paper, possible gaps in mathematical production and reasons for these gaps). Our aim was that of checking if it is true, and in what measure, that there are differences between CV's of men and women, and in particular that the scientific career of women is generally slower, mainly because of family duties and in particular children. Were this hypothesis confirmed, we would have a basis to start some concrete action, for instance against age limits in announcements for grants and prizes, which seem to be particularly discriminating to women.

In the first phase of the project, we collected 109 answers, 52 women and 57 men. Almost one half of the respondents (45%) were from Norway, a country in which the questionnaire was distributed in a capillary way in mathematical departments, and the answers collected by secretaries. So the picture of the situation in Norway resulted to be rather faithful. Of the other respondents, a good number were from Germany and Italy, but other countries were poorly represented. In particular there were only a few answers from East European countries.

A report on the results of the questionnaire, containing several tables, has been published in the EMS Newsletter 43 (2002), 22-24, and a shorter version of it also in the Proceedings of the Malta tenth general meeting of EWM (I can send copies of them to interested people).

In Malta an interesting and lively discussion followed the presentation of the results. Particularly interesting was the contribution of Doris Janshen, a sociologist from the University of Essen who gave us several suggestions. She encouraged us to start again from the beginning, with a new well thought-out questionnaire, taking into account as a basis the results of the previous one. We should concentrate on a few countries only, and try and collect a representative sample, as in Norway last time.

Following this suggestion, Polina Agranovich, in collaboration with Larissa Fardigola from the Department of Mathematical Analysis of the Kharkov National University and two students (Ekaterina Arsenyeva and Ludmila Shandiba), has carried out the investigation of the mathematical life in Kharkov, Ukraine. They have used the previous questionnaire but have added some new questions, for example about the age and profession of the children, or asking the reason for choosing to be a professional mathematician.

This questionnaire was presented to the mathematicians of the Mathematical Department of the Kharkov National University and of the Mathematical Division of the Institute for Low Temperature, which are the two main mathematical centres at Kharkov.

They collected 82 answers, 18 from female and 64 from male mathematicians. Some very accurate graphics have been elaborated by the two students. They summarize the answers to the questions, and compare them with the data previously collected in Europe (excluding Russia). It should be pointed out the low number of women answering to the questionnaire, which reflects the percentage of women working in the two institutions. Some specific comments:

- there are many respondents in the band from 50 years on, while in West Europe the more represented ages are from 30 to 50. Maybe this is due to the fact that in West Europe the

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sample was selfselected, and formed mainly (with the exception of the data collected in Norway) by women interested in the activities of EWM.

- The mean Ph.D. age is more or less the same in Ukraine as in Europe. But it seems that the trend of women in Ukraine is to arrive to Ph.D. later than their colleagues in Europe. This should be compared also with when getting the first permanent job: in Ukraine almost always before Ph.D., in EU almost always after Ph.D., often several years after, and the job is not permanent.

- Best paper: the average age is lower in EU than in Ukraine for women, but conversely for men.

- In the answers to the question "Who or what influenced the choice of your profession", we note the important influence of the family in the choices of girls. Moreover, we receive confirmation that the school is very important: a good teacher is essential in orienting his pupils.

- The data on children are impressing: one third of respondent women in Ukraine does not have any child, and two children seems to be a maximum any case.

- Gaps: There are very few gaps, mainly among men, also compared with the data collected in West Europe. The reason indicated is almost always the family, while in West Europe many more reasons were indicated.

Other topics which the Committee plans to touch in the next future are: how the women mathematicians stand in front of all the problems of the real world (war for example) and participation of girls to mathematical Olympiads and, more in general, to mathematical competitions.

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## British Women in Mathematics Day

by  
Vivien Easson (Oxford)

What sounds like it should have been discovered by a female mathematician, but wasn't? A Julia set. These fractals and their dimensions were the subject of our first talk on 6 May, by Gwyneth Stallard. It seemed to me a rather appropriate topic, although not because of the name.

Instead, it is another example of lateral thinking, thinking outside the box. Let me explain. For those mathematicians first trying to find ways to define the idea of dimension of a fractal (for example the coastline of Britain) the standard notions of length and area failed to fit. How could a curve of seemingly infinite length fit in a finite area? Of course, the answer is that we define dimension by another method, and fractals have non-integer dimension between 1 and 2.

Why was this appropriate for the occasion? It is one example of where it helps to use a continuum model rather than a stark choice between length and area: not black and white but several shades of grey. It is not men and women who do mathematics, but people, and we are all different.

One advantage of getting a crowd of women together to listen to each other present research is that we see the differences more than the similarities. Claudia Yastremiz's work as a quantitative analyst in the City is a world away from Katie Chicot's research into transitive linear orders, both in the nature of their employment and in mathematical flavour. Put them together and we see that they are not merely both female mathematicians but people doing very different jobs. When women form a tiny minority in a university department or at a conference, there is the danger that we group or are grouped together as similar people when in fact there is little in common.

So I welcome the freedom that the annual Women's Day brings - not to be female, but to be myself. Another welcome experience is the chance to discuss ideas with people outside my department and outside my field, in a supportive and friendly setting. These range from the necessarily female issues such as when to take maternity leave to the problems faced by all young researchers: what should I do? and how? and where? and when?

Dinner at Pizza Express was a great way of winding down after the formal talks, enabling us to talk more freely about our concerns.

Alice Rogers deserves our hearty thanks for organising the day; the staff at De Morgan House did their usual fantastic job of supplying us with coffee and salmon sandwiches. I very much enjoyed all the speakers' talks - no shoddy presentation skills or dimmed enthusiasm here! Apart from those mentioned, we welcomed Ursula Martin's discussion of her career move into computer science and saw short presentations of the research of four other researchers and PhD students as well as those of Katie and myself (on generalizations of Dehn surgery in 3-dimensional topology).

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Thanks therefore also to Rachel Long, Alexandra Tyurina, Alex James and Katerina Kaouri, speaking on number-theoretic lattice reduction, undular bores in fluids, the chemistry of beetles, and characteristics of the secondary sonic boom.

This diversity of interest is really the crucial insight I take away each year: we are not all the same. There is no such thing as a woman's area of mathematics, and no single feminine way that we tend to study what we like. Instead, all of mathematics lies open to each individual, and it is up to each of us to pursue those aspects which intrigue us most.



## IV Future Activities of EWM

### The 12th International meeting of EWM, 2005 Volgograd, Russia

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We are in the process of choosing topics: one in pure mathematics, one applied, one interdisciplinary, and one social-cultural. Suggestions are welcome.

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### USEFUL E-MAIL ADDRESSES AND LINKS

#### EWM addresses and links

**EWM web page:** <http://math.helsinki.fi/EWM>

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**EWM Regional Coordinators:** <http://math.helsinki.fi/EWM/coordinators.html>

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## Other useful links

Biographies of Women Mathematicians

<http://www.agnesscott.edu/lriddle/women/women.htm>

Women and Science

<http://www.cordis.lu/improving/>

Forum des jeunes mathématiciennes et des jeunes informaticiennes

<http://www.ens-lyon.fr/~nportier/forum2002>

Femmes et Mathématiques

<http://www.desargues.univ-lyon1.fr/home/fem/fem.html>

Mathematics Information Servers

<http://www.math.psu.edu/MathLists/Contents.html>

Mentoring Program for Women in Mathematics

<http://www.math.ias.edu/womensprogram/>

American Association of University Women (AAUW)

<http://www.aauw.org/>

Association for Women in Mathematics (AWM)

<http://www.awm-math.org/>

Russian Association of Women in Science and Education

<http://mars.biophys.msu.ru/awse/>

Topology Atlas

<http://at.yorku.ca/topology/>

The Math Forum

<http://mathforum.org/>

European Science Foundation

<http://www.esf.org/>

The Math Net

<http://www.math-net.de/>

Alexander von Humboldt Foundation

<http://www.humboldt-foundation.de/>