

Reports from regional coordinators on EWM activities since summer 2018

BULGARIA: Elena Gavrilova

The Bulgarian section of EWM has 14 members, the half of them are or were working as Assoc. Professors or Professors at different Universities, the other half were teachers at schools in Sofia. Nearly all of the members (with the exception of 3 of them) are already in pensions and unfortunately their incomes are very low. For 2018 year 6 members paid their member fees, for 2019 year and for 2020 year till now - only three of them.

We make regular meetings at least two times in a year. Between the meetings via emails we exchanged much information about conferences, new positions and other news in the field of mathematics. Some of us took part in different scientific sessions and meetings at the Bulgarian Academy of Science, The Union of Scientists in Bulgaria and some Universities as well as in different scientific projects. In 2018 the coordinator Elena Gavrilova had the chance to take part in EWM General Meeting in Graz, Austria, thanking the corresponding financial support.

This year we began with a meeting in January where most of the section members attended. At the beginning of March the situation in Bulgaria as in many countries in the world changed drastically due the corona virus. In the last months some of our members were and continue being very busy with the online learning that is relatively new for Bulgaria and we shared and discussed the problems in connection with it.

FRANCE: Colette Guillopé

EWM members and activities

The situation in France is specific because there exists a French association *femmes et mathématiques* (Women and Mathematics). This association has about 120 members, most of them women, half of them are mathematicians or scientists, the other half are teachers in mathematics in high schools or in higher education institutions. Its head office is in the Institut Henri Poincaré in Paris, at the same place other mathematics learned societies have their head office. A member of the Executive Board of the association has been elected in the Council of Administration of the Institut Poincaré in September 2019, for two years.

There are 12 members of EWM, paying the member fee, and three to five other women mathematicians are or have been associated to EWM activities in 2019 and 2020.

All the activities concerning women in mathematics in France are organised or coorganised either by or under the auspices of the association *femmes et mathématiques* (see below for some details about the activities). An interview of Nicole El Karoui, emerita professor at Sorbonne

University in Paris, who turned 75 in 2019, was published in Issue 32 (2019/2). A conference Women in Science was organised in Paris, in addition to a scientific conference in her honor. Claire Voisin, professor at Collège de France, member of the French Académie des sciences, was portrayed in the same issue as she received one of the International Awards L'Oréal-Unesco For Women in Science. In Issue 30 (2018/1), Eva Bayer gave a very personal recollection of "EWS and EMS: the early days"... which starts in France in 1987, at the time of the creation of the association *femmes et mathématiques*.

Information about the activities of EWM are spread on the electronic list of members and friends of the association *femmes et mathématiques*. The e-letter of EWM is sent on this list, as well as news about EWM local or international meetings. Moreover a newsletter in French is sent 3 times a year to the members and friends of *femmes et mathématiques*: information about EWM and other European associations such as the European Platform of Women Scientists (EPWS) is found there in particular.

Activities of the French association *femmes et mathématiques* from 2018 to 2020

Forum for young mathematicians. The forum consists in a series of lectures by senior women mathematicians, talks by doctoral students and young mathematicians, and mentoring activities for young mathematicians. The recent forums were held

- in Orléans in November 2018, and its preferred theme was "Mathematics and Life Science"; it was the first time the forum was open to male young mathematicians, and there were as many women as men among the young speakers, and we felt it was not maybe the best way to practice for we knew there are many women in the subject of this forum;
- in Paris in October 2019, and its preferred theme was "Geometries and Interactions". This forum was held mostly in English as numerous young women mathematicians in the different fields of geometry were attending, and we could appreciate how lively the subject is.

Math days for high school girls and beginning students. Created in 2009, these one-day conferences aim at attracting high school aged girls towards the pleasure of mathematics and showing them the stereotypes in the field of women in mathematics. This activity is also geared toward beginning women students in science, as a way to encourage them to continue their studies in mathematics. The association is partly funded by a grant starting in 2017 from the public Foundation Blaise Pascal, hosted by the Université de Lyon. The grant has been substantially increased under the auspices of a non-profit organisation Femmes@numérique created by private companies in Computer Science, in Artificial Intelligence or in Big Data, to increase the number of women in these fields. There has been between 9 to 16 of these days a year, and we have been asked to increase the number of these days to 30 a year, even 60 a year in two years. In spring 2020, we published a booklet about the Math Days and about the stereotypes about women and mathematics, for the parents of the girls, so that they could discuss in their family their future and, maybe, their choice of orientation toward science.

Math week ends for high school women students interested in mathematics. These 2 to 3-day sessions have been organised several times a year in France since 2016. Their aim is, under the guidance of beginning students in mathematics, to help high school women students to understand their place in their future studies, and maybe professions, in mathematics and in science.

Presentation of statistics on the presence of women mathematicians in France. These statistics are regularly maintained on the web site of the association *femmes et mathématiques*. Statistics

are a strong point of the « Journée Parité » (Parity Day in Mathematics) which is supported in particular by the association *femmes et mathématiques*. The last edition was held at the Institut Henri Poincaré in Paris in July 2019, and our association was invited to the round table about « Mobilité et parité » (Mobility and Parity).

Acting as a member of CFEM. As member of CFEM (which is the French commission of the International Commission on Mathematical Instruction – ICMI), the association became a visible partner during the negotiation for the French national strategy for mathematics and was specifically consulted by the minister of education, higher education and research about what should be done to increase the number of students in mathematics, and especially of women students. The association has been participating in the organisation of the public events which took place in the academic year 2019-20 under the title « Année des mathématiques » (Mathematics Year), mainly in high schools and junior high schools.

Other activities. The association is also leading a number of activities. In collaboration with other French associations such as Femmes & Sciences (Women & Science), Femmes Ingénieurs (Women Engineers), Réussir l'Égalité Femmes Hommes (Succeed in Equality Between Women and Men) and the European Platform of Women Scientists (EPWS), we organised or coorganised:

- Visits in high school classes to give information about careers in STEM;
- Publication of the 2019-edition of the booklet about stereotypes regarding women in science, « Femmes & Sciences, au-delà des idées reçues » (Women & Science: Beyond Common Beliefs);
- Organisation or co-organisation of colloquia about the place of women in science and in the society, or about gender-based violence in higher education and research;
- Participation to the Femmes & Sciences 2019-edition of the booklet « Osez et faites des sciences : Témoignages filmés de parcours scientifiques » (Dare and do science: filmed testimonies of scientific career paths);
- Participation to the Femmes & Sciences 2017-edition of the booklet « 40 femmes scientifiques remarquables, du XVIIIe siècle à nos jours » (40 outstanding scientific women, from the 18th century to current times), and among the portraits, Marie-Louise Dubreil-Jacotin, Paulette Libermann, Maryam Mirzakhani, Rózsa Peter, Laure Saint-Raymond and Claire Voisin;
- Creating and maintaining the MOOC (Massive Open Online Course) about « Être en responsabilité demain : se former à l'égalité femmes-hommes » (« Be in Responsibility Tomorrow: to Learn about Equality between Women and Men »), which was published in 2015, revised in 2017 and in 2019;
- Lobbying actions for promoting women in STEM in France and in Europe; the association *femmes et mathématiques* is a member of the *European Platform of Women Scientists* (EPWS), and has been elected in September 2019 at the Board of Administration for two years;
- Publication of a booklet in November 2018 about jobs that students might think of after studying mathematics or computer science, in collaboration with the French professional associations in Mathematics or in Computer Science, « Zoom sur les métiers des mathématiques et de l'informatique » (Zoom on Mathematics and Computer Science Jobs). The publication includes portraits of close to as many professional women (10) as men (12).

GERMANY: Barbara Gentz

Since Summer 2018, the German chapter of EWM organised two Germany-wide meetings.

1 European Women in Mathematics
Meeting of the German Chapter 2018
University of Heidelberg, 3–4 May 2018

(I might have reported this one already?)

2 European Women in Mathematics
Meeting of the German Chapter 2019
Max Planck Institute for Mathematics in the Sciences, Leipzig, 28–30 October 2019

Please find the detailed reports below.

In addition, the German Chapter maintains a country specific mailing list.

Apart from EWM-organised events, a number of topical workshops addressing women mathematicians have been organised by colleagues at their home university.

Detailed reports as published in the Newsletters

Meeting of the German Chapter of EWM in Heidelberg

Following the meetings on Schloß Rauischholzhausen in 2015 and in Bielefeld in 2017, this year's meeting took place on May 3–4, 2018 at Heidelberg University. It was jointly organized by EWM (German Chapter), UPSTREAM - The Network for Women in Maths (Heidelberg), and the Konstanz Women in Mathematics: Paths in Studies and Career (KWIM). In the name of all participants I'd like to thank the organizers Federica Fanoni, Maria Rupprecht, Anna Wienhard, Michael Winckler (all Heidelberg) and Maria Infusino (Konstanz) for the excellent job they've done.

The plenary talks were given by Andrea Barth (Stuttgart), Carla Cederbaum (Tübingen), Alice Niemeyer (Aachen), and Barbara Niethammer (Bonn). With an additional 10 shorter talks in parallel sessions and a poster session, the 73 registered participants enjoyed a broad and attractive programme which was complemented by a coaching session "How to solve it? Talking gender (gaps) in mathematics" led by Natalie Struve, and a public lecture "Warum Mathematik glücklich macht" by Christian Hesse (Stuttgart).

Our next meeting is planned to take place in Leipzig at the Max Planck Institute for Mathematics in the Sciences in Leipzig in autumn 2019.

The 2019 Meeting of the German Chapter of EWM in Leipzig

Following the meetings in Bielefeld (2017) and Heidelberg (2018), the 2019 meeting was held at the Max Planck Institute for Mathematics in the Sciences (MPI MiS) in Leipzig on October 28–30, 2019. It was organised by

- Francesca Arici (Leiden University),

- Tatjana Eisner (Leipzig University),
- Barbara Gentz (University of Bielefeld),
- Angkana Rüland (MPI MiS),
- Rebecca Waldecker (Martin Luther University Halle—Wittenberg), and
- Milena Wrobel (Carl von Ossietzky University Oldenburg).

The program included seven plenary lectures, covering a wide range of topics.

- Lisa Hartung (Johannes Gutenberg University Mainz) spoke about extreme-value theory and the effect of correlations.
- Sabine Jansen (Ludwig Maximilian University of Munich) showed the audience how the recursive structure of trees can be used to derive inverse function theorems.
- Martina Juhnke-Kubitzke (Osnabrück University) explained “how to decorate a pumpkin” in her talk about the enumeration of faces in balanced simplicial complexes.
- Gabriele Nebe (RWTH Aachen) surveyed recent results on extremal codes and lattices, illustrating the use of symmetries in such studies.
- Sylvie Paycha (University of Potsdam) presented a multivariate approach to renormalisation which encodes locality as an underlying algebraic principle and showed its application to divergent multizeta functions, discrete sums on cones and discrete sums associated with trees.
- Petra Schwer (Otto von Guericke University Magdeburg) introduced the audience to Type A Schubert varieties and a characterisation of Schubert sharing the same tangent cone at the identity.
- Barbara Zwirnagl (Technical University of Berlin) discussed recent analytical results on the formation of patterns or microstructures in materials.

In addition, we had 9 contributed short talks and a poster session with lively discussions. The 67 registered participants enjoyed an attractive and diverse scientific programme which was complemented by a conference dinner on Monday night. On Tuesday night, Jürgen Jost welcomed the participants to the MPI MiS before the opening of the exhibition

Women of Mathematics throughout Europe – A gallery of portraits
by Sylvie Paycha and Sara Azzali.

Sylvie Paycha talked about the idea behind the creation of this exhibition and brought the panels to life by recalling excerpts from the interviews of the mathematicians portrayed. The MPI MiS offered snacks and refreshments before Agnes Handwerk presented the new video documentary

An Insight — Women in Science
by Agnes Handwerk and Harrie Willems.

This documentation consists of two parts. In the first part, Karin Baur, Sylvie Paycha, and Carola-Bibiane Schönlieb speak about their experiences as woman mathematicians and how they reconcile career and family. The second part offers glimpses from the „I, Scientist Conference“ in Berlin and the challenges that the early-career participants encounter.

Special thanks go the MPI MiS for financial support and great hospitality and, in particular, Valeria Hünninger and Jana Gregor whose expert administrative support was highly appreciated.

IRELAND: Romina Gaburro

1. One day conference “Women in Mathematics Day Ireland”, University College Dublin, August, 29, 2018 (organisers: see attached report). Romina Gaburro attended and presented at the conference as a EWM country coordinator for Ireland where SHE presented the organisation and spoke about the benefits of joining as a member.
2. “R Package Development Workshop for Women”: one day long workshop on the developing packages in R for R users who identify as female, April, 6, 2019, School of Mathematics and Statistics, University College Dublin (organiser: Isabella Gollini).
3. Event “Women and EDI in STEM”, University College Dublin, May, 29, 2019. This event was organised to celebrate the work of Karen Uhlenbeck and to remember Maryam Mirzakhani. This event was intended to be added to the May12 website initiative but the organisers told me that this event doesn’t appear on the website. (organisers: Sharon Shannon and John Sheekey).
4. Romina Gaburro was invited to the Banff International Research Station (BIRS) workshop “Women in Analysis”, June, 9-14, 2019 (organisers: Donatella Danielli and Irina Mitrea). Would it be possible to add this event among the other events on the EWM website please?
5. Romina Gaburro joined the Women in Analysis Network (WoAN). WoAN is an international network of women analysts, whose aim is to establish effective collaboration groups, develop new interdisciplinary research activities, train junior mathematicians, increase visibility and professional connections of its members, offer an avenue for informed career development pertinent to women in analysis, and create a database of information and professional opportunities relevant to women in this mathematical field.
6. Event “Women in Science” at the conference “EURO 2019, 30th European Conference in Operational Research”, University College Dublin, June 23-26, 2019. Please find attached the Report “Women in OR, EURO 2019” by Paula Carroll (organiser: Paula Carroll).
7. National initiative “I Wish Campus Week” started by Cork Institute of Technology in 2015 and followed by the University of Limerick, Trinity College Dublin and University College Dublin. This event is organised each January/February to inspire,

encourage and motivate female second-level school students to pursue careers in STEM.

8. Romina Gaburro co-organised (with Carola-Bibiane Schönlieb and Clifford Nolan) the mini-symposium “Women in mathematics” at the 21st European Consortium for Mathematics in Industry (ECMI) June, 22-26, 2020 University of Limerick, Ireland. This event has been postponed to June 2021 due to the COVID-19 pandemic.

MACEDONIA: Katerina Hadzi-Velkova Saneva

As the local coordinator of EWM for Macedonia, I hereby declare the following activities in the abovementioned reporting period:

- Sending regular email updates to my female colleagues about all EWM events and activities around the world.
 - Initiate a mini symposium “Frame theory and asymptotic analysis”. I successfully organized this symposium together with Prof. Diana Stoeva from Austrian Academy of Science. The symposium took place in Graz, Austria, between 3 and 7 September 2018, in the framework of EWM General Meeting 2018. The participants of the mini symposia were at different levels of their professional careers and came from five different countries, Austria, USA, Croatia, Denmark and Macedonia. One participant from Macedonia received a travel and accommodation grant from the organizing committee of the 2018 General EWM Meeting. The mini-symposium program encompassed presentations and discussions of the participants in two main topics: (1) Frame Theory, and (2) Asymptotic Analysis. The event turned out to be an excellent forum for exchange of scientific ideas, and for deepening the existing international collaborations and for creating new ones.
 - For the current year, we had a plan to organize a workshop “Macedonian women in Math” in the framework of the 7th Macedonian Mathematical Congress, which is scheduled to take place from 16 to 20 September in Struga, Macedonia. Unfortunately, due to the COVID-19 pandemic, the Congress was postponed and rescheduled for 2021, so we hope to realize this planned workshop next year.
- Since Malta is a very small country the reported activities are more STEM related, but there are nevertheless some activities targeting specifically the women in Mathematics.

MALTA: Cristiana Sebu

1. **The Department of Mathematics, University of Malta organized the following Mathematics Circles: Feb-Apr 2018 (6th formers), Oct-Dec 2018 (5th formers), Oct-Dec 2019 (5th formers). The girls were strongly encouraged to attend these circles.**
2. The Department of Mathematics, University of Malta, also organized several Mathematics Problem Sessions for team training and selection for the Mediterranean Youth Mathematical Championship (MYMC) in Feb 2018 - May 2018, Oct 2018 - Jan 2019, Feb 2019, June 2019, July 2019, and Oct 2019 – Jan 2020. The team representing each country consists of 4 people, 2 boys and 2 girls, attending the last three years of high school (and at most nineteen years old). The first team represented Malta at MYMC2019, Naples, July 17-20, 2019.

3. Teen Science Café (Girls), 6th February 2018, 9-11am, Giovanni Curmi Higher Secondary School Naxxar, Malta.
Teen Science Café Girls Festival, 6th November 2019, 9am-1pm, Xara Lodge, Rabat. Malta.

These activities form part of a broader initiative of the Directorate of Learning and Assessment Programme of the Government of Malta aimed at encouraging young people to pursue STEM subjects and related careers. This event in particular will focus specifically on the role of females in STEM. Prof. Cristiana Sebu represented the Department of Mathematics, University of Malta, in panel discussions and sharing the personal professional experience to groups of 10 girls aiming at empowering young female students through the professionals' authentic experiences in STEM related careers.

4. **Prof. Cristiana Sebu, Prof. Joseph Muscat and Prof. Josef Lauri from the Department of Mathematics, University of Malta, supervised of three interns (one girl and two boys) as part of the Go4Research programme (July – August, 2018).**

The Go4Research student internship programme is an activity initiated by the Faculty of Science at the University of Malta in collaboration with the Directorate for Learning and Assessment Programmes (DLAP) which offers the opportunity to work with researchers in different STEM fields to a group of fifth year students from different secondary schools, who previously participated in the Malta Junior Science Olympiad,

5. Science in the City Festival, September 28, 2018.
Science in the City Festival, September 27, 2019.

Science in the City is Malta's national science and arts festival held in Valletta. On the European Researchers' Night, the city is transformed by a fusion of science and art with interactive installations, exhibitions, music, shadow puppet shows, theatre, live experiments, talks, tech areas, and much more. This memorable night provides a platform for citizens to engage with scientists and their research, including several staff members and PhD students from the Department of Mathematics, University of Malta.

One of the major events was **Jazzing up the Golden Ratio, Concert at the Science in the City Festival, September 28, 2018, Pjazza Teatru Rjal, Valletta**. This concert-lecture combined jazz with the Golden Ratio. Prof. Cristiana Sebu and musician Diccon Cooper explored connections between the Golden Ratio and the Fibonacci Numbers and Art, in particular their applications music.

6. The EPWS' Woman Scientist of the Month (02/2020): Prof. Irene Sciriha Aquilina, Department of Mathematics, University of Malta.
7. Women in STEM - An evening of discussion, 20 February 2020, at 19:30, Valletta Campus, University of Malta. Speakers from research and industry, new-starters and veterans in their field, and the public drafted an equality action plan and a set of recommendations that were submitted to educational institutes and businesses to help attract women into STEM and encourage a long and rewarding career.
8. The Department of Mathematics, University of Malta, screened online the film "**Secrets of the Surface: The Mathematical Vision of Maryam Mirzakhani**" *free of charge* on **Friday 15 May 2020 at 5pm**. This was made possible through an agreement reached during the Covid-19 crisis between the "May 12 Initiative" and Zalafilms.

Policy projects

Policy recommendations for fostering a gender-balanced university

The Dutch association of female professional mathematicians, EWM The Netherlands, submitted a document to the Rectoren College der Nederlandse rectores magnifici. The document was sent out to the Council of Provosts on 5 July 2018.

EWM-NL has observed that some best practices among Dutch universities regarding gender diversity are not shared among all universities. A prominent example is the contract duration of tenure-trackers with respect to a pregnancy, where in some universities an extension beyond the 4-year mark is possible in such a case and in others this is considered against the Dutch law.

To compile the document, EWM-NL visited all Dutch universities that have a mathematics department in the 2017 – 2018 academic year and initiated discussions regarding gender diversity with all faculty members. This procedure led to a plethora of statements. We gathered a few of these thoughts / observations in a two-page document, which we hope that will serve as food for thought for the Council of Provosts so as to harmonise to some extent the efforts in increasing diversity in Dutch academia.

EWM-NL secured the endorsement of the document by various relevant organisations, such as the Wiskunderaad, PWN, KWG, LNVH, DEWIS (TUD), FFNT (UT), and WISE (TU/e). We are grateful for the support.

Targeted promotion of open mathematics positions

The European Women in Mathematics association has created a website posting openings and an opt-in mailing list among its members (spanning all of Europe). In September 2018, the Dutch branch of the association, EWM-NL, has brought this resource to the attention of all Directors of Mathematics institutes and capacity groups in the country, as well as all EWM-NL representatives, via direct correspondence, our newsletter, and an announcement during our annual event. Openings can be submitted via <https://www.europeanwomeninmaths.org/ewm-news/job-offers/>.

Many departments in the country wish to make a concentrated effort for diversity (in the fronts of e.g. gender, nationality, seniority) and targeted advertisements have been proven to be an effective tool to increasing the diversity of the candidate pool. Any position open to mathematicians is eligible and not only fellowships or positions targeted specifically to women.

The procedure is simple, free of any costs or time limitations for the advertisement. Any individual can complete it without the need of registration or other hurdles. Moreover, it is single-step, meaning that a job opening submitted in this way appears both online at the EWM website and is forwarded per email to female mathematicians who have opted in. The list is moderated, and thus free of spam.

EWM-NL urged the Directors to consider instructing HR departments to use this resource by default. In addition, EWM-NL personally contacted individuals posting job openings in national lists to remind them of this targeted resource. With this effort, EWM-NL hopes to contribute both to increasing the diversity of mathematicians in the country and to helping departments identify more

high-quality candidates.

Promoting diversity through NWO structures

EWM-NL established contacts in November 2017 with Astrid Zuurbier, senior policy manager within NWO tasked with the diversity policy in the domain of exact and natural sciences. As a follow up on our actions to approach all mathematics departments in the country with policy suggestions on diversity and all provosts separately on the same topic, EWM-NL also wishes to engage in a discussion with NWO to exchange ideas. The first meeting with this purpose took place at CWI, Amsterdam on 12 June 2018 with the presence of Maria Vlasiou, Astrid Zuurbier, Sera Markoff (UvA), and Maureen van den Berg (NWO).

EWM-NL shared with NWO the efforts we have made with universities and departments and also a list of action points that EWM-NL believes could be interesting for NWO. This list was compiled in 2017 and used resources both pertaining to published documents on best practices within EU and to experiences exchanged with researchers in The Netherlands. NWO shared their first thoughts on actions, their current programs, and the new NWO structure on the topic.

EWM-NL will continue being in contact with NWO throughout 2019 and wishes to make the monitoring of implementation of diversity policy in departments, universities and NWO one of the focal topics of 2019, as it is a natural follow-up of the 2018 action of inviting these players to think about the value of implementing our concrete suggestions.

Activities

Annual Meeting

Our Annual Meeting took place on 20th September 2018 in Delft. The theme was “Positive Discrimination: Advantages and Drawbacks”. Our main speakers were Peter van den Besselaar and Han Entzinger. The two talks were followed by a LNVH monitor presentation by Maria Vlasiou and a panel discussion featuring: Ana Ros Camacho, Arjen Doelman and Monique van der Veen. It was a very successful afternoon.

The annual event was attended by ca. 30-40 coming from the whole Netherlands. The expenses for the rental of the room and catering were about 1448 Euros which were sponsored by EDIT – the diversity and inclusion team of the TU Delft EEMCS faculty.

Summary:

The first speaker was Han Entzinger, professor emeritus of migration and integration at EUR. He gave a talk about principles of equality, gave examples to stimulate equality and what are the consequences. According to Entzinger measures to increase diversity and equality can be quotas, targeted hiring, obligatory reports about the distribution of men and women of employers and policies for a good work-life balance. In his opinion the most effective measure is a quota target. He gave examples where quotas were implemented and yielded an increase of 20% to 40 % of females in leading positions in France.

Professor Peter van den Besselaar of the VU spoke about the vicious circle of gender bias, specifically in ERC grant applications. He observed panel discussions and decisions in ERC and NWO grant applications. For example grant applications of highly qualified women were judged as “not bad” and of the same male counterpart as “very good”. The time pressure of panel members is very high so a bias training is often not realizable hence members decide often according to a gut feeling. What seems to help preventing the bias is a critical mass of female panel members. What was

remarkable according to van den Besselaar that too many female panel members had the opposite effect leading to the “queen bee effect”.

Organizational notes: we had some difficulties with securing other panelists. This took great time and effort. Retrospectively we had not needed any. There was a lively discussion anyways.

Workshop

The EWM-NL 2018 workshop took place on 29th November and was organized by Sanne Willems and Rosa Winter in Leiden. The topic was: “Show your worth – bluff without a blush”. There were 10 mathematicians in total, some from Leiden, some from elsewhere. The workshop was very interesting and half of the participants stayed for drinks. Based on the evaluation by the participants after the event, was very successful and fun.

NMC 2018 and preparations for 2019

We had a session at the NMC 2018. This session was during the lunch break: the downside of this arrangement was that people had a shorter break when attending our session; however, the upside was that we did not compete with other sessions and that it helped put the session in the final programme. We had three panelists, from different areas within mathematics and at different stages of their careers. They were also interviewed about their research and experiences as female mathematicians. Maria Vlasidou chaired the session, which was dynamic and interactive with the audience. The questions asked to the panelists were diverse in nature and the panelists had different perspectives, which resulted in a rich and fruitful session. These impressions were confirmed afterwards by the questionnaire sent to all NMC participants, which asked explicitly a question about the EWM-NL session.

For the 2019 session, Vivi Rottschäfer is on the NMC organizing committee and will help us secure a slot for a similar EWM-NL session.

Photo exhibition "Women of Mathematics throughout Europe - A Gallery of Portraits"

The exhibition "Women of Mathematics Throughout Europe, a gallery of portraits" presents the photographic portraits of thirteen female mathematicians from all around Europe, who share their experiences as mathematicians. EWM The Netherlands decided in 2017 to support the touring of this exhibition through mathematics departments in the Netherlands.

We have printed our own copy of the exhibit in the form of banners, together with our logos and the logos of our sponsors, that we plan to lend to mathematics department across the country, and to other possibly interested associations. EWM-NL facilitated the exposition of the exhibition in two locations in 2017 (Utrecht, Twente) and another one in 2018 (TU/e), while a second location in 2018 was deferred to Spring 2019.

In 2018, the TU/e opening of the exhibition happened with a public outreach event. The event, "Celebrating Mathematics" took place on 27 August 2018 and comprised talks that showcase the communication of mathematics, the popularisation of mathematics, and the impact of mathematics. The invited speakers were Prof. Nelly Litvak, Prof. Frank Thuijsman, Dr. Tom Verhoeff, and Prof. Ionica Smeets. The abstracts and presentations can be found on our website: <http://www.ewmnetherlands.nl/celebrating-mathematics/>. The afternoon closed with a reception opening the exhibition.

In total 90 participants registered for the event, which was co-organised and co-sponsored by the Mathematics and Computer Science department of TU/e. The exhibition was displayed in the main

building of TU/e for a month, until 30 September 2018.

EWM-NL will focus on having this photo exhibition displayed in another two locations in 2019.

Grant scheme

This year we started a grant scheme to support female mathematicians in their careers. We had five applications, of which we honoured three. We evaluated each proposal on the following merits: “will the funding enhance the applicant's career”, and “could the activity have been funded otherwise”.

The three awarded grants went to:

Wioletta Ruszel for childcare during travel and invited collaboration with Loren Coquille.

Sarah Graaf for travel to SIAM Conference on Applied Linear Algebra in Hong Kong.

Marta Maggioni for travel to a female mathematics camp in Kenya.

Promo materials

This year we ordered new flyers, and new Doppert bottles (as gifts for invited speakers and volunteers).

Mentor program

The mentor program of EWM-NL has been running since 2015. In 2017, NWO passed the administration of the program to EWM-NL under the leadership of Birgit Sollie. After Sollie's term on the EWM-NL executive board, the administration of the program passed to Maria Vlasiou. In 2018, the program had very few (eligible) requests. Requests from men or non-mathematicians are not considered eligible. A first change implemented in 2018 has been that rather than appointing a mentor to a mentee, all mentors are approached for each case and asked if they wish to volunteer. This has shown that the pool of available mentors is rather reluctant to accept mentees. As a result of this observation, the actions planned for 2019 regarding the mentor program are to re-confirm the interest of the registered mentors personally, to solicit new volunteers as mentors, to monitor closely the running of past and current mentor-mentee relationships, and to evaluate if the demand for mentoring justifies the existence of the program and the associated administrative burden.

Activities in 2019

NMC session

The NMC was held in Veldhoven on April 23-24. Unlike the previous year, EWM-NL was granted a parallel session where we invited 4 panellists that contributed to talks at the event itself. The session was less well attended in comparison to 2018 due to the different parallel activities. About 30 participants attended, which allowed for a more informal style of communication and discussions. Olfa Jaibi hosted the session, preceded by a short presentation by Maria Vlasiou about the goals and activities of EWM-NL in 2018 and 2019. The attendees as well as the participants in the panel discussion found the session to be a fruitful encounter with fellow mathematicians.

Photo exhibition at Maastricht University

The exhibition Women of Mathematics throughout Europe was hosted by Maastricht University, on loan by EWM-NL. The exhibition, which has been travelling the world since 2016, portrays thirteen female mathematicians working at various European research institutions. The project explores their experiences, their drive and their love for mathematics. The extended exhibition shown in Maastricht featured two extra portraits of some of UM's women in mathematics. In addition, artist

Jules Sinsel installed a custom-made, math-inspired 3D art object for the occasion.

Photo exhibition at Radboud University

The exhibit "Women in Mathematics, a Gallery of Portraits" was displayed at Radboud University in Nijmegen, for about four weeks. The opening took place on May 24th, 2019, during the Diversity Day organised at the Faculty of Science.

Photo exhibition at Leiden University

The exhibit "Women in Mathematics, a Gallery of Portraits" was displayed at the international bi-annual conference *Equadiff* in the Hooglandse Kerk, one of the monuments of the city. The conference gathered more than 550 mathematicians from around the world. The portraits were exposed during the whole week and praised by the organisation as well as the participants.

Workshop

In May, we hosted a workshop on Persuasion and Influencing. The trainer was from Centalis. The location was CWI who sponsored the use of their room and the drinks. The 10 participants were spread over all levels of seniority and mainly from CWI.

Annual event

The annual event took place on November 27 at CWI in Amsterdam. This year's theme was "understanding and fixing the leaky pipeline", a metaphor for the lack of women at senior levels of academia. The program started with an overview of EWM-NL's activities by Maria Vlasidou, followed by the first main speaker: Dr. Erin Hengel from the University of Liverpool. She talked about her research on gender bias in publishing. Our second main speaker was Prof.dr. Gunter Cornelissen, former head of the department of mathematics in Utrecht. He spoke about concrete measures one can take to fix the leaky pipeline, to create a more diverse organisation. Dr. Barbara van der Berg from the University of Utrecht gave a short presentation on a project they just started to find out why less girls than boys choose to study maths.

Following the talks, there was a panel discussion led by Sophie Huiberts. The annual event was visited by ca. 30-40 persons.

Mentor programme

Some changes in the mentor program have been implemented in 2019. First, all mentors in the existing pool were asked to re-confirm their interest in mentoring (all but one did), and new mentors were recruited via the monthly EWM-NL newsletters, resulting in two new volunteers for our mentor pool. When someone registers as a mentee, the new process is as follows. An anonymised mail with the details and requests of the mentee is sent to all available mentors in the pool, asking for volunteers. If more than one of them is willing to mentor this person, the mentee is presented their profiles and can make a choice, after which the mentee and mentor are put in contact with each other. Two new mentor-mentee pairs are formed in 2019.

European Girls Mathematics Olympiad 2020

In 2020 the Netherlands will be hosting the European Girls Mathematical Olympiad (EGMO) in Egmond aan Zee. The EGMO was founded in 2012 and is a competition similar to the International Mathematical Olympiad. More than fifty countries send their best female high school students to test their problem-solving skills. Two consecutive mornings these students get to tackle three hard problems each. The goal of the EGMO is to decrease the gender gap in mathematics competitions by giving more female students the opportunity to participate on an international level and meet other talented girls.

EWM will support and collaborate with EGMO2020 in various forms:

we will showcase the Exhibit "Women in Mathematics, a Gallery of Portraits" at the EGMO location

during the duration of the event.
 we will award the first Dutch girl in the final ranking a two-week trip to a mathematical institute in the country, including a guardian.
 some of our board members and affiliated members will help on the field serving as coordinators/translators.

Sponsoring Benelux Olympiad

The 11th Benelux Mathematical Olympiad was held in Valkenswaard in April 2019. After communication with the local organisers of the Olympiad, EWM-NL supported the event by sponsoring a small prize for the best 2 girls of the competition. The prize comprised a book about solving mathematical problems by Terence Tao, a personal message, and EWM-NL memorabilia. This year's winners of the EWM-NL prizes were Marie Peeters (BEL) with an impressive score of 26/28 points and a gold medal. The second prize was awarded to Angelina Kysil (LUX) with a bronze medal and 9/28 points, including a perfect score in one assignment. More details about their performance can be found here: <http://www.bxmo.nl/problems-results/index.html>.

Sponsoring national mathematics Olympiad

This year, EWM-NL also supported the Dutch national mathematics Olympiad by sponsoring a small prize for the best girl of each class. The award ceremony took place in November. The prize comprised a book on mathematics chosen by the winner, a personal message, and EWM-NL memorabilia. This year's winners of the EWM-NL prizes were the Anke de Haan from Deventer (4th class), Samantha Li from Eindhoven (5th class) and Lisa van Barneveld (6th class).

Campaign of women in STEM

In January, EWM-NL was approached by the MEDIAPLANET PUBLISHING HOUSE B.V. with the request to support and contribute in the campaign "Women in STEM" that they wished to launch at the end of March. EWM-NL responded to the call and gathered material from its members. About 20 members contributed. The publisher let us know early in March that they postponed their campaign. EWM-NL asked for new permissions from the contributors to use their material in our own social media and newsletter.

Contacts with CWM

EWM-NL and CWM have coordinated their activities with respect to keeping their members informed about international activities. The newsletter of EWM-NL is also linked at the IMU's Committee for Women in Mathematics, and CWM news are regularly distributed among our own members through our newsletter.

Number of women in mathematics

EWM-NL asked the mathematics departments and institutes to share voluntarily their personnel numbers categorised by rank and gender. From the 12 organisations asked, seven provided the information requested, two refused to do so, and four gave no answer. The aggregated data from those seven departments are as follows:

Aggregated	Number women	Number men	Fte women	Fte men		% number women	% fte women
PhD candidates	58	191	20.68	74.7		0.232932	0.216817
Postdocs	21	53	7.01	18		0.283784	0.280288
Ass. Prof.	26	86	13	41.71		0.232143	0.237617

(including TT)							
Assoc. Prof.	7	68	3.8	28		0.093333	0.119497
Prof. (including bijzondere , NOP, etc)	11	80	5.21	40.57		0.120879	0.113805
	123	478	49.7	202.98			
% women in all ranks	0.204659		0.196691				
Note: fte numbers include only 4 departments that provided this information							

Women in the spotlight

The Nieuw Archief voor Wiskunde has agreed to host a new column about women in mathematics, curated by Clara Stegehuis and Francesca Arici. The format will consist of a brief portrait of a woman mathematician active in the country, followed by a more technical article about her research direction.

New board members

In January 2019, Rianne de Heide joined the executive board. In April 2019, Anna Kruseman and Wioletta Ruszel left the board, and Francesca Arici (re)joined the board. At the end of 2019, the board consisted of Maria Vlasidou, Olfa Jaïbi, Francesca Arici, and Rianne de Heide.

Grants

Continuing the grant scheme initiated in 2018, we have awarded two grants to the following applicants:

Julia Komjathy (TU/E) for covering the flight costs of her two children, in order to allow her and her husband to give talks in the Stochastics Seminar at the University of Bristol and to the Probability Seminar at the University of Bath.

Francesca Arici (LU) for the design costs of a website for a the newly established network Women In Operator Theory and Operator Algebras, Benelux.

PORTUGAL: Catarina Lucas

2018 – Meetings at Universidade do Porto between Sofia Castro, Catarina Lucas and Luísa Castro for discussion of EWM – Portugal aims and future proposals

- 2018, December - The article “Women mathematicians in Portugal: a portrait”¹ from Sofia Castro (Universidade do Porto) and Margarida Mendes Lopes (Universidade de Lisboa) describing the gender balance in the Portuguese mathematical scientific community.

1

- 2019 - Promotion, information management and discussion in the Facebook group of Portuguese mathematical women, in particular, dissemination of events, awards, scholarships and courses in the area of Mathematics.
- 2019, July – The 1st Meeting for women mathematicians in Portugal (WM2) took place at Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa. The conference aimed to cover the diversity of interests of Portuguese women mathematicians. It was an opportunity to share different experiences and allowed to develop a more supportive community that can inspire future women mathematicians. It was organized into Plenary and Contributed Talks, and a Panel discussion on the gender gap situation in Mathematics.

SERBIA: Jelena Aleksic

As we wrote in previous reports, women are almost 50% of mathematicians in Serbia. Regarding teaching mathematics, the percentage of women is even higher. Here are numbers of employees on Department of Mathematics and Informatics, Faculty of Science, University of Novi Sad:

There is no female mathematical association yet, but EWM members from Serbia (about 20) actively act through the Serbian Mathematical Sciences Association which officially has 56 women out of a total of 108 members. Serbian members took part in The 18th EWM General Meeting, Graz, 2018, as well as in (WM)Ç 2018, Rio de Janeiro.

Certain activities are made through the Association of L'oréal-UNESCO laureates in Serbia. Dragana Ilic, associate professor in Astronomy, from the Faculty of mathematics, University of Belgrade, was one of the speakers in the Round Table discussion on “How to close the gender gap in science? In UNESCO headquarters on February, 11th 2020. An interview with Dragana for the International Science Council about gender equality can be found on the following link: <https://www.buzzsprout.com/899635/3010111>

February 11th was marked by an event in Belgrade in Serbian Academy of Science and Arts (SANU). The conference “Female scientists in society” was organized within the project of the Ethnographic Institute of SANU "Position of Women Scientists in Society and the Labor Market in Serbia" (UNESCO Participation Program).

SLOVAKIA: Daniela Velichova

Basic facts:

- about 30% of active mathematicians working at the Mathematical Institute of Slovak Academy of Sciences are female (12 women)
- about 40% of mathematicians working as university lecturers at 10 universities in Slovakia are female (about 200 women)
- about 42% of leading positions in the boards of 2 existing Slovak professional mathematical societies (with about 160 members) are female - 14
 - Union of Slovak Mathematicians and Physicists - 6M + 5F
 - Slovak Mathematical Society - 13M + 9F

Currently there are no special committees or members of steering committees within any from above 2 professional organisations that would be responsible for promoting women in mathematics, nor does the agenda exist related to these issues.

Non-profit professional scientific organisation Slovak Society for Geometry and Graphics aimed to stimulate scientific development in the field of geometry and computer graphics, to support young scientists in these disciplines, and to enhance the quality of geometry education at all levels has about 35 members, while 25 of them are women. This society organized under its own costs several special events for women in mathematics:

- May 12 initiative, Meeting of Slovak Women in Maths, Presentation about Maryam Mirzakhani life scientific work, and presentations of Slovak women in mathematics about their professional scientific careers, 05/10/2019 – 10:00 - 14:00, Institute of mathematics and Physics, Slovak University of Technology in Bratislava
- Seminar Women in Geometry and Geometric Modelling, joint event with International Symposium on Geometry and Graphics, September 9-12, 2019, Trenčianske Teplice, Slovakia. An informal meeting of participating women mathematicians was held, where information about EWM organisation and its activities was presented and possibility of individual membership was promoted.
- EWM national meeting in Slovakia, Institute of Mathematics and Physics, Institute of mathematics and Physics, Slovak University of Technology in Bratislava, 10/15/ 2019.
- Special session on position of women in mathematics was held during the international conference Aplimat 2020, 5.–7.2.2020 at Slovak University of Technology in Bratislava.
- Careers of Slovak Women in Maths, Activity within the May 12 initiative, on-line meeting and discussion, 05/12/2020 - 12:00 - 14:00

As EWM national coordinator for Slovakia I keep informed all women mathematicians who articulated interest to receive information about EWM and its activities. I have invited them to participate at our national meeting that will be held at the Institute of Mathematics and Physics, Slovak University of Technology in Bratislava, in October 2020. Here I plan to inform about the results of the EWM General Assembly held as on-line meeting on July 6, 2020. I will suggest possible establishment of a Slovak Group of Women in Mathematics – an official body dealing with gender issues, hidden forms of invisible discrimination. In the meantime we will try to encourage more women mathematicians to attend this event. During the seminar we will discuss possibilities and ideas how to continue in order to promote better gender awareness in Slovak mathematical community remaining reluctant towards various gender problems in STEM. We will also collect the membership fee for the year 2020 and use it for local organizational purposes.

In Bratislava, June 23, 2020

SPAIN: Elisa Lorenzo García
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Université de Rennes 1

While there are several local associations for women in science along the different Spanish universities, there is only one national organization for women in mathematics, the “Comisión de Mujeres y Matemáticas de la RSME” (Commission for Women and Mathematics of the Spanish Mathematical Society):

<https://www.rsme.es/category/mujeres/>

The **commission MyM** is formed by 12 members and it is led by María Elena Vázquez Abal (Universidad de Santiago de Compostela) since January 2020. The main activities that they accomplished from August 2018 are:

1. Maintenance and liven up of their Social Networks:

- Website: <http://mym.rsme.es> and www.rsme.es/category/mujeres/.

- Facebook group and profile: <https://www.facebook.com/groups/mymRSME/> and <https://www.facebook.com/mymRSME/>.
- Instagram <https://www.instagram.com/mymrsme/>.
- Twitter <https://twitter.com/mymrsme>.
- YouTube channel: www.youtube.com/channel/UCeHHVauESn8hREiFoGPEB5Q.

2. Publications about women in maths:

- Section about Women & Maths in the weekly online newsletter of the RSME since September 2016.
- 4 articles at *La Gaceta* of the RSME: <http://gaceta.rsme.es>.
- Collaboration with the SM Publisher.
- 3 articles at the major national newspapers El País and ABC.

3. Activities for the 11th February and 12th May days. More details below.

4. Round table discussions about gender issues:

- Organisation of a round table discussion in the *V Congreso de Jóvenes investigadores* of the RSME (January 2020): a video of the discussion can be found in <http://www.svideo.uji.es/peli.php?codi=3151&lg=>.
- Organisation of a round table discussion at the *Congreso Bienal de la RSME* (January 2021).

5. Female nominations for prizes and distinctions:

- 2 nominations for the *Medallas de la RSME* (one in 2019 and one in 2020).
- 1 nomination for the EMS prizes.

Another “women in math” association with big impact in Spain is the **WOMAT** (<https://www.icmat.es/gender/womat/>) association at the ICMAT started in November 2018. They publish a monthly newsletter and everything is in English.

Activities for the 12th May, listed on <https://may12.womeninmaths.org>:

- 2019: 8 five minutes talks on female mathematicians at the UCM.
- 2020: 2 online escape rooms [El rescate de la maga Omega](#) and [El pasillo del olvido recordado](#) (in Spanish, Catalan, Galician and English).
- 2020: Recorded interviews with female mathematicians: [¿Qué le preguntarías a una investigadora en matemáticas?](#) at the MyM Youtube channel.

11th February initiative (11defebrero.org): it is a Spanish association regrouping the different activities for the 11th February Day, the International day of Women and Girls

in Science, and connecting people willing to give talks about female scientists and high-schools interested in receiving them.

Participation at the EGMO (European Girl's Math Olympiad). Since 2016 the Spanish team has taken part at the EGMO (virtual participation in 2020 due to the coronavirus pandemic): <https://www.egmo.org>.

Libro Blanco de las Matemáticas (White paper on Mathematics elaborated by the RSME): a chapter on gender issues has been prepared and will be made public soon.

<https://www.rsme.es/2019/11/avances-en-la-elaboracion-del-libro-blanco/>

MatEsElla: this is a very successful mentoring programme for undergraduate and graduate female math students. <https://ejecon.org/matesella/>.

TURKEY: Semra Pamuk

As a group of women mathematicians, we established the Association for Turkish Women in Mathematics in June, 2012. Our aim is to support women in mathematics, in social and scientific areas. We will try to create opportunities for woman mathematicians to facilitate the advancement of their careers by cooperating with similar associations like EWM.

In order to achieve our goal as association, we try to bring women mathematicians, graduate students together to share their research, experience and ideas by organizing Women and Science events, Workshops of Association for Turkish Women in Mathematics, Graduate Summer Schools, and Women and Maths events, every year. You may find detailed information about these activities in our web page. We aim to organise Women and Science events and Workshops in a different university in Turkey each year.

In this report I will try to give details of the events we have organized since summer 2018:

Third Graduate Summer School of Association for Turkish Women in Maths: The third summer school for graduate students has took place during June 18-27, 2018 in METU, Ankara. The topics of this school were Functional Analysis and Difference Equations. There were 35 participants in this summer school.

Third Women and Mathematics: Applied Mathematics, has been held on March 09, 2019 at Istanbul Center for Mathematical Sciences (IMBM). The theme of this event was applications of mathematics. There were three invited speakers; they gave talks on mathematical biology, string theory and financial mathematics. Even though it was a one day, focused event there were 25 participants from different parts of Turkey.

Sixth Workshop of Association for Turkish Women in Maths has been held between April 26-28, 2019 at Selcuk University, Konya, Turkey. The main themes of the sixth workshop were Algebra, Applied Mathematics, and General Topology Besides these invited talks there were sessions for short talks, six 30 min. and thirteen 10 min. and poster presentations given by people ranging from senior mathematicians to PhD students. There were three invited speakers from different universities in Turkey. During the workshop, we had Women and Mathematics throughout Europe: a Gallery of Portraits exhibition as well. There were 128 registered participants but 90 of them attended the workshop. The participants were from 30 different universities from every region of Turkey.

May 12, Women in math Event in Ankara: To celebrate Women in Maths day, there was a one day event on May 17, 2019, at METU in Ankara, organized by TKMD.

In the event there were interviews with women Mathematicians and screening of the short movie Journeys of Women in Math. There were nearly 50 participants.

Fourth Graduate Summer School of Association for Turkish Women in Maths: The Fourth summer school for graduate students has taken place during June 17-26, 2019 in METU, Ankara. The topics of this year were Algebraic Geometry and Cryptology. There were 50 participants in this summer school.

Women and Science VI: Sixth Women and Science event was held on September 20, 2019 at Balıkesir University. There were one Mathematics talk and one other science talk and a panel on women's role in STEM education. There were 149 registered participants nearly all of them attended the workshop. The participants were from 30 different universities from every region of Turkey.

Women and Mathematics: Number Theory: The fourth Women and Mathematics meeting has been held on March 07, 2020 at Istanbul Center for Mathematical Sciences (IMBM), in Istanbul, Turkey. There were four invited speakers, Ozlem Imamoglu (ETH Zurich University) (could not make it due to covid pandemic), but others Elisa Lorenzo Garcia (University of Rennes 1), Rachel Newton (University of Reading) and Ekin Ozman (Bogazici University) have come and gave talks. There was also Gender Gap in Science presentation, in this meeting. There were more than 40 participants in this event.

We have planned **7th Workshop of Association for Turkish Women in Maths:** April 16-18, 2020 at Van Yuzuncu Yil University, in Van, Turkey but it has been postponed to a future date due to Covid-19 pandemic.

UNITED KINGDOM: Anne Taormina

1. National initiatives

Good Practice Scheme Workshop under the auspices of the London Mathematical Society:

De Morgan House, London on 31st October 2019. The focus of the workshop was equality

and diversity in connection with the Research Excellence Framework.

<https://www.lms.ac.uk/women/good-practice-scheme-events>

Athena Forum under the auspices of the Royal Society: The Athena Forum aims to work towards a goal of proportional democratic representation in Science, Technology,

Engineering, Medicine and Mathematics (STEMM) through providing a unified voice for

influencing policy and effecting cultural change.

<https://www.athenaforum.org.uk/about-athena-forum/>

An Athena Forum Workshop on Prizes and Awards was organised at Newcastle University,

31 March 2020. The event focussed on how to nominate people for professional prizes

in an effort to expand the pool of nominators and emphasise the need for more diversity in nominees.

<https://www.eventbrite.co.uk/e/athena-forum-prizes-and-awards-workshopregistration-75137649733>

2. Some local initiatives

May 12. Celebrating Women in Mathematics in the UK. Several screenings of 'Secrets of

the Surface", filmed in Canada, Iran, and the United States on the life and mathematical

work of the first (and to date, only) female Fields medalist Maryam Mirzakhani.

- Edinburgh, Tue 19-05-20 at 18:00 and 19:45.

- London, Pioneer projection, 12-05-20

- London, Wed 01-04-20 til Fri 15-05-20

- Sheffield, Tue 12-05-20 at 14:00 and 15:00

On Wednesday 20 May 2020, the Leeds-Bradford local group of the Royal Statistical Society

(RSS) hosted its president Professor Deborah Ashby, with a talk, 'Florence Nightingale,

pigeon-holes and mustard seeds: Using data to improve health from the time of the Crimea to the time to the coronavirus'.

<https://rss.org.uk/news-publication/news-publications/2020/section-groupreports/leeds-bradford-local-group-meeting-florence-nighti/>

<https://www.youtube.com/watch?v=OrRoeQaucF0>

The University of Nottingham runs the Anne McLaren Fellowship scheme, which is aimed

at outstanding female scholars in science, technology, engineering and medicine, who are

at the early stage of their academic careers and wish to establish a research career in the

UK. The fellowships provide 3 years of independent research funding, and are linked to a

permanent academic position.

Current Anne McLaren fellows include Kirsty Bolton in the School of Mathematical Sciences,

Catherine Harvey, Orla Williams and Helena Gomes in the Faculty of Engineering.

<https://www.nottingham.ac.uk/research/researchwithus/fellowships/nottingham/index.aspx>

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3. Prizes awarded in the period July 2019 - June 2020 to female mathematicians working in the

UK

(a) 2019 Richard Glazebrook Medal and Prize: Professor Anne-Christine Davis (University

of Cambridge) for her outstanding support and leadership in physics, particularly for women and those from non-traditional backgrounds, for her leadership of the UK particle

cosmology community, and her gender championship roles. Anne Davis is an outstanding particle cosmologist, who has guided this field in the UK and the careers of many generations of researchers.

http://www.iop.org/about/awards/gold/glazebrook/medallists/page_72829.html

(b) 2020 European Mathematical Society Prize: Dr Ana Caraiani (Imperial College London)

in recognition of excellent contributions in classical and p-adic Langlands programs, Shimura varieties, and arithmetic geometry. Ana Caraiani received her PhD at Harvard

University and held positions at the University of Chicago, Princeton University, and the

University of Bonn before moving to Imperial College London.

(c) 2020 L'Oréal-UNESCO ForWomen in Science UK & Ireland Rising Talent Prizes: Each year, five prizes are awarded to five early career (or returning to research after a

break) women scientists working in the UK and Ireland. The five categories are Life Sciences, Physical Sciences, Mathematics and Computing, Engineering and Sustainable

Development, and there is one winner per category. The 2020 recipients are

Dr Sarah Pickett (Newcastle University) for a project entitled 'Understanding the molecular mechanisms of mitochondrial disease' (Life Sciences category)

Dr Jennifer Carter (University of Leicester) for a project entitled 'SMILE! Taking a picture of space weather' (Physical Sciences category)

Dr Joy Egede (University of Nottingham) for a project entitled 'Automatic multimodal neonatal pain assessment' (Maths and Computing category)

Dr Yijing Xie (King's College London) for a project entitled 'Intraoperative functional optical imaging system for maximal safe brain tumour resection' (Engineering category)

Dr Aida Cuní Sanchez (York University) for a project entitled ' Sustainable development

using indigenous trees in the Albertine rift' (Sustainable Development category)

<https://www.forwomeninscience.com/en/fellowships/563719035>

2020 London Mathematical Society Prizes:

Frölich Prize: awarded to a mathematician with fewer than 25 years' experience at post-doctoral level for original/innovative work in any branch of mathematics.

Professor Françoise Tisseur (University of Manchester) for innovative work in nonlinear

eigenvalue problems and structured matrix problems, including the development of algorithms and software.

Whitehead Prize: awarded to mathematicians with fewer than 15 years' experience at post-doctoral level for work in and influence on mathematics.

(i) Dr Maria Bruna (University of Cambridge) for work related to the capture of multiscale phenomena in stochastic systems of interacting particles, with applications in mathematical biology and industrial mathematics.

(ii) Dr Holly Krieger (University of Cambridge) for work related to the arithmetic and algebraic aspects of families of complex dynamical systems.

4. UK Athena Swan Awards. The Athena SWAN Charter evolved from work between the Athena Project and the Scientific Women's Academic Network (SWAN), to advance the representation of women in science, technology, engineering, medicine and mathematics (STEMM). Awards are granted to Higher Education Institutions and Departments, and are valid for three years from the announcement of the results twice a year. There are currently 45 Mathematics or Mathematical Sciences Departments holding an Athena Swan Award (37 Bronze and 8 Silver). The Department of Mathematics and Computer Science at the University of Exeter received a Silver Award in the November 2019 round.

5. Benchmarking Survey commissioned by the London Mathematical Society: The LMS Women in Mathematics Committee and Good Practice Scheme Steering Group are pleased to present the final report from the Benchmarking Survey commissioned from Ortus Economic Research. The goal of the report was to understand the current status of women in UK mathematics departments, as well as to understand the experience that departments have had with the Athena Swan process. The report is based on an analysis of three different types of data: HESA data on proportions of women at various levels in UK HEI mathematics departments, Athena Swan applications contributed by 33 UK mathematics departments and interviews with eight individuals involved with the Athena Swan process in their departments. The Benchmarking Survey is available at <https://www.lms.ac.uk/sites/lms.ac.uk/files/files/Benchmarking%20Report%20FINAL.pdf> and contains, in particular, a quantitative analysis of data relating to mathematical sciences students and academic staff at national level, based primarily on aggregate data from the Higher Education Statistics Agency (HESA), as well as data from the Joint Council for Qualifications. The report presents a time-series analysis of gender diversity among mathematical sciences students, and among academic staff in the mathematics cost centre, over the period from 2011/12 to 2016/17. For instance, the number of women in academic positions in the mathematics cost centre in UK universities has increased over that period.

The proportion of lecturers and senior lecturers in the mathematics cost centre who are female has remained constant at 23% since 2011/12. 23% of researchers in the mathematics cost centre in 2016/17 are female, up from 21% in 2011/12 but unchanged since 2012/13. 11% of professors in the mathematics cost centre are female in 2016/17, compared with 7% in 2011/12. Trends in gender diversity in the mathematical sciences are examined in more detail in the chapter entitled 'Gender in Mathematics – quantitative analysis' (page 12).

UZBEKISTAN: Umida Baltaeva

25-26th October, 2018, Khiva, Urgench - UZBEKISTAN.

ACTUAL PROBLEMS OF MATHEMATICS AND MECHANICS: The aim of the conference is to establish scientific relation with the cooperation of women experts in the field of mathematics and mechanics as it is considered as the most active research area in our republic & to support collaboration between them.

The next aim of the conference is to work with the world mathematicians, foundation, associations and to introduce Uzbek women experts with the mathematical associations (IMU, CWM, EWM, OWSD, and ...)

The Republican scientific-practical conference with participation of foreign women scientists had a total of 96 registered participants, mostly women. Registered participants came from 4 different countries (Central Asia), and also 9 different regions of Uzbekistan distributed as follows.



The conference was aimed at the implementation of scientific and technical programs in priority areas of science (Pure and applied mathematics and information technologies), the further strengthening of international scientific cooperation, the involvement of women scientists in this field of science and the promotion of their ties with leading experts in this area. Participation in the conference of young scientists, specialists, interns, researchers and undergraduates from Urgench State University, and also from universities of the republic Central Asia Countries was envisaged.

During the conference, in addition to sectional and plenary reports, the following discussions were organized: WORLD WOMEN IN MATHEMATICS: Bakhyt Alipova, International Information Technology University and Muhabbat Rakhimbayeva, Urgench State University, in particular, made a presentation on the TV(Uzbekistan).

A collection of theses and a conference program were published, which includes 66 theses 97 authors (96 p.).

For statistics (from Brief info for Uzbek Mathematics Society to IMU 2018) In Uzbekistan, there are 20 universities, 45 institutes, 2 academies, 10 regional branches and 7 branches of foreign universities. Most of universities have a mathematical faculty, others have department of mathematics. There is a special research Institute of the Academy of Sciences Uzbekistan named after V.I.Romanovskiy, Institute of Mathematics. (Most of them situated in Tashkent) Society has a network connecting approximately 100 full professors and 600 associate professors working in different region of Uzbekistan such National University of Uzbekistan (Tashkent), Samarkand State University, Urgench State University, Karakalpak State University, Namangan State University, Fergana State University, Qarshi State University and etc.

What about the women in all of them?

Women of them full professors – no more than 5%

Women who is actively working and studying in them only 3-4%.

We talked about the problems for defending second degree (for full prof. position) in our and other countries of CA. The problem of women is that they could not to participate in events, to write propose projects and to participate in scientific societies; to provide more travel and research grants and scholarships. It depends on, they have not enough:

- Publications in high Impact factor journals;

- Collaboration with professors who is actively working on the field, work between women mathematics, such as it is one of the ways to develop scientific work.

On the other side she is a woman. Role models play a role in these, experiences such as balancing family, career, research and responsibilities. And also during the conference professor participants talked the history of the development of their career and the role of the family in this. We discussed how to develop courage and self-confidence in this. Here is very important of having networks, organize special conferences, workshops for women mathematicians.

ORGANIZING AND SCIENTIFIC COMMITTEE:

Azamov Abdulla (Prezident of Uzbek Mathematical Society, Uzbekistan)

Abdullaev Ikram (Khorezm Mamun Academy, Uzbekistan)

Abdullaev Bakhrom (Rector of UrSU, Uzbekistan)

Marie-Francoise Roy (Chair of the IMU CWM, University of Rennes 1, France)

Baltaeva Umida (Head of the Department of Khorezm Mamun Academy, Uzbekistan)

Bakhyt Alipova (President of CAWMA, IITU, Kazakhstan)

Lyudmila Alexeyevna Alexeyeva (Kazakhstan), Raimova Gulnora (Institut Mathematics, Uzbekistan), Sadullaeva Shahlo Azimboevna (TUIT, Uzbekistan), Zhyldyz Assanova (KSPU, Kirgizistan), Baltaeva Iroda Ismoilovna (UrSU, Uzbekistan), Bobayarova Nargiza (UrSU, Uzbekistan), Vaisova Mokhira (UrSU, Uzbekistan), Numukhamedova Nargiza Saidillaevna (NUUZ, Uzbekistan)

Organizers: Khorezm Mamun Academy, Urgench State University (UrSU) (Uzbekistan), Uzbek mathematical Society(Uzbekistan), International University of Information Technologies (IITU) (Kazakhstan)

Sponsored by: IMU CWM, EMS CDC

From Georgia - Dali Makharadze

I have been a member of European Women in Mathematics since 2009 and I became a coordinator only 3 years ago.

The regular member of EWM were only 5 participants. Unfortunately, one of them died, but 3 mathematicians have expressed a desire to become members of this organization and I hope they will attend the next meeting.

The old active members paid their membership fees directly to EWM and we are going to continue to do so again, as it is a great honor for us to be a member of this organization. I am willing to continue membership as a regional coordinator.

I want to inform you about our activities. International conferences were held by the Georgian Mathematical Society in September 2018 and 2019 at Batumi Shota Rustaveli State University. I would like to point out that the number of women participating in this conference was 22 percent of the total composition in 2019 and 18 percent in 2018. This is quite a large number, because there have always been very few female mathematicians in Georgia. This tendency is gradually changing.

On September 5, 2019, we held a special meeting for EVM members, where we invited other mathematicians as well. The purpose of this meeting was to share modern scientific achievements, strengthen scientific ties and increase the involvement of women mathematicians and promote future cooperation between scientists. I introduced them the activities of EVM, after which some of them expressed their desire to become members of this organization and to participate in the meetings prepared by EVM. Such activities will continue. I will send you pictures of meetings.

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From Poland – Stanislava Skanas and Anna Grybos

Poland 2017-2019

The recent activities of women in mathematics in Poland were mainly related to the new, yet highly developing association of Polish Women in Mathematics (PWM). It was established to support the development of mathematical sciences in Poland and to contribute to raising the general level of mathematical knowledge. PWM also intends to provide a representation of the Polish women community dealing with mathematical sciences in society and to all state, private and local government bodies in the country and abroad. The initiative to create PWM was established in 2015 and the first General Meeting of PWM was organized already on April 2, 2016 in Rzeszow.

Among the activities are the conferences like XIX Conference on Analytic Functions and Related Topics in 2018 as well as the series of the conferences "On the Trail of Women in Mathematics" in 2017 and 2019. First conference of the series was in honor of Professor Helena Rasiowa and her great works on algebraic logic and the mathematical foundations of computer science, while the second was in honor of "Princess of mathematics" - Professor Kowalewska and her noteworthy contributions to analysis, partial differential equations and mechanics together with her pioneering role as a female mathematician.

The conference of 2019 was also intended to be one of the elements of the celebration of the 100th Jubilee of AGH University of Science and Technology in Krakow, 2019 - the Year of Mathematics and the 100th

Anniversary of the Polish Mathematical Society.

Within the conference, latest achievements of researchers working in the field of mathematical and related sciences were presented. The conference topics covered large range of issues, mainly related to differential equations and their applications, but not limiting to these problems; representing the various branches of mathematics as Sofia Kowalewska influenced wide range of these branches. The conference program included plenary lectures, thematic and a poster sessions. An important element of the conference was also a quite hot discussion panel "Mobbing at universities".

The series of the conferences "On the Trail of Women in Mathematics" met with great interest of the mathematical society in Poland and abroad. It gives a good perspective for the future meetings.

Conferences organized by Polish women

1. Conference devoted to Kowalewska: On the Trail of Women in Mathematics - in Honor of Sofia Kowalewska 31.08 - 02.09.2019 AGH Kraków <https://skwm.ptkwm.org.pl/> Organizers: Stanisława Kanas, Urszula Foryś, Anna Gryboś, Krystyna Jaworska, Jerzy Stochel.
2. The 4th International Symposium on Fuzzy Sets Uncertainty Modeling 23-24.05. 2019 in the Faculty of Mathematics and Natural Sciences, University of Rzeszów, Rzeszów. <http://isfs.ur.edu.pl/> Organizers: Barbara Pękala, Urszula Bentkowska,

Ewa Rak, Anna Król

XXV National Conference on the Applications of Mathematics in Biology and Medicine, 16/09/2019 - 20/09/2019, Jadwisin near Warsaw. <http://kkzmbm.mimuw.edu.pl/> Organizers: Urszula Foryś, Marek Bodnar

3. Conference Dynamic Equations on Time Scales, 12/06/2019 - 16/06/2019, Będlewo (near Poznań). <https://www.impan.pl/en/activities/banach-center/conferences/18-timescales> Organizers: Ewa Schmeidel, Małgorzata Migda

Other activities

4. Activity of Stanisława Kanas in the EMS Committee for Women in Mathematics.
5. Participation of Anna Gryboś and Stanisława Kanas in the international PERSPECTIVE WOMEN IN TECH SUMMIT Nov. 13-14, 2019, Warsaw.
6. Lecture "Podkarpacie Women in Maths" delivered by Stanisława Kanas, (Rzeszów, 11 June 2019) at the conference "Faces of Mathematics"
7. Distribution of the current activities of women in Europe and the world directly to members of Polish Women in Mathematics (PWM) and on the portal PWM and Polish Society of Mathematics
8. Establishing Award for Women for Research Achievements in Mathematical Research <https://www.ptkwm.org.pl/pl/dzialalnosc/konkursy.html>

2019 women awards: Tatiana Odziejewicz, Barbara Pękala and Monika Piotrowska, see <https://ptkwm.org.pl/pl/>

9. Establishing by Polish Women in Mathematics the patronage of the Edyta Szymańska prize (given by the Faculty of Mathematics and Computer Science, Adam Mickiewicz University), see the website <https://www.wmi.amu.edu.pl/pl/konkurs-o-nagrode-im-edyty-szymanskiej>

10. Information on the Facebook (Anna Gryboś) <https://www.facebook.com/PolskieTowarzystwoKobietwMatematyce/>

The general comments on situation concerning female mathematicians in Ukraine.

The structure of the scientific sphere in Ukraine is inherited from the USSR. The main scientific forces of the country are concentrated in the National Academy of Sciences, in which scientists are engaged only in science and are not required to teach. In contrast, professors at Ukrainian universities are so overloaded with teaching that majority of them simply do not have time to be seriously engaged in science. Of course, there are exclusions (some strong scientists at TOP-Universities exist).

In Ukraine, there are 2 scientific degrees - PhD, and Doctor of Sciences (which is equivalent to Habilitation in some European countries, such as Germany or Czechia). If a scientist has achieved some outstanding merit, he or she is elected a Corresponding Member of the Academy of Sciences. The highest recognition of the merits of a scientist is his/her election as an Academician. Election takes place by a vote of other Academicians and Corresponding Members for the nominations.

At the Institute of Mathematics of NAS of Ukraine there are 32% of female mathematicians at the moment, at Universities this percent ranges from 15% (Kyiv National University) up to 40-50% (e.g. Kyiv Mohyla Academy, Cernivtsy University) and varies somewhere between at the others. At the same time there are only 6% of women having Dr. of Sciences Degree (Dr. Habilitat) among all researchers having such degree at the Institute of Mathematics of NASU and there is no any female Chief of Department. There is only one female Corresponding member and there is no any female Academician in the Academy in the specialty mathematics.

The lack of funding of science in Ukraine leads to rather bad situation of researchers in general. The salary of Junior Researcher in the Academy is about 250 Eur and of Senior Researcher is about 320 Eur, though prices for basic goods and housing rent are close to the average South and Eastern-European (e.g. Poland, Czechia). There are a bit higher (up to 500 Eur) salaries at TOP Universities. There are no modern computers at the institute and researchers should work from their own laptops. There are also no funding for participation at international conferences so researchers usually rely on the grants from organizers. Taking into account that in private companies (especially concerned with IT) there are almost European salaries (around 1500 Eur and higher for top-management) many PhD student do not finish their courses with Thesis defense because they move to IT. Primarily, only big enthusiasts remain in science in Ukraine.

Some events organized in Ukraine for female mathematicians since 2018.

- In 2019 the Eights European Girls' Mathematical Olympiad took place in Kyiv, Ukraine.
<https://www.egmo.org/egmos/egmo8/>
- The event "Women in mathematics: history and perspectives" took place on April 20, 2019, at the Institute of Mathematics of the National Academy of Sciences of Ukraine in Kyiv.
<https://www.imath.kiev.ua/~young/wm/index.php?module=1&lang=en>

This was a one-day event for historical and modern perspectives on the role and impact of women in mathematics. The key speakers were female researchers who are at the higher level of their research careers. By their personal stories these women encourage high school girls and students to become professional mathematicians. The main objectives of the event were reducing gender gap in mathematics, popularization of mathematics and giving an opportunity for high school girls and students to establish contacts with successful female mathematicians.

There were three parts of the event, which symbolized past, present and future of women in mathematics. In the first part talks on history of women in mathematics were given, enlightening biographies of such prominent female mathematicians as Maria Gaetana Agnesi, Sophie Germain, Sofia Kovalevskaya, Emmy Noether and others. In the second part Ukrainian female mathematicians who is at the higher levels of academic career gave inspirational talks which are based on their personal stories. In the third part we discussed how mathematics forms a basis for STEM, and then some talks were given by school girls and students who presented their projects for popularization of mathematics.

More than 100 participants took part in the event. The event joined the May 12 initiative.

Photos are available here: <https://photos.app.goo.gl/Z9UMNmK2YUnySzJ7>

- Since 2016 there exists STEM Girls programme of mentoring schoolgirls and students by the women with successful carriers in STEM professions. In 2018-2019 Dr. Olena Vaneeva supervised two girls who created projects for popularization of mathematics. One of the girls also took interviews of 16 female mathematicians to ask about their experience. Majority of women reported that they encountered some obstacles because of their gender. In 2019-2020 two projects were also supervised by Dr. Kateryna Terletska. Within this programme in 2018—2020 Olena Vaneeva and Kateryna Terletska gave several talks for female audience about beauty of mathematics and their personal experiences.
- On February 11, 2020 there was a special event for celebration of Women in Science Day <https://www.facebook.com/watch/?v=497847197557494>
- Because of lockdown the celebration of May 12, 2020 was done in Zoom meeting format <https://www.facebook.com/divchataSTEM/posts/1560689850777757>
The latter two events were organized by “STEM Girls” with participation of mathematicians from the Academy of Sciences of Ukraine (Vaneeva, Nesterenko, Terletska).