Mathematical biography poster assignment

What is a poster? Poster sessions are used to publicize, announce, or present the results of research investigations. They are widely used in professional conferences (including virtually all conferences for mathematicians and scientists), college and university courses, and meetings of all kinds. They are useful because many posters can be displayed without the time and space limitations of traditional presentations. Additionally, participants may easily browse and find research of interest.

Your posters should be on a 24" $\times$ 36" poster board.

The content of our posters. For this assignment you are to make a poster celebrating the life and work of a contemporary mathematician; i.e. a mathematician whose primary contributions were in the 20th or 21st century. You should let your own interest and research guide your decisions on what to include, but each poster should display several of the following:

- Typical biographical data: date of birth, death, family tree and nationality, education, honors, employment positions,...
- A description of the person's upbringing.
- Some mention of what encouraged the person to become a mathematician.
- A description of any obstacles the person had to overcome to become a mathematician or to continue in their mathematical career.
- Some description of the person's contribution to mathematics.
- The impact of the person's mathematical contributions or career as a mathematician.
- A description of the person's human qualities, interests, hobbies, or life experiences outside of mathematics.
- What you learned about this person that challenged perceptions or stereotypes that you or society hold about mathematics or mathematicians.

Your poster must include a list of references either on the front or the back. These references must be diverse, they cannot simply be a few obscure Internet sites. Internet sites should be reputable and you must include several references beyond the Internet.

Normal rules regarding appropriate referencing and citation must be followed: i.e. every passage you use that you have not written must be quoted and appropriately cited.

Your poster must be original. You cannot simply cut and paste passages from reference materials and glue them to posterboard.

Please make sure your poster also displays your own name clearly (on the reverse if you like).

The purpose of our posters. Mathematics and mathematics education are hindered by many negative stereotypes. Most people believe that mathematics is a static, archaic, and inhuman

landscape. In reality, more mathematics is created now than any other time in the history of humankind. We are in the midst of a golden age in mathematics. Despite this, almost nobody can name a single living mathematician! Moreover, mathematics is a very human discipline. I hope that our posters can dispel negative stereotypes and misperceptions by showing mathematics as a vital, living, dynamic, and humanistic discipline.

Suggestions. Choose a mathematician who interests you. It really shows in the posters when you personalize them. For example, find a mathematician whom you are related to, who shares your birthday, is from the same city as you, etc. Find a mathematician from a minority group or that escaped persecution. Say what you learned from researching the life of this mathematician. And, find out something interesting about them other than what is in the standard biography find out their Erdös number, what their favorite food was, what they liked to drink, whether they traveled, what their family life was like, etc.

Assessment. Each poster will be assessed by the professor and TA on how well it achieves each of the following:

- An informative presentation of biographical data.
- An engaging portrayal of the subject as a human being from whose life and work everybody can learn.
- Success in using the subject's biography to aid in our efforts to demonstrate that mathematics is a vital, living, dynamic, and humanistic discipline.
- Accessible description(s) of the subject's mathematical contributions, impact on the field of mathematics, leadership in the community of mathematicians, broader intellectual impact, and/or broader societal impact.
- A physical construction of a high quality poster, including: appropriate design, pleasing visual layout, effectiveness, appropriate mix of media and information, effort, etc.

Timetable

- **31st October**: On a single piece of paper (no e-mails, please) submit a statement of your first and second choices for who you would like to be the subject of your poster. For each of your choices, write a sentence explaining why you picked them. I will review these to ensure everyone writes about a different mathematician.
- **28th November.** Due date for posters and in-class poster fair. Please bring your poster to class. We will have a poster fair at which you will be asked to give feedback on some of your classmates' posters. At the end of class, the posters will be collected for assessment.

References and resources. There are many places to find information about posters and contemporary mathematicians. Several are listed below.

Biographical information in print

- Mathematical People by Donald J. Albers, Contemporary Publishing, 1986.
- More Mathematical People edited by Donald J. Albers, Gerald L. Alexanderson, and Constance Reid, Academic Press, Inc., 1990.
- Women Becoming Mathematicians: Creating a Professional Identity in Post-World War II America by Margaret Anne Marie Murray, MIT Press, 2000.
- Change is Possible: Stories of Women and Minorities in Mathematics by Patricia Clark Kenschaft, American Mathematical Society, 2005.
- Notable Women in Mathematics edited by Charlene Morrow and Teri Perl, Greenwood Press, 1998.
- Women in Mathematics by Lynn M. Osen, 1974.
- Women in Mathematics: The Addition of Difference by Claudia Henrion, Indiana University Press, 1997.
- Beyond Banneker: Black Mathematicians and the Paths to Excellence by Erica Walker.

Biographical information on the internet

- `http://www-groups.dcs.st-and.ac.uk/~history/BiogIndex.html` The biography section of the MacTutor History of Mathematics Archive. This is the most extensive historical archive on the Internet. It contains, for example, biographical data for more than 100 mathematicians born in the period 1920–1939.
- `http://www.genealogy.ams.org/` The Mathematics Genealogy Project. Here you can find information about the mathematical genealogy of thousands of mathematicians.
- `http://www.oakland.edu/enp/` The Erdös Number Project. This database helps celebrate collaborations between mathematicians.
- `http://www.awm-math.org/biographies.html` Biographies of female mathematicians from the Association of Women in Mathematics.
- `http://www-groups.dcs.st-and.ac.uk/~history/Day_files/Year.html` Mathematicians by birth and death dates.
- `https://plus.maths.org/content/women` +plus math Women of Mathematics

Information on Posters For more information on posters, the following Internet sites may be useful:
http://writing.colostate.edu/guides/speaking/poster/
http://www.awm-math.org/workshops/posters.html
http://www.kumc.edu/SAH/OTEd/jradel/Poster_Presentations/PstrStart.html

Acknowledgment. This document is adapted from *Discovering the Art of Mathematics* materials by Dr. Julian Fleron.