MA110 - Mathematical Explorations – Spring 2014
Mathematical Biography Poster Assignment

What is a poster? Poster Sessions are used to publicize, announce, and/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 that traditional presentations impose. Additionally, it makes it easier for participants to browse and find research of interest.

What are our posters about? 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. This biographical poster should contain a variety of biographical details. You should let your own interest and research guide your decisions on what to include in your poster, but each poster should include 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 this 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 and/or stereotypes that you and/or society hold about mathematics and/or mathematicians.

Purpose of the posters. Mathematics and mathematics education are hindered by many negative stereotypes that surround the mathematical landscape. 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. It is my hope that our posters can dispel negative stereotypes and misperceptions by showing mathematics as a vital, living, dynamic, and humanistic discipline.

Poster presentations. All posters will be hung in the 4th floor hallways of Wilson Hall. All posters are due on a Tuesday and will be displayed at least until the following Tuesday afternoon. You must either meet with me or make arrangements so your poster is displayed appropriately prior to the beginning of Tuesday's class. The posters will be hung from two screws that are exactly two feet apart using clips that I will provide for your posters. All posters must include the author's name clearly on the front and must have a comment envelope.

Damage disclaimer. Because of the public nature of the display of the posters, they are vulnerable to vandalism. Students who are not willing to take the small risk that appropriate display of their posters entail must contact me well in advance about alternative arrangements.

Requirements. The due date for your poster will be announced early in the course.

- You must sign up for a subject for your poster, checking to insure that nobody else has chosen the same mathematician. A list will be posted on the blackboard next to Prof. Fleron's office. This list will be posted on Monday, 17 February at 9 a.m.

- Two weeks prior to the due date you must submit, in writing, a brief proposal which identifies the subject of your poster. You should keep a copy of your proposal so you can keep working on your poster while I consider your proposal.
- One week prior to the due date you must submit, in writing, a more detailed proposal about your project. It should contain several references as well as layout and content ideas.
- 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.
- You must assess the posters of at least ten other students and these assessment reports must be submitted with your final report.
- Your final self-assessment report must include a tabulation of the scores you received and must conclude with a suggested letter grade (on the standard A+ - F scale) for your poster.

Assessment criteria. Assessment, on a scale of 1 - 5, will be used to reflect how well each poster achieved 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.

Suggestions. Choose a mathematician that 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. Using the criteria above, your poster will be assessed by peers in your class, by your professor, and by yourself.

Peer Assessment - Each student is required to assess the posters of at least ten other students during the course of the semester. For each poster that you assess you must completely fill out an assessment form, including written comments. One copy of this assessment form is to be submitted to the author. Duplicate copies are to be kept by the assessor until the end of the semester when they will be turned in to your professor. Peer reviews will be blind - the author of the poster will not know the identity of the reviewers.

Self Assessment - After your poster has been removed from the presentation you are to read all of the assessment forms and comments that have been submitted. You must tabulate all of the scores submitted on all of the assessment forms. Based on this feedback and your own evaluation of your work, you are then to write a brief one- to two-page report which critiques your poster, suggests a final grade for your poster (on the standard A+ - F scale), and provides rationale for your grade determination. Your poster report can be submitted at any time before the end of our regularly scheduled exam period at the end of the semester.

Assessment by Professor - Based on peer feedback and your report, Prof. Fleron will assign a final grade for your poster.

Peer assessment will not work unless everybody participates. Students who do not assess at least ten other posters and turn the corresponding assessment reports in to Prof. Fleron will receive a failing grade on their poster.

References and resources. There are many places to find information about posters and contemporary mathematicians. Several are listed below. As you find others, bring them into class and we will share them.

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. This text is on reserve in Ely Library. The author of this text was the first teacher that Prof. Fleron worked with as a teaching assistant.

Change is Possible: Stories of Women and Minorities in Mathematics by Patricia Clark Kenschaft, American Mathematical Society, 2005. The author of this text is a close professional friend of Prof. Fleron.

Notable Women in Mathematics edited by Charlene Morrow and Teri Perl, Greenwood Press, 1998. This book is in the reference section of Ely Library. Prof. Fleron has a copy as well. Prof. Morrow is a Professor at Mount Holyoke College.

Women in Mathematics by Lynn M. Osen, 1974.

Women in Mathematics: The Addition of Difference by Claudia Henrion, Indiana University Press, 1997.

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. For example, you can find out that Prof. Fleron has four mathematical siblings and has Theodore Gamelin as a mathematical grandfather. Similarly, Prof. Hotchkiss has 7 mathematical siblings and Robinson Kirby as a mathematical grandfather.

http://www.oakland.edu/enp/ The Erdos Number Project. This database helps celebrate collaborations between mathematicians. It contains, for example, the collaboration which gives Prof. Paul Humke Erdos number 2 and, by extension, gives Prof. Fleron Erdos number 3, and Prof. Hotchkiss Erdos number 4.

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.

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

Poster Checklist

- ☐ I know the due date of my poster.
- ☐ I checked that nobody else has chosen the same mathematician that I have and have signed up.
- ☐ I handed in my poster proposal two weeks prior to the due date.
- ☐ I handed in a more detailed proposal one week prior to the due date.
- ☐ My name is on my poster.
- ☐ I put a comment envelope on my poster.
- ☐ There is a bibliography of references I used on the front or back of my poster.
- ☐ I found Prof. Fleron on the due-date and helped him hang up my poster.
- ☐ I reviewed at least ten other posters from our class.
- ☐ I submitted a poster report that included
    - Average scores in each of the five categories in my report.
    - A discussion of the feedback that I received on my poster.
    - A discussion of the grade that I believe I should receive on my poster.
    - A clear statement of the letter grade (A+ - F) that I should receive on my poster.
    - Both the 10 poster evaluations forms that I filled out and the 10 that were filled out by my peers for my poster.