



**AMERICAN STATISTICAL ASSOCIATION
HOUSTON AREA CHAPTER
NEWSLETTER**
April 2, 2013



*****Tuesday, April 9, 2013*****

**Technologies for detection of cancer: algorithm development and
novel statistical methodology**

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We consider here two technologies proposed as accurate and low-cost alternatives for detection of cervical intraepithelial neoplasia (quantitative cytology and optical spectroscopy) and one technology for detection of breast cancer lesions (elastography). We discuss the development of classification algorithms using these three technologies. (1) Classification using quantitative cytology involves classifying a patient based on measurements on a collection of a random number of their cells, e.g., classifying a macro-level object based on measurements of embedded (micro-level) observations within each object. Classification problems with this hierarchical, nested structure have not received the same statistical understanding as the general classification problem. We present some model-based methodologies that address this structure. (2) Classification using optical spectroscopy involves classifying a patient based on functional data. We trained and tested an algorithm for optical spectroscopy as an adjunct to colposcopy as well as optical spectroscopy not including the colposcopic diagnosis, examining the importance of the probe placement expertise. (3) Classification using axial-shear strain elastograms involves acquiring ultrasound signals before and after a small compression of the breast. We developed a simple algorithm that has the potential to improve the accuracy over using ultrasound images alone. Quantitative cytology, optical spectroscopy, and axial-shear strain elastograms show promise for the detection of pre-cancer and cancer.

HACASA meetings are open to the public! Please pass on copies of this announcement to colleagues and friends and post on appropriate bulletin boards.

WHEN and WHERE:

***Tuesday, April 9, 2013* at Duncan Hall, Rice University
5:30pm - Social Time and with snacks & drinks: Room 1049
6:30pm – Talk (Room 1049)**



Duncan Hall (also known as the Computational Engineering Building) is on the northeast side of the Rice University Campus. For parking information and directions please refer to the Rice parking websites, the following have been found helpful:

<http://cohesion.rice.edu/campusservices/parktrans/parking/visitors.cfm>

<http://www.rice.edu/maps/maps.html>

Thank you to **Rice University** and the **Department of Statistics at Rice University** for their generous support of HACASA by allowing us the use of their facilities for our gatherings, **and sponsoring FREE PARKING. See an officer for a voucher at the meeting.**

To help us cover cost of our weekly snacks, we are asking for small donations (\$5 or more). Also, please RSVP so we can bring enough snacks and drinks. Please RSVP to Margaret Kuzynski at HoustonASA@gmail.com.

Introducing the officers!

The officers for the 2012-2013 academic year are:

President: Hao Liu (haol@bcm.edu)

President Elect: Becky Slack (RSSlack@mdanderson.org)

Past President: Jose-Miguel Yamal (Jose-Miguel.Yamal@uth.tmc.edu)

Secretary: Michael Swartz (Michael.D.Swartz@uth.tmc.edu)

Treasurer: Margaret Kuczynski (margaret.kuczynski@gmail.com)

Science Fair Coordinator: Erin Hodges (HodgesE@uhd.edu)

ASA Chapter Representative: Becky Slack (RSSlack@mdanderson.org)

Reminder!

Membership dues: Students: \$1, and non-students: \$8.

Welcome New Members!

Please take a moment at this month's meeting to welcome new members!



Mark Your Calendars!

This year we are still meeting every month. In the Fall Semester (September through December) we will meet on the 2nd or 3rd **Wednesday** of each month, depending on the month. In the Spring (January through May), we return to the 2nd or 3rd **Tuesday** of the month, depending on the month. The official dates and locations are below (all rooms are located in Duncan Hall on Rice University Campus):

Wednesday, September 12, 2012 (DH1049)

Wednesday, October 17, 2012 (DH1049) 3rd Wednesday of October

Wednesday, November 14, 2012 (DH 3092)

Wednesday, December 12, 2012 (DH 3092) Holiday Potluck

Tuesday, January 15, 2013 (DH1049) 3rd Tuesday of January

Tuesday, February 12, 2013 (DH1049)

Tuesday, March 12, 2013 (DH1049)

Tuesday, April 9, 2013 (DH1049)

Tuesday, May 14, 2013 (DH1049) (Science Fair Winners)

Let us know what you think!

Send comments to Michael Swartz at HoustonASA@gmail.com with the subject COMMENTS.

Or Send comments / additions / corrections concerning the HACASA newsletter to Michael

Swartz at Michael.D.Swartz@uth.tmc.edu

Announcements

Nominations for officers now open!

Nominations for next academic year's officers are now open. We are looking for nominations for president elect, and we have one nominee for secretary (Michael Swartz) but more nominees are welcome. The only requirements are to be a full member of the ASA, a member of HACASA, and willing to serve your full term (2 years for secretary, and 3 years for president elect (1st year president elect, 2nd year as president, and 3rd year as

past president). Please email Margaret Kuczynski at margaret.kuczynski@gmail.com with your nominations. Self-nominations are preferred. Elections will be held in May 2013.

New Website is launched!

Our new website is launched! Please visit it for more information and announcements:

<http://sites.google.com/site/houstonasa/>

for comments and suggestions regarding content, please contact our website coordinator\maintainer: Margaret Kuczynski (margaret.kuczynski@gmail.com)

JOB POSTINGS

Statistician wanted for industry:

United Global Solutions is currently in search of a Statistician for a Houston client to analyze and interpret data from various sources and provide expert opinions. This is an opportunity to help build a Statistics Department from the ground up, where you will be given the chance to be in a leadership role from the very beginning!

Requirements:

- Masters degree or PhD in Statistics
- Outgoing personality
- 3-7 years of experience
- Experience compiling reports, tables, and charts based on statistical methods

Benefits:

Our client offers outstanding benefits including, but not limited to: Medical, Dental, Vision, Life, 401(k), FSA, Holidays, PTO, Training and Mentoring programs.

Contact Adam Kaye, Executive Recruiter, United Global Solutions LLC, 832-294-2949, adam.kaye@ugsmail.com

Opening at the Dan L. Duncan Cancer Center, Houston TX.

The Dan L Duncan Cancer Center Division of Biostatistics at Baylor College of Medicine (Houston) collaborates with investigators engaged in the molecular profiling of cancers at various levels of complexity (including somatic mutation, mRNA, microRNA, DNA copy number, and protein), with the overall goal of better understanding cancer biology and improving cancer diagnosis and treatment. For this position, we are looking for someone to assist in statistical analysis of high throughput molecular data, including integration of datasets from disparate sources. BS in statistics, MIS, or related field required. For more information contact: Dr. Chad Creighton <creighto@bcm.edu>. More information on the HACASA Website soon.

Opening at University of Texas El Paso

The Department of Mathematical Sciences at The University of Texas at El Paso invites applications for a tenure-track position at the Assistant/Associate Professor level starting fall 2013. The Department is seeking someone who will develop an independent research program in statistics and teach undergraduate and graduate courses in statistics. Opportunities exist to participate in consulting and collaborative research through the Statistical Consulting Laboratory www.statlab.utep.edu. More information on the HACASA website.