



**AMERICAN STATISTICAL ASSOCIATION  
HOUSTON AREA CHAPTER  
NEWSLETTER  
September 3, 2013**



**\*\*\*Tuesday, September 10, 2013\*\*\***

**Stochastic Search Gene Suggestion and Applications to Cancer**

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Stochastic Search Gene Suggestion (SSGS) is a Bayesian variable selection procedure used for gene mapping that incorporates genetic structure in hierarchical priors for model selection. We use hierarchical priors to model genetic correlation known as Linkage Disequilibrium, and also model biological structure. Originally designed for a type of genetic marker known as microsatellites, the selection priors model the biological structure of multiple alleles within genetic loci (Swartz et al, 2006, Biometrics). More recently, we updated SSGS to analyze single nucleotide polymorphisms (SNPs) by organizing the hierarchical priors to model multiple SNPs within genes. For this project, we used a data structure, known as the case-parent triad where we have genotype information on affected children and both their parents. These case-parent triads can be modeled by a conditional logistic regression likelihood that models genetic transmission from the parents to the affected child. We apply SSGS for SNPs method to identify risk alleles among 118 case-parent triads with childhood Acute Lymphoblastic Leukemia (ALL). For this project, we interrogated 128 tagging SNPs in 16 genes in the folate metabolism pathway. Our approach identified two SNPs associated with ALL. Time permitting, I will also discuss an additional application to identify SNPs associated with symptom burden in cancer patients. An introduction to the required genetics and other concepts will be included, for those unfamiliar.

**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, September 10, 2013\*** at Duncan Hall, Rice University  
**5:30pm - Social Time and with snacks & drinks: Room 3092**  
**6:30pm – Talk (Room 3092)**



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/campuservices/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](mailto:HoustonASA@gmail.com).**

**Introducing the officers!**

The officers for the 2012-2013 academic year are:  
President: Becky Slack ([RSSlack@mdanderson.org](mailto:RSSlack@mdanderson.org))

President Elect and Science Fair Coordinator: Erin Hodgess ([HodgessE@uhd.edu](mailto:HodgessE@uhd.edu))  
Past President: Hao Liu ([haol@bcm.edu](mailto:haol@bcm.edu))  
Secretary: Michael Swartz ([Michael.D.Swartz@uth.tmc.edu](mailto:Michael.D.Swartz@uth.tmc.edu))  
Treasurer: Margaret Kuczynski ([margaret.kuczynski@gmail.com](mailto:margaret.kuczynski@gmail.com))  
ASA Chapter Representative: Heidi Spratt ([hespratt@utmb.edu](mailto:hespratt@utmb.edu))

### 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 2<sup>nd</sup> or 3<sup>rd</sup> **Wednesday** of each month, depending on the month. In the Spring (January through May), we return to the 2<sup>nd</sup> or 3<sup>rd</sup> **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):

**Tuesday, September 10, 2013 (DH3092)**  
**Tuesday, October 8, 2013 (DH1049)**  
**Tuesday, November 12, 2013 (DH1049)**  
**Tuesday, December 10, 2013 (TBA) Holiday Potluck**  
**Tuesday, January 14, 2014 (TBA)**  
**Tuesday, February 11, 2014 (TBA)**  
**Tuesday, March 11, 2014 (TBA)**  
**Tuesday, April 8, 2014 (TBA)**  
**Tuesday, May 13, 2014 (TBA) (Science Fair Winners)**

### Let us know what you think!

Send comments to Michael Swartz at [HoustonASA@gmail.com](mailto: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](mailto:Michael.D.Swartz@uth.tmc.edu)

### Announcements

#### **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](mailto: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:

Out 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](mailto: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 <[creightc@bcm.edu](mailto:creightc@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](http://www.statlab.utep.edu). More information on the HACASA website.