



# The BMI Buzz

February 2007

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Issue 2



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**Save the date – Informatics/SOM Alumni Weekend**

The 35<sup>th</sup> anniversary of Informatics at the University of Utah will be part of the School of Medicine Alumni Weekend slated for September 13 – 15. Events will include an Awards Banquet, golf tournament, CME programs, a tailgate party in conjunction with the Utah vs. UCLA football game, and class reunions for class years rounded to fives (ending in 7 or 2). An informatics session is being planned for the Friday schedule and part of the Saturday schedule. More information on events will be available as soon as plans are completed.

**Graduate School Review**

As part of the Department’s 7-year Graduate Program Review, a team of internal reviewers and a team of external reviewers visited with our faculty and students and gathered information about our academic and research programs. We recently received reports from both teams. Their commendations reflected well on our Department’s strong student body, our nationally recognized faculty research programs, and our growth as a department in terms of new faculty, new educational and research tracks, and new and growing collaborations. Both teams also provided a list of recommendations that we agree will be instrumental in further enhancing our educational and research programs, such as improving our support infrastructure, addressing space and faculty growth concerns, and becoming more of an integral part of the Health Science Center’s educational and research mission.

The Department recently sent its response to the review teams’ reports to the Graduate School. The next step is a review by the Graduate Council, at which time we will have a list of recommendations that we can turn into departmental goals and actions. In fact, some of this work has already started, and we hope to have an action plan in several areas very soon.

We would like to thank all the faculty, students, and administrative staff who have helped with the Review. Your input is invaluable to improving the Department and helping us to retain our reputation as a leader in Biomedical Informatics research and education.

**New faculty member Charlene Weir**

The newest addition is Charlene Weir, PhD, MSN. Dr. Weir received her doctorate in Social Psychology with an emphasis on the cognitive foundations of motivation and decision-making in healthcare. She has been working in the Veterans Health Administration in a variety of positions, including internal consulting on usability, evaluation and implementation issues for VHAs Computerized Patient Record and as Associate Director for Education/Evaluation for the Geriatric Research and Clinical Center (GRECC).

Dr. Weir currently teaches research design and co-teaches the new Human-Computer Interface class.

**New staff member Randy Madsen**

The Department recently added a new IT Support Professional to its staff. Randy Madsen joined us in January from the College of Humanities, where he was responsible for developing web and IT infrastructure. Randy will be responsible for a wide array of duties within our Department, including development on our website, helping with the implementation of our distance learning capabilities, and providing support for our educational and research infrastructure development. Some of the first things he will be tackling are automating our application process and developing intranet applications that will make it easier to track student progression and interact with faculty and alumni. Randy is also available to help with software application installation and trouble-shooting. You can contact him at randy.madsen@hsc.utah.edu.

## Joyce Mitchell is ACMI President-Elect, Others on Board of Governors

At AMIA's Fall 2006 Symposium in October, Dr. **Joyce A. Mitchell** was elected to the office of President-Elect of the American College of Medical Informatics. She will serve as President-Elect for two years (2007-2008 – Her term began January 1), then as President for two years (2009-2010), then as Past President for two years (2011-2012). Dr. Mitchell has sat on the ACMI's Board of Governors for a number of years, and has served as the organization's Secretary.

Also elected to the Board of Governors are **Carole Gassert** and **Joe Hales**. **Wayne Peay** also was recently elected as a Fellow in the College.

The American College of Medical Informatics is a college, within the American Medical Informatics Association, of elected fellows from the United States and abroad who have made significant and sustained contributions to the field of medical informatics.

## Homer Warner Award is presented to Hamish Fraser

The Homer Warner award is named for Homer R. Warner, MD, PhD, a pioneer in the field of informatics and the founder of the Department of Biomedical Informatics at the University of Utah. This award is presented annually for the paper that best describes approaches to improving computerized information acquisition, knowledge data acquisition and management, and presents experimental results documenting the value of these approaches.

This year's award was presented to Hamish S. F. Fraser, MDChB, MSc, for a paper on which he was the first author, entitled "Evaluating the Impact and Costs of Deploying an

Electronic Medical Record System to Support TB Treatment in Peru." Dr. Fraser is Director of Informatics and Telemedicine, for Partners in Health. He is an Assistant Professor at Brigham and Womens Hospital and Harvard Medical School in Boston, and also serves on the faculty of the Childrens Hospital Informatics Program.

The papers are judged by a panel of informatics experts from the University of Utah and elsewhere across the United States. The award and a \$1,000 prize were presented to Dr. Fraser at the Fall Symposium of the American Medical Informatics Association (AMIA) in November 2006.

## Shobha Phansalkar receives Morgan Fellowship

The 2006 John D. Morgan Fellowship was presented to Shobha Phansalkar on November 28, 2006, by Dr. Joyce Mitchell. Shobha was honored at a luncheon attended by members of the Morgan family. Following the lunch, she received a plaque and a cash award at a Graduate Seminar where she presented her paper, entitled "Advanced Methods for ADE Detection in Clinical Notes."

The fellowship was established by John D. Morgan, a former student and faculty member of the Department of Biomedical Informatics and is open to PhD students in the department.

## Carole Gassert will co-chair ANIA

In a press release dated December 14, 2006, the Alliance for Nursing Informatics (ANIA), a national coalition of more than 3,000 nurses and 22 distinct nursing informatics groups in the United States, announced the appointment of **Carole A. Gassert** as its new Co-Chair.

## EDS contract

The Department of Biomedical Informatics was named as a health care consulting partner on a Department of Veteran's Affairs VistA Contractor Services contract awarded to EDS. Along with Mayo Clinic, Oregon Health and Science University, and Vanderbilt University, we will provide consulting services to the VA on electronic health record design,

user interface design, decision support, data standards, and knowledge engineering. EDS asked our Department to participate in the contract because of our broad and lengthy experience in clinical informatics. Various faculty members will be asked to provide guidance and expertise to the VA as it continues to develop its electronic health record system.

## John Hurdle to receive Park Fellowship

**John Hurdle** has been recommended by the University Teaching Committee to be the recipient of the John R. Park Teachers' Fellowship for 2007. This recommendation has received the approval of the Senior Vice President for Academic Affairs, David W. Pershing. The recommendation will be forwarded to the Academic Senate and the Board of Trustees for ratification.

Dr. Hurdle is currently in Washington, D.C., working at the National Library of Medicine with Dr. Tom Rindfleisch and others there on ways to combine statistical and symbolic natural language processing techniques for use on clinical text. He will be in residence through May or early June of 2007. While there, he offered a short talk on his research approach to the Cognitive Science Branch staff at the NLM.

## Nancy Stagers is consultant to N.I. group

**Nancy Stagers** has been serving as an informatics consultant for a grant at University of Kentucky in December. She led an expert panel of nursing executives and academics in defining nursing informatics competencies for nurse managers. She led the effort with faculty to integrate these into graduate courses.

## Karen Curtin receives travel fellowships

**Karen Curtin** was awarded two travel fellowships; one from the International Genetic Epidemiology Society to attend the annual IGES meeting and present her work and another from GAW15 to attend the workshop.

## Changing clinical practice at IHC

In January 2007, the Pharmacy and Therapeutics committee at Intermountain Healthcare agreed to form a subcommittee to review CPOE drug alerts for clinical relevancy in order to optimize the clinical decision support system. This is in response to research done by fourth-year Biomedical Informatics PhD Candidate, **Michael Buck**, in which he demonstrated that phy-

sicians seem to be missing the most critical alerts due to an overwhelming number of "nuisance alerts." As a result, some patients have received prescriptions that are not optimally beneficial. This work serves as a reminder to clinical leaders of the effect clinical decision support systems can have on direct patient care and the need to establish regular clinical reviews of the effectiveness of these systems.

## Publications—November 2006 to February 2007

Yang Z\*, **Camp NJ\***, Sun H, Zhao Y, Tong Z, Gibbs D, Chen H, Pearson E, Cameron DJ, DeWan A, Baird J, Bernstein PS, Zabriskie NA, Hoh J, Howes K, Zhang K. (2006) A Variant of the HTRA1 gene Increases Susceptibility to Age-Related Macular Degeneration. *Science*. 2006 Nov 10;314(5801):992-3. Epub 2006 Oct 19. \*joint first author

**Del Fiol G, Rocha RA, Clayton PD.** Infobuttons at Intermountain Healthcare: Utilization and Infrastructure. *Proc AMIA Symp*. 2006; 180-4.

**Del Fiol G, Williams MS, Maram N, Rocha RA, Wood GM, Mitchell JA.** Integrating Genetic Information Resources with an EHR. *Proc AMIA Symp*. 2006;904.

**Jones SS, Allen TL, Flottesch TJ, Welch SJ.** An independent evaluation of four quantitative emergency department crowding scales. *Acad Emerg Med*. 2006 Nov;13(11):1204-11. Epub 2006 Aug 10.

Mitchell DR, **Mitchell JA.** Status of clinical gene sequencing data reporting and associated risks for information loss.. *Biomed Inform*. 2007 Feb;40(1):47-54. Epub 2006 Mar 15.

**S. Blake Wachter, Ken Johnson, Robert Albert, Noah Syroid, Frank Drews, Dwayne Westenskow.** The Evaluation of a Pulmonary Display to Detect Adverse Respiratory Events Using High Resolution Human Simulator. *Journal of the American Medical Informatics Association*, Nov/Dec 2006.

**Note: Some exceptions to the time period parameters have been made for this issue only. For future issues only publications within the specified time period will be included.**

## Textbook contributions

Contributors to two textbooks recently published include the following.

In Clinical Decision Support Systems – Theory and Practice, Second Edition, Eta S. Berner, Editor, published by Springer Science+Business Media:

- Chapter 7 "Clinical Trials of Information Interventions" was authored by former student **E. Andrew Balas** and Suzanne Austin Boren.
- Chapter 8 "Clinical Decision Support at Intermountain Healthcare" was authored by **Peter J. Haug, Reed M. Gardner, R. Scott Evans, Beatriz H. Rocha, and Roberto A. Rocha.**

In Clinical Decision Support – The Road Ahead, Robert A. Greenes, Editor, published by Elsevier Academic Press:

- Chapter 6 "Case Studies in Clinical Decision Support: LDS Hospital Experience" is authored by **R. Scott Evans.**
- Chapter 14 "Ontologies, Vocabularies, and Data Models" is authored by **Stanley M. Huff.**
- Chapter 22 "The Clinical Knowledge Management Infrastructure of Intermountain Healthcare" is authored by **Roberto A. Rocha, Richard L. Bradshaw, Nathan C. Hulse, and Beatriz H. S. C. Rocha.**

## Grants

### COE Grant awarded

Excerpted from a press release dated Jan. 9, 2007:

“U of U to Lead \$4.5 Million Center Of Excellence Grant to Improve Public Health Response to Disease Outbreaks

“The University of Utah has received a three-year \$4.5 million Center of Excellence (COE) grant to study how the public health system can better prepare and respond to communicable disease outbreaks and other public health problems.

“The University is one of the three new centers the U.S. Centers for Disease Control and Prevention has awarded in public health informatics. Utah's center is led by **Matthew H. Samore, M.D.** Improving the way health information is reported by numerous sources and then analyzed by public health officials will be a major focus of the center.

“The University will establish the COE in the School of Medicine's Department of Biomedical Informatics. Academic departments across campus will participate, including geography; psychology; family and preventive medicine; pediatrics; and internal medicine. The Utah Department of Health, local health districts throughout the state, the Veterans Affairs Salt Lake City Health System, and Intermountain Health are taking part, as well.”

### UCAIR receives Margolis Foundation grant

Excerpted from a press release dated November 8, 2006:

“The Utah Center for Advanced Imaging Research received a \$1.8 million grant from Margolis Foundation in a presentation on Friday, November 3. The Utah Center for Advanced Imaging Research (UCAIR) at the University of Utah has received a six-year, \$1.8 million research grant from the Ben and Iris Margolis Foundation. The grant will provide key support for groundbreaking imaging research in areas such as breast cancer, according to **Dennis L. Parker, Ph.D.**, UCAIR director and Mark H. Huntsman professor of radiology at the School of Medicine.”

### More news about grants

A one-year grant entitled “The Familiality of Multiple Myeloma and Related Phenotypes” has been awarded by The International Myeloma Foundation. **Nicola J. Camp** is Principal Investigator and **Lisa A. Cannon-Albright** is a co-investigator. The aim of the project will be to investigate the familiality of multiple myeloma and possible syndromes with other hematological malignancies and solid tumors. Identify high-risk pedigrees.

The National Library of Medicine has confirmed its intent to fund **Lisa Cannon Albright's** grant application, entitled “Analysis of the familial component to disease in a biomedical resource with linked genealogy.” **Dr. Stanley Huff** will lend his expertise as co-investigator on this five year project. The goals are to analyze biomedical and genealogy data to define the heritable component to many health and disease related traits not previously studied with the intent to identify and understand disease predisposition, risk-modifying and disease-associated and health-associated genes.

The Department of Defense is completing final preparations to fund **Alun Thomas' grant** entitled “In Silico Genome Mismatch Scanning to Map Breast Cancer Genes in Extended Pedigrees”. **Lisa Cannon Albright** and **Nicola Camp** are co-investigators. The goal of the project will be to fully develop the statistical methodology and computational tools to test the hypothesis that high density SNP genotyping assay of breast cancer cases related in large extended pedigrees is an efficient and powerful study design for finding rare novel breast cancer susceptibility genes.

A one-year \$22,000 University of Utah research seed grant has been awarded to **Lewis Frey**. It will fund a research associate to develop “Somatic Mutation Genomic Characterization Methodology under Dr. Frey's direction. Of the 52 applications reviewed by the Faculty Evaluation Committee, only 19 projects were selected for funding.

A one-year University of Utah Internal Interdisciplinary Research Grant to study the “heritable component of auditory processing disorders” was awarded to **Lisa Cannon Albright**, Thomas Parks of Neurobiology and Anatomy and Drs. Breiter and Gasic of Radiology.

The Department of Biomedical Informatics Department is an important component of a recently submitted Center for Clinical and Translational Science (CCTS) grant application. The Biomedical Informatics component will provide infrastructure support for multiple research projects within the Health Science Center. In addition to supporting clinical research, clinical trials, translational science and Biomedical Informatics research, the component will also support the other infrastructure components of the CCTS (administration, biostatistics, education, regulatory, laboratory cores and community outreach). **Dr. Joyce Mitchell** will lead the BMI component. Drs. **John Hurdle, Stanley Huff, Lewis Frey, Peter Haug, Lisa Cannon Albright, Scott Narus, Bruce Bray, Wayne Peay** and **Charlene Weir** will also play an active role on the project.

**Joyce Mitchell**, PhD is P.I. on an awarded grant sponsored by the Harvard Partners Center for Genetics and Genomics, and Brigham & Women's Hospital, entitled “Post-Doctoral Supplement to the National Center for Biomedical Computing (NCBC).” The NCBC is known as the i2b2 Center, related to informatics that integrate the bench to bedside. The purpose of the grant is to determine how the electronic toolset being developed by the i2b2 team might be used for translational research at the University of Utah. **Lisa Cannon Albright**, PhD is a co-PI on this grant. **Vojtech Huser**, MD will be the postdoc on the project. The PI of the Harvard i2b2 Center is Isaac Kohane, MD, PhD.

## Grants, continued

**Dr. Nicola Camp** has submitted an NIH grant application for an R01 entitled Complex Pedigree-Based Association Testing: PedGenie. If funded, this project will further develop the pedigree-association software PedGenie to perform necessary cutting-edge analyses required to identify genes involved in complex disease, including: flexible haplotype analyses, gene-gene interactions and formal meta analysis capabilities. Drs. **Kristy Allen-Brady** and **Alun Thomas** will serve as co-investigators.

**Dr. Nicola Camp** is co-PI on a grant application submitted with Dr. Angela Cox of the UK to The Royal Society International Incoming Short Visits Program. The goal of the grant is to promote international bilateral collaborations and grant-writing opportunities for cancer gene localization between the Institute for Cancer studies (UK) and the Division of Genetic Epidemiology (USA).

**Dr. Nicola Camp** is co-investigator with Dr. Angela Cox of the UK on a grant application to The Yorkshire Cancer Research Foundation. This project is a multi-center collaboration to investigate the role of genes in the apoptosis pathway in breast, prostate and colon cancer.

**Dr. Lewis Frey** is preparing a grant application to the Mary Kay Ash foundation. The grant would pay \$100,000 each year for a period of 2 years for translational research on breast cancer.

As a correction to information published in the October BMI Buzz, the P.I. for the CABig grant is **Lewis Frey** rather than Scott Narus as was listed.

## Presentations

### November 2006—January 2007

**Note:** While most of the presentations listed below took place within the November 2006—January 2007 time period, in this issue we have included some earlier presentations that were missed in the previous issue. In future issues we will include only presentations within the three month time period designated.

**Allen-Brady K, Horne BD, Malhotra A, Teerlink CC, Camp NJ, Thomas A.** “Analysis of high-density SNP data: three novel methods that control for linkage disequilibrium between markers.” Genetic Analysis Workshop 15. Tampa, Florida. November 2006. . Published in Proceedings of GAW15.

**Camp NJ, Farnham JM, Cannon-Albright LA.** “Localization of a prostate cancer predisposition gene to an 880 kilobase region on chromosome 22q12.3 in Utah high-risk pedigrees.” Paper presented. International Genetic Epidemiology Society Meeting. Tampa, Florida. November 2006.

**Camp N.** “Localizing cancer genes using Utah high-risk pedigrees.” International Invited Visiting Professor Presentation. Genetic Epidemiology and Statistics, Division of Genetics and Molecular Medicine, King's College London School of Medicine. United Kingdom. July 2006.

**Camp N.** “Evidence for a heritable component for chronic fatigue syndrome.” Meeting Presentation. Utah Health Services Research Conference. Salt Lake City, Utah. May 2006.

**Camp N.** “Comprehensive genetic analysis of genes associated with pain.” Presentation. Pain Research Center. Salt Lake City, Utah. May 2006.

**Camp N.** “Recombinant mapping regions of interest in prostate cancer.” Invited Presentation. International Consortium for Prostate Cancer Genetics Meeting. Phoenix, Arizona. January 2006.

**Albright FS, Cannon Albright LA.** “Genetic contributions to chronic fatigue syndrome (CFS) and Associated pain and fatigue-related diagnoses described in a population-based genealogical resource in Utah.” Presented at the International Association for Chronic Fatigue Syndrome. Fort Lauderdale, Florida. January 2007.

**Cannon Albright LA.** Invited/participated in the national meeting for the CDC Influenza Public Health Genomics Initiative, Department of Health and Human Services. Atlanta, Georgia. January 2007.

**Albright FS, Orlando PL, Cannon Albright LA.** “Evidence for a heritable component to death from influenza in the Utah population.” American Society of Human Genetics. October 2006.

**Cannon Albright LA.** “Unique Utah resources for cancer genetics research (A genetic epidemiology perspective).” CCSG annual retreat. Salt Lake City, Utah. September 2006.

**Cannon Albright LA.** “Prostate cancer studies in Utah and the 22q locus.” Prostate Cancer Research Foundation Symposium. London, England. June 2006.

(Continued on page 6)

## Presentations, continued from page 5

**Cannon-Albright LA, Albright FS.** "Evidence for a heritable component to chronic fatigue syndrome (CFS)." Presented at the American Pain Society Meeting. San Antonio, TX. May 2006.

**Christensen GB, Cannon-Albright LA, Thomas A, Camp NJ.** "Extracting disease risk profiles from expression data for linkage analysis: application to prostate cancer." Paper presented at meeting of GAW. Tampa, Florida. November 2006. Published in Proceedings of GAW15.

**Christensen GB, Camp NJ, Farnham JM, Cannon-Albright LA.** "Genetic susceptibility of prostate cancer: genome-wide screen of men with non-metastatic disease." International Genetic Epidemiology Society Meeting. Tampa, Florida. November 2006.

**Christensen GB, Farnham JM, Camp NJ, Cannon Albright LA.** "Survey of excess familiarity in prostate cancer." National Library of Medicine Informatics Training Meeting. Nashville, Tennessee. June 2006.

**Curtin K, Wong J, Allen-Brady K, Camp NJ.** "Meta genetic association of rheumatoid arthritis and PTPN22 using PedGenie2.0." Paper presented at Genetic Analysis Workshop. Tampa, Florida. November 2006. Published in Proceedings of GAW15. November 2006.

**Curtin K, Wong J, Allen-Brady K, Camp NJ.** "PedGenie 2.0: Meta genetic association testing in mixed family and case-control designs." International Genetic Epidemiology Society Meeting. Tampa, Florida. November 2006.

**DelFiol, Guilherme.** "Standards in Clinical Decision Support: Activities in Health Level Seven." Participation in workshop. "Integration of Health Information Resources into Electronic Health Records." Chaired panel. AMIA 2006 Symposium. Washington, D.C. November 2006.

**Horne BD, Anderson JL, Camp NJ.** "Classification and regression tree analysis for polygenic risk stratification." International Genetic Epidemiology Society Meeting. Tampa, Florida. November 2006.

**Horne BD, Camp NJ, Carlquist JF, Muhlestein JB, Kolek MJ, Nicholas ZP, Anderson JL.** "Polymorphisms in matrix metalloproteinases 1, 2, 3, and 9 and tissue inhibitor metalloproteinases 1, 2, and 3: association to myocardial infarction." American Heart Association. November 2006.

**Horne BD, Camp NJ, Carlquist JF, Muhlestein JB, Kolek MJ, Nicholas ZP, Anderson JL.** "Coronary disease associations of matrix metalloproteinases 1, 2, 3, & 9 and tissue inhibitor metalloproteinases 1, 2, & 3." American Heart Association. November 2006.

**Teerlink CC, Camp NJ, Cannon-Albright LA.** "Genome-wide Linkage Analyses for Asthma Predisposition Loci in Extended Utah Pedigrees." International Genetic Epidemiology Society Meeting, Tampa, Florida. November 2006.

**Thomas A.** "Towards linkage analysis with markers in linkage disequilibrium." International Invited Visiting Professor Presentation. North East Genetic Epidemiology Group. Sheffield, England. December 2006. Also presented for Recent Advances in Statistical Genetics and Bioinformatics, Isaac Newton Institute for Mathematical Sciences. Cambridge, England. December 2006.

**Thomas A, Camp NJ, Farnham JM, Allen-Brady K, Cannon-Albright LA.** "Shared genomic segment analysis: A novel approach to mapping disease predisposition genes in extended pedigrees using SNP genotype assays." International Genetic Epidemiology Society Meeting. Tampa, Florida. November 2006.

**Thomas A.** "On the statistical analysis of dirty graphs." International Invited Visiting Professor Presentation. Statistics Department, University of Nottingham. England. November 2006. Also presented for Statistics Department, Bristol University. England. November 2006.

**Thomas A.** "Toward linkage analysis with linkage disequilibrium." International Invited Visiting Professor Presentation. International Agency for Research into Cancer. Lyon, France. April 2006. Also International Invited Presentation. European Mathematical Genetics Meeting, Coleg Prifysgol Cymru. Caerdydd, Cymru. April 2006.

**Thomas A.** Meeting Presentation. Meeting XVIth Mathematical and Statistical Aspects of Molecular Biology, University College. Dublin, Ireland. April 2006.

## Do you have items for the newsletter?

If you have items for the next newsletter you can submit them at any time up to the deadline (in April, exact date to be announced later) to Kathy Stoker at [kathy.stoker@hsc.utah.edu](mailto:kathy.stoker@hsc.utah.edu). Items of interest include new grants and contracts, awarded or applications submitted; papers and publications published; talks and presentations given, participation in meetings, posters presented; work or research or awards or honors that show what BMI students and faculty are doing in the informatics community. For more information, contact Kathy at the above address or call her at (801) 585-3337.