CiPCT

Clinical Informatics & Patient-Centered Technologies

UNIVERSITY of WASHINGTON

Bi-Annual Newsletter
Spring 2015

events of interest

Healthcare Information & Management Systems Society (HIMSS) Conference 2015
April 12-16, Chicago, IL
www.himssconference.org

CIPCT 2015 Annual Meeting & Orientation
September 11-12, Seattle, WA

CIPCT Welcome Message - Dr. George Demiris

As we see health informatics grow and its role formally being recognized as part of the national health care agenda, it is always important to detect emerging trends that will ultimately affect the growth of the discipline. More recently, discussions around net neutrality, namely the responsibility to treat all data on the Internet equally by Internet service providers and the government, regardless of user, use purpose, content, site, platform or application, have highlighted the importance of establishing criteria and expectations around open access, transparency and open standards. Recent developments pertaining to the privacy of online health data, such as hackers from China stealing medical records for 4.5 million patients from Community Health Systems, a company that runs 206 hospitals in 29 states, have also demonstrated the significance of security and privacy of medical data and the deficiencies of our current safeguards. Finally, the more recent Ebola cases in the US led the Centers for Disease Control (CDC) and the Office of the National Coordinator for Health IT (ONC) to call for clinical decision support tools in our electronic medical records that will effectively screen for potential Ebola patients. Clinical informatics challenges and opportunities arise over time and we are called to design effective informatics tools to maximize the potential of our systems and data.

In this newsletter, Dr. Meliha Yetisgen is the featured faculty. Program alumni Misty Anguiano and Christine Anderson contribute with their perspective as to how the program prepared them in their careers. We also share experiences from AMIA this past year.

Alumni Spotlight

A brief look at some of our recent graduates!

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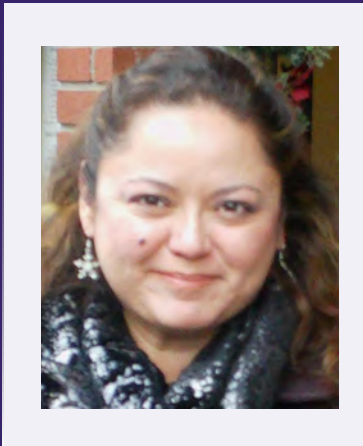
Misty Anguiano (Tallahassee, FL) — Class of 2013

In a previous life, I worked as a nurse in critical care and PACU for 15 years before transitioning to the role of a clinical informatics nurse. Somewhere along the way, I got my certification in Nursing Informatics and became a consultant. It was during a large EMR implementation in Washington State that I saw the advertisement for the CIPCT program and decided it was time to go back to school. That was in 2011.

Today, I work as a Division EMR Analyst for HCA IT&S North Florida. My role serves as the primary division resource for implementation and support of the ambulatory electronic medical record (EMR) software. I work closely with an integrated support team (medical group, IT&S, clinical service group, network engineers, security specialists, etc.) to assist with content build, workflow analysis, optimization planning, training, and support of the providers and clinical users on the EMR.

I choose the CIPCT program because of the integration of biomedical and nursing science that was offered in the curriculum. The faculty that taught the courses for CIPCT came from diverse areas such as information science, medicine and nursing. I felt that this kind of education could only enhance what I had already learned on the job. I just needed the kind of polish UW could give me. The level of flexibility the curriculum offered worked perfectly for my travel schedule at that time and the support of the CIPCT staff and faculty was fabulous. Anytime I needed help with paperwork or with navigating the scary waters of grad school I could call the program staff and they would see me safely through those treacherous waters. It was very reassuring to know I had that level of support as I traveled 4-5 days a week while I was in the program.

Advice I would give to someone entering the program is plan on being very busy for 1-2 years. Weekends will be a distant memory as you work on your scholarly project or try to meet team assignments given to you by your instructors. It will take some sacrifice of family and friend time but it will be worth it when you can hang your degree on your home or office wall. It is not all hard work. I developed wonderful relationships with some of my classmates, which I still have today. I was privileged to learn from some really bright and innovative people and I had fun doing it: Plus I got to visit the beautiful UW campus! I recommend stepping back and really enjoying what you are learning and experiencing. The faculty has so much knowledge to share and is doing such interesting things in their own research projects that you would be cheating yourself to not appreciate and discover what this program can offer. Graduating in 2013 was such a great feeling and being able to share that special day with my classmates and my family was perfection.

There continues to be a need for people who have the clinical and IT skills, experience and knowledge that can bridge the gap between clinical and technology cultures. I can see students from the CIPCT program working in areas such as data utilization analysis, ergonomics, software design, content design, development of new models of care just to name a few. Growth of the informatics field will continue to trend upward as our population continues to age and the need for healthcare grows. It will be interesting to see what other avenues will open up for us in the next decade. If you are hesitating on your decision, just take a deep breath and jump! I did it several years ago and never looked back. Good luck on your endeavors!

Alumni Spotlight (cont.)
A brief look at some of our recent graduates!

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Christine Anderson (Homer, AK) — Class of 2014

I entered the field of health care informatics in 2010 knowing it was time for a career adjustment. Building on my broad nursing experience and curiosity in computer technology my interest in informatics was growing. I'm now in my fourth year as the Clinical Informatics Analyst at a critical access hospital in rural Alaska. I jumped in with both feet when realizing my passion for the field and finding the CIPCT program through UW. It has been a great ride ever since!

South Peninsula Hospital was somewhat forward-thinking when implementing an integrated EHR system in 2003. It wasn't until Meaningful Use legislation that we began to take a hard look at how we used our system to better meet the needs of our patients and clinicians. As a clinical informaticist my guiding principle is making the computerized record system as functional and efficient for clinicians as possible. Throughout my day I do on-the-spot training, organize Super User meetings, lead the EHR Task Force, track system issues and facilitate organizational strategic goals for the EHR. I work closely with the IT department within the Finance Division but I enjoy the autonomy and freedom of being the clinician linking technology and direct patient care within the hospital.

The UW CIPCT program provides a thorough overview of informatics in the clinical setting for not only the nuts and bolts of system set-up, but also the regulatory and organizational issues that will be faced when working in a healthcare setting. Project management is a key piece of the program. Working with teams in the program prepares you for what will likely be required in any informatics position. The professional and collegial relationships built during my studies at UW were more than I expected. The faculty was key in linking me to professional organizations and opportunities for sharing my work developed through the CIPCT program. They expanded my horizons for future changes in HIT by really encouraging new ideas and challenging the student to think.

I have always been satisfied with my choice of nursing as a career and all of the places it has taken me. I've moved from bedside nursing into administrative and leadership roles within the hospital. Now with my degree in informatics the possibilities have further exploded! There is a lot of opportunity out there; far more than I will ever be able to take advantage of! But for me, that's a good thing!
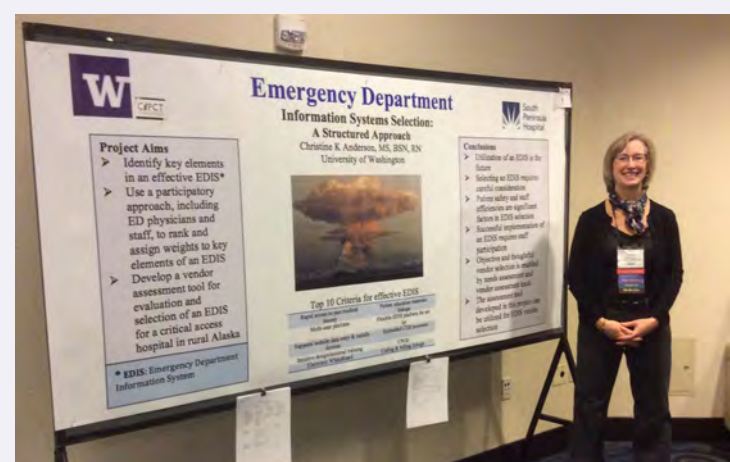
AMIA 2014: Christine Anderson presented a poster describing her scholarly project work at the AMIA Annual Symposium in 2014. The poster was titled "Emergency Department Information System Selection: A Structured Approach".
She worked with Bill Lober (chair) and Rebecca Hills on her scholarly project, which was systematic approach to selecting an ED information system at her hospital in Homer, Alaska. Christine graduated from the CIPCT program in 2014.

Meliha Yetisgen, PhD

I am an Assistant Professor in the Department of Biomedical Informatics and Medical Education and Adjunct Assistant Professor in the Department of Linguistics at the University of Washington (UW). I lead the UW-BioNLP research group. Before joining to UW, I worked as a researcher in industry and served on the advisory boards of text mining startups. My current research interests include clinical natural language processing, biomedical text mining, and information extraction. I received my BS degree in Computer Engineering and Information Science from Bilkent University (Ankara, Turkey) and my MS degree in Computer Engineering from Middle East Technical University (Ankara, Turkey). I received my PhD from University of Washington with a thesis on automated hypothesis generation from biomedical literature in December 2007.

Q: What courses do you typically teach in the CIPCT program?

A: I teach NMETH 528: Computing Fundamentals: From Theory to Application, and NMETH 529: Database Concepts and Application in Clinical Informatics. The first class provides an introduction to the fundamentals such as computer hardware, operating systems, computer networks and programming languages. The second class is an in-depth course on database design and implementation.

Q: Would you tell us a little about your research interests?

A: My general research interests are in the area of Natural Language Processing (NLP) and its application to the biomedical domain. After joining the University of Washington as a faculty member in December 2009, I initiated the UW-Biomedical Language Processing (UW-BioNLP) Research group. My main research goals for my group are developing new NLP approaches to make information hidden in biomedical and clinical text more accessible for secondary use applications.

Q: How do you see information technology impacting the health care 'world' in the near future?

A: As someone with an interest of NLP and machine learning, I am very excited about the many opportunities these technologies might play in advancing clinical research and patient care. The scientific knowledge on biomedicine is disseminated in the form of free-text through journal articles. In the clinical domain, most patient information that describes the patient state, diagnostic procedure, and disease progress is represented in free-text clinical notes. The information in notes can be found in the form of narrative and semi-structured format through lists or templates with free-text fields. These resources provide an opportunity for NLP approaches to play a major role in biomedical research and clinical care by facilitating automated analysis of free-text information, which otherwise is accessible only through manual review or chart abstraction. .

Q: What advice would you give to a student enrolling in CIPCT this autumn?

A: The classes in the CIPCT program are offered through distance learning. Distance learning is different than traditional classroom learning, however it can be better in many ways for professional students. Many students in the program are self directed and take ownership of their learning. Distance learning enables the students balance their school, work, and personal life. I suggest the students use their time in the program to network with their peer students and faculty in the program.

Agapova M, Devine EB, Nguyen H, **Wolf FM**, Inoue LY. Using indirect comparisons to compare interventions within a Cochrane review: a tool for comparative effectiveness research. *J Comp Eff Res*. 2014 Jul;3(4):345-57.

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Chi NC, **Demiris G**. A systematic review of telehealth tools and interventions to support family caregivers. *J Telemed Telecare*. 2015 Jan;21(1):37-44.

Chung J, **Demiris G, Thompson HJ**. Instruments to assess mobility limitation in community-dwelling older adults: a systematic review. *J Aging Phys Act*. 2015 Apr;23(2):298-313.

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Fredericksen R, Feldman BJ, Brown T, Schmidt S, Crane PK, Harrington RD, Dhanireddy S, McReynolds J, Lober WB, Bangsberg DR, Kitahata MM, Crane HM. Unannounced telephone-based pill counts: a valid and feasible method for monitoring adherence. *AIDS Behav*. 2014 Dec;18(12):2265-73.

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Huh J, Le T, Reeder B, **Thompson HJ, Demiris G**. Perspectives on wellness self-monitoring tools for older adults. *Int J Med Inform*. 2013 Nov;82(11):1092-103.

Joe J, Chaudhuri S, ***Chung J***, **Thompson H, Demiris G**. Older adults' attitudes and preferences regarding a multifunctional wellness tool: a pilot study. *Inform Health Soc Care*. 2014 Oct 17:1-16.

Kitahata MM, Drozd DR, Crane HM, Van Rompaey SE, Althoff KN, Gange SJ, Klein MB, Lucas GM, Abraham AG, Lo Re V 3rd, McReynolds J, **Lober WB**, Mendes A, Modur SP, Jing Y, Morton EJ, Griffith MA, Freeman AM, Moore RD. Ascertainment and verification of end-stage renal disease and end-stage liver disease in the north american AIDS cohort collaboration on research and design. *AIDS Res Treat*. 2015;2015:923194.

Kohler PK, Okanda J, Kinuthia J, Mills LA, Olilo G, Odhiambo F, Laserson KF, **Zierler B**, Voss J, John-Stewart G. Community-based evaluation of PMTCT uptake in Nyanza Province, Kenya. *PLoS One*. 2014;9(10):e110110.

Kohler PK, Ondenge K, Mills LA, Okanda J, Kinuthia J, Olilo G, Odhiambo F, Laserson KF, **Zierler B**, Voss J, John-Stewart G. Shame, guilt, and stress: Community perceptions of barriers to engaging in prevention of mother to child transmission (PMTCT) programs in western Kenya. *AIDS Patient Care STDS*. 2014 Dec;28(12):643-51.

Lazar A, **Demiris G, Thompson HJ**. Involving Family Members in the Implementation and Evaluation of Technologies for Dementia: A Dyad Case Study. *J Gerontol Nurs*. 2015 Mar 18:1-6.

Lazar A, **Thompson H, Demiris G**. A systematic review of the use of technology for reminiscence therapy. *Health Educ Behav*. 2014 Oct;41(1 Suppl):51S-61S.

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Le T, Chaudhuri S, ***Chung J,*** **Thompson HJ, Demiris G**. Tree testing of hierarchical menu structures for health applications. *J Biomed Inform*. 2014 Jun;49:198-205.

Le T, Reeder B, Yoo D, Aziz R, **Thompson HJ, Demiris G**. An evaluation of wellness assessment visualizations for older adults. *Telemed J E Health*. 2015 Jan;21(1):9-15.

Recent Publications - 2014-2015 (cont.)

Key: Faculty names in **bold**; CIPCT student names in ***bold italics***

Nishimura AA, Shirts BH, Dorschner MO, Amendola LM, Smith JW, Jarvik GP, **Tarczy-Hornoch P**. Development of clinical decision support alerts for pharmacogenomic incidental findings from exome sequencing. *Genet Med* 2015 Mar 5

Parker Oliver D, Washington K, Gage LA, **Demiris G**. The promise of secret Facebook groups for active family caregivers of hospice patients. *J Palliat Med*. 2014 Nov;17(11):1199-200.

Reeder B, **Hills RA**, Turner AM, **Demiris G**. Participatory design of an integrated information system design to support public health nurses and nurse managers. *Public Health Nurs*. 2014 Mar-Apr;31(2):183-92.

Reeves S, Boet S, **Zierler B**, Kitto S. Interprofessional Education and Practice Guide No. 3: Evaluating interprofessional education. *J Interprof Care*. 2015 Feb 11:1-8.

Rockett H, **Thompson HJ**, Blissitt PA. Fever management practices of neuroscience nurses: what has changed? *J Neurosci Nurs*. 2015 Apr;47(2):66-75.

Sanger PC, Hartzler A, Han SM, Armstrong CA, Stewart MR, Lordon RJ, **Lober WB**, Evans HL. Patient perspectives on post-discharge surgical site infections: towards a patient-centered mobile health solution. *PLoS One*. 2014;9(12):e114016. doi

Scott CS, Nagasawa PR, **Abernethy NF**, Ramsey BW, Martin PJ, Hacker BM, Schwartz HD, Brock DM, Robins LS, **Wolf FM**, Carter-Dubois M, Disis ML. Expanding assessments of translational research programs: supplementing metrics with value judgments. *Eval Health Prof*. 2014 Mar;37(1):83-97.

Washington KT, **Demiris G**, Pike KC, Kruse RL, Oliver DP. Anxiety among informal hospice caregivers: An exploratory study. *Palliat Support Care*. 2014 Feb 13:1-7.

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Zaslavsky O, Cochrane BB, Herting JR, **Thompson HJ**, Woods NF, Lacroix A. Application of person-centered analytic methodology in longitudinal research: exemplars from the Women's Health Initiative Clinical Trial data. *Res Nurs Health*. 2014 Feb;37(1):53-64.

2015-16 CIPCT Calendar Highlights

UW Academic Calendar	Instruction Begins	Quarter Ends / Final Exams
Spring Quarter 2015	March 30	June 6-12
Summer Quarter 2015	June 22	August 21
Autumn Quarter 2015	September 30	December 12-18

http://www.washington.edu/students/reg/1415cal.html

APPLICATION DEADLINE FOR AUTUMN 2015 ADMISSION: MAY 1, 2015