As we reflect on Memorial Day, I encourage all of you to take time to remember a loved one or someone special from your past. Memorial Day is a time to enjoy a barbecue with friends and family. But we must also remember our veterans and first responders that have paid the ultimate price. My gratitude goes out to all of those people and their families.

I want us all to take the time to reach out to the men and woman who have served or are currently serving, and thank them. We live in the greatest country in the world. But we must never forget that freedom is not free. The men and women who allow us to enjoy the blessings in our lives deserve our respect and gratitude.

So on this Memorial Day, I want to personally thank the people in our department who have served, or who have supported family and friends who have done so.

New Masters program in Applied Clinical Informatics

The Department of Biomedical Informatics (DBMI) at Vanderbilt University will be offering a two-year M.S. in Applied Clinical Informatics (MSACI) degree program. Our objective is to provide innovative clinical informatics education for working professionals in the health care field with graduates assuming leadership roles in the application and innovation of clinical informatics nationally.

At many institutions, the role of clinical informatics (CI) leaders (known as clinical informaticians) has evolved from introducing electronic health records (EHRs) and practice transformation techniques to the effective evaluation and improvement of patient outcomes. Increasingly, local improvements must be integrated into accountable care organizations, clinically integrated networks, and other inter-organization collaborations that emphasize both quality improvement and cost reduction. These factors create a profound need for trained informatics professionals from a variety of clinical and nonclinical disciplines who share a deep theoretical and practical understanding of the care process, informatics concepts, and the changing social, organizational, and economic context in which health care is delivered. Vanderbilt DBMI’s new M.S. in Applied Clinical Informatics is designed to develop leaders who are prepared to advance the science and practice of clinical informatics. The MSACI’s goal is to develop clinical informaticians who will be capable of developing and leading innovative applications of information technology and information systems that address clinical, research, and public health priorities. The program will provide a 36-credit hour curriculum in 21 months, with a coursework intensive first year followed by a second year devoted to a capstone project. The curriculum emphasizes a deep theoretical and practical understanding of the care process, informatics concepts, information technologies, computer science, and the changing social, organizational, and economic context in which health care is delivered. This understanding will be developed through coursework, over 240 hours of practicum experience that utilizes real HIT data and systems and healthcare contexts, and a mentored capstone project. The degree program will provide physicians with didactic and experiential training in alignment with ACGME guidelines for CI fellowships.

Dr. Josh Peterson is the Program Director. Several other faculty are playing key roles as course Directors. Claudia McCarn is the Program Manager. For more information, please contact Dr. Peterson or Claudia.
This Summer, we will be welcoming Dr. Jing Wang as he is promoted to a faculty position to work in Dr. Bing Zhang’s lab.

Dr. Wang was initially recruited to the Vanderbilt Department of Biomedical Informatics to complete a PhD in biomedical engineering that he started at the University of Electronic Science and Technology of China, one of the leading engineering institutions in China. The focus of Dr. Wang’s graduate research was on functional analysis of genes in the context of cancer. In a very short time, Dr. Wang has demonstrated incredible talent as a scientist. He has already developed an area of strong focus, and established himself leading high impact research in the field of systems biology as it relates to cancer. Dr. Wang’s focus is on developing informatics tools and systems to support deciphering cancer mechanisms and identifying biomarkers for cancer. He has developed and deployed a number of high-impact research tools that have already become standards in the field. For example, he developed a statistical program called GO-function that is publicly available in R. GO-function can identify cancer-related functions that are likely to have statistical and biologic meaning, and has been downloaded 3,776 times by 2015. In another project, Dr. Wang created a pioneering web-based data integration framework called NetGestalt (www.netgestalt.org). During the last decade of systems biology research, network visualization and analysis tools have already become indispensable in complex disease studies. However, as the network size and data complexity increase, traditional approaches to visualization become impossible when integrating multiple types of cancer -omics data. NetGestalt transforms traditional two-dimensional networks into scalable one-dimension views, which facilitate data visualization, analysis, interpretation, and hypothesis generation. Dr. Wang published this work in Nature Methods as a co-first author in “NetGestalt: integrating multidimensional omics data over biological networks.” Dr. Wang has also made significant contribution to WebGestalt (www.webgestalt.org), a web-based functional enrichment analysis tool originally developed by Dr. Zhang. Dr. Wang’s work increased the coverage of organisms, gene identifiers and functional categories and introduced new interactive features. These novel features and new data have attracted 37,986 biologists from 118 countries and territories to access the new version of WebGestalt 101,236 times from Jul 1st 2013 to May 20th 2015 according to the statistics from Google Analytics. Dr. Wang published about these improvements in Nucleic Acids Research as first author in “WEB-based GEne SeT AnaLysis Toolkit (WebGestalt): update 2013”. As a result of this update, there has been a marked increase in the citations for both the original paper published in 2005 (over 140 average citations annually) and the 2013 update (over 150 citations annually since 2013) reported by Google Scholar.

Dr. Wang has also been instrumental in translational bioinformatics research in cancer. Working with Dr. Zhang’s team and wet-lab collaborators, his research identified candidate drivers in squamous cell carcinoma (SCC) of the lung. Specifically, Dr. Wang identified three consensus candidate drivers that can predict the response to conventional chemotherapy in lung SCC. Findings from this research were published in the leading cancer journal, Clinical Cancer Research as “Integrative genomics analysis identifies candidate drivers at 3q26-29 amplicon in squamous cell carcinoma of the lung”. This is impressive work for anybody, especially a post-doctoral student. Even more notable, Dr. Wang has participated in high-impact, multi-center collaborations in cancer systems biology research. Most significant among these, Dr. Wang was instrumental in an integrated proteogenomic analysis of colorectal cancer involving six institutions. This work produced several key findings: first, it observed that mRNA transcript abundance did not reliably predict protein abundance differences across the collection of tumors, indicating that one of the major underlying assumptions in cancer genomics research was not always correct; second, it found that gene copy number alterations strongly affected mRNA abundance, but that relatively few of these RNA-level effects extend to the protein level, demonstrating that only a limited set of cancer related genomic abnormalities actually affect proteins; and, third, it demonstrated that amplification of chromosome 20q in colon cancer directly translates to protein-level changes, including the key transcriptional regulator hepatocyte nuclear factor 4 alpha. Dr. Wang published this research as second author in Nature as “Proteogenomic characterization of human colon and rectal cancer.”

Altogether, Dr. Wang has published 34 papers, with 10 as first author. One of his papers has been cited over 170 times in less than two years, and his Google Scholar H index is an impressive 12. Dr. Wang seems tireless. In addition to these impressive accomplishments, he has made time to review for journals and conferences, mentor graduate students and contribute to other scholarly work. I hope you will congratulate Dr. Wang on all his accomplishments and welcome him to the Department’s faculty.
Summer Interns to Begin Work June 1st.

We are looking forward to another exciting summer with the arrival of 12 summer interns starting on June 1 through July 31. Three of the interns are high school students from Martin Luther King Magnet. These interns are working with 12 faculty on research projects within their area and will present their research toward the end of July.

The interns will be working with a variety of faculty members. Please welcome the following students and thank the faculty members acting as mentors.

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<th>Students</th>
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<tr>
<td>Robert Block</td>
<td>Jesse Ehrenfeld &amp; Jonathan Wanderer</td>
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<td>Courtney Bright</td>
<td>Laurie Novak</td>
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<td>Kofi Amoah</td>
<td>Bing Zhang</td>
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<td>Daniel Hong</td>
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<td>Hannah Huth</td>
<td>Gretchen Jackson</td>
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<td>Kim Unertl</td>
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<td>Kimberly Kondratieff</td>
<td>Tom Lasko</td>
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<td>George Malty</td>
<td>Matt Weinger &amp; Jason Slagle</td>
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Red Skelton’s Version of the Pledge of Allegiance

When I was a small boy in Vincennes, Indiana, I heard, I think, one of the most outstanding speeches I ever heard in my life. I think it compares with the Sermon on the Mount, Lincoln’s Gettysburg Address, and Socrates’ Speech to the Students.

We had just finished reciting the Pledge of Allegiance, and he [Mr. Lasswell, the Principal of Vincennes High School] called us all together, and he says, “Uh, boys and girls, I have been listening to you recite the Pledge of Allegiance all semester, and it seems that it has become monotonous to you. Or, could it be, you do not understand the meaning of each word? If I may, I would like to recite the pledge, and give you a definition for each word:

I -- Me; an individual; a committee of one.

Pledge -- Dedicate all of my worldly good to give without self-pity.

Allegiance -- My love and my devotion.

To the Flag -- Our standard. “Old Glory”; a symbol of courage. And wherever she waves, there is respect, because your loyalty has given her a dignity that shouts “Freedom is everybody’s job.”

of the United -- That means we have all come together.

States -- Individual communities that have united into 48 great states; 48 individual communities with pride and dignity and purpose; all divided by imaginary boundaries, yet united to a common cause, and that’s love of country -- Of America.

And to the Republic -- A Republic: a sovereign state in which power is invested into the representatives chosen by the people to govern; and the government is the people; and it’s from the people to the leaders, not from the leaders to the people.

For which it stands

One Nation -- Meaning "so blessed by God."

[Under God]

Indivisible -- Incapable of being divided.

With Liberty -- Which is freedom; the right of power for one to live his own life without fears, threats, or any sort of retaliation.

And Justice -- The principle and qualities of dealing fairly with others.

For All -- For All. That means, boys and girls, it’s as much your country as it is mine.

Now let me hear you recite the Pledge of Allegiance:

I pledge allegiance to the Flag of the United States of America, and to the Republic, for which it stands; one nation, indivisible, with liberty and justice for all.

Since I was a small boy, two states have been added to our country, and two words have been added to the Pledge of Allegiance: Under God. Wouldn’t it be a pity if someone said, "That is a prayer" -- and that be eliminated from our schools, too?

To view the video,

http://www.americanrhetoric.com/speeches/redskeltonpledgeofallegiance.htm

This is presented here to remind all of us what American men and women have fought and died for over the years. Let us never forget those who paid the ultimate sacrifice.
Quote of the Month

Memorial Day isn't just about honoring veterans, its honoring those who lost their lives. Veterans had the fortune of coming home. For us, that's a reminder of when we come home we still have a responsibility to serve. It's a continuation of service that honors our country and those who fell defending it.

Pete Hegseth

New Staff

Jeff Prato, Health Systems Engineer I, June 1st, in Dr. Denny’s lab
Zhao Ma, Bioinformatics Systems Engineer I, June 1st, Dr. Zhang’s Lab