

Aim for Innovation 2016



Innovative thinkers at Johns Hopkins Medicine tell how they cultivate creativity. To see a longer list, visit hopkinsmedicine.org/insight and click on this article. While you're there, share your own tips for developing new ideas in the comments section.



Ralph Hruban

Director, Sol Goldman Pancreatic Cancer Research Center

Recent innovation: iPad apps for teaching pancreatic pathology

TAP THE TALENT AROUND YOU.

"Pursuing ideas is easy at Johns Hopkins. When we started to create our applications, we were quickly joined by extraordinarily talented faculty members and students from art as applied to medicine, pathology informatics and pathology photography. If you have an idea, create a team and make it happen."

Gorkem Sevinc

Managing Director, Technology Innovation Center

Recent innovation: App for real-time collaboration between physicians and radiologists

EMBRACE FAILURE.

"There are many, many good ideas, and even more bad ones. Never be afraid to accept failure and let an idea or a product go."



Dalal Haldeman

Senior Vice President, Marketing and Communications

Recent innovation:

#TomorrowsDiscoveries video series

SHARE YOUR ENTHUSIASM. "It is easy to keep the status quo, but it is more energizing to pursue a few innovative ideas. Engage others, listen and share the ideas with enthusiasm. The path often emerges by talking to colleagues."

Jennifer Elisseff

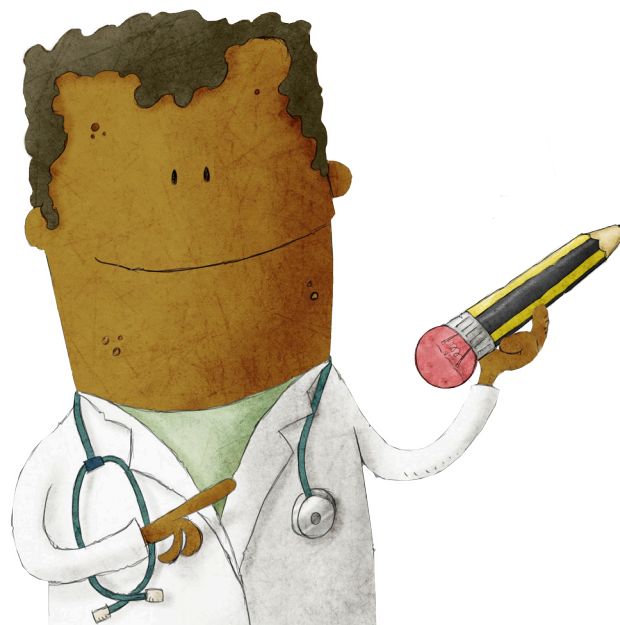
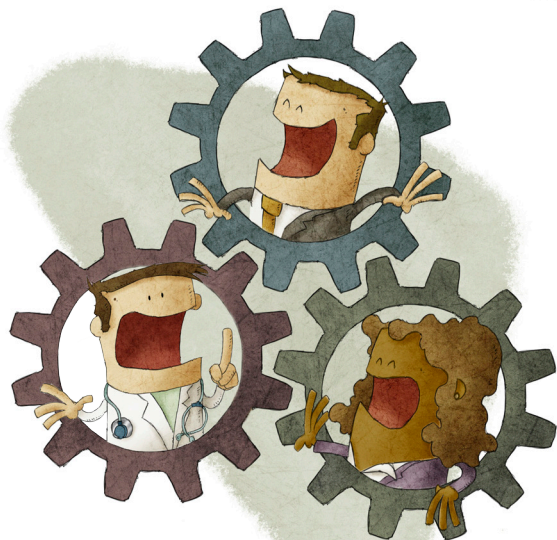
Director, Translational Tissue Engineering Center

Recent innovation:

Using immune cells to improve tissue regeneration

GAIN NEW PERSPECTIVES.

"I like to mix fields, getting a feel for how each one operates. For my work with regenerative immunology, I worked with cancer immunologists and took a sabbatical to learn about immuno-engineering."



Robert Higgins

Director of the Department of Surgery

Recent innovation: Developing a division to support surgical science research and translation

WRITE IT DOWN. "I am always writing down thoughts and ideas that strike me as possible innovations. This creates a repository of ideas and themes I can nurture and cultivate. Many ideas that start out as 'half-baked' become more realistic with time. I don't think any idea is too far out there."



For updates on innovations featured in *Insight*, visit hopkinsmedicine.org/insight and click on "Insight Updates."

Share your insight with Johns Hopkins.
Email insights@jhmi.edu



A look at innovative developments outside the halls of Johns Hopkins Medicine

ResearchKit Studies



Johns Hopkins researchers introduced EpiWatch in October. The app, which collects data from patients with epilepsy, is the first study to run on Apple Watch using the ResearchKit framework. Here's a look at other studies using ResearchKit.



The Autism & Beyond app analyzes children's emotions. Duke University and Duke Medicine use the iPhone's camera to capture a child's reaction to videos. 📱



The Oregon Health & Science University's Melanoma app tracks moles over time. Participants send photos to health professionals and researchers, who hope to develop an algorithm to screen for melanoma. 📱



The Asthma Health app helps participants manage their symptoms. Created by the Icahn School of Medicine at Mount Sinai, Weill Cornell Medical College and LifeMap, the app collects air quality data and provides medication reminders. 📱



Patients with type 2 diabetes can record and track their exercise and diet information with GlucoSuccess. Developed by Massachusetts General Hospital, the app compares how various activities affect blood glucose levels. 📱



The Share the Journey app aims to uncover the long-term effects of chemotherapy as breast cancer treatment. The app from Dana-Farber Cancer Institute, UCLA's Jonathan and Karin Fielding School of Public Health, Penn Medicine and Sage Bionetworks gathers data about energy levels, cognitive abilities and mood. 📱



The MyHeart Counts app assesses a patient's risk for cardiovascular disease. Stanford Medicine and the University of Oxford will use the lifestyle and activity data to better understand what keeps hearts healthy. 📱

An App to Improve Physician-Patient Communication



If you're a patient who will be undergoing a procedure, you've likely experienced it: sitting across from your doctor, unsure if you've forgotten to ask something crucial.

If you're a doctor, you know the other side of this equation: trying to help patients who are confused about a procedure and eager for more information.

Enter Doctella, an app to improve communication between doctors and their patients. Based on Johns Hopkins' pioneering use of safety checklists, the app provides patients with checklists of questions to ask before, during and after a medical procedure.

"Patients find Doctella helpful to frame the discussion we're having," says Timothy Pawlik, chief of surgical oncology.

Doctella is free for patients and Johns Hopkins Health System physicians, and Pawlik encourages his patients to use it.

When patients create a profile, they can then personalize the checklists with their notes and answers. Physicians can create a personalized Doctella page with customized answers and



videos on, for instance, how to change a dressing. They can also set Doctella to send patients reminders about taking their medications.

The app was created by Armstrong Institute for Patient Safety and Quality Director Peter Pronovost, anesthesiologist Asad Latif and former Johns Hopkins surgeon Adil Haider.

Johns Hopkins Technology Ventures (JHTV) and Bloomberg School of Public Health graduate students assisted in developing Doctella. The app's parent company, Patient Doctor Technologies, has a content license from JHTV and has filed a patent covering the electronic patient and doctor communication.

Pronovost says checklists are just the beginning of Doctella's development: He and his team will be adding questions on chronic diseases and linking the app to MyChart so that patients can navigate easily between both.

Alzcast.org Aims to Catch Dementia Earlier



A free online assessment evaluates dementia risk in as little as 10 minutes using a questionnaire and a brief memory test. Alzcast.org is meant to educate the public and encourage high-risk individuals to follow up with clinical assessments.



"If we can identify people who have Alzheimer's brewing before they have symptoms, we can treat the disease sooner," says Jason Brandt, director of the Division of Medical Psychology and creator of the assessment. "If we could delay the onset of symptoms by five years, we could reduce the number of people with Alzheimer's by half."

The anonymous questionnaire gathers information about risk factors, including age, family history, physical health and lifestyle. The brief memory test evaluates a person's ability to learn new word pairs.

Test takers receive feedback from the assessment, including a comparison of their memory test score to others of the same age and gender, information on the likelihood that the individual will develop an illness

that causes dementia, and personalized suggestions for maintaining brain health.

After launching the assessment with grant funding in 2009, Brandt completed studies to see how its results compared to diagnoses based on brain imaging, bloodwork, cognitive tests, and neurologic and psychiatric exams. He found people diagnosed with dementia through a clinical evaluation scored lowest on the memory test. Those with mild cognitive impairment scored between patients with dementia and those without any impairment.

In 2015, Brandt launched an updated version of the assessment, which includes additional risk factors, such as smoking and alcohol consumption. He hopes to conduct a long-term study of people who take the test, a number that has already surpassed 10,000.

Aim for Innovation 2016 *Continued Content for Web Only*

Rhonda Wyskiel

*Patient Safety Innovation
Coordinator, Armstrong Institute*

Recent innovation: Family Involvement Menu

EMPATHIZE. "I always say, 'Never underestimate the power of a casual conversation.' I gain most of my inspiration though talking to people. I encourage teams to dig deep to understand what people say, think, feel and do."

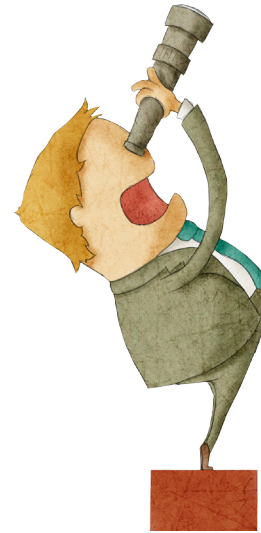


Alex Kolodkin

Professor of Neuroscience

Recent innovation: Insights into neuron connectivity

EMBRACE THE UNEXPECTED. "The inspiration for much of our most innovative work comes from unexpected observations that take us in new directions. It is critical, however, that the underlying work leading us to these new areas of discovery be extremely solid. For example, a few years ago, a graduate student in my group noted a wiring defect in the retinas of mutant mice. Though studying the visual system was a new direction for us, it led to the first identification in a mammal of cues that direct the wiring of neurons in the retina."



Carisa Cooney

*Assistant Professor, Department of Plastic and
Reconstructive Surgery*

Recent innovation: Online assessment tool for resident training

BE OPEN. "I listen to my colleagues, friends and others around me talking about professional challenges they face. My training in studio art, along with protected time between projects, helps me think creatively, forming free associations that can lead to unusual solutions."

Peter Searson

Director, Institute for NanoBioTechnology

Recent Innovation: Cancer metastasis simulation

MOVE FORWARD TOGETHER. "Many important biomedical problems are inherently multidisciplinary, so it's important to be aware of advances in different fields. I also recommend going for a run."

