November 18, 2011

**TO:** Members of the Board of Regents
Ex-officio Representatives to the Board of Regents

**FROM:** Joan Goldblatt, Secretary of the Board of Regents

**RE:** Schedule of Special Meeting

**SATURDAY, NOVEMBER 26, 2011**

| | | |
|---|---|---|
| **12:45 to 2:45 p.m.** | **CenturyLink Field Event Center Conference Room** | **SPECIAL MEETING OF BOARD OF REGENTS** |

***Lunch for meeting participants available at 12:30 p.m.***

**AGENDA**

**JOINT BOARD OF REGENTS SPECIAL MEETING**
**Washington State University and the University of Washington**

**Saturday, November 26, 2011**
**12:45 to 2:45 p.m.**
**CenturyLink Field Event Center**
**Conference Room**

**I. CALL TO ORDER**

**II. OPENING COMMENTS AND INTRODUCTIONS**

**III. PRESENTATION: WSU and UW Faculty and Student Research**

**IV. DISCUSSION: Higher Education and the State Budget**

**V. ADJOURN**

To request disability accommodation, contact the Disability Services Office at: 206.543.6450 (voice), 206.543.6452 (TTY), 206.685.7264 (fax), or email at dso@uw.edu. The University of Washington makes every effort to honor disability accommodation requests. Requests can be responded to most effectively if received as far in advance of the event as possible, preferably at least 10 days.

# M I N U T E S

## BOARD OF REGENTS
## University of Washington

**Joint Meeting with the**

## BOARD OF REGENTS
## Washington State University

## SPECIAL MEETING
**Saturday, November 26, 2011**
**12:45 p.m.**
**CenturyLink Field Event Center**
**Conference Room**

The Board of Regents of the University of Washington (UW) held a joint meeting with the Board of Regents of the Washington State University (WSU) on Saturday, November 26, 2011, beginning at 12:45 p.m., in the CenturyLink Field Event Center Conference Room in Seattle, Washington. The notice of the special meeting was provided appropriately to the public and the media.

## OPENING AND INTRODUCTIONS

Regent Blake called the special meeting to order at 12:45 p.m. and asked Regents to introduce themselves.

Present from the University of Washington: Regents Kristianne Blake (Chair), Stan Barer, Craig Cole, Bill Gates, Sally Jewell, Joanne Harrell, Kelsey Knowles, Herb Simon; and the President of the University of Washington, Michael K. Young.

Present from Washington State University: Regents Ted Baseler (Chair), Jake Bredstrand, Scott Carson, Harold Cochran, Francois Forgette, Constance Niva, Michael Worthy; and the President of the Washington State University, Elson S. Floyd.

Regent Blake thanked Governor Gregoire for attending the meeting.

Regent Blake introduced Michael K. Young, who assumed the presidency of the University of Washington in July, coming from the University of Utah. He has wasted no time in getting to know the University and the community, celebrating the University's 150th anniversary and planning ways to deal with the ongoing budgetary issues and challenges faced by the state of Washington.

President Young said it was his honor to welcome everyone to the special meeting at the home of the University of Washington Huskies for the next year while Husky Stadium undergoes a much needed renovation.

He said he is delighted Governor Gregoire is attending the meeting and looks forward to working with her to meet future challenges, adding he was grateful for the balanced approach of the Governor's budget recommendations to meet the state's budget challenges. He said the UW is deeply committed to working in partnership with the Governor.

The President welcomed colleagues from WSU, saying there is a long history between these two public universities. UW is celebrating its 150th anniversary, and the Apple Cup has been played in one hundred and four of those years. Off the field, the two Universities share a deep history marked by partnership. President Young said he looks forward to working with President Floyd and the WSU Regents in this spirit of collaboration.

Dr. Floyd thanked President Young, and congratulated the UW on 150 years of service to the state of Washington. He recognized the huge impact UW has on the state as well as UW's global presence, saying UW and WSU are great research universities. President Floyd commended the Governor for her leadership during difficult times, and urged attendees to celebrate the excellence associated with the two institutions. He said he believes UW and WSU are committed to exercising uncompromised stewardship of the trust and confidence bestowed upon them by the state, as the Universities continue to drive the state's economic growth and vitality. Dr. Floyd expressed his gratitude for the unparalleled leadership shown by Governor Gregoire.

**PRESENTATION: WSU and UW Faculty and Student Research**

Regent Blake invited the University Presidents to introduce faculty and student researchers from their respective institutions, followed by presentations, questions, and discussion. Presenters' bios and research presentation slides are attached.

**Diane Cook**
Huie-Rogers Chair and Professor
School of Electrical Engineering and Computer Science, WSU
*Health-Assistive Smart Environments*

**Hugh Hillhouse**
Rehnberg Chair Professor
Chemical Engineering, UW
*Lower Cost and Higher Efficiency Solar Cells by Nanoscale Science & Engineering*

**Samantha Lawrence**
PhD Student
Materials Science and Engineering, WSU
*For Want of a Nail: How Small Things Make Big Differences*

**Jesse Salk**
MD/PhD Student
School of Medicine, UW
*Molecular Detection of Cancer Precursors in Ulcerative Colitis*

**DISCUSSION: Higher Education and the State Budget**

Regent Blake invited Regent Baseler to lead the discussion about higher education and the state budget. Regent Baseler said it was poignant to hear presentations from outstanding scholars and researchers while facing the reality of the current higher education funding challenges. He mentioned the article from Trusteeship Magazine, published by the Association of Governing Boards of Universities and Colleges, titled "Whose University? The Decline of the Commonwealth and What That Means for Higher Education," saying this article demonstrates some of the current problems higher education faces. The article challenges Regents to do a better job of communicating the importance of higher education at public universities. He said there is a need to recalibrate and move funding back to public universities for the greater good. The state of Washington, Regent Baseler said, is fortunate to have a Governor who is working hard on this topic. Regent Baseler invited Governor Gregoire to address the group.

Governor Gregoire thanked the faculty members and students for their encouraging research presentations and said they belonged to two of the finest research institutions in America, if not beyond. The Governor offered her thanks to Presidents Young and Floyd for their leadership; Regents Baseler and Blake for leading the Boards of Regents; and individual Board members for their service.

The Governor presented the challenges the state faces in the budget process, specifically explaining why the higher education budget has become so vulnerable. Given budgeting constraints, she believes there are only four areas from which to cut funding – health care, human services, public safety, and education. Education is the one place the legislature can cut where there is an alternate source of funding in the form of tuition. The budget of four-year colleges has been cut by 46% over the last three years. Community and technical colleges have experienced a 26% cut in state funding. Tuition increases have offset some of the cuts.

Governor Gregoire told the Regents she looked at every conceivable cut; nothing was off the table. She also examined different models for increasing revenue.

She described her plans for raising revenue by proposing the first state sales tax increase since 1983 – a half of a percent for three years. The proposed sales tax increase would raise a projected $494 million. In her budget $411 million would fund education, with $250 million for K-12 and $161 million for higher education. The Governor's proposed budget does not cut funding for early childhood education, given the maintenance of effort required by the federal government.

The Governor explained the demand for state government, and the services provided, are higher during a recession when revenues are down. She said consumer confidence eroded the impact on sales in the state in August, with a direct and immediate impact on revenue projections. She sees some positive economic signs, saying the following sectors are doing well: aerospace, high technology, global health and life sciences, and farming. Small business is not doing as well due to a lack of consumer confidence. The Governor expressed concern about federal research funding to universities, and said the state needs more engineers in all fields.

She briefly described the Higher Education Board restructuring, which will create an entity that will allow higher education to be as innovative and creative as it must be.

Governor Gregoire asked for help and support from the Regents, who replied they would offer their help. Regents praised Governor Gregoire's leadership and thanked her for her support and hard work.

Regent Baseler, on behalf of both Boards, offered support and said education is a fundamental and core part of society and the state and it needs to be funded properly. He closed by thanking the UW for hosting the special meeting.

**ADJOURNMENT**

Regent Blake thanked the Governor, University Presidents, and Regents for attending and adjourned the joint special meeting at 3:15 p.m.

_____
Joan Goldblatt
Secretary of the Board of Regents

*Approved at the meeting of the Board of Regents on January 12, 2012.*

# Washington State University
Student and Faculty Presenters


## Samantha Lawrence
PhD Student
Materials Science and Engineering
samantha.lawrence@email.wsu.edu


Samantha Lawrence received her BS degree in Metallurgical and Materials Engineering from Colorado School of Mines in December 2010. She began her PhD in Materials Science and Engineering at Washington State University in January 2011 with Dr. David Bahr as her advisor. Her research interests include corrosion and materials reliability in extreme environments, mechanical behavior of alloys and oxide films at multiple length scales, and environmentally assisted fracture.

Samantha has had a variety of research experiences beyond a university campus, including two summer internships at Nucor Steel Decatur and a graduate research assistantship at Sandia National Laboratories in Livermore, CA. She is an active member multiple professional societies such as ASM, TMS, MRS, and NACE. While an undergraduate at Colorado School of Mines, Samantha founded and served as chairman of the student chapter of NACE. She was awarded the MTI Bert Krisher Memorial Scholarship, the M.C. Miller Memorial Scholarship, and the Sandia Mountain Section Scholarship from NACE in 2010. She was named the Outstanding Graduating Senior in Metallurgical and Materials Engineering. Her research has led to a variety of publications and conference presentations. Samantha enjoys skiing, rock climbing, swing dancing, painting, and playing guitar.


## Diane Cook

Huie-Rogers Chair and Professor
School of Electrical Engineering and Computer Science
djcook@wsu.edu


Dr. Cook received her B.S. from Wheaton College in 1985, and her M.S. and Ph.D. from the University of Illinois in 1987 and 1990, respectively. Diane's research interests include artificial intelligence, machine learning, data mining, robotics, smart environments, and parallel algorithms for artificial intelligence. She is one of the directors of the AI Laboratory and heads the CASAS smart home project.

Diane is currently involved in organizing an NSF Workshop on Pervasive Computing at Scale. She is also serving as the general chair for the Ninth Annual IEEE International Conference on Pervasive Computing and Communications and co-program chair for the IEEE International Conference on Data Mining. She is currently guest editing a special issue of the ACM Transactions on Intelligent Systems and Technology on Socially aware computing and a special issue of the Journal of Pervasive and Mobile Computing on Pervasive Health.

**Courses Taught**

- Introduction to Automata Theory (undergraduate)
- Data Structures (undergraduate)
- Theoretical Computer Science (graduate)
- Design and Analysis of Algorithms (graduate)
- Introduction to Artificial Intelligence (undergraduate and graduate)
- Genetic Algorithms and Neural Networks (undergraduate and graduate, designed course)
- Parallel Algorithms for Artificial Intelligence (graduate, designed course)
- Planning and Robotics (graduate, designed course)
- Planning and Decision Theory (graduate, designed course with P. Gmytrasiewicz)
- Data Mining (graduate, designed course)
- Gerontechnology I and II (graduate, multidisciplinary, designed course)

**Honors and Awards**

- Anjan Bose Outstanding Researcher of the Year Award, 2010
- WSU/EECS Excellence in Research Award, 2009, 2010
- FTRA Fellow, 2010 - present
- IEEE Fellow, 2007 - present
- IEEE Systems, Man, and Cybernetics Society, Outstanding Contribution Award, 2007
- Best paper award, Florida Artificial Intelligence Research Symposium, 2005
- Charter Member, Academy of Distinguished Scholars, University of Texas at Arlington, 2004

- UTA College of Engineering Research Excellence Award, 2004
- UTA Outstanding Research Achievement Award, 2002
- UTA Keeper of the Vision Award, 2002
- CSE Outstanding Teacher Award, 2001
- Lockheed Martin Award for Excellence in Teaching, 2000
- Sponsored student team with winning entry at AAAI Life On Mars robot competition, 1998
- NSF Career Development Award, 1995
- Halliburton Outstanding Young Faculty Award, 1995
- NSF Research Initiation Award, 1993

**Professional Experience**

August 2006 - Present
Huie-Rogers Chair Professor, School of Electrical Engineering and Computer Science, Washington State University, Pullman, WA.
August 1992 - 2006
University Distinguished Scholar Professor (2004 - 2006), Professor (2001 - 2004), Associate Professor (1996 - 2001), Assistant Professor (1992 - 1996), Department of Computer Science and Engineering, University of Texas at Arlington, Arlington, TX.
August 1999 - May 2001
Senior Data Mining Consultant, International Business Machines, Dallas, TX.
August 1992 - 2006
Faculty Associate, Automation and Robotics Research Institute, Fort Worth, TX.
June 1991 - August 1991; June 1992 - August 1992
Research Faculty Fellow, NASA Ames Research Center, Moffett Field, CA.
January 1991 - May 1992
Assistant Professor, Department of Computer Science and Engineering, University of South Florida, Tampa, FL.
August 1989 - December 1991
Consultant for the National Center for Supercomputing Applications, Urbana, IL.
January 1990 - May 1990
Assistant for designing and teaching Scientific Visualization course in connection with National Center for Supercomputing Applications, Urbana, IL.
October 1990
Instructor for Connection Machine Graphics workshop, Urbana, IL.
January 1988 - December 1989
Teaching Assistant, University of Illinois, Urbana, IL.
June 1988 - August 1988 and January, 1989
Research Associate in Computer Science, International Business Machines, Almaden Research Center, San Jose, CA.
January 1986 - December 1987
Research Assistant for the Computer Music Project, University of Illinois, Urbana, IL.
June 1984 - August 1985
Software Consultant for Dr. William F. Nowlin, Merrillville, IN.
July 1985 - August 1985
Software Consultant for Gary Methodist Hospital, Gary, IN.
June 1985 - July 1985
Software Consultant for William James and Assoc., Wheaton, IL.
January 1984 - May 1985
Teaching Assistant, Wheaton College, Wheaton, IL.

# University of Washington

Student and Faculty Presenters

## Jesse Salk

MD/PhD Student
School of Medicine
jjsalk@uw.edu

Jesse Salk's interest in medical science began more than 20 years ago, in elementary school. A Seattle native, he pursued biology as an undergraduate at Brandeis University where he graduated Summa Cum Laude before returning to the Northwest to attend the UW for its M.D./Ph.D. program. Jesse's research explores how the body's DNA changes over time in cancer, with the goal of finding ways to maximize health in adults by early detection and intervention. He has earned many honors and fellowships, published his work, and received three patents. Outside the laboratory, Jesse spends some of his time exploring the high peaks of the Cascade and Olympic mountains.

## Hugh Hillhouse

Rehnberg Chair Professor
Chemical Engineering
h2@uw.edu

- **Ph.D. Chemical Engineering, University of Massachusetts, Amherst 2000**
- **M.S. Physics, University of Massachusetts, Amherst 1999**
- **M.S. Chemical Engineering, University of Washington 1996**
- **B.S. Chemical Engineering, Clemson University 1995**

Hugh Hillhouse joins Chemical Engineering in the fall of 2010 from the School of Chemical Engineering at Purdue University where he was a University Faculty Scholar and Associate Professor. He also holds an adjunct appointment at the National Renewable Energy Laboratory and is on the Editorial Advisory Board for Chemistry of Materials.

Hillhouse's research focuses on molecular and nanoscale science and engineering for energy conversion technologies that will allow transition from fossil fuel resources to renewable clean energy resources. Some topics of his research include the fundamentals of molecular self-assembly of nanostructured films, nanocrystal growth and surface chemistry, high-efficiency quantum dot and quantum wire photovoltaics, and development of low-cost colloidal nanocrystal-ink based solar cells. His awards and honors include and the NSF Career Award, the Sharma Medal from the Indian Chemical Congress, the Shreve Award for Excellence in Undergraduate Teaching from Purdue, Early Career Research Excellence Award from Purdue.

# health-assistive smart environments

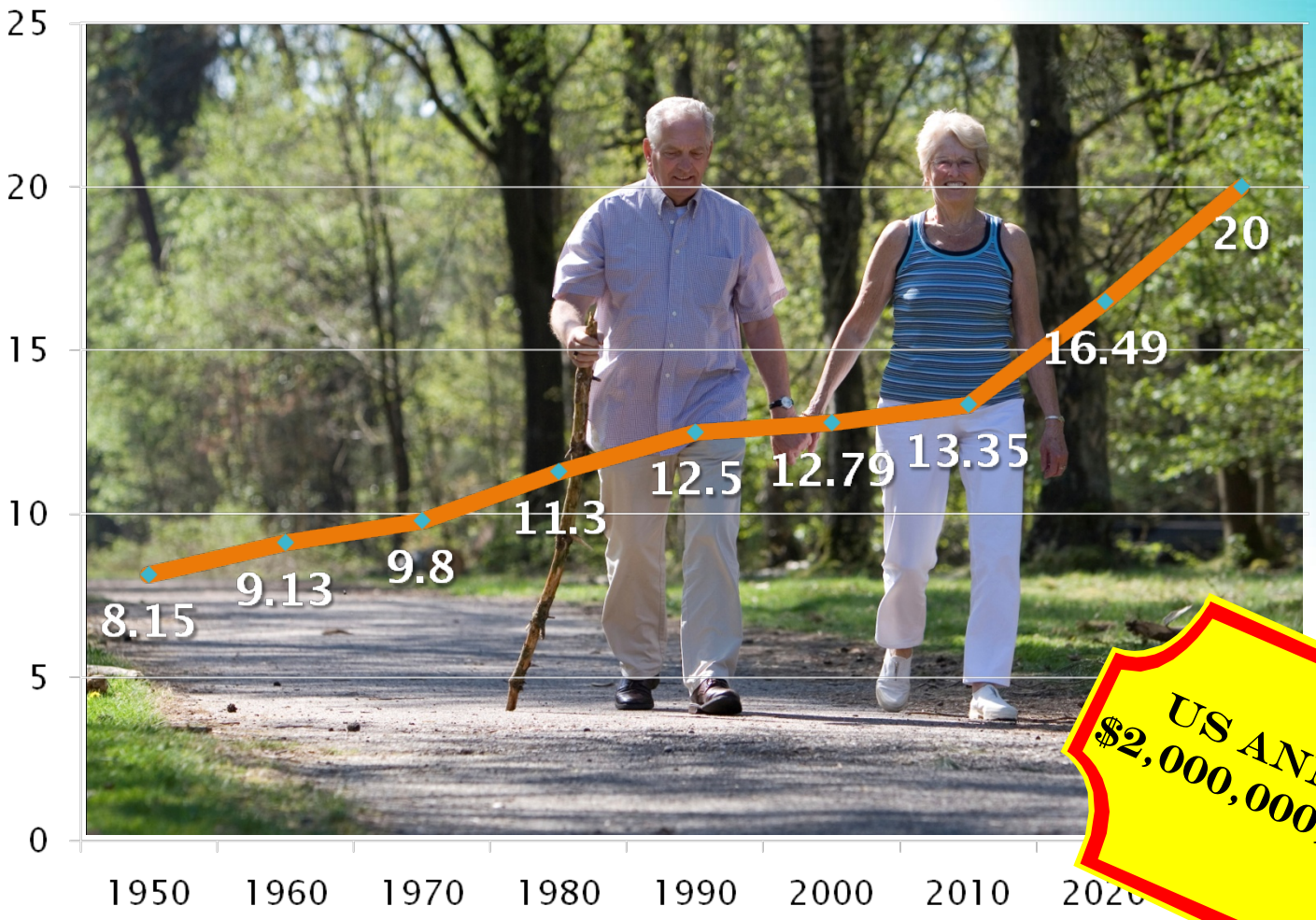
**Diane J. Cook**

Huie-Rogers Professor, School of EECS
Washington State University

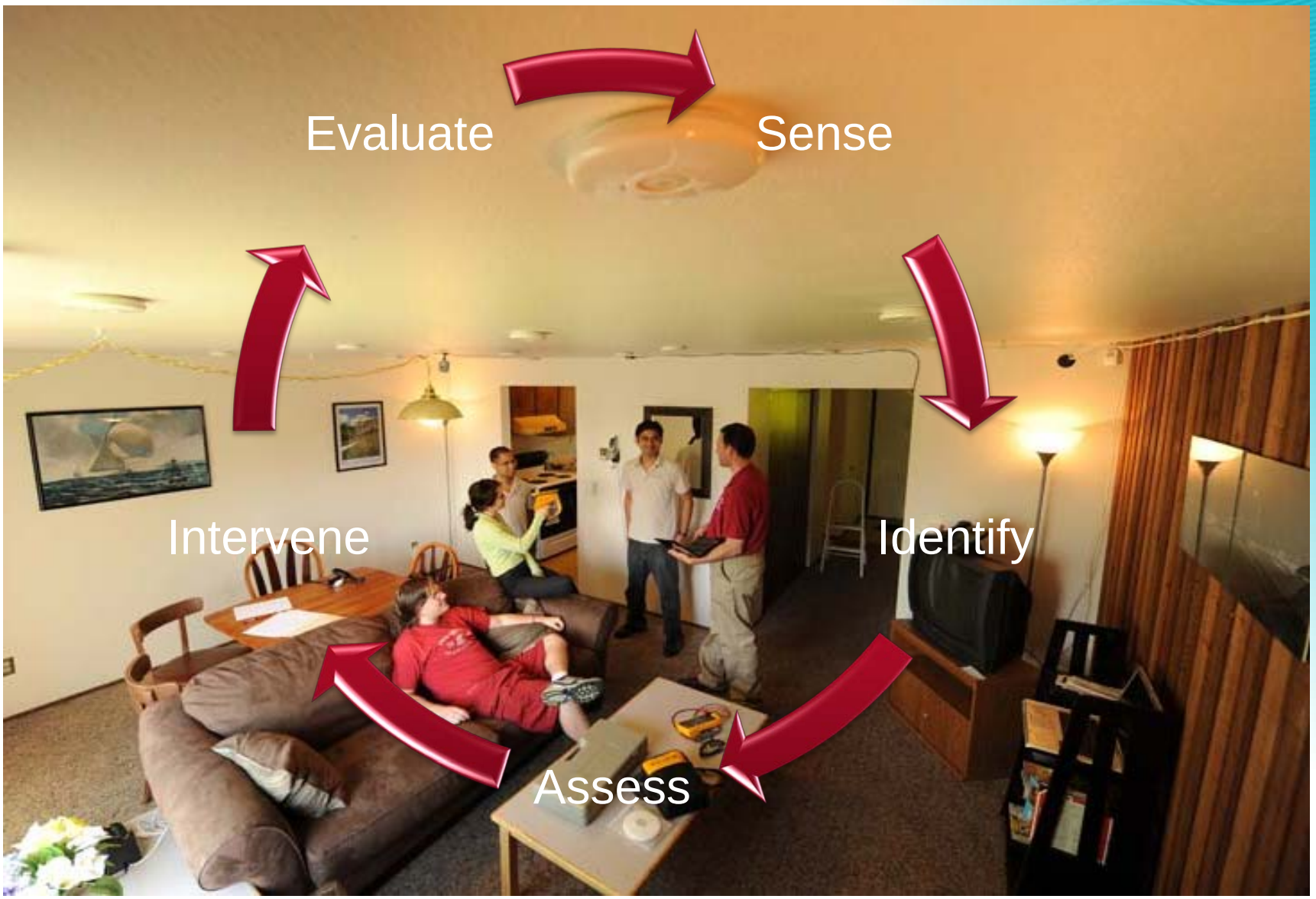
211-11
11/26/11

# Aging of Society

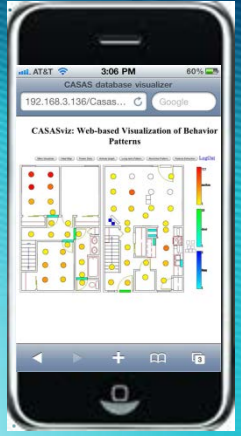
Trend in percent of individuals 65+



# What is a Smart Environment?



# Sense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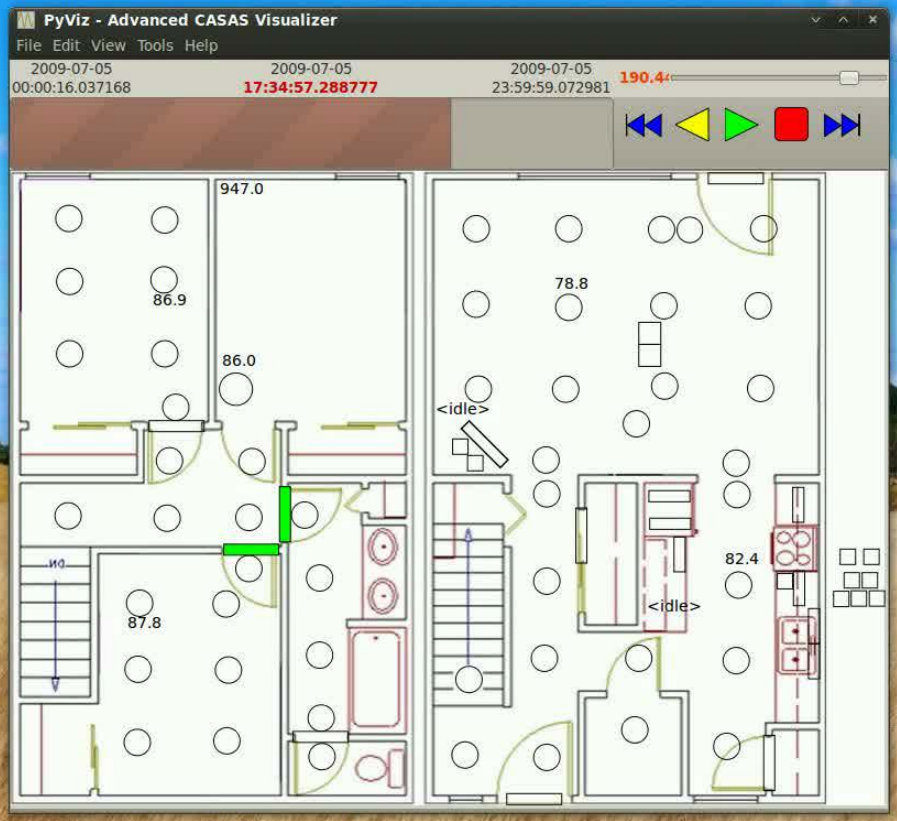
CASASviz: Web-based Visualization of Behavior Patterns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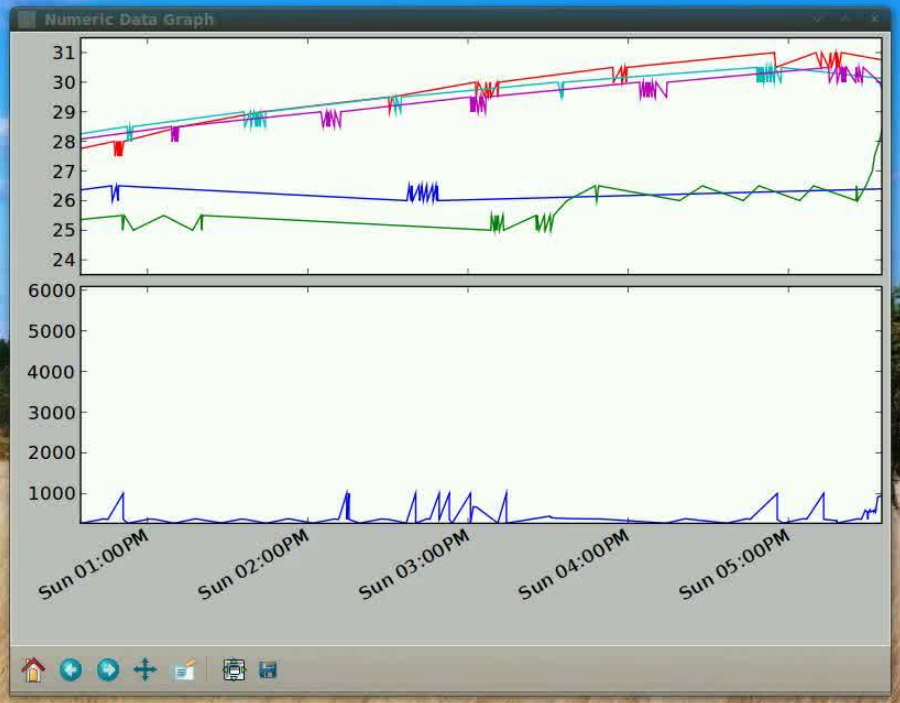
Numeric Data Graph
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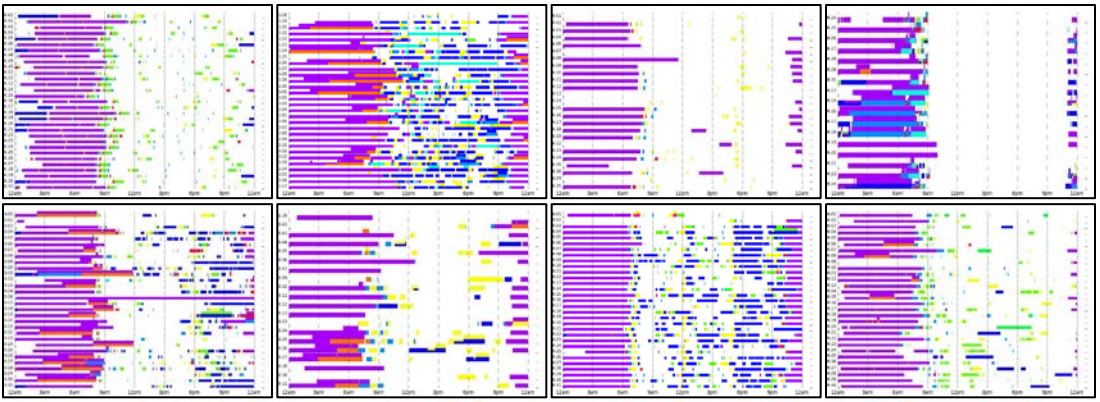
1000
Sun 01:00PM
Sun 02:00PM
Sun 03:00PM
Sun 04:00PM
Sun 05:00PM

# Identify

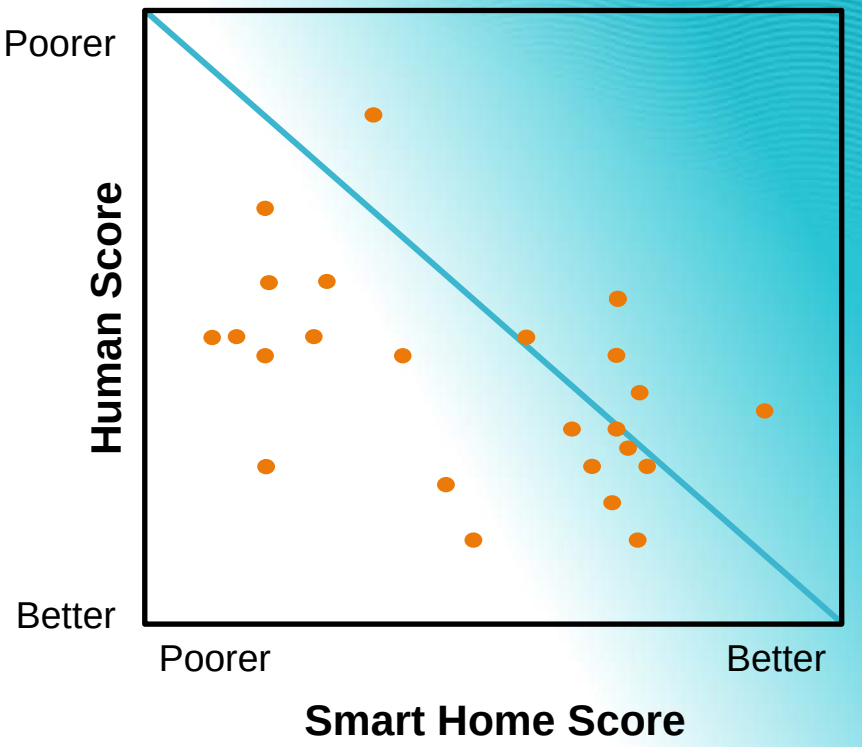
- 30 homes
- Complex conditions
- 20 activities
- 90% accuracy predefined activities
- Discover patterns in remaining data



# Assess

**400 participants**

- traditional assessment
- smart home ADLs




**Automated classification**

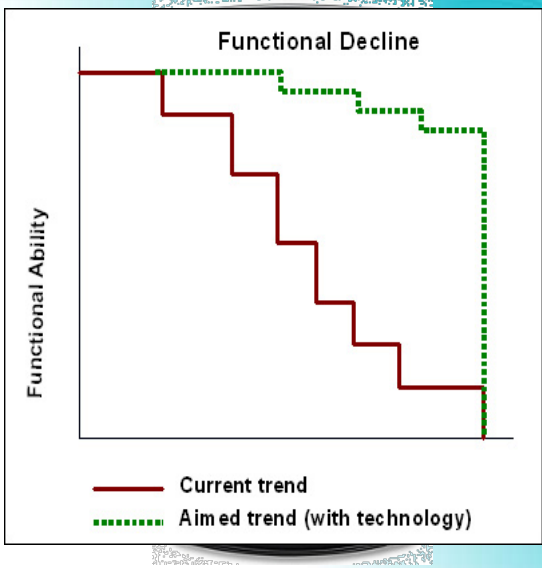
- 92% accuracy

# Intervene & Evaluate

Context-based

Prompt only if task not initiated

Prompt can be re-issued

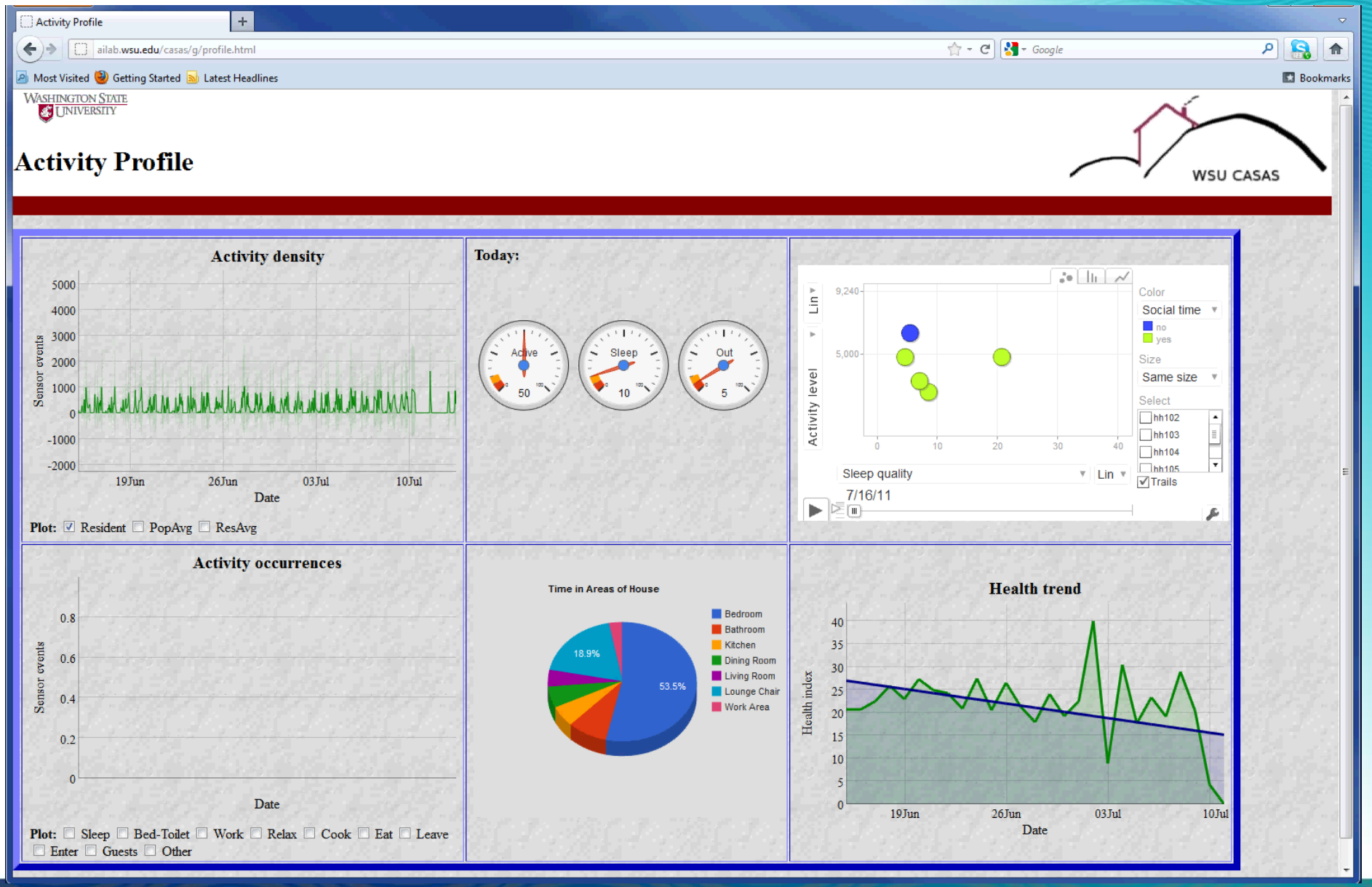

I will do it now


I will do it later

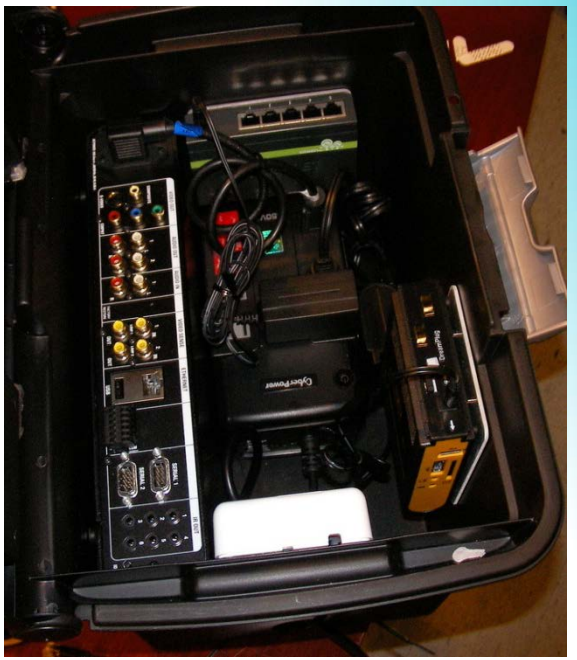
I've done this task

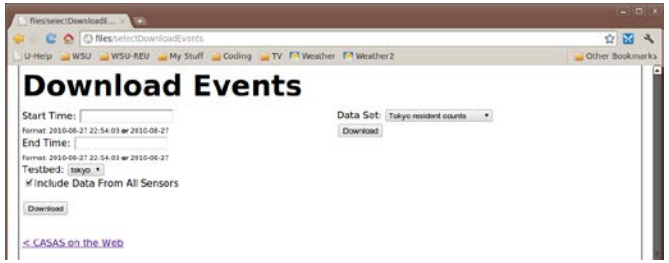
I won't do this task

# Ongoing work – Longitudinal Study



# Ongoing work – Commercialization



For more information

***ailab.wsu.edu/casas***

***cook@eecs.wsu.edu***

WASHINGTON STATE UNIVERSITY

*World Class. Face to Face.*

NIBIB Life Sciences DISCOVERY FUND NSF clearwire FLUKE DIGILENT Control 4 BOSCH

# Lower Cost and Higher Efficiency Solar Cells by Nanoscale Science & Engineering

**Hugh W. Hillhouse**

**Email: h2@uw.edu**

**Department of Chemical Engineering &**

**Molecular Engineering & Science Institute**

UNIVERSITY of WASHINGTON

# For Want of a Nail:
## How Small Things Make Big Differences

*Board of Regents Joint Meeting*

*Samantha K. Lawrence*
*Mechanical and Materials Engineering*
*Washington State University*
*November 26, 2011*

# Background

- Involved with construction and restoration projects while growing up in Utah
- Received BS in Metallurgical and Materials Engineering from Colorado School of Mines in 2010
- Began PhD in Materials Science and Engineering at WSU in 2011
- Interned at Nucor Steel Decatur during undergrad and at Sandia National Labs in Livermore, CA as a grad student
- Long term goal to run a small consulting firm providing corrosion and materials reliability solutions to a variety of clients

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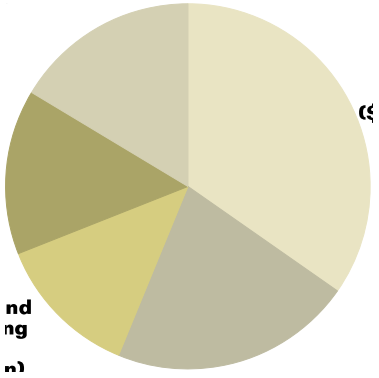
# Materials Reliability Issues cause Big Problems

- Corrosion and materials reliability issues cost industry millions of dollars each year
  - Corrosion costs total about 3% of U.S. GDP annually



- Engineering or materials design flaws lead to devastating failures

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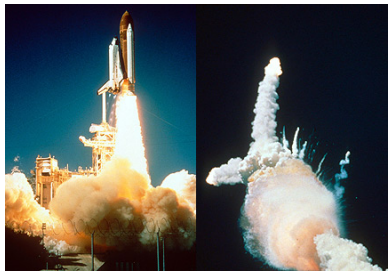
# Why Care about Small Stuff?

- Failures fall in to two categories:
  - 1. Failure due to insufficient understanding of materials performance limits



  - 2. Small flaws cause problems for big components

- Components fail because they wore, corroded, or cracked in an unexpected way

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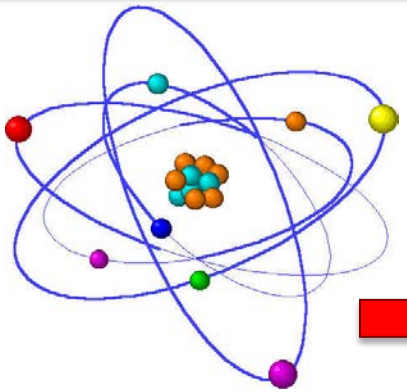
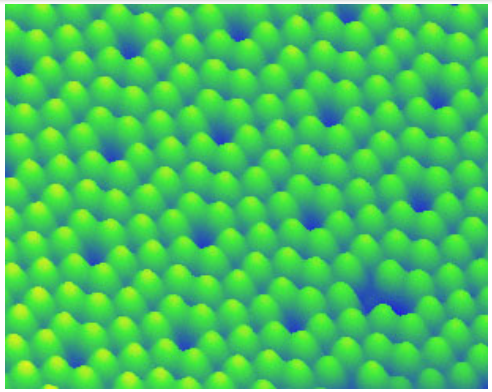
# How Small is Small?

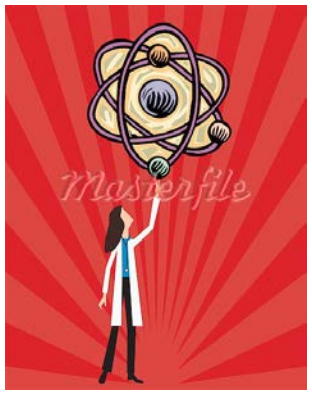




Components break because the bonds between atoms break

**GOAL:** Understand the mechanisms that cause atomic bonds to break which can ultimately lead to the creation of materials with stronger bonds.

**Stronger Bonds (atomic scale) = Stronger Materials (large scale)**





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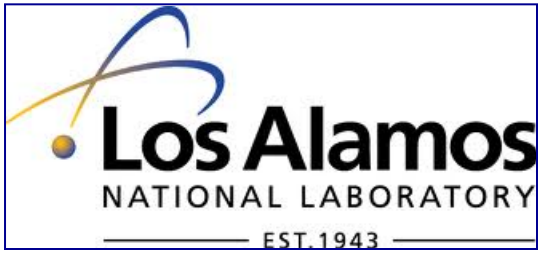
# Materials Genome Initiative

- The White House sponsors advanced materials research to "Speed our understanding of the fundamentals of material science, providing a wealth of practical information that entrepreneurs and innovators will be able to use to develop new products and processes."

- WSU is uniquely placed to achieve the goals set out by the Initiative through advanced testing laboratories and collaborative efforts.



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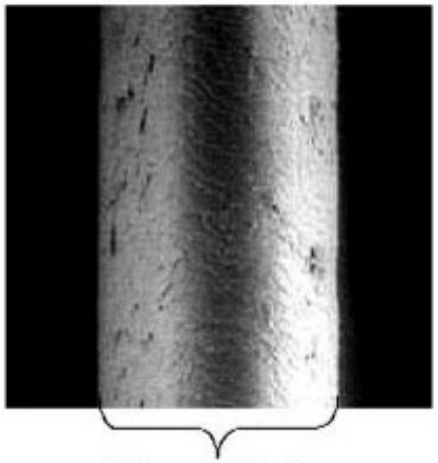
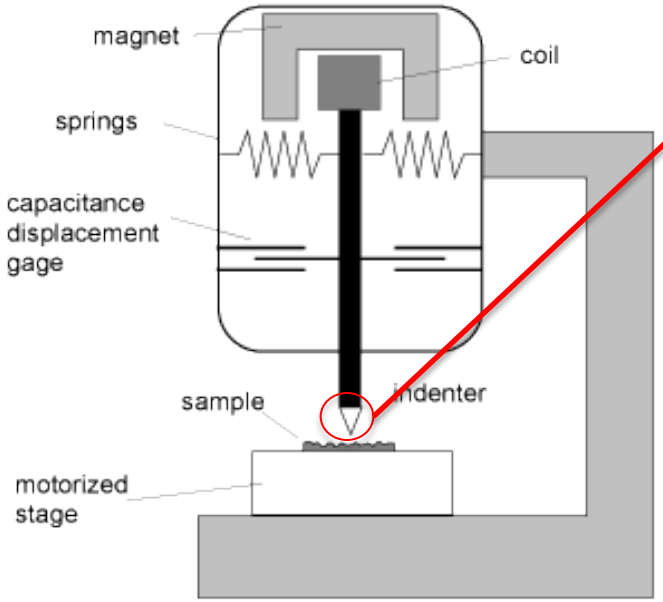
# My Research: Small Volume Testing

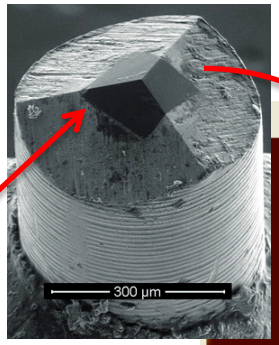
- Testing large samples is like finding a needle in a haystack

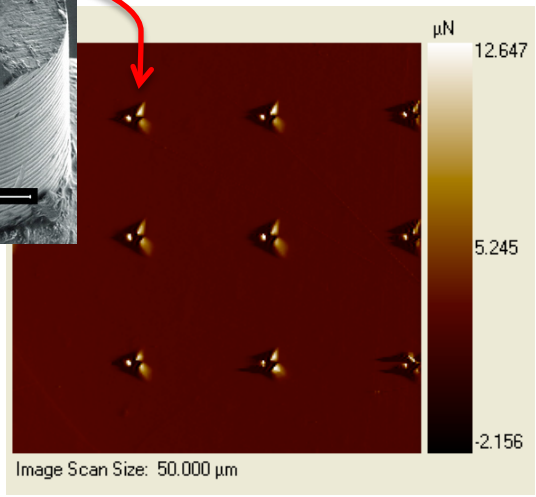
=

- Find the needle, make the haystack smaller. Isolate material properties to targeted regions.

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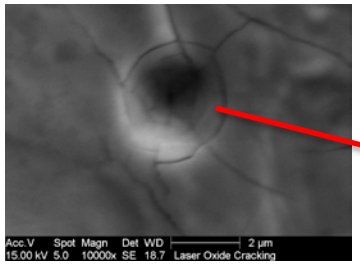
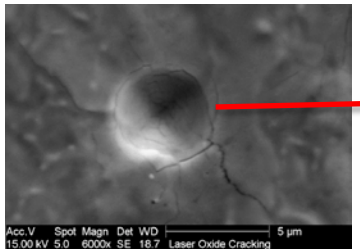
# Research for Next-Generation Materials

- Test small-scale to improve performance at large scale.

- Materials Tested: Ni-based Superalloys, Stainless Steels, Pulsed Laser-Fabricated Oxides on Ti and stainless steel


- Why these materials? Used as components and protective films in high performance applications.




*Create "tamper evident" seal
*Develop stronger, tougher engineering materials


WASHINGTON STATE UNIVERSITY

# Molecular Detection of Cancer Precursors in Ulcerative Colitis

Joint UW/WSU Regents Meeting

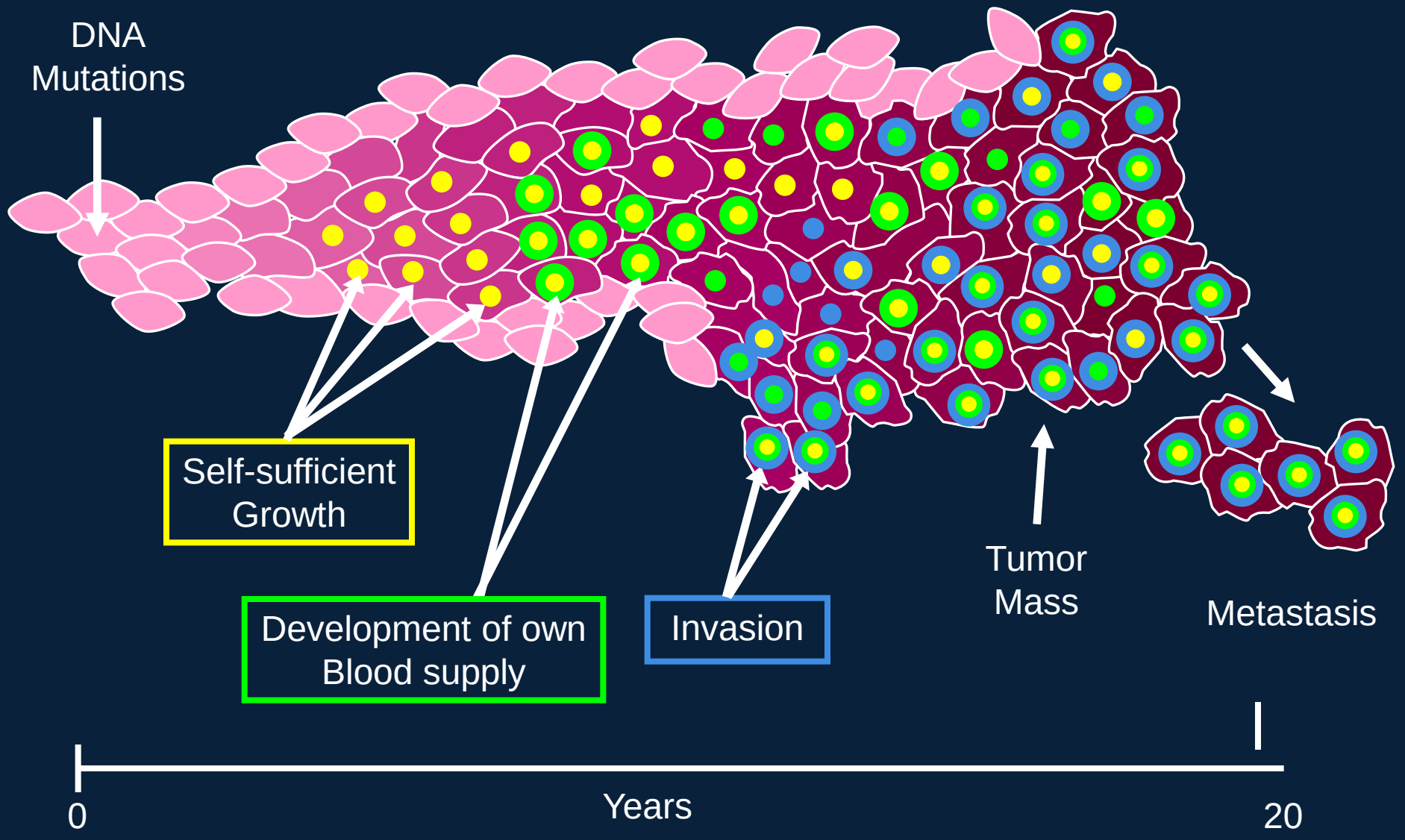
November 26th 2011

Jesse Salk

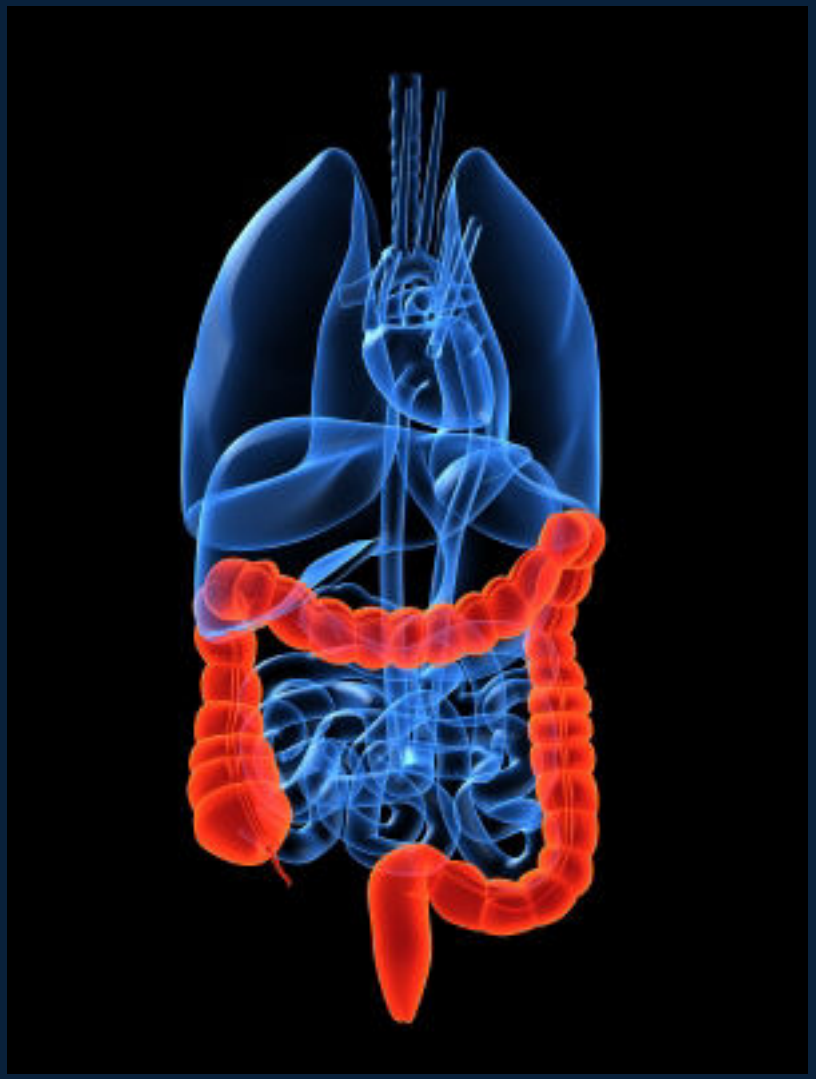
University of Washington School of Medicine

Medical Scientist Training Program
Molecular and Cellular Biology Program
Department of Pathology

# Cancer develops over many years



# Ulcerative colitis



# Cancer precursor assay

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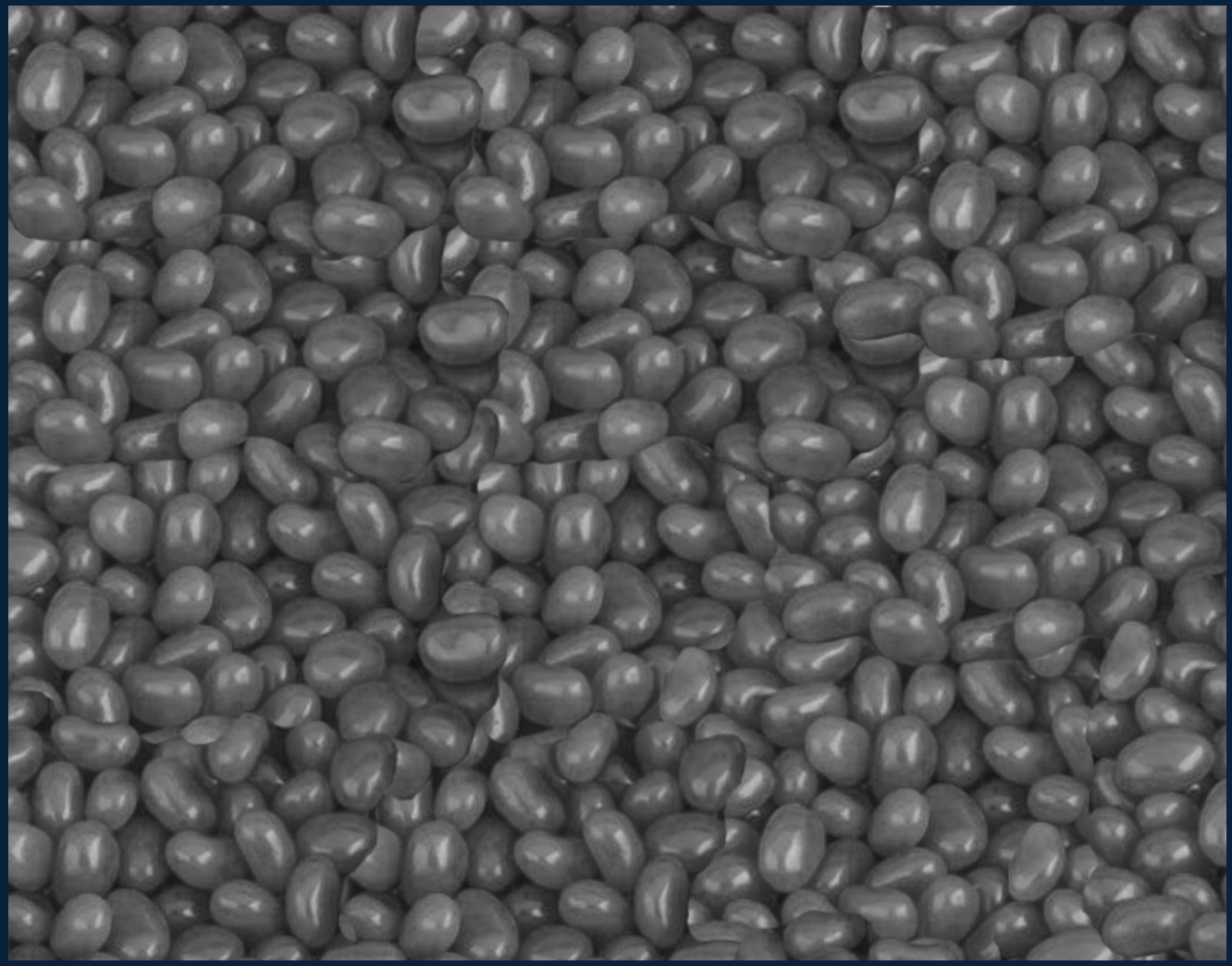

# Cancer precursor assay

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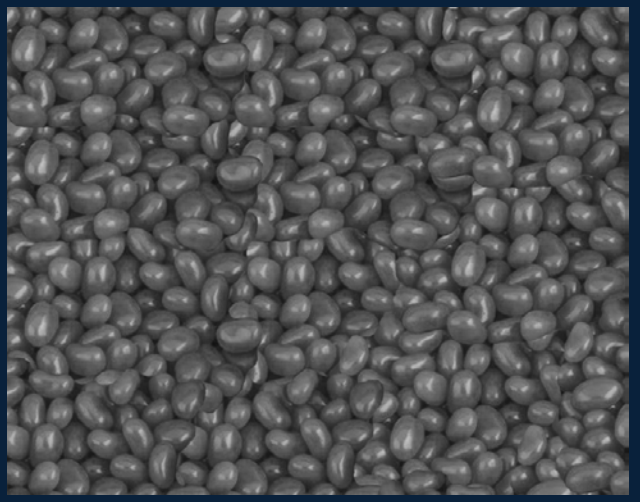

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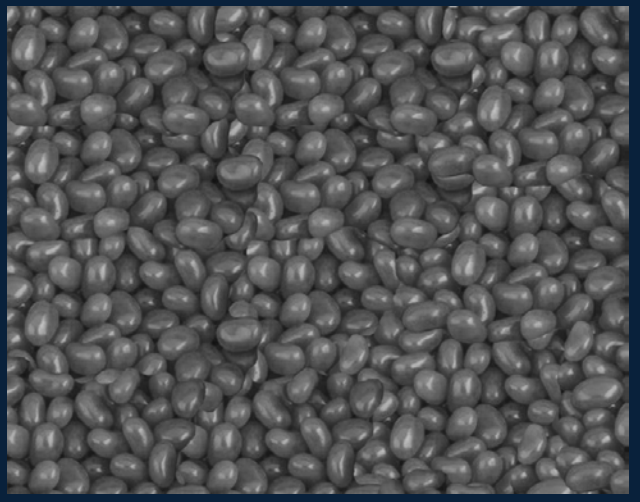

# Cancer precursor assay

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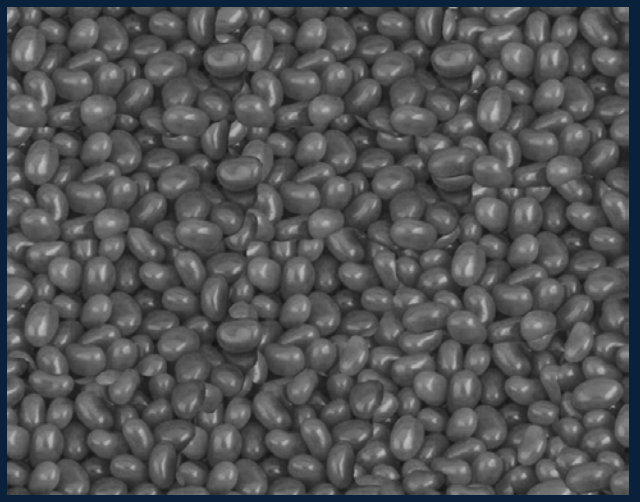

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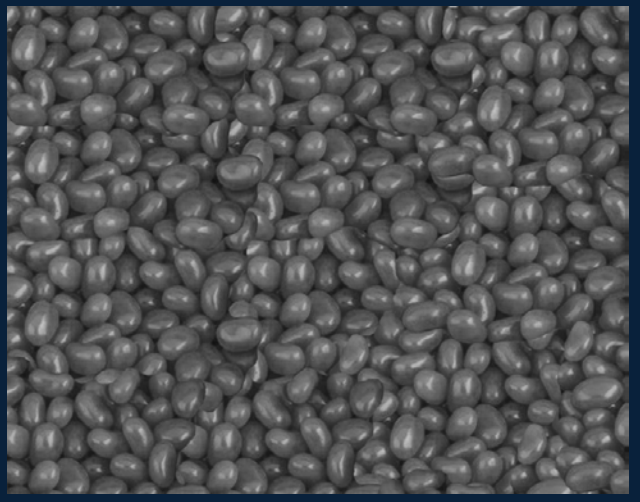

# Cancer precursor assay

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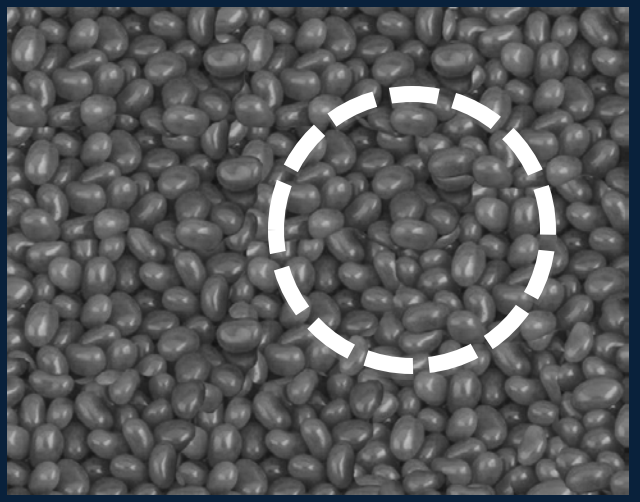

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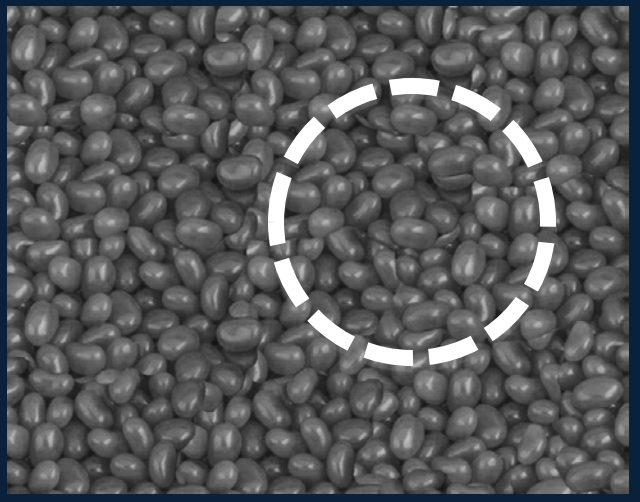
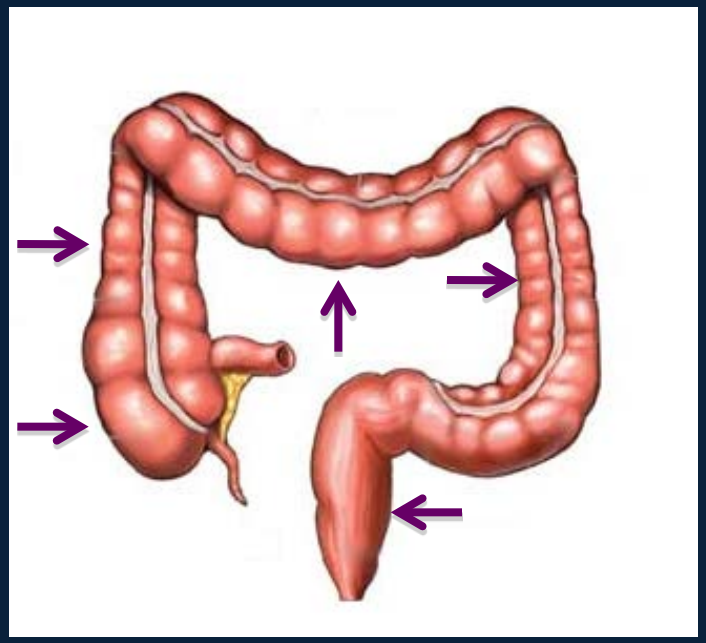
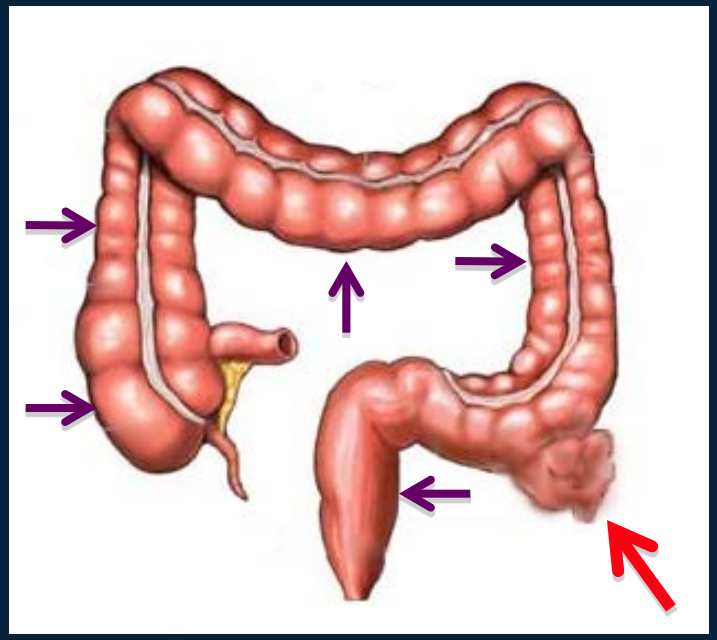


# Study design

Ulcerative colitis patients



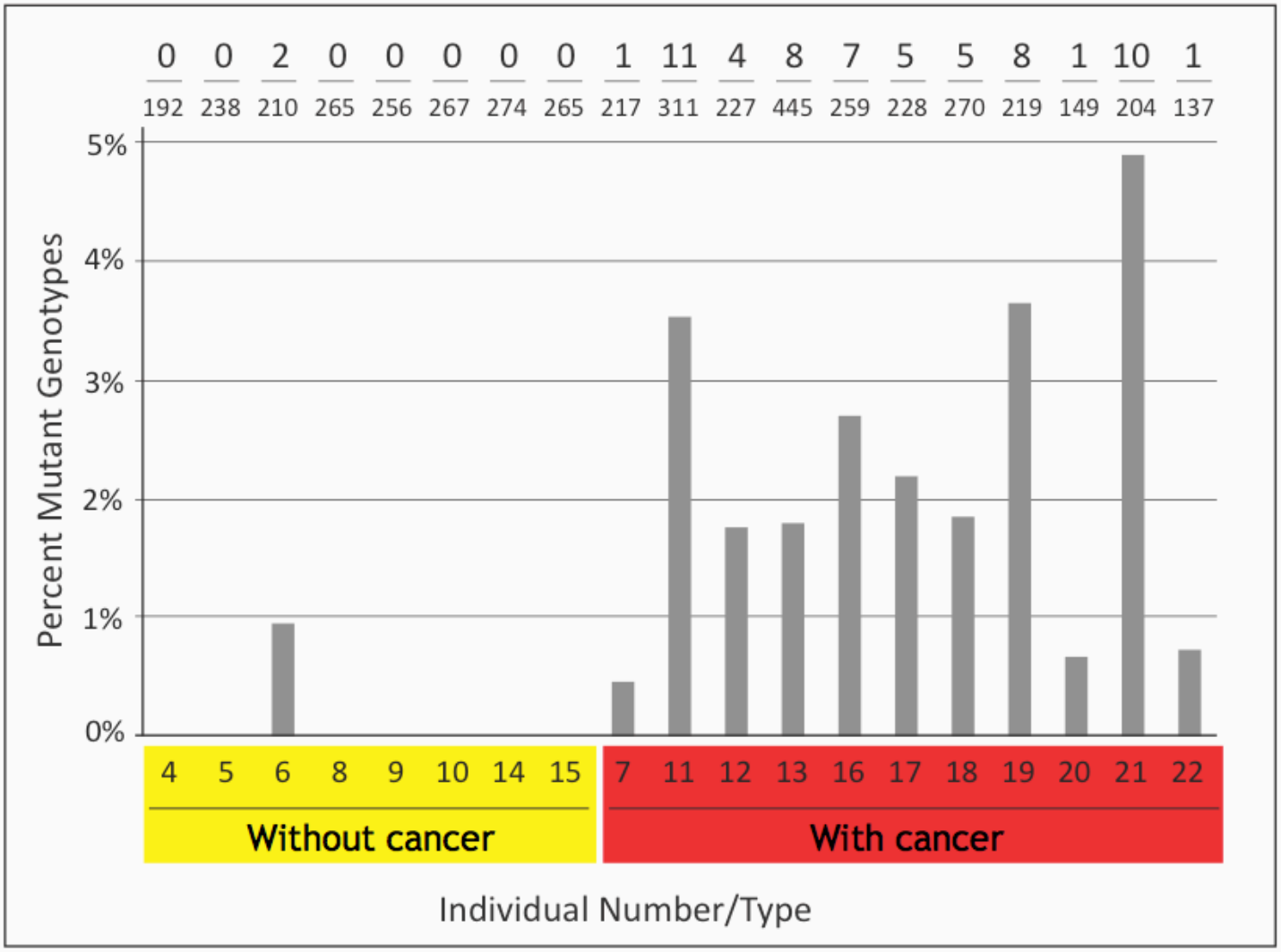


No cancer

Cancer

Cancer precursor assay

# Clones detected by cancer status



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