

# **Disclosures**

- No Conflicts of Interest
- Funding
  - NIH P20 UMANAGE Center Pilot Grant (P20 NR16599)
  - Susan G. Komen Foundation Career Catalyst Research Scholar Grant
  - Oncology Nursing Foundation/Sigma Nursing RE1 Research Grant
  - Rays of Hope Breast Cancer Foundation
  - AAAS-Lemelson Invention Ambassadors Program

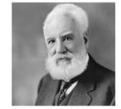
The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health, the Susan G. Komen Foundation, the Oncology Nursing Foundation, Sigma Nursing Foundation, or the AAAS-Lemelson Invention Ambassadors Program.

# **Learning Objectives**

Attendees will be able to:

- Reflect on their own identity & responsibilities as inventors who are part of a long history of nurse leaders inventing for health equity
- Describe elements and case examples of a person-directed, teambased approach to nurse-led invention
- Commit to integrating principles of equity-centered community design into invention and innovation for health & health care as a whole





40 Famous Inventors | Biogra,... biographyonline.net



Famous Inventors: Thoma... ipwatchdog.com



Why Are Individual Invento... ipwatchdog.com



Inventions From Famous Inventors ...



40 Famous Inventors | Bio... biographyonline.net



Nikola Tesla: The most famous inventor ... timesofoman.com



Top 10 Famous Inventors - YouTube youtube.com



What Did Albert Einstein Invent ... patentednews.com



Inventor - Biography biography.com



Top Famous Inventors Who Became Victim ... jamiiforums.com



40 Famous Inventors | Bio... biographyonline.net



Thomas Edison - The Inve... thoughtco.com



inventor Thomas Alva Edison was Mexican ... themazatlanpost.com



Famous Women Inventors an... innovate-design.com



12 Famous Women Inventors of All Time famousinventors.org



General Knowledge for competitive exam... sarkarilife.com



Alfred Nobel: Facts About the Famous ... primaryfacts.com



Famous Germans who chan...
expatica.com



Famous Inventors Drawings | Fin... fineartamerica.com



6 Famous Inventors Who Didn't Actually ... allthatsinteresting.com



91 best Inventors and Inven... pinterest.com



25 Famous Inventors Quiz sporcle.com



Famous Diary Entries: The Most Prolific ... blog.paperblanks.com



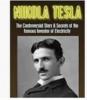
Steve Jobs | Biography, Inventions and ... famousinventors.org



Famous Inventor Series: Fr... homeschoolgiveaways.com



Inventor - Biography biography.com



Nikola Tesla: The Controver... amazon.com





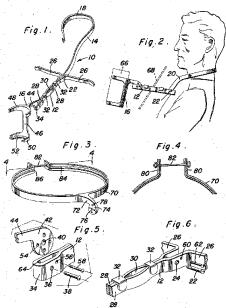
April 24, 1951

E. V. GRIFFIN

PORTMALE RECEPTACLE SUPPORT

Filed March 29, 1948

//8



Bessie Virginia Griffin INVENTOR.



#### LUPE HERNANDEZ

#### **ELAINE LARSON**



#### JACKIE CAMPBELL

#### DANGER ASSESSMENT

Jacquelyn C. Campbell, Ph.D., R.N. Copyright, 2003; www.

Fill in the calendar below for past 12 months – be sure to record the month and year, as well as work backwards. Using the calendar, please mark the approximate dates during the past year who on that date how bad the incident was according to the following scale:

- 1. Slapping, pushing; no injuries and/or lasting pain
- 2. Punching, kicking; bruises, cuts, and/or continuing pain
- 3. "Beating up"; severe contusions, burns, broken bones
- 4. Threat to use weapon; head injury, internal injury, permanent injury, choking\*or miscarriage
- 5. Use of weapon; wounds from weapon
- \*If you were choked to unconsciousness (dizzy/felt like you started to black out), also use this sy

Month		Year		
Sunday	Monday	Tuesday	Wednesday	Th

#### NANCY GLASS

gay, straight or fluid...

...dating violence

doesn't discriminate



Decide What's Safe



#### **TECHNOLOGISTS**

#### **COMMUNITY**





Translation
Assessment
Creative Co-Design
Team Science
Health beyond Biomed



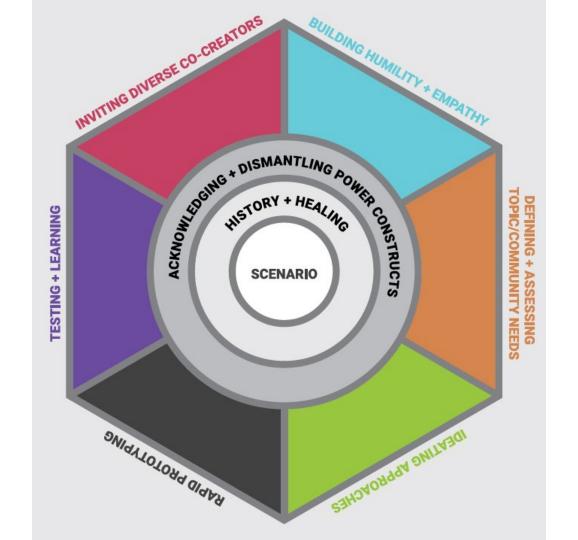








# EQUITY-CENTERED COMMUNITY DESIGN FIELD GUIDE













#### Measurement of Saccade Parameters



#### **Error rate**

Rate of failure to produce a saccade in the correct direction



### Saccade latency

Time from stimulus jump to corresponding saccade onset



## Positional error

Differences between eye direction (gaze) and the displayed target, recorded in pixels and converted to degrees



College of Nursing 5

# Prosaccade Parameters by Fatigue Status

Saccade			Fat	igued (V	/SS<=45)			Not Fat	igued	(VSS	>45)	P
PRO		n	mean	SE	SD	CI	n	mea	SE	S	CI	
Pr_delay	Latency (ms)	10	635.63	77.82	246.07	459.60 - 811.66	19	775. 38	25.7 0	11 2. 03	721.3 8 - 829.3 8	0.04*
Pr_diff	Position al Error (pixels)	10	2.33	0.51	1.62	1.17 - 3.48	19	2.54	0.37	1. 59	1.78 - 3.31	0.70
Pr_w_diff	Position al Error (weight ed for time)	10	0.82	0.24	0.75	0.28	19	0.93	0.13	0. 55	0.66 - 1.20	0.64

College of Nursing 7





#### **CHEM-ENG 590E Microfluidics and Analysis**

# **UMassAmherst**

#### ARTICLE

Point of Care System for Detection of Doxorubicin and its Metabolites using Hydrophobicity and Fluorescence

Received 10th May 2018

www.umass.edu/

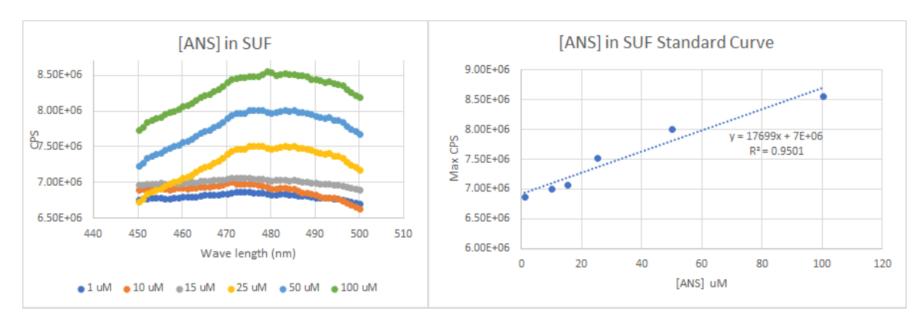
Louis Colaruotolo, a Kylee Klinkowski, b Andrew Maloney, b and Rachel Walkerc

It has become increasingly common for chemotherapy patients to be able to take their medication at home or through outpatient services. This has created the potential for toxicity to those who share spaces with and/or interact with patient bodily fluids, as hazardous active chemotherapeutic metabolites may be secreted in the bodily fluids of the patient. The current detection methods for these hazardous products are neither fast nor user-friendly, and thus are ineffective at closely monitoring the levels of these compounds in real-time. This device seeks to detect the level of doxorubicin and some of its toxic metabolites through the use of fluorescence detection and the hydrophobic properties of the drug and its metabolites. The device employs grayscale wax printed filter paper to purify the input urine's doxorubicin concentration such that it can be detected using fluorescence. Through experimentation with model urine and a model probe (ANS), the limit of detection for the proposed device was found to be 7.5 ppm. This study serves as groundwork for the creation of a point-of-care system for detecting fluorescent chemotherapeutic metabolites in bodily fluids.





**Figure 1.** Prototype point-of-care devices for the detection of chemotherapeutics in urine. Two different versions of the printed wax test strip at 25% grayscale (top) and 50% grayscale (bottom) can be observed, surrounded by a dark black border to limit sample loss from the test strip.



**Figure 3.** The emission spectra of ANS dissolved in simulated urine (SUF) (left). Concentrations of ANS were again varied from 0 to 100  $\mu$ M. A standard curve was then generated to determine the relationship between ANS concentration and maximum counts per second (CPS) of the fluorescent probe at 480 nm (right). From this data, the limit of detection of ANS in SUF was determined to be 25  $\mu$ M.



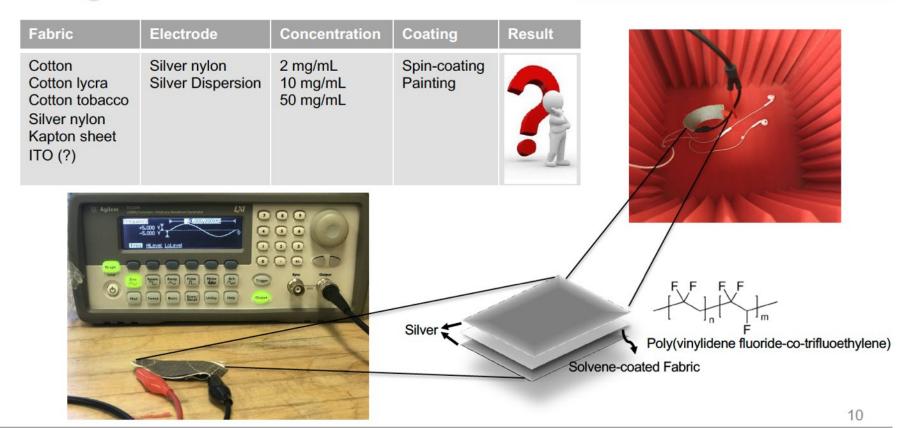




**Trisha Andrew, PhD**Chemistry
Wearable Electronics Lab



# **Using Solvene-coated Fabrics**

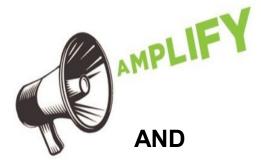


# **GOALS**

Viable product that addresses an unmet need.....maybe

BUT ALSO

- Level Power Hierarchies
- Raise Visibility of Community & Nursing
- Subvert & Transform the Invention Ecosystem





# UMassAmherst The Commonwealth's Flagship Campus

commonwealins nagship campos

r.walker@umass.edu

www.inventRN.org

