



# Intro to the CSBC/PS-ON Summer Undergraduate Research Program & miniDREAM 'Challenge'

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# Agenda

- 1. *Introductions***
- 2. *Overview of CSBC and PS-ON***
- 3. *Goals for the Summer***
- 4. *Expectations for the Summer***
- 5. *Team Activities***
- 6. *Mini-DREAM (James Eddy)***

# CANCER SYSTEMS BIOLOGY CONSORTIUM

PHYSICAL SCIENCES  
in ONCOLOGY

★ CSBC  
★ PS-ON



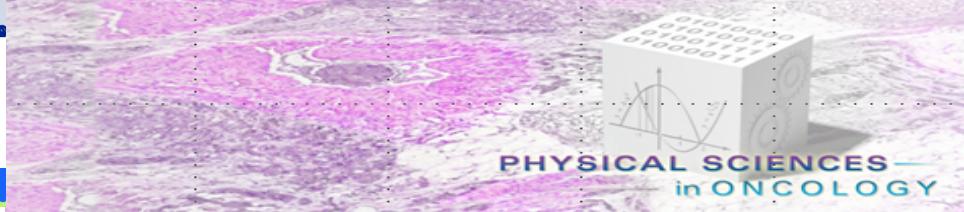
# CANCER SYSTEMS BIOLOGY CONSORTIUM

Meredith L. Sami S.  
Gabrielle R. Rupal K.  
Paula F. Yunxin O.

PHYSICAL SCIENCES  
in ONCOLOGY

★ CSBC  
★ PS-ON





*NCI Program Staff:*

Shannon Hughes, Nas Zahir, and Elyse Gillen

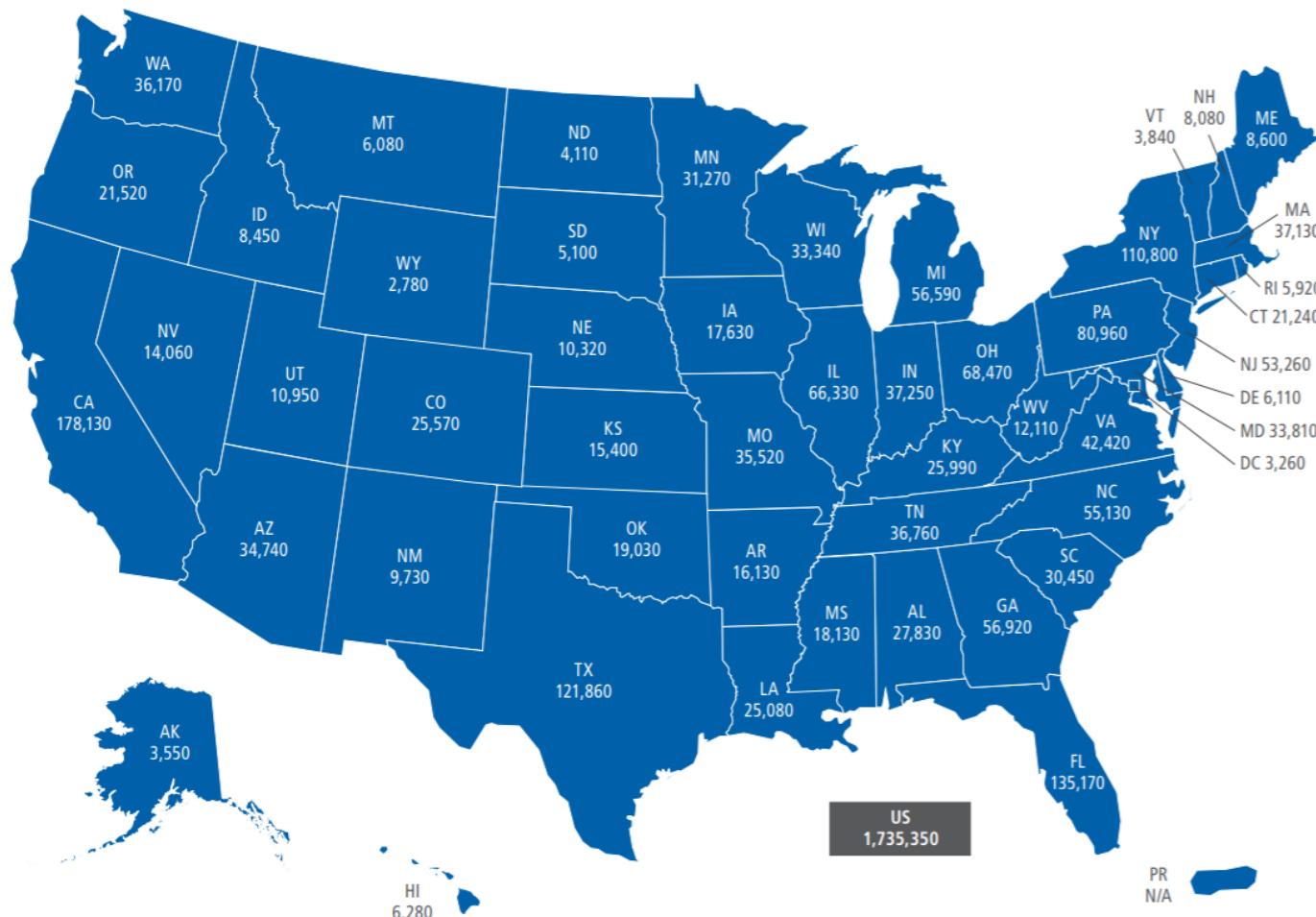
*Leidos Biomedical Research Staff:*

Alison Scott & Corinne Zeitler

*Sage Bionetworks Team:*

James Eddy & Julie Bletz

# >1.7M Americans will be diagnosed with cancer in 2018

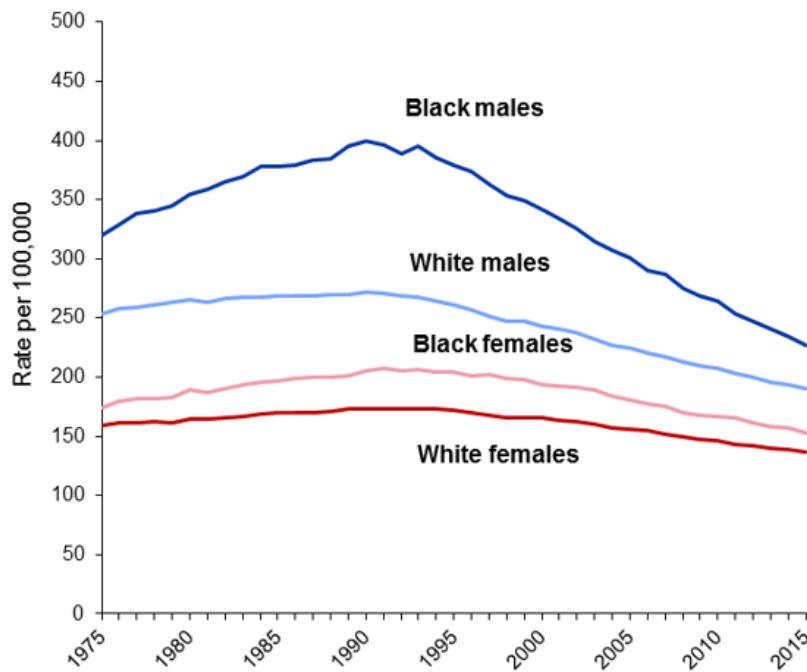


\*These numbers exclude  
skin cancers and *in situ*  
carcinomas

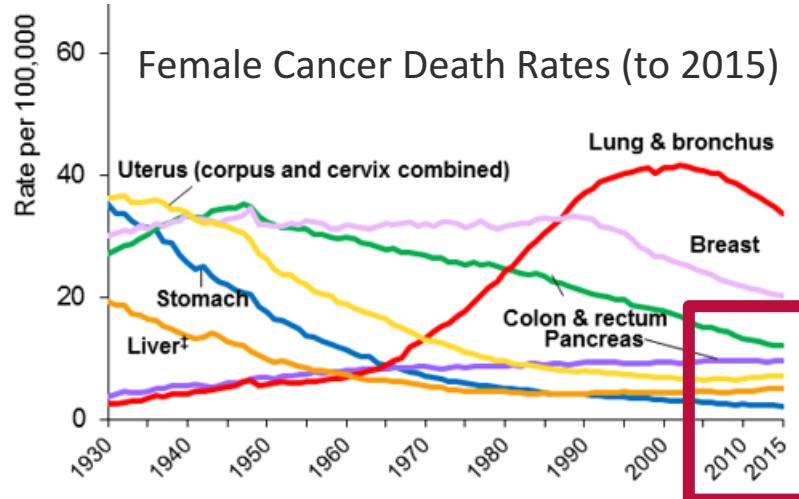
ACS 2018 Cancer Statistics:  
[http://bit.ly/Cancer\\_stats](http://bit.ly/Cancer_stats)

# But...Progress is Hopeful and More Work Needs to be Done

Trends in Cancer Death Rates\* by Sex and Race, US, 1975-2015



The incidence of cancer is decreasing for the most common types – but there are exceptions



Modified from ACS 2018  
Cancer Statistics:  
[http://bit.ly/Cancer\\_stats](http://bit.ly/Cancer_stats)

# Can we bring new approaches to cancer research?

## How Things Appear is Always a Matter of Perspective . . .

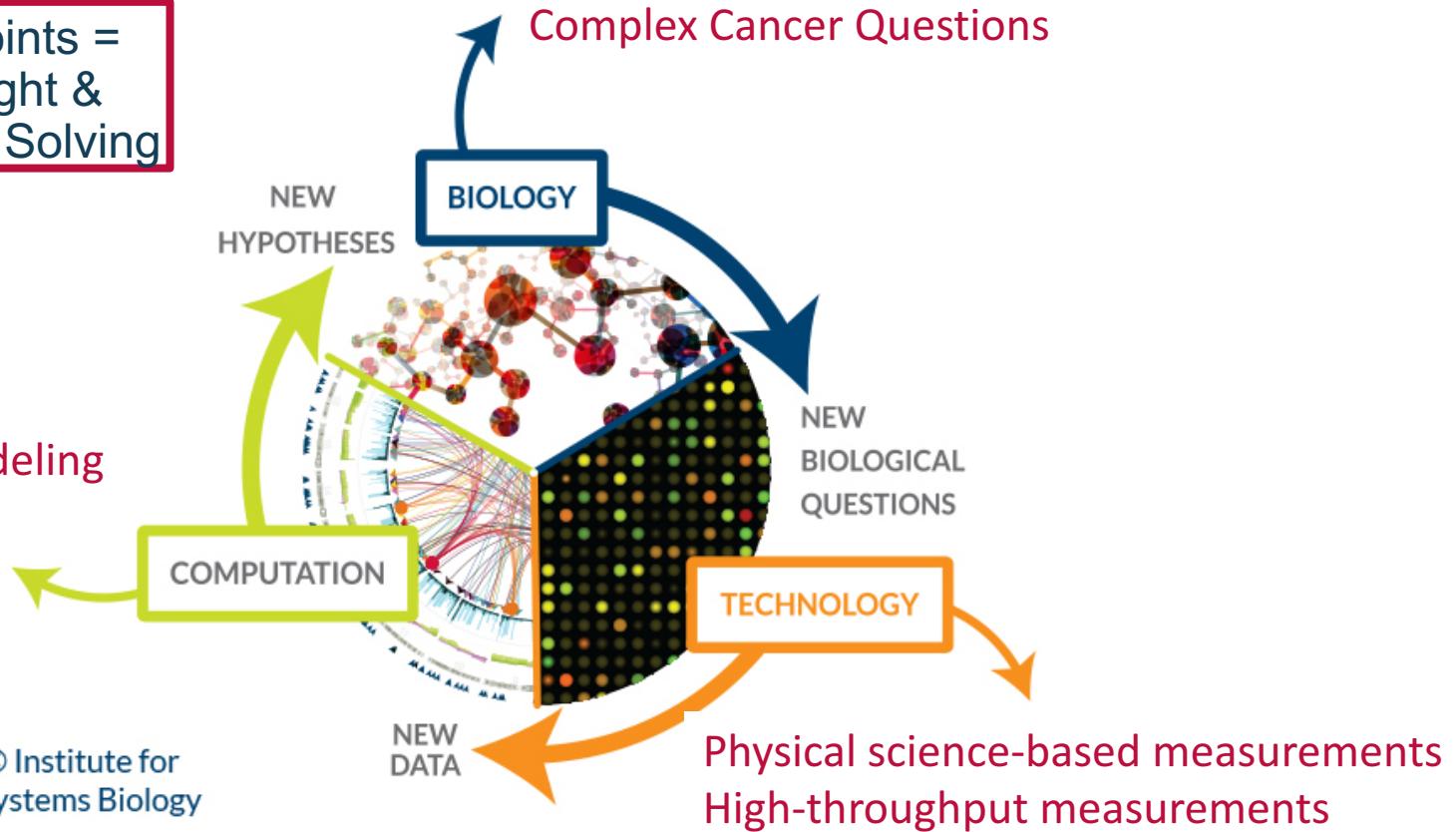


# The PS-ON and CSBC investigators bring new approaches to cancer research

Multiple Viewpoints =  
Enhanced Insight &  
Efficient Problem Solving

New theory  
Mathematical modeling  
Big data analysis

© Institute for  
Systems Biology



# Program Overview:

This summer we aim:

- To provide a new experience to push you past your “comfort zone”
- To facilitate an understanding and appreciation of major questions currently under investigation within the CSBC and PS-ON through mentored research projects and/or laboratory work, faculty lectures, seminars, discussions and other activities.
- To help you achieve a better idea of what you do (and don’t!) like in the research field

## Logistics:

- 10-week program: early June – early August 2017
- Stipend, housing, and travel at no cost to you
- Mid-summer retreat at NIH Bethesda (June 25-26, 2018)
- Logistics contacts: Alison & Corinne

# Program Expectations:

You have some expectations of us:

- That we have designed a summer experience that will be challenging, novel, and (most of all) fun.
- That your workload is reasonable and expectations are clear
- That we will treat you with respect
- That we will give everyone an equal chance at success

We have some expectations of you:

- That you will come to lab prepared to learn and excited for the challenge
- That you will ask if expectations are not clear
- That you will treat everyone with respect
- That you will offer honest and frequent feedback

# 2018 Summer Team Activities:

## Mini-DREAM Challenge

- Kick-off TODAY!
- Goal: Introduction to big-data analysis and modeling in breast cancer
- What you'll learn:
  - Biology of breast cancer metastasis
  - Statistical analysis in R and mechanistic modeling in matlab
  - How to use the Synapse virtual collaboration space

## June Summer Research Conference

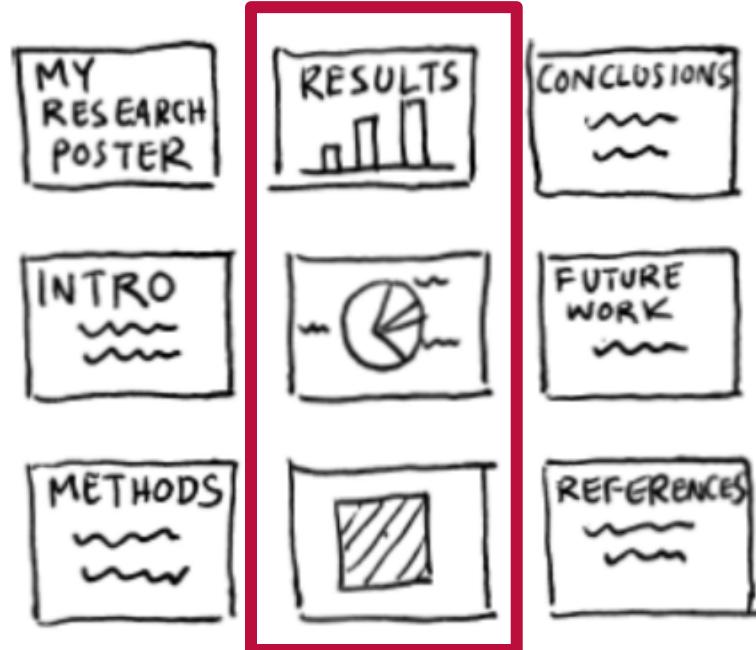
- June 25-26, 2018 @ NIH Bethesda
- Goal: Network with CSBC & PS-ON scientists and present your project
- What you'll need:
  - A ferocious curiosity and a laptop
  - A poster with your project background, motivating question and hypothesis

# WHAT??? A poster??? I just started...

- 1) Don't panic.
- 2) You are not required to make a large poster.
- 3) Include information about you, the background of your project, the methods you will use to pursue the project, expected results, alternative strategies, future work....

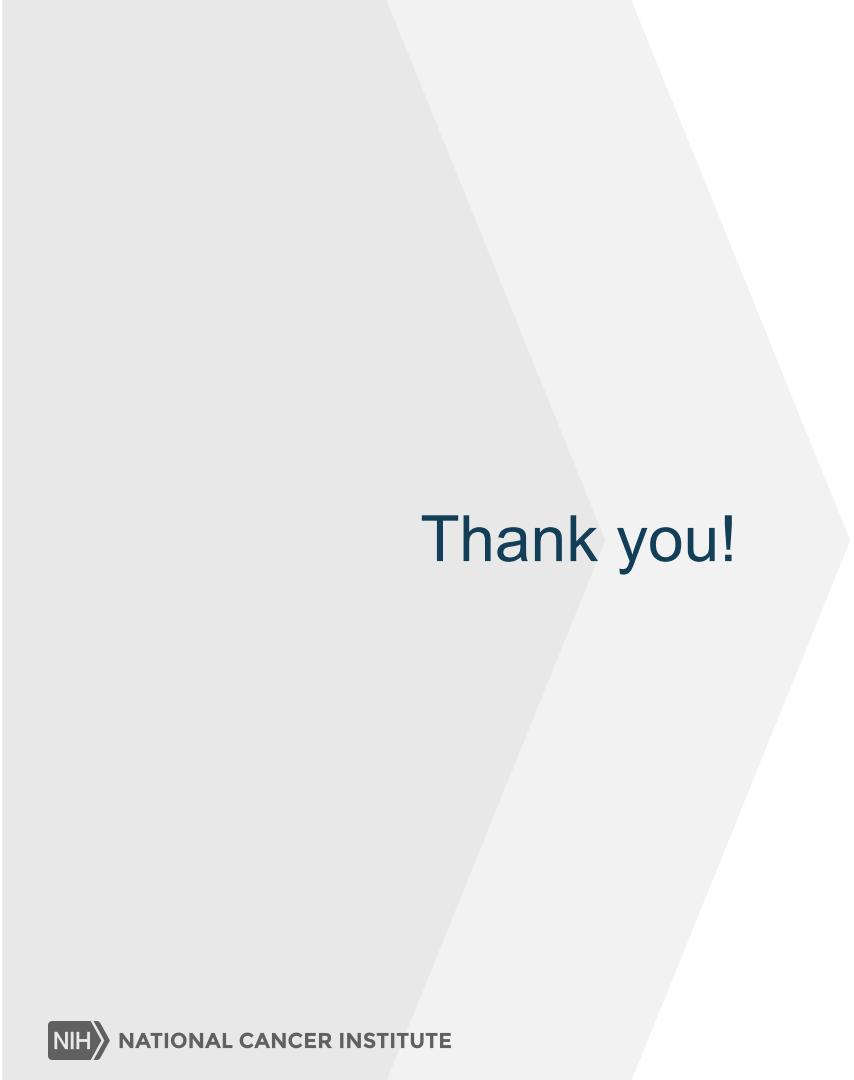
Some great formatting suggestions can be found here: [http://bit.ly/Posters\\_CSBCPSON](http://bit.ly/Posters_CSBCPSON)

Instead of your results, use data from a background paper



Use landscape PowerPoint slides instead!

(Much easier to travel with!!!!)



Thank you!

*Please contact me with any questions:*  
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