# Pre-Conference Event

## Sunday, October 18th (Day Zero)

## "Cycling for Cancer Informatics"

### 42-Mile Cycling Event and Fund Raiser with Patient Advocate
(Event Details Online & on CI4CC Mobile App)
### 8 AM



**CYCLING4CI**

**Potential Role of Imaging for Precision Medicine**

**Workshop Goal**: The goal of this CI4CC one-day workshop is consistent with the precision medicine theme for the fall 2015 CI4CC meeting. The intent is to present current progress in quantitative imaging informatics as applied to cancer for multi-scale imaging carried out in clinical and pre-clinical contexts. Multi-scale imaging encompasses both in-vivo and ex-vivo imaging, namely in-vivo imaging and digital pathology. While there are differences in scale, there are great commonalities across the scales in software tools, algorithm requirements, and methods to evaluate their performance. In addition, there is a need to bridge the scales, such as to interrelate data obtained through different in vivo and ex-vivo modalities and to interrelate imaging information to spatially mapped "omic" characterizations. These three research domains play an important role in drug discovery, the prediction and measurement of response to therapy, the study of the tumor microenvironment, and spatial correlation of imaging phenotypes with genomics data, such as the emerging field of radiomics and radiogenomics.

The workshop with first address an array of trans-NCI funding opportunities for imaging informatics, such as the NCI ITCR and related CBIIT initiatives, including open science imaging research networks that promote best practices for quantitative imaging, where the image data collected serve as a test bed to permit the evaluation of the performance of informatics tools. These initiatives may potentially serve to permit the development of a loosely coupled informatics research infrastructure for the evaluation of clinical support systems (clinical, digital pathology, pre-clinical imaging), as required for precision medicine. Presentations will include specific examples of informatics solutions and research resources for each research domain. Finally a panel session is to be organized to allow workshop attendees to evaluate the potential for the long terms goal of this workshop to be met and to access the barriers for its acceptance and implementation across NCI's designated cancer centers.
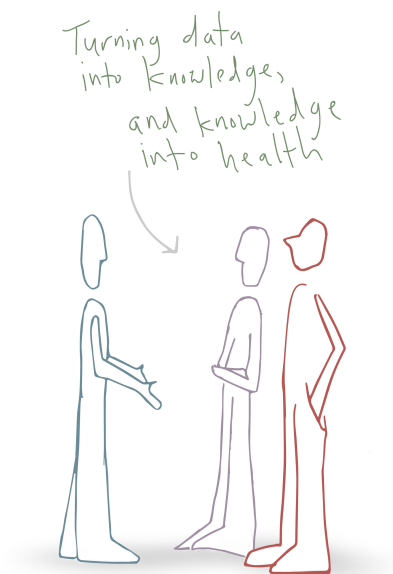
## Precision Medicine & Knowledge Networks

## Monday, October 19th (Day One)

7:00 AM        **Breakfast:** Grande Room

8:00 AM        **Welcome & Introductions CI4CC Leadership: La Jolla Ballroom**
  - Warren Kibbe, NCI & Sorena Nadaf, UCSF

  - **Fall Program Committee Chairs Welcome**
  - David Fenstermacher, VCU & Samir Courdy, HCI

 **Precision Medicine Workshop Chairs Welcome**
  - Joel Saltz, SUNY Stony Brook & Michael Becich, UPMC,
  - Larry Clarke NIH/NCI, Edward Helton NIH/NCI

8:15 AM        **Workshop Overview and Goals (**Joel Saltz, Michael Becich, Larry Clarke, Ed Helton**)**

8:30 AM        **NCI Initiatives: Research and Decision Support – Precision Medicine Initiatives**
  - Larry Clarke NCI Cancer Imaging Program
  - Ed Helton: CBIIT

9:00 AM        **Potential for Integrated Infrastructure and Related Standards –**
 **Moderated** by Larry Clarke, Ed Helton
  - Fred Prior, UAMS: Integrated Archives: TCIA and HP Computing - "*Big Data Resources to Support Cancer Research - Managing Volume, Variety and Veracity*"
  - Andrey Fedorov, Harvard: Integrated open source platform using 3D Slicer/API's - "*Quantitative Image Informatics for Cancer Research*"
  - Ashish Sharma, Emory: Integrated Clinical and Pre clinical Resources
  - Joel Saltz, Stony Brook: Middleware for Feature Management and Error Estimation
    - "*Middleware for Feature Query and Management*"
  - Gordon Harris, - "*Informatics Resources for Cancer Center Clinical Trials*"

10:15 AM        **Break:** La Jolla Prefunction A

10:30 AM        **Potential for Open Science: Algorithms and Features Moderated** by Daniel Rubin
  - Raghu Machiaraju, Ohio State - "*Using Histology Images for Integrative Genomics*"
  - Tahsin Kurc, Stony Brook - "*Potential for Open Science: Algorithms and Features*"
  - Andy Beck, Harvard - "*Human and Machine-Derived Representations of Histopathology Image Data for Precision Medicine*"
  - Jayashree Kalpathy, Harvard (Cramer: Integrated Software Challenges) "*Integrated Challenges for Cancer -Evaluating Algorithms for Radiology, Pathology, and Omics*"

11:30 AM        **Lunch:** Grand Room

11:45 PM        **Lunch Speaker: Presentation by Mike Becich: Academic Centers Partnering with Industry**

# Precision Medicine & Knowledge Networks

## Monday, October 19th (Day One) Continued

**12:45 PM**  **Break:** La Jolla Prefunction A

**1:00 PM**  **Potential for common research strategies for Integrative Radiology/Pathology/"omics"**
**Moderated** by Joel Saltz
- Robert Gilllies, Moffitt – *"Tumor Habitats"*
- Kun Huang, Ohio State -*"Integrating Imaging and Genomic Data for Cancer Patient Stratification"*
- David Foran, Rutgers - *"Integrative Imaging & Genomic Associations in Precision Medicine"*
- Daniel Rubin, Stanford - "Interoperating with Image Metadata for Integrative Radiology/Pathology/omics"

**2:00 PM**  **Academic Industry Teaming, Moderated by Mike Becich** Don Ariyakumar, PathXL-Technical Sales Specialist – West Coast, North America
- Mike Montalto, Omnyx
- Bill Evans, Director in Oncology Informatics at Roche Diagnostics
- Others TBB

**3:00 PM**  **Wrap Up and Conclusions**

**3:30 PM**  **Cancer Coalition Meeting – Sponsored by Linguamatics; NLP** Round Table Discussions

**3:30 PM**  **Free Time**: Collaborative Discussions & Time with Corporate Booths

**6:30 PM**  **Reception**: La Jolla Pre Function A (Dinner on your own)
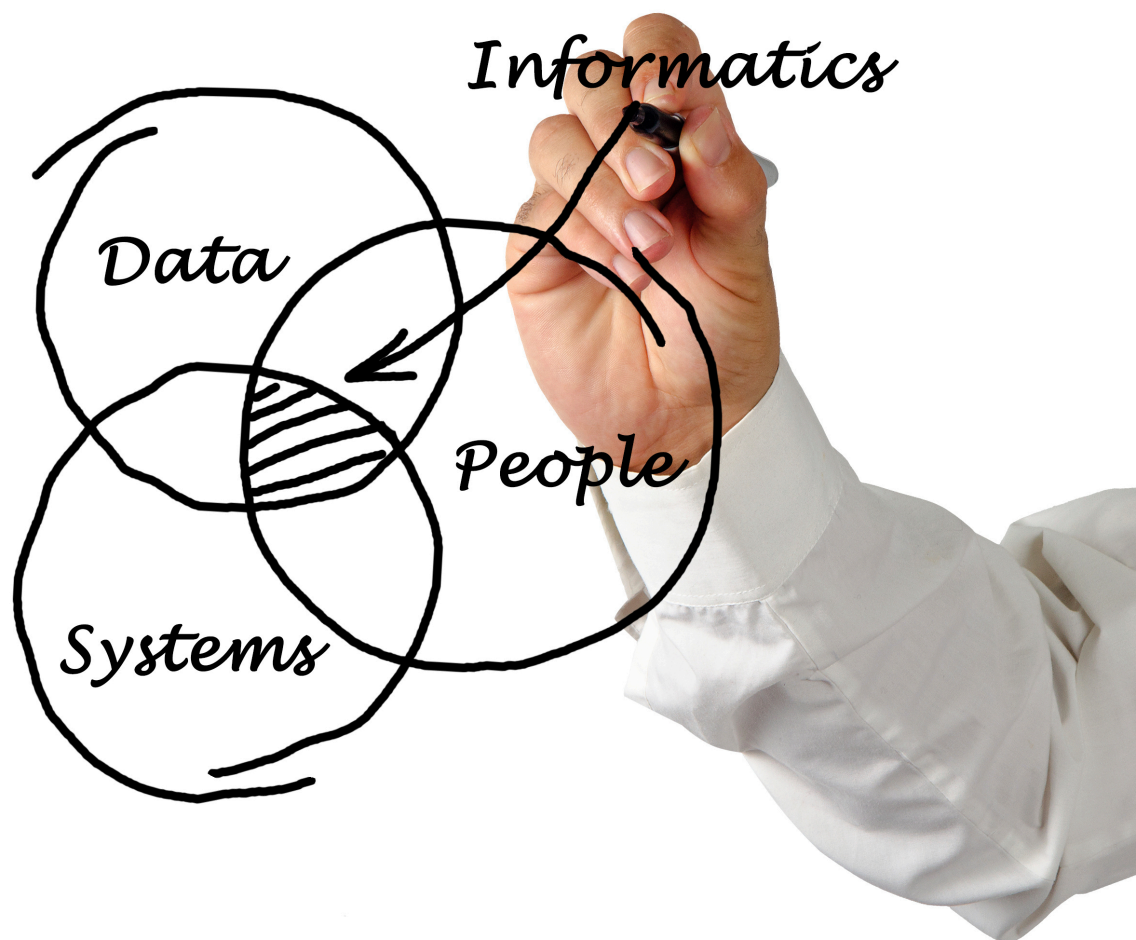


Turning data into knowledge, and knowledge into health

# Precision Medicine & Knowledge Networks

## Tuesday, October 20th (Day Two)

**7:00 AM**   **Breakfast:** Grande Room

**8:00 AM**   **CI4CC Welcome, Meeting Themes, Topics and Goals:** David Fenstermacher, VCU

**8:15 AM**   **Precision Medicine and Cancer Informatics:** Warren Kibbe, NCI

**9:00 AM**   **Panel: Biospecimen Informatics**
Panel Chair: Samir Courdy – Huntsman Cancer Institute, Erin Siegel - Moffitt Cancer Center,
Phil Bernard – Huntsman Cancer Institute, Leanne Goldstein – City of Hope,
Sorena Nadaf - UCSF
- Erin Siegel: Biospecimen Informatics across the Total Cancer Care Consortium: Successes and Challenges
- Phil Bernard: Integrating Biobanking and Informatics for Research and Clinical Care: Challenges and Successes at the Huntsman Comprehensive Cancer Center
- Leanne Goldstein: Research Using Biobanks: Connecting the Clinical Data for Specimen Identification
- Sorena Nadaf:  Key Criteria in the selection of Biobanking Informatics Platforms and its impact on your EDW

**10:15 AM**   **Break:** La Jolla Prefunction A

**10:30 AM**   **Corporate Keynote with Sean Sigmon of Oracle Health Sciences: Title: "A Roadmap for Precision Medicine and its impact on Population Health & Clinical Research"**

**11:15 AM**   **Panel: Clinical Trial Management Systems**
Panel Chair: Umit Topaloglu – Wake Forest, Hannes Niedner - UCSF, Jihad Obeid – MUSC,
Tesheia Johnson - Yale
- AE and toxicity grading integration with EMR
- SPARC- research proposal and budget development via centralized research services/store and its interface with EMRRPE
- CTMS Interfaces with the IRB, Pathology, and Epic via RFD
- RPE and Billing interfaces between CTMS/EMR for a comprehensive billing processes

**12:30 PM**   **Lunch:** Grande Room

**1:30 PM**   **Special Keynote Address: Doug Fridsma – President, American Medical Informatics Assoc.**
**Title:** From Meaningful Use to Precision Medicine: What have we learned (and how do we get there)?

**2:30 PM**   **Break:** La Jolla Prefunction A

**2: 45 PM**   **NCI Update on CCSG Cores / Shared Resources**:  Panel Chair: Henry Ciolino - NCI
- CCSG Guidelines
- CCSG Informatics Cores
- Super Shared Resources
- Panel Participants TBF

## Tuesday, October 20th (Day Two) Continued

3:30 PM      **Free Time**

3:30 PM      **Open Round Table Discussions & Time with All Corporate Booths.**

5:30 PM      **Reception:** La Jolla Pre Function A

6:30 PM      **Cancer Center Director's Keynote Address:** Scott Lippman – UCSD
                Title: Targeting Genetic Drivers in Premalignancy

7:15 PM      **Group Dinner:** Garden Courtyard

9:45 PM      **Late Hour Networking Event onsite**: Mustangs and Burros

# Precision Medicine & Knowledge Networks

## Wednesday, October 21st (Day Three)

**7:00 AM**  **Breakfast:** Grande Room

**8:00 AM**  **Welcome and Announcements:** David Fenstermacher - VCU

**8:05 AM**  **Recap Precision Medicine Workshop:** Session Chairs Becich, Saltz, Clarke, Helton

**8:35 AM**  **Panel: CI4CC Initiatives Updates / Reports:** Chair – Sorena Nadaf
- ASCO Partnership and Initiative with CI4CC: David Sampson
- ASCO's CancerLinQ: Kevin Fitzpatrick
- Cooperative Groups: ECOG-ACRIN Updates: Jack London
- Precision Medicine & Clinical Trials: Regina Schwind, Therica Miller, Laura Hilty, Wendy Tate
- Research Resonance Network: Laura Hilty, Wendy Tate, Therica Miller, Regina Schwind
- Mobile Technology and Clinical Trials Challenge: Hannes Niedner
- NCI Genomics Cloud Pilot Updates: Brandi Dusenbery (Seven Bridges Genomics)

**10:00 AM**  **Break:** La Jolla Prefunction A

**10:15 AM**  **Corporate Keynote: CEO Srini Kalluri and Tony O'Hare, Forte Research Systems; INVERT: Recipe for High-Performance Clinical Research**

**11:00 AM**  **Panel: Natural Language Processing**
Panel Chair: Sarah Ramsey – Hutch, Ajay Shah – COH, Joyce Niland – COH, Samir Courdy – HCI, Jack London – Jefferson
- Sarah Ramsay - Unlocking Medical Records with Natural Language Processing - Fred Hutch/Labkey
- Niland /Courdy - Update on Utah-COH partnership: Sharing NLP Queries Across Organizations
- Ajay Shah - SPIRIT NLP, City Of Hope's Platform for Biomedical Natural Language Processing and its application in searching clinical trials
- Jack London – Text Information Extraction System (TIES) and the TIES Cancer Research Network.

**12:00 PM**  **Lunch & Networking Event**: Grande Room

**1:00 PM**  **Precision Medicine Roundtable: Moderated by David Fenstermacher**
- Brady Davis, Senior Director of Strategy and Marketing Development – Illumina
- Rebecca Owens – Foundation Medicine
- Bruce Press – Seven Bridges Genomics
- Warren Kibbe – National Cancer Institute (NCI)
- Sorena Nadaf – University of California San Francisco (UCSF)

**2:00 PM**  **Break:** La Jolla Prefunction A

**2:15 PM**  **CI4CC Updates and NCI Future Directions:** Sorena Nadaf – UCSF, & Warren Kibbe - NCI

**2:45 PM**  **Spring 2016 Meeting Preview, Concluding Remarks, and Open Discussion.**
- CI4CC Raffle!
- Adjourn Fall 2015 Workshop and Symposium