

# NINR Boot Camp

## Precision Health: From ‘Omics’ to Data Science

Monday August 7, 2017

### Introduction & Significance of Precision Health and Omics Sciences

Time:	Topics:	Presenter:
8:00–8:30am	Meet, Greet, Coffee	
8:30–9:00am	Registration/Sign- In	
9:00 – 9:30am	Welcome & Program Overview	Pamela Tamez, PhD Acting Training Director & Deputy Training Director, National Institute of Nursing Research
9:30–10:30am	Morning Keynote: Precision Health in Action: Improving Cardiovascular Health Outcomes	Hannah Valantine, MD, MRCP Chief Officer for Scientific Workforce Diversity and Senior Investigator, Laboratory of Transplantation Genomics, National Heart, Lung, and Blood Institute (NHLBI)
10:30 – 10:45am	BREAK	
10:45 – 11:45am	A Nursing Science Perspective on Precision Health: A Way Forward	Debra Lyon, RN, PhD, FAAN Kirbo Endowed Chair Professor and Executive Associate Dean College of Nursing, University of Florida
11:45 – 12:45pm	Using Genetic Information for Personalized Nutrition	Daiva E. Nielsen, PhD Brigham & Women’s Hospital Harvard Medical School
12:45 – 1:45pm	LUNCH	
1:45 – 2:45pm	Pharmacogenetics: The Impact of Genotype for Tailoring Drug Therapy	Larisa Cavallari, Pharm. D. Associate Professor & Director, Center for Pharmacogenomics, University of Florida, College of Pharmacy
2:45 – 3:45pm	Translational Bioinformatics	Jessica Tennebaum, PhD Associate Director, Bioinformatics, Duke Clinical & Translational Science Institute
3:45 – 4:00pm	BREAK	
4:00 – 5:00pm	Afternoon Keynote: Informing Precision Health with the Use of Clinical Big Data	Joshua C. Denny, MD, MS, FACMI Professor, Biomedical Informatics & Medicine Director, Vanderbilt Center for Precision Medicine Vice President for Personalized Medicine Vanderbilt University Medical Center
5:00– 5:15pm	Questions / Closing Remarks	

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Tuesday August 8, 2017  
Clinical Omics and Precision Medicine

Time:	Topics:	Presenter:
8:00 – 8:30am	Coffee & Networking	
8:30–9:30am	The Impact of Precision Medicine on Outcomes, Quality and Safety Monitored by Nurses	Kathleen McCormick, PhD, RN, FACMI, FAAN, FHIMSS, HIMSS Principal/Owner, SciMind, LLC
9:30 – 10:30am	TBD	Wendy A. Henderson, PhD, MSN, CRNP, FAAN Investigator & Chief, Digestive Disorders Unit National Institute of Nursing Research (NINR/NIH)
10:30 – 10:45am	BREAK	
10:45-11:45am	Clinomics at the Mayo Clinic: New Frontiers in Patient Care	Matthew Ferber, PhD Director, Mayo Clinical Genome Sequencing Laboratory
11:45 – 12:45pm	Pharmacogenomics: Discovery to Implementation	Richard Weinshilboum, MD Professor of Pharmacology and Medicine and Mary Lou and Johns Dasburg Professor of Cancer Genomics Research at Mayo Clinic
12:45-1:30pm	LUNCH	
1:30-2:30pm	<u>Breakout Session 1:</u> 1. Nursing Informatics 2. Pharmacogenomics 3. Microbiomics	Kathleen McCormick Richard Weinshilboum
2:40 – 4:00pm	<u>Breakout Session 2:</u> 1. Nursing Informatics 2. Pharmacogenomics 3. Microbiomics	Kathleen McCormick Richard Weinshilboum
4:00 – 5:00pm	Omics Nursing Science and Education Network	Ann K. Cashion, PhD, RN, FAAN Scientific Director, National Institute of Nursing Research/ NIH
5:00-5:15pm	Closing Remarks & Closing	

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## Precision Health: From ‘Omics’ to Data Science

Wednesday August 9, 2017

### Ethical, Legal, and Social Implications and Informatics

Time:	Topics:	Presenter:
8:30 – 9:00am	Coffee & Networking	
9:00 – 9:30am	Precision Health and NINR-Supported Nursing Science	Patricia Grady, PhD, RN, FAAN Director, National Institute of Nursing Research
9:30 - 10:30am	Illustrative Case Studies on the Implications of Genetic Sequencing: A Genetic Counselor’s Perspective	Katie Lewis, ScM Genetic Counselor and Protocol Coordinator, National Human Genome Research Institute, NIH
10:30 - 11:30am	Ethical Aspects of Team Science in Clinical Research	Connie Ulrich, PhD, MSN, RN Professor of Bioethics and Nursing Secondary Appointment, Department of Medical Ethics and Health Policy
11:30-11:40am	BREAK	
11:40 – 12:40pm	At the Frontier of Big Data and Patient-Centered Care: PROs, PGD and Personalized Experiments	Erin Holve, PhD MPH MPP Director, Health Care Reform and Innovation Administration, Department of Health Care Finance Government of the District of Columbia
12:40 – 1:40 pm	LUNCH	
1:40 - 2:40pm	Accelerating Precision Health for All: The Precision Medicine Initiative Cohort Program	Eric Dishman Director of the Precision Medicine Initiative Cohort Program, NIH
2:40 - 3:40pm	From Bits to Bedside: Translating Big Data into Precision Medicine and Digital Health	Dexter Hadley, MD, PhD Assistant Professor, University of California- San Francisco
3:40 - 4:40pm	Informatics Challenges and Opportunities in Building and Supporting Large Omics Projects and Molecular Clinical Testing in a Health System	Aaron Black Director of Informatics, INOVA Translational Medicine Institute
4:40- - 5:00 pm	Closing Remarks	

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## Precision Health: From ‘Omics’ to Data Science

**Thursday August 10, 2017**  
**Innovating Health: From Genomics to Health Care System Models**

Time:	Topics:	Presenter:
8:00 – 8:30am	Coffee & Networking	
8:30–9:30am	Predictive Medicine and Secondary Findings	Leslie Biesecker, MD Chief & Senior Investigator, Medical Genomics and Metabolic genetics Branch, National Human Genome Research Institute (NHGRI/NIH)
9:30–10:30am	Human Microbiome Project	Lita M. Proctor, PhD Program Director, Human Microbiome Project Division of Genome Sciences, National Human Genome Research Institute (NHGRI/NIH)
10:30 – 10:45am	BREAK	
10:45–11:45pm	Multi-omics: A Systems Biology Approach to Biomarker Discovery and Validation	Allen Dale Everett, MD Director of the Pediatric Proteome Center Professor of Pediatrics, Johns Hopkins University
11:45 – 12:45pm	Metabolomics Correlates of Cardiometabolic and Age-Related Phenotypes in the Community	Susan Cheng, MD Physician, Brigham and Women’s Hospital & Assistant Professor of Medicine, Harvard Medical School
12:45 – 1:45pm	LUNCH	
1:45 – 3:00pm	Breakout Session 1: <ol style="list-style-type: none"> <li>1. Data Science: R and Statistics</li> <li>2. Introduction to Clinical Genomics</li> <li>3. Microbiome Analysis</li> </ol>	<ol style="list-style-type: none"> <li>1. Sean Davis, MD, PhD Staff Scientist, Genetics Branch, NCI</li> <li>2. David Wheeler, PhD NCI</li> <li>3. Mariam Quinones, PhD Lead, Translational Bioinformatics Program (NIAID)</li> </ol>
3:00 – 3:15pm	BREAK	
3:15 – 4:45pm	Breakout Session 2: <ol style="list-style-type: none"> <li>1. Data Science: R and Statistics</li> <li>2. Introduction to Clinical Genomics</li> <li>3. Microbiome Analysis</li> </ol>	<ol style="list-style-type: none"> <li>1. Sean Davis, MD, PhD Staff Scientist, Genetics Branch, NCI</li> <li>2. David Wheeler, PhD NCI</li> <li>3. Mariam Quinones, PhD Lead, Translational Bioinformatics Program (NIAID)</li> </ol>
4:45 – 5:00pm	Closing Remarks / Questions	

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## Precision Health: From ‘Omics’ to Data Science

Friday August 11, 2017  
Omics Science to Clinical Practice

Time:	Topics:	Presenter:
8:30 – 9:00am	Hotel Check-out/Coffee/Networking	
9:00 - 9:50am	Precision Health Applications in Cardiovascular Nursing Science	Kathleen Hickey, EdD, FNP, ANP, FAHA, FAAN Associate Professor of Nursing Columbia University Medical Center
9:50 – 10:40am	Precision Medicine, Oncology, and Genomics	Marilyn Hammer, PhD, DC, RN Director, Research & Evidence Based Practice, Dept. of Nursing Mount Sinai Hospital
10:40 – 11:30am	Precision Health in Transplantation	Bernice Coleman, RN, PhD Research Scientist Cedars-Sinai
11:30 – 11:40am	BREAK	
11:40 – 12:30	Panel and Q&A session with Dr. Hickey, Dr. Hammer, Dr. Coleman Translating Omics Science to Inform Clinical Care and Research	
12:30 – 1:00pm	LUNCH	
1:00 – 1:30pm	Company 1 - Training	TBD BioRad, Genomics Field Applications Unit
1:30 – 2:00pm	How-to: NanoString Technologies gene expression, copy number variation and miRNA analysis	Greg Gonye, PhD Sr. Field Applications Specialist & Technical Lead
2:00 – 2:30pm	Bioinformatics for Next Gen Sequencing	Sijung Yun, PhD Founder & CEO, Yotta Biomed, LLC
2:30 – 3:00pm	How-to: GeneDx genetic testing for rare diseases, certain cancers	Neeta Suryavanshi Corporate Account Manager
3:00-3:15 pm	Closing Remarks	