California Initiative to Advance Precision Medicine

CIAPM Precision Medicine Workshop
August 26, 2016 at the Luskin Conference Center, UCLA

Collaboration across disciplines and sectors is at the core of enabling precision medicine. The goal of the workshop will be for representatives from industry, academia, and non-profits, as well as healthcare providers, payers and participants, to discuss points of synergy, opportunities for collaboration and growth, and challenges that need special attention to ensure success in advancing precision medicine in various disease areas and in diverse populations in California.

CENTENNIAL HALL PREFUNCTION AREA

8:00 am **Registration opens / coffee and refreshments available**

CENTENNIAL HALL C/D

9:00 am **Welcome**

Atul Butte, Director, Institute for Computational Health Sciences, UCSF, CIAPM PI
Kelsey Martin, Dean, David Geffen School of Medicine at UCLA

Dan Geschwind, Senior Associate Dean & Vice Chancellor for Precision Health, UCLA

9:20 am **Keynote address**

Joshua Denny, Vanderbilt University

9:50 am **Panel Discussion - NGS-based molecular diagnostics**

Next Generation Genomic Sequencing has already entered into clinical practice in substantial ways for the diagnosis of rare Mendelian genetic diseases and for cancer. Since research findings are routinely impacting genetic diagnosis as new disease genes are identified and more information is gathered about rare variants, we need to incorporate these discoveries in clinical practice.

Moderator: **Stanley Nelson**, UCLA
Panelists: **John Carpten**, University of Southern California
Ben Berman, Cedars-Sinai Medical Center
Harold Paz, Aetna
Julie Harris-Wai, UCSF

CENTENNIAL HALL PREFUNCTION AREA

11:15 am **Break & Networking**

CENTENNIAL HALL C/D

11:45 am **Panel discussion - Big data challenges and opportunities**

Analysis of diverse types of big data with relevance to human biology and well-being promises to provide a deeper understanding of how humans differ from each other in maintaining health and in their response to disease. To harness the full potential of this approach for precision medicine, much progress is needed to make big data broadly available, usable and interoperable while ensuring safe, fair, and respectful data and knowledge exchange. This panel will focus on various hurdles and opportunities in the use of big data for improving human health.

Moderator: **Euan Ashley**, Stanford University
Panelists: **Lucila Ohno-Machado**, UCSD
Brad Perkins, Human Longevity, Inc
Bin Yu, UCB

PLATEIA RESTAURANT

1:00 pm **Lunch**

CENTENNIAL HALL A
CENTENNIAL HALL C/D

2:00 pm **RFP 2 Applicants: Speed Presentations**
Applicants to CIAPM RFP 2016 will pitch and discuss their proposal, to help strengthen and build partnerships, and to present to the members of the selection committee.

These presentations will occur in 2 parallel sessions, please see pages 3 & 4 for details

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CENTENNIAL HALL C/D
CENTENNIAL HALL PREFUNCTION AREA

4:15 – 5:30 pm **Elevator Pitches**
Opportunity for stakeholders to briefly present the Precision Medicine projects they are pursuing or to describe the resources they offer, either for demonstration projects in particular or for Precision Medicine more broadly.

Please see page 5 for details

Concluding remarks by Atul Butte

4:00 – 6:00 pm **Reception**

2:00 pm RFP 2 Applicants: Speed Presentations – Detailed agenda

CENTENNIAL HALL A - Session A

Moderator:
Uta Grieshammer, Program Director, CIAPM

Proposal #	PI / Presenter if different	Institution	Title	Email Address
29	**Joseph Wu**	Stanford University	Precision Medicine for Predicting Chemotherapy-Induced Cardiotoxicity	joewu@stanford.edu
02	**Nicholas Anderson**	UCD	Personal mobile and contextual precision health	nranderson@ucdavis.edu
04	**Lisa Barcellos**	UCB	Interactive web-based approach for outcomes research and precision medicine in multiple sclerosis	lbarcellos@genepi.berkeley.edu
15	**Howard Look**	Tidepool	Tidepool: An free, open source platform enabling precision care and research for Type 1 Diabetes.	howard@tidepool.org
26	**Brennan Spiegel**	Cedars-Sinai Medical Center	Early prediction of major adverse cardiovascular events using remote monitoring with biosensors, biomarkers, and patient-reported outcomes: validation of a precise clinical algorithm	Brennan.Spiegel@cshs.org
23	**Minnie Sarwal**	UCSF	The UC-PRIME Transplant Initiative	Minnie.sarwal@ucsf.edu
06	**Fabian Filipp**	UCM	Central Valley of California Precision Medicine of Melanoma	ffilipp@ucmerced.edu
09	**Sheldon Greenfield**	UCI	Precision Medicine for Early Prostate Cancer: Integrating Biological Variables and Patient Characteristics to Predict Treatment Response	sgreenfi@uci.edu
10	**Fred Hochberg / John Nolan**	Scintillon	Precision Medicine: A Biomarker for Thromboembolism in Cancer Patients.	fhochberg@rcn.com jnolan@scintillon.org
24	**Maren Scheuner**	VA Greater Los Angeles Area	Population-based precision oncology for colorectal cancer: psychosocial, clinical, and budget impact	Maren.Scheuner@va.gov
14	**Joshua Liberman**	Sutter Health	Integrating Pharmacogenetic Testing in Real-World Practice	libermjn@sutterhealth.org
07	**Jonathan Flint / Bogdan Pasaniuc**	UCLA	Detecting medicallly relevant genetic diversity in California	jflint@mednet.ucla.edu pasaniuc@ucla.edu
12	**James Lacey**	City of Hope	Connecting genetic insights with personalized diet and medicine for future prevention and treatment of major metabolic disease	jlacey@coh.org
13	**Louise Laurent**	UCSD	Improving neonatal outcomes through precision medicine	llaurent@ucsd.edu

2:00 pm RFP 2 Applicants: Speed Presentations – Detailed Agenda

CENTENNIAL HALL C/D - Session C/D

Moderator:
India Hook-Barnard, Director of Research Strategy and Associate Director, Precision Medicine, UCSF

Proposal #	PI / Presenter if different	Institution	Title	Email Address
11	**Stephen Kingsmore**	Rady Children's Hospital San Diego	Patient-centered studies of rapid genome sequencing for diagnosis of genetic diseases in Hispanic/Latino infants receiving neonatal intensive care	skingsmore@rchsd.org
16	**David Martin**	CHORI	Full genome analysis of children to guide precision medicine	dmartin@chori.org
17	**John McPherson**	UCD	Enabling precision medicine through efficient linking of molecular profiling and clinical data in the EHR	jdmcpherson@ucdavis.edu
20	**Stanley Nelson**	UCLA	Building state of the art genomic diagnosis for California's health	snelson@ucla.edu
08	**Marc Goodman**	Cedars-Sinai Medical Center	PAGEANT Project 1: Recruitment and engagement	Marc.Goodman@cshs.org
03	**Hoda Alton-Culver**	UCI	PAGEANT Project 2: Biobanking and genome sequencing	hantoncu@uci.edu
21	**Lucila Ohno-Machado / Michael Hogarth, UCD**	UCSD	PAGEANT Project 3: Data integration and management	lohnomachado@ucsd.edu mahogarth@ucdavis.edu
18	**Daniella Meeker**	USC	PAGEANT Project 4: Precision medicine economics	dmeeker@usc.edu
05	**Jacob Corn (video)**	UCB	Customized gene editing in prioritized patients to cure sickle cell disease	jcorn@berkeley.edu
27	**Walter Stewart / Riley Bove, UCSF**	Sutter Health	Precision Care for MS: Making It Work	StewarWF@sutterhealth.org Riley.Bove@ucsf.edu
25	**Michael Snyder**	Stanford University	Center for Precision Metabolic Health	mpsnyder@stanford.edu
01	**Ram Akella**	UCSC	University of California Precision Medicine Multi-Modality Imaging Platform	akella@soe.ucsc.edu
19	**Pratik Mukherjee & Esther Yuh**	UCSF	Artificial Intelligence for Imaging of Neurologic Emergencies: From Images to Precision Medicine	Pratik.Mukherjee@ucsf.edu esther.yuh@ucsf.edu
28	**Dani Ushizima / Lea Grinberg, UCSF**	Lawrence Berkeley National Lab	Pathway toward diagnosing and monitoring prodromal Alzheimer's Disease using novel imaging biomarkers	dushizima@lbl.gov Lea.Grinberg@ucsf.edu
22	**Ravi Salgia**	City of Hope	Precision medicine for lung adenocarcinoma	rsalgia@coh.org

4:15 pm Elevator Pitches - Detailed Agenda

CENTENNIAL HALL C/D

Moderator:
Uta Grieshammer, Program Director, CIAPM (corrected)

Presenter	Institution	Title	Email Address
Sara Radcliffe	California Life Sciences Foundation	California and the Promise of Precision Medicine	sradcliffe@califesciences.org
Dennis Wall	Stanford University	Precision health through wearable computer vision technology	dpwall@stanford.edu
Kathryn Phillips	UCSF	What are Payers Covering and Why? The New UCSF Payer Coverage Policy Registry	Kathryn.Phillips@ucsf.edu
Tod Klingler - unable to attend	Station X	GenePool: The Genome Management Platform for Precision Medicine	tod@stationxinc.com
Angela Courtney	Adrastia Biotech	Collecting and Analyzing Precision Medicine Datasets Hiding in Plain Sight	adrastiabiotech@gmail.com
Curt Becker	Molecular Assemblies, Inc.	Next Generation DNA Synthesis (corrected title)	Curt@MolecularAssemblies.Com
Bonita Krall unable to attend	Sepulveda Research Corporation	Identifying High-Value Clinical Care Processes for Population-Based Precision Oncology	Bonita.Krall@va.gov
David Dimmock	Rady Children's Hospital San Diego	Rady Children's Hospital - Evaluating the clinical utility of Genomic Medicine	DDimmock@rchsd.org
Michael Smith	tiag	Applying Transformative Federal Health Leadership to Precision Medicine	mesmith@tiag.net
Lea Grinberg	Lawrence Berkeley National Laboratory	From a tri-institutional commitment to a neuroscience consortium	Lea.Grinberg@ucsf.edu
Neil Ray	UCD	improving outcomes for women and children by reducing unnecessary C-sections	npray@ucdavis.edu
Kent Lloyd	UCD	Patient-informed animal models will be crucial to advancing precision medicine.	KCLloyd@ucdavis.edu
Minnie Sarwal	UCSF	KIT: A novel kidney injury test	Minnie.Sarwal@ucsf.edu
Jiwu Wang	Scintillon Institute	Scintillon Institute Technologies for Precision Medicine	jiwuwang@scintillon.org
Mindy Luce	WuXiNextCode	WuXi NextCODE – The global platform for genomic big data	mluce@wuxinextcode.com
Beverly Barnett	CGI	Precision Medicine: How Combining Advanced Technologies and Genetics Can Predict Effectiveness and Toxicity of Prescribed Medications.	beverly.barnett@cgi.com

Speaker Bios - morning sessions

Euan Ashley, MD, PhD
Associate Professor, Medicine & Genetics
Co-director, Clinical Genomics Service
Director, Center for Inherited Cardiovascular Disease
Faculty Lead of the Biomedical Data Science Initiative
Stanford University

Euan is an Associate Professor of Medicine and Genetics, co-director of the Clinical Genomics Service, Director of the Center for Inherited Cardiovascular Disease, and faculty lead of the Biomedical Data Science Initiative at Stanford University. In 2010, he led the team that carried out the first clinical interpretation of a human genome. In 2013, he was recognized by the White House OSTP for contributions to Personalized Medicine. Currently, he serves as co-chair of the NIH Undiagnosed Diseases Network and sits on the Institute of Medicine Roundtable on Genomics and Health.

Benjamin P. Berman, PhD
Co-director, Center for Bioinformatics and Functional Genomics
Associate Professor of Biomedical Sciences & Medicine
Cedars-Sinai Medical Center

Dr. Berman has a Bachelor's in Computer Science and a PhD in Molecular & Cell Biology from UC Berkeley, where he participated in sequencing one of the first complete DNA maps of any complex organism, the fruitfly Drosophila melanogaster. His postdoctoral and subsequent work has focused on using complete genome sequences and advanced computational techniques to understand the DNA sequences controlling which genes get turned on and off in normal cells, and how these controls get disrupted in diseases such as cancer. He was director of DNA sequencing informatics for 5 years at the USC Norris Comprehensive Cancer Center, where he contributed to large-scale human genome sequencing projects such as The Cancer Genome Atlas (TCGA). In 2014, he moved to Cedars-Sinai to establish the Center for Bioinformatics and Functional Genomics, in order to apply these techniques within a hospital-based academic research center. His research group continues to focus on genetic variation occurring within gene regulatory sequences, and how this variation contributes to disease in individual patients.

John Carpten, PhD
Professor and Chair, Department of Translational Genomics
Director, Institute for Translational Genomics
Keck School of Medicine, University of Southern California

Dr. Carpten currently serves as Professor and Chair for the Department of Translational Genomics, and Director of the Institute for Translational Genomics, Keck School of Medicine, University of Southern California, Los Angeles, CA. Previously he was Professor and Deputy Director of Basic Sciences, Translational Genomics Research Institute, Phoenix, AZ. Dr. Carpten's research background spans a very broad range of topics including work in germline genetics, tumor genome analysis, cancer cell biology, and health disparities. His research program centers around the development and application of cutting edge genomic technologies and bioinformatics analysis in search of germline and somatic alterations that

are associated with cancer risk and tumor biology, respectively. His work spans many of the known cancer types including but not limited to prostate cancer, breast cancer, colon cancer, brain cancer, multiple myeloma, and pediatric cancers.

Dr. Carpten has an intense focus on understanding the role of biology in disparate cancer incidence and mortality rates among underrepresented populations. Through his leadership, the African American Hereditary Prostate Cancer Study (AAHPC) Network was conceived. This study has become a model for genetic studies in underrepresented populations and led to the first genome wide scan for prostate cancer susceptibility genes in African Americans. Dr. Carpten also has a very active program in sporadic tumor research. His laboratory participated in and led several high impact studies including the identification of NF-kB pathway mutations in Multiple Myeloma, which was published in *Cancer Cell*. He also led a landmark study, which culminated in the discovery of the AKT1(E17K) activating mutation in human cancers, published in *Nature*. He also has research published in *Science, Nature Genetics, Genome Research, and New England Journal of Medicine.*

To improve the discovery of important alterations associated with cancer, Dr. Carpten co-led the implementation, development, and application of Next Generation Sequencing (NGS) technologies at TGen. These technologies offer the opportunity to comprehensively interrogate cancer genomes to uncover the lexicon of somatic events within tumors. **Currently, the largest efforts of the Carpten laboratory are in applying NGS for Precision Medicine approaches, where cancer genomes and transcriptomes are sequenced and used to identify targetable events for select therapeutics.** He and clinical partners performed a precision medicine study using whole genome and transcriptome sequencing on 14 metastatic triple negative breast cancers to identify therapeutically actionable events that were used for treatment recommendations. The resulting paper was the most cited article in the journal Molecular Cancer Therapeutics in 2014. Furthermore, he coordinated the development of a CLIA-certified genomic testing laboratory at TGen, which was later commercialized as Ashion Analytics, LLC. He is recognized as a thought leader in precision medicine, as shown by a number of papers describing the results of clinical cancer sequencing studies in cancer patients. It is his hope that this work will one day lead to improvements in knowledge based therapeutics toward improvements in outcomes for cancer patients.

Finally, Dr. Carpten has received research funding awards from various sources to support his research including NIH, NCI, Prostate Cancer Foundation, Susan G. Komen for the Cure, Multiple Myeloma Research Foundation, and a number of pharmaceutical companies.

Joshua C. Denny, MD, MS, FACMI
Associate Professor of Biomedical Informatics and Medicine
Director of the Center for Precision Medicine and a Vice President of Personalized Medicine at Vanderbilt University Medical Center

Dr. Joshua Denny is Associate Professor of Biomedical Informatics and Medicine, the Director of the Center for Precision Medicine and a Vice President of Personalized Medicine at Vanderbilt University Medical Center. His interest in medical informatics include accurate phenotype identification from electronic health record data and using the electronic medical record to discover genome-phenome associations to better understand disease and drug response, including the development of the EHR- based phenome-wide association

(PheWAS) method. He is PI of nodes in the Electronic Medical Records and Genomics (eMERGE) Network, Pharmacogenomics Research Network (PGRN), and the Implementing Genomics into Practice (IGNITE) network. He is a PI of the Precision Medicine Initiative (PMI) Direct Volunteer Pilot and the PMI Data and Research Support Center. Dr. Denny remains active in clinical care and in teaching students.

Julie Harris-Wai, PhD, MPH
Assistant Professor of Social and Behavioral Sciences
University of California San Francisco
Staff scientist, Kaiser Permanente Northern California Division of Research
Associate Director, joint KP/UCSF Center of Excellence in Ethical Legal and Social Implications Research on Translational Genomics (CT2G)

Julie N. Harris-Wai, PhD, MPH, is an Assistant Professor of Social and Behavioral Sciences at UC San Francisco and a staff scientist at the Kaiser Permanente Northern California Division of Research. She is also the Associate Director of a joint KP/UCSF Center of Excellence in Ethical Legal and Social Implications Research on Translational Genomics (CT2G). Dr. Harris-Wai's research focuses on examining the social and ethical factors influencing how and why genomic technologies are translated from the research setting into clinical care and the impact these technologies have on health disparities and underserved communities. The goal of her work is to identify methods for incorporating community and stakeholder perspectives into policy decision-making to improve the appropriate translation of research into clinical and public health programs. She is currently working on a project with the California Department of Public Health using deliberative community engagement methods to inform policy decisions about the future of California's Newborn Screening and Biobanking Program. Dr. Harris-Wai holds a Ph.D. in Public Health Genetics from the University of Washington and completed a postdoctoral fellowship in population health sciences with the Robert Wood Johnson Health and Society Scholars Program. She holds an M.P.H. from the University of North Carolina at Chapel Hill.

Stanley Nelson, MD
Professor of Human Genetics and Pathology and Laboratory Medicine, David Geffen School of Medicine
Co-Director of the Clinical Genomics Center
Co-Director of the Center for Duchenne Muscular Dystrophy
University of California Los Angeles

Stanley F. Nelson, MD is Professor of Human Genetics and Pathology and Laboratory Medicine at the David Geffen School of Medicine at UCLA. He is Co-Director of the Clinical Genomics Center, which develops and implements clinical genomic testing and established clinical exome sequencing at UCLA. He is a site PI of the Undiagnosed Disease Network at UCLA. He is Co-Director of the Center for Duchenne Muscular Dystrophy which is a multi-investigator program encompassing graduate and undergraduate education, basic and translational research, clinical care, and clinical trials for Duchenne at UCLA. His laboratory develops and implements genomic approaches to the study of human disorders including use of combinations of linkage, GWAS, identity-by-descent mapping and intergration with RNA analysis to improve diagnostics and for novel gene mutation discovery

Lucila Ohno-Machado, MD, MBA, PhD
Professor of Medicine and Founding Chair
Health System Department of Biomedical Informatics
University of California San Diego

Lucila Ohno-Machado, MD, MBA, PhD received her medical degree from the University of São Paulo and her doctoral degree in medical information sciences and computer science from Stanford. She is Associate Dean for Informatics and Technology, and the founding chair of the Health System Department of Biomedical Informatics at UCSD, where she leads a group of faculty with diverse backgrounds in medicine, nursing, informatics, and computer science. Prior to her current position, she was faculty at Brigham and Women's Hospital, Harvard Medical School and at the MIT Division of Health Sciences and Technology. Dr. Ohno-Machado is an elected fellow of the American College of Medical Informatics, the American Institute for Medical and Biological Engineering, and the American Society for Clinical Investigation. She serves as editor-in-chief for the Journal of the American Medical Informatics Association since 2011. She directs the patient-centered Scalable National Network for Effectiveness Research funded by PCORI (and previously AHRQ), a clinical data research network with over 24 million patients and 14 health systems, as well as the NIH/BD2K-funded Data Discovery Index Consortium. She was one of the founders of UC-Research eXchange, a clinical data research network that connected the data warehouses of the five University of California medical centers. She was the director of the NIH-funded National Center for Biomedical Computing iDASH (integrating Data for Analysis, 'anonymization,' and Sharing) based at UCSD with collaborators in multiple institutions. iDASH funded collaborations involving study of consent for data and biospecimen sharing in underserved and under-represented populations.

Brad Perkins, MD, MBA
Chief Medical Officer
Human Longevity, Inc.

Dr. Perkins is a visionary physician, scientist, and executive who is responsible for leading all clinical and therapeutic operations at the HLI. This includes collecting and utilizing phenotype data, development of the consumer clinics business, and guiding stem cell therapeutics.

Prior to joining HLI, Dr. Perkins was Executive Vice President for Strategy and Innovation, and Chief Transformation Officer at Vanguard Health Systems, a large multi-state, for-profit, integrated health services provider with nearly 46,000 employees. He helped transform Vanguard from a traditional fee for service healthcare model, to a fee for value, "population health" model. Some of his innovative solutions there included: establishing Accountable Care Organizations to improve primary care, implementing an award winning tele-radiology program, and starting a $167 million venture capital fund to support Vanguard's transformation programs.

Dr. Perkins began his career at the Centers for Disease Control and Prevention (CDC) in 1989 after completing his residency training and chief residency in internal medicine at Baylor College of Medicine. At the CDC he led some of the most important and high profile programs and published more than 120 peer-reviewed publications and book chapters.

He first joined and then led the Meningitis and Special Pathogens Branch where he

investigated global bacterial disease epidemics. He co-discovered the bacteria which causes Cat Scratch Diseases and conducted translational research leading to development of several new bacterial meningitis and pneumonia vaccines. In 2001 Dr. Perkins led the investigations into the anthrax attacks in the United States, the largest and highest profile investigation ever conducted by CDC. In 2005 he was appointed CDC's Chief Strategy and Innovation Officer, a position in which he managed a $11.2 billion budget, and 15,000 employees with offices in more than 50 countries. Working closely with the CDC Director, he built a $2 billion state-of-the-art emergency response capability and positioned the improvement of population health as a focus of the healthcare reform movement within the White House administration at that time.

Dr. Perkins is a member of the RAND Health Board, and he is the chairman of the advisory board for Esther Dyson's nonprofit, HICCup, sponsor of the "Way to Wellville" community health competition. He received his BA in Microbiology and his MD from the University of Missouri-ColPmbia, and an MBA from Emory University. He is Board Certified in Internal Medicine.

Harold Paz, MD, MS
Executive Vice President and Chief Medical Officer
Aetna

Harold L. Paz, M.D., M.S., is executive vice president and chief medical officer for Aetna. He leads clinical strategy and policy at the intersection of all of Aetna's domestic and global businesses. He is responsible for driving clinical innovation to improve member experience, quality and cost in all areas of the health care delivery system. Reporting to Aetna's Chairman and CEO, he is a member of the company's executive committee.
Before joining Aetna in 2014, Dr. Paz served as chief executive officer of Penn State Hershey Medical Center and Health System, senior vice president for Health Affairs for Penn State University, dean of its College of Medicine and professor of medicine and public health sciences for eight years. His vision for health care transformation at Penn State led to the formation of an integrated healthcare system of four hospitals, 64 ambulatory care practices and 18 affiliated hospitals focused on population health across central Pennsylvania. Prior to his appointment to Penn State, he spent 11 years as dean of the Robert Wood Johnson Medical School and chief executive officer of Robert Wood Johnson University Medical Group, the largest multispecialty group practice in New Jersey where he was professor of medicine.

Dr. Paz has focused his research and teaching on clinical outcomes, health care effectiveness and employee health benefit design. A pioneer in the field of quality management, Dr. Paz was among the first to study clinical outcomes in the intensive care unit. From this early work, he recognized the need to formally train physicians in quality, and in 1993 he started the first fellowship of its kind in quality management. Currently, he is professor adjunct of internal medicine at Yale University School of Medicine and remains clinically active in pulmonary medicine at the West Haven Veteran's Administration Hospital. He serves on the National Academy of Medicine (NAM) Leadership Consortium and the NAM Roundtable on Quality Care for People with Advanced Illness.

A fellow of the American College of Physicians and the American College of Chest Physicians, Dr. Paz is currently on the boards of United Surgical Partners International, Research!America and the National Health Council. Dr. Paz is past chair of the Board of

Directors of the Association of Academic Health Centers and a former member of the Association of American Medical Colleges (AAMC) and the University Health System Consortium boards of directors. He previously was chair of the AAMC Council of Deans administrative board and has served on the AAMC executive council, in addition to corporate and scientific advisory boards in the biotechnology field. He has authored more than 85 publications, including peer-reviewed research and quality articles, chapters, commentaries and abstracts. He is the recipient of numerous awards and an honorary degree.

Dr. Paz received his bachelor's degree from the University of Rochester, a master of science in life science engineering from Tufts University, and his medical degree from the University of Rochester School of Medicine and Dentistry. He completed his residency at Northwestern University, where he served as chief medical resident and instructor in clinical medicine. He was a Eudowood Fellow in pulmonary and critical care medicine at Johns Hopkins Medical School. In addition, he was a post-doctoral fellow in environmental health science at Johns Hopkins School of Hygiene and Public Health.

Bin Yu, PhD
Chancellor's Professor
Departments of Statistics and of Electrical Engineering & Computer Science
University of California at Berkeley
Founding co-director, Microsoft Joint Lab
Peking University on Statistics and Information Technology

Bin Yu is Chancellor's Professor in the Departments of Statistics and of Electrical Engineering & Computer Science at the University of California at Berkeley and a former Chair of Statistics at Berkeley. She is founding co-director of the Microsoft Joint Lab at Peking University on Statistics and Information Technology. Her group at Berkeley is engaged in interdisciplinary research with scientists from genomics, neuroscience, and medicine. In order to solve data problems in these domain areas, her group employs quantitative critical thinking, and develops statistics and machine learning algorithms and theory.

She is Member of the U.S. National Academy of Sciences and Fellow of the American Academy of Arts and Sciences. She was a Guggenheim Fellow in 2006, an Invited Speaker at ICIAM in 2011 and the Tukey Memorial Lecturer of the Bernoulli Society in 2012, the Rietz Lecture of Institute of Mathematical Statistics (IMS) in 2016. She was IMS President in 2013-2014, and is a Fellow of IMS, ASA, AAAS and IEEE. She has served or is serving on leadership committees of NAS-BMSA, SAMSI, IPAM and ICERM, and editorial boards of Journal of Machine Learning, Annals of Statistics, Annual Review of Statistics.

California Initiative to Advance Precision Medicine

This workshop is funded by the California Initiative to Advance Precision Medicine.

This workshop received financial support from the NIH NCATS UCLA CTSI Grant Number UL1TR001881.

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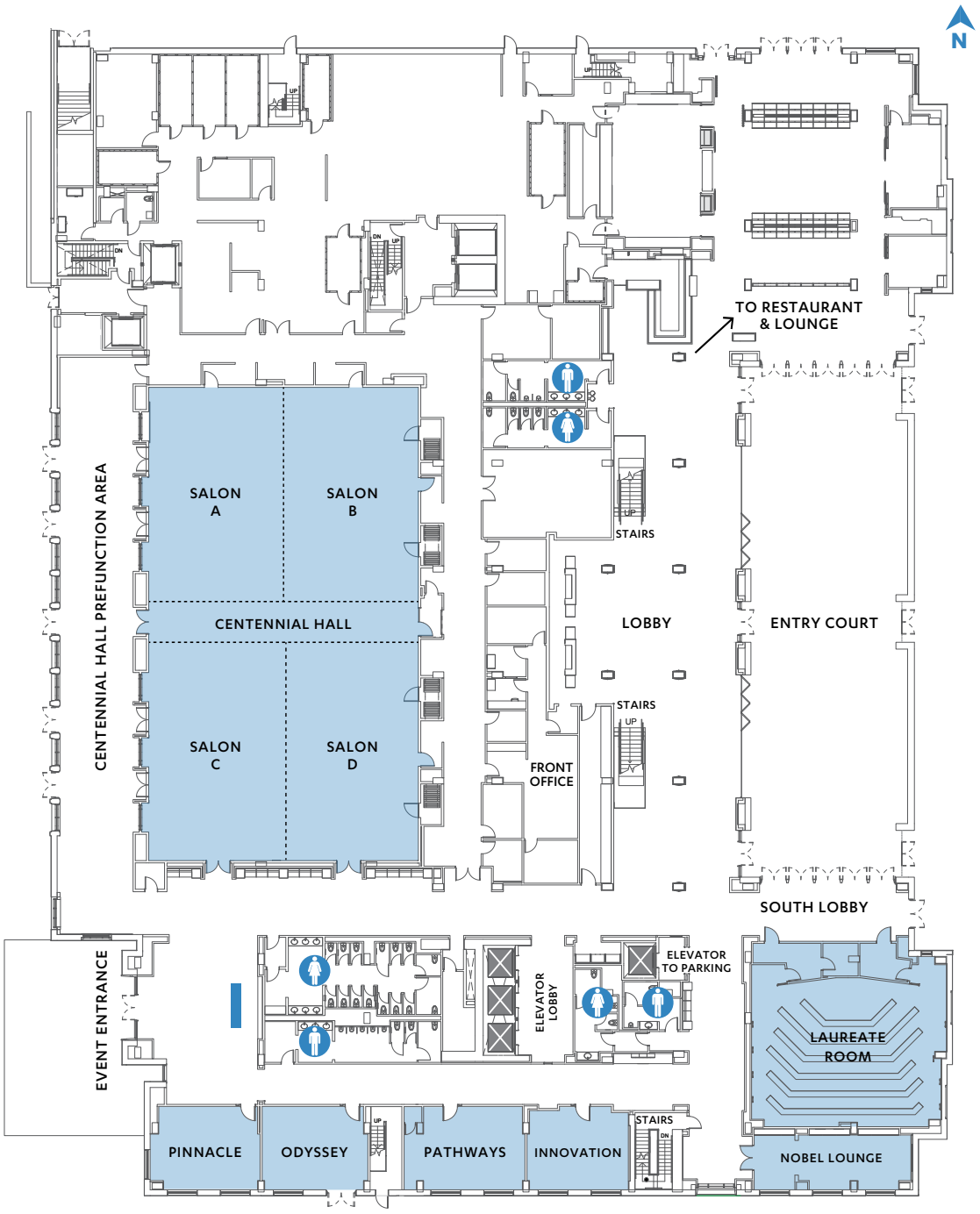
MEETING SPACE
Level One



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