

CALIFORNIA Breast Cancer Research PROGRAM Compendium of Awards

> Cycle 29 2022-2023

Introduction

The mission of the CBCRP is to prevent and eliminate breast cancer by leading innovation in research, communication, and collaboration in the California scientific and lay communities.

The California Breast Cancer Research Program (CBCRP) is pleased to announce the **funding of 17 new research projects** that will advance our knowledge about the community impact, prevention, etiology, detection, and treatment of breast cancer. With these new awards we are **investing \$4,689,036 for research projects being performed at 17 institutions and community organizations across the state**.

CBCRP supports breast cancer research in California from funds obtained through:

- A portion of a **2¢ per pack State cigarette tax**
- Contributions from individuals using the State's income tax check-off option
- Donations from concerned community members dedicated to defeating breast cancer

CBCRP is administered by the University of California, Office of the President, in Oakland. Our overall objectives, strategies, and priorities are developed with the assistance of a volunteer California Breast Cancer Research Council (BCRC), which sets program priorities and recommends the grants to be funded. The BCRC consists of 16 members: five are representatives of breast cancer survivor/advocacy groups; five are scientists/clinicians; two are members from nonprofit health organizations, one is a practicing breast cancer medical specialist, two are members from private industry, and one is an *ex officio* member from the California Department of Health Services breast cancer early detection program, "Every Woman Counts."

CBCRP research funding is organized through several sub-program units including:

- **Community initiatives** supports research grants that incorporate both academic researchers and community group investigators to study a problem specific to a community, but with wider dissemination potential.
- **Core funding** focuses on investigator-initiated traditional grants to support smaller, innovative projects, larger translational grants, and conferences.
- **Program Directed Initiatives** support California Breast Cancer Prevention Initiative and Preventing Breast Cancer: Community, Population, and Environmental Approaches projects. These are one-time initiatives that are designed to identify and eliminate environmental causes of breast cancer; identify and eliminate disparities/inequities in the burden of breast cancer in California; develop population-level interventions (including policy research) on known or suspected breast cancer risk factors and protective measures; and develop target interventions for high-risk individuals, including new methods for identifying or assessing risk.

The full abstracts of these newly funded grants, as well as those from previous CBCRP funding cycles, can be found on our website: <u>www.CABreastCancer.org</u>.

Overview of CBCRP Priority Areas

- The Community Impact of Breast Cancer: The Social Context explores the factors that contribute to the unequal burden of breast cancer among diverse communities and the policy alternatives that would contribute to reducing disparities in access to prevention, risk reduction, detection, treatment, support, and/or survivorship services for California's underserved populations. Subtopics of this priority area include:
 - Health Policy
 - Health Services
 - Sociocultural, Behavioral and Psychological Issues Relevant to Breast Cancer: The Human Side
 - o Disparities: Eliminating the Unequal Burden of Breast Cancer
- Etiology and Prevention: Finding the Underlying Causes investigates the causes of breast cancer and the strategies that can be used to prevent it. We are interested in learning about the environmental and biological factors that interact to increase the risk of developing breast cancer and the approaches that can be used to reduce or eliminate breast cancer risk. Subtopics of this priority area include:
 - Etiology: The Role of Environment and Lifestyle
 - Prevention and Risk Reduction: Ending the Danger of Breast Cancer
- **Biology of the Breast Cell: The Basic Science of the Disease** supports research that addresses the critical need to understand the pre-neoplastic, causative events of breast cancer at the tissue level, including the stroma. These studies investigate genetic changes in stem cells and normal tissue as well as disease progression and the tumor heterogeneity at the basic science level. Subtopics of this priority area include:
 - Biology of the Normal Breast: The Starting Point
 - Pathogenesis: Understanding the Disease
- Detection, Prognosis and Treatment: Delivering Clinical Solutions supports projects with aims that are on the critical path for translation. They develop novel imaging technologies, new biomarkers, and genomic/proteomic approaches for more accurate diagnosis and prognosis. They are also researching less toxic and more individualized therapies, mechanisms of drug resistance, and studies to evaluate alternative medicines and natural products. Subtopics of this priority area include:
 - o Imaging, Biomarkers, and Molecular Pathology: Improving Detection and Diagnosis
 - Innovative Treatment Modalities: Searching for a Cure.

Overview of CBCRP Award Types

CBCRP funded new research projects using a variety of award types:

- **Community Research Collaboration (CRC)** awards bring community organizations—such as breast cancer advocates, community clinics, or organizations serving under-represented women—together with experienced academic scientists to investigate breast cancer problems that are important to that community, using culturally-appropriate research methods. CRC Pilot (18-month) and CRC Full Research awards (three years) are available.
- Innovative Developmental and Exploratory Awards (IDEAs) are 12- to 18-month grants for targeted high-risk/high-reward projects. CBCRP incorporates the "critical path" concept, which requires applicants to place their project on a research continuum leading to practical applications. IDEAs are offered to both new and established investigators.
- **Translational Research** awards support projects that overcome barriers and put prior research knowledge to practical use in the patient or community setting.
- **Conference Awards** support a conference, symposium, retreat, or other meeting to link breast cancer researchers, non-breast cancer investigators, and community members for the purpose of stimulating new ideas and collaborations.

 Program Directed Initiatives support Requests for Proposals (RFPs) that competitively fund investigator-initiated research responding to the California Breast Cancer Prevention initiative topic, Request for Qualifications (RFQs) that fund grants based on the qualifications of the investigator to undertake CBCRP-defined research projects in close collaboration with CBCRP and Program Directed Awards (PDAs) to fund crucial projects identified during the strategy development proposed by the Steering Committee and approved by the CBCRP Council.

LOI and Application Submissions and Review

IDEA and Translational Research Award applications must pass through a letter of intent (LOI) screening process conducted by our Council to select projects that best meet our award type and programmatic criteria. We view this as a benefit to both the applicants and Program in terms of reducing the effort to prepare full applications and CBCRP's corresponding peer review costs.

Award Type	LOIs submitted	LOIs approved	Percent approved
IDEA	13	9	69%
Translational Research Award	5	3	60%

Table 1. LOI submission and approval results

After the LOI process, the full application data is shown in the table below.

Table 2. 2023 full application submissions by award type and priority issue

	CBCRP Priority Issue				Award Type
Award Type ↓	Etiology & Prevention	Community Impact	Detection, Prognosis & Treatment	Biology of the Breast Cell	Award Type Totals
Innovative, Developmental & Exploratory (IDEA)	3	0	3	2	8
Translational Research	0	0	1	0	1
Community Research Collaboration (CRC) Pilot	1	0	0	0	1
Community Research Collaboration Full	1	0	0	0	1
CBCRP Conference	1	0	0	1	2
Policy Initiatives	0	1	0	0	1
Program Directed Initiatives	5	3	0	0	8
Priority Totals	11	4	4	3	22

Funding Highlights

Award Type	Number of Applications	Grants Funded (Success Rate)	Amount Awarded	Percentage of Total Funding
IDEA	8	5 (63%)	\$1,024,590	21.8%
Translational Research	1	0 (0%)	\$0	0%
Community Research Collaboration (CRC) – Pilot	1	1 (100%)	\$187,100	4.0%
Community Research Collaboration (CRC) - Full	1	1 (100%)	\$804,399	17.2%
CBCRP Conference	2	2 (100%)	\$50,000	1.0%
Policy Initiative	1	1 (100%)	\$228,065	4.9%
Program Directed Initiatives	8	7 (88%)	\$2,394,882	51.1%
Total	22	17 (77%)	\$4,689,036	100%

Table 3. 2023 grant distribution by award type

Table 4. 2023 grant distribution by priority issue

Award Type	Number of Applications	Grants Funded (Success Rate)	Amount Awarded	Percentage of Total Funding
Etiology & Prevention	11	10 (91%)	\$3,762,799	80.2%
Community Impact	4	3 (75%)	\$266,828	5.7%
Detection, Prognosis & Treatment	4	2 (50%)	\$439,409	9.4%
Biology of the Breast Cell	3	2 (67%)	\$220,000	4.7%
Total	22	17 (77%)	\$4,689,036	100%

Grants Funded in Cycle 29 2022-2023

Community Initiatives Grants

Grant	Grantee(s)	Total Award
Promotora Training: Reducing Impact of Environmental Toxins on Breast Cancer & Reproductive Health Award type: Community Research Collaboration Award - Pilot Priority Issue: Etiology and Prevention	Janet Pregler UCLA \$93,750 Luis Pardo Worksite Wellness LA \$93,350	\$187,100
Wristbands, biomonitoring, and metabolomics to detect nurses' chemical exposure and early effects Award type: Community Research Collaboration Award - Full Priority Issue: Etiology and Prevention	Rachel Morello-Frosch UC Berkeley \$766,948 Lisa Hartmayer Breast Cancer Prevention Partners \$37,451	\$622,851

Core Funding Grants

Grant	Grantee(s)	Total Award
Achieving Equity in Genomic Testing for Breast Cancer through Partner-Led Strategies and Policies Award type: Policy Initiative Priority Issue: Community Impact of Breast Cancer	Manali Patel Stanford University	\$228,065
An activated stem cell signature as a biomarker to predict malignant progression of DCIS Award type: CBCRP Conference Award Priority Issue: Etiology and Prevention	Luis Pardo Worksite Wellness LA	\$25,000
Advocates and scientists partner to strengthen US testing of chemicals that can affect breast health Award type: CBCRP Conference Award Priority Issue: Etiology and Prevention	Michelle Woodhill Dr. Susan Love Research Foundation	\$25,000
Arming macrophages to eliminate triple negative breast cancer stem cells Award type: IDEA Award Priority Issue: Detection, Prognosis and Treatment	David Cheresh UC San Diego	\$205,000
Assessing effectiveness and toxicity of FLASH radiotherapy in breast cancer care Award type: IDEA Award Priority Issue: Detection, Prognosis and Treatment	Frederick Dirbas Stanford University	\$234,409

Assessing environmental & social factors influencing breast cancer prevention in Latina farmworkers Award type: IDEA Award Priority Issue: Etiology and Prevention	Nicolas Lopez-Galvez San Diego State University Research Foundation	\$235,750
Inflammatory biomarkers and risk of second breast cancer in a diverse population Award type: IDEA Award Priority Issue: Detection, Prognosis and Treatment	Esther John Stanford University	\$154,431
Small RNAs that mediate DNA damage repair as a new target for breast cancer prevention Award type: IDEA Award Priority Issue: Biology of the Breast	Jennifer Rosenbluth UC San Francisco	\$195,000

Denotes awards that have been supported in part through voluntary contributions from California taxpayers

Denotes Faith Fancher Research Award recipient. Faith Fancher was a long-time television news anchor and personality with KTVU (Oakland) who waged a very public battle against breast cancer. She also was the founding member of the CBCRP Executive Team, which formed in 2001 to help raise the visibility and fundraising profile of our program. Faith passed away in October 2003 after a six-year struggle with breast cancer. In Faith's honor, and to commemorate all that she did for breast cancer education and research, we have created this annual award. The selected grant reflects the values that Faith held most closely and extends the work that Faith did for all women facing breast cancer.

Program-Directed Research

Grant	Grantee(s)	Total Award
The pregnancy exposome and metabolome and risk for premenopausal breast cancer (PMBC) in Black women Award type: Program Directed Initiative – Biomonitoring Priority Issue: Etiology and Prevention	Kimberly Berger Sequoia Foundation	\$622,851
Parental and grandparental exposome and breast cancer biomarkers in daughters and granddaughters Award type: Program Directed Initiative – Biomonitoring Priority Issue: Etiology and Prevention	Barbara Cohn Public Health Institute	\$546,439
Biomonitoring a new pathway to breast cancer: Effects of steroidogenic chemicals on the metabolome Award type: Program Directed Initiative – Biomonitoring Priority Issue: Etiology and Prevention	Rachel Morello-Frosch UC Berkeley	\$622,017

Detect Signs of Early Life Exposures in Midlife to Prevent Breast Cancer Inequities Award type: Program Directed Initiative – Early Life Exposure Priority Issue: Etiology and Prevention	Barbara Cohn' Public Health Institute \$500,083 Akilah Shahid Public Health Institute \$34,104	\$534,187
Leveraging Community Assets to Reduce Financial Toxicity among Hispanic Breast Cancer Survivors Award type: Program Directed Initiative – Local Level Needs Priority Issue: Community Impact of Breast Cancer	Eunjeong Ko San Diego State University \$14,830 Michelle Avila Kern County Cancer Foundation \$6,433	\$21,263
Breast Health and the Environment Among Latinas in Los Angeles: Mapping Disparities and Systems Award type: Program Directed Initiative – Local Level Needs Priority Issue: Etiology and Prevention	Jill Johnston University of Southern California \$22,375 Nancy Ibrahim Esperanza Community Housing \$8,250	\$30,625
East Oakland's 40x40: Building integrative place-based approaches to achieve health equity Award type: Program Directed Initiative – Local Level Needs Priority Issue: Community Impact of Breast Cancer	Mindy Hebert-Derouen UC San Francisco \$6,500 Jamaica Sowell Roots Community Health Center \$5,500 Antwi Akom San Diego State University \$5,500	\$17,500

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2023 CBCRP Funding by Institution

The following **17** California research institutions and community organizations were awarded new CBCRP funding in the 2022-2023 grant cycle. Community Research Collaboration (CRC) as well as Local Level Needs and Early Life Exposure Program Initiative projects are split between institutions.

Institution	# of Grants	<u>Amount</u>
Breast Cancer Prevention Partners	1	\$37,451
Dr. Susan Love Research Foundation	1	\$25,000
Esperanza Community Housing	1	\$8,250
Kern County Cancer Foundation	1	\$6,433
Public Health Institute	3	\$1,080,626
Roots Community Health Center	1	\$5,500
San Diego State University	1	\$14,830
San Diego State University Research Foundation	1	\$235,750
San Francisco State University	1	\$5,500
Sequoia Foundation	1	\$622,851
Stanford University	3	\$616,905
University of California, Berkeley	2	\$1,388,965
University of California, Los Angeles	1	\$93,750
University of California, San Diego	1	\$205,000
University of California, San Francisco	2	\$201,500
University of Southern California	1	\$22,375
Worksite Wellness LA	2	\$118,350

2023 CBCRP application evaluation process & review committee rosters

CBCRP thanks the participants in our 2023 review committees for their service and dedication to our Program!

In the first phase of the funding process, grant applications were peer reviewed and scored for scientific merit by review committees using a model that follows established practice at the National Institutes of Health (NIH). Each committee is composed of scientists and advocates from outside California. The Committee Chair leads the review process and is a senior researcher. Scientific Reviewers have broad expertise in topics associated with individual applications. Breast cancer Advocate Reviewers are women active in breast cancer advocacy organizations, and many of them are also living with the disease. Advocates bring their personal knowledge and commitment to the review process. Each committee also includes a California Advocate Observer, who does not review or vote, but represents California's advocacy community. The observer gains insight into our process and provides feedback to the Program. When additional expertise is needed, an Ad Hoc Member is brought in to review a particular application not covered by the other committee scientist reviewers.

CBCRP uses a scientific **merit scoring system** that rates individual components (e.g., approach, innovativeness, impact). This allows our expert reviewers and Council to better differentiate applications that might otherwise appear identical. We use four scientific merit components to comprise the score.

We **triage** some applications that score in the lower range of a committee's portfolio using the preliminary scores of the assigned reviewers. Applications in the upper range of a committee's portfolio all receive full committee discussion, as do any of the lower scoring applications nominated to full review by one reviewer.

Applications that were not triaged were rated by CBCRP's Council for **programmatic responsiveness**. Combinations of the following criteria were used:

- Responsiveness to CBCRP's priority issues and award type or initiative
- Strength of individual scientific merit component scores (e.g., innovation for IDEA applications)
- Underfunded topic
- Quality of the lay abstract
- Inclusion of advocates in the funded research
- Addressing the needs of the underserved
- Critical path/translation (IDEA and Translational Research Award), or dissemination and translational potential (CRC)

This two-tiered evaluation and funding process ensures both scientific excellence and relevance of the research to CBCRP's mission and goals.

Co-Chairs:

Vernal Branch Patient Research Advocate Mooresville, NC

Phoenix Matthews, PhD

Professor and Associate Dean for Equity and Inclusion University of Illinois College of Nursing Chicago, IL

Scientific Reviewers:

Sherrie Flynt Wallington, PhD

Associate Professor of Nursing and Prevention and Community Health School of Nursing George Washington University Washington, DC

Ella Greene-Moton

Community Director Flint Center for Health Equity Solutions SEPA - Community Activities Manager Center for Public Health and Community Genomics University of Michigan School of Public Health Ann Arbor, MI

Grace Sembajwe, ScD, MSc, CIH

Associate Professor Institute of Health System Science, Feinstein Institutes for Medical Research Epidemiologist Department of Occupational Medicine Epidemiology and Prevention Donald and Barbara Zucker School of Medicine at Hofstra/Northwell Northwell Health Great Neck, NY

Advocate Reviewers:

Beverly Parker Living Beyond Breast Cancer Ardmore, PA

California Advocate Observer:

Stephanie Beverly Smith Program Director Women of Color Breast Cancer Survivors' Suppo

Women of Color Breast Cancer Survivors' Support Project Inglewood, CA

Clinical, Prevention & Biological Sciences Review Committee

Chair:

Douglas Yee, MD

Director, Masonic Cancer Center Professor of Medicine & Pharmacology University of Minnesota Minneapolis, MN

Scientific Reviewers:

Dai Horiuchi, PhD

Assistant Professor of Pharmacology Robert H. Lurie Medical Research Center Northwestern University Chicago, IL Minneapolis, MN

Amos Sakwe, PhD, MSCI

Associate Professor Department of Pharmacology School of Graduate Studies and Research Center For Women's Health Research Meharry Medical College

Eva Sevick-Muraca, PhD

Professor, Nancy and Rich Kinder Distinguished Chair of Cardiovascular Disease Research Professor and Director Center for Molecular Imaging National Cancer Institute Network for Translational Research McGovern Medical School University of Texas Health Science Center at Houston Houston, TX

Julie Ostrander, PhD

Assistant Professor Department of Radiation Oncology The Ohio State University Columbus, OH

Adetunji Toriola, MD, PhD

Professor of Surgery Division of Public Health Services, Department of Surgery Washington University School of Medicine St. Louis, MO

Advocate Reviewers:

Ann Fonfa Annie Appleseed Project Delray Beach, FL

Valerie Fraser

Michigan Breast Cancer Coalition Huntington Woods, MI

California Advocate Observer:

Rainbow Rubin Breast Cancer Prevention Partners San Francisco, CA

Local Level Needs and Intergenerational Transmission Review Committee

Co-Chairs:

Rodney Lyn, PhD Interim Dean, Professor Senior Associate Dean for Academic and Strategic Initiatives Georgia State University School of Public Health Atlanta, GA

Reviewers:

Traci Bethea, PhD

Assistant Professor, The Lombardy Comprehensive Cancer Center Georgetown University Medical Center Washington, DC

Nikia Hammonds Blakeley, PhD, MBA

Founder and Executive Director The CHAMPION Promise Foundation Frisco, TX

Leena Hilakivi-Clarke, PhD Professor, Assistant Director for Faculty Affairs The Hormel Institute University of Minnesota Austin, MN

Grace Sembajwe, ScD

Associate Professor Feinstein Institute for Medical Research at Northwell Health Hofstra University Helmstead, NY

Bo Qin, PhD

Assistant Professor Rutgers Cancer Institute of New Jersey Rutgers University New Brunswick, NJ

Ella Greene-Moton

Community-Academic Bridge Community Based Organization Partners Community Ethics Review Board, Administrator Health in Our Hands – MSU, Executive Consultant American Public Health Association, President Elect Ann Arbor, MI

Program Initiatives – Biomonitoring Review Committee

Chair: Suzanne Fenton, PhD Staff Scientist NIEHS Mechanistic Toxicology Branch Durham, NC

Reviewers:

Susan Braun, PhD Advocate Ex Jimmy V Foundation Cary, NC

Justin Colacino, PhD Associate Professor, Environmental Health Sciences University of Michigan School of Public Health Ann Arbor, MI

Agnes Kane, MD, PhD

Professor Emerita of Pathology and Laboratory Medicine Brown University Providence, RI

Maricel Maffini, PhD

MvM Consulting Frederick, MD

Melissa Troester, PhD

Professor Department of Epidemiology University of North Carolina Billings School of Public Health Chapel Hill, NC

Laura Vandenberg, PhD

Professor University of Massachusetts, Amherst School of Public Health, Division of Environmental Health Sciences Amherst, MA

Policy Initiative – Genomic Testing Review Committee

Chair:

Mary Beth Terry, PhD Professor, Mailman School of Public Health Columbia University New York, NY

Reviewers:

J. Zoe Beckerman, JD MPH

Associate Professor Milken Institute School of Public Health The George Washington University Washington, DC

Taylor Beaumont Morton

Director of Environmental Health and Education WE ACT for Environmental Justice New York, NY

Joel Tickner, PhD

Professor, Department of Public Health Lowell Center for Sustainable Production University of Massachusetts, Lowell Lowell, MA

Alexandra White, PhD MSPH

Stadtman Investigator Environment and Cancer Epidemiology NIEHS Durham, NC

Tracy Weitz, PhD

Professor Center on Health, Risk and Society American University Washington, DC

CBCRP Policy Research Advisory Group Review Committee

ADVOCATES

Representatives of breast cancer advocacy organizations

Nancy Buermeyer, MS Senior Policy Strategist Breast Cancer Prevention Partners San Francisco, CA

Karren Ganstwig Los Angeles Breast Cancer Alliance Toluca Lake, CA

JoAnn Loulan Breast Cancer Action Portola Valley, CA

POLICYMAKERS *Current and former legislators, legislative staff, and government officials*

Rick Kreutzer, MD Assistant Deputy Director of Environmental and Occupational Health (retired) California Department of Public Health Oakland, CA

POLICY PROFESSIONALS

Representatives of organizations involved in health policy

Garen Corbett, MS Director, California Health Benefits Review Program University of California Berkeley Berkeley, CA Sarah Huchel Legislative Director, Health Services and Sciences State Government Relations University of California Office of the President Sacramento, CA

Georgette Lewis Senior Advisor for Policy and Strategy University of California Health Oakland, CA

Usha Ranji, MS Associate Director, Women's Health Policy Kaiser Family Foundation Menlo Park, CA

Catherine Peters Director, State and Local Campaigns American Cancer Society Cancer Action Network Waukesha, WI

CBCRP Council Policy Committee Members

Rati Fotedar, PhD San Diego Community College District

Bryan Goldman, DO Kaiser Baldwin Park Medical Center

Christine Meda, MS IncelDx, Inc.

Svetlana Popova, MD, MPH Every Women Counts Program

California Breast Cancer Research Council Programmatic Review Committee

Advocates Abigail Arons, MPH Breast Cancer Action

Michele Atlan Breast Cancer Care and Research Fund

Erika Bell Bay Area Cancer Connections

Phyllis Howard Women's Cancer Resource Center

Yamini Ranchod, PhD Bay Area Young Survivors (BAYS)

Nonprofit Health Organization

Representatives Amanda Heier Breast Cancer Prevention Partners

Clara Omogbai, DrPH California Health Collaborative

Medical Specialist Ujwala Rajgopal MD, FACS, FICS MD Professional Corporation

Industry Representatives

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Thomas Jascur, PhD Invitae

Scientist/Clinicians

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Bryan Goldman, DO Kaiser Baldwin Park Medical Center

Ana Navarro, PhD University of California, San Diego

Sharon Pitteri, PhD Stanford University

Salma Shariff- Marco University of California, San Francisco

Ex Officio

Svetlana Popova, MD, MPH Every Women Counts Program

California Breast Cancer Research Program Staff

Marion Kavanaugh-Lynch, MD, MPH Director

Lisa Minniefield Program Specialist

COMMUNITY INITIATIVES Sen Fernandez Poole, PhD

CORE FUNDING Katherine McKenzie, PhD

PROGRAM DIRECTED INITIATIVES Sharima Rasanayagam, PhD

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