

CALIFORNIA
**Breast
Cancer
Research**
PROGRAM

**Compendium of
Awards**

**Cycle 28
2021-2022**

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 18 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 \$6,547,448 for research projects being performed at 19 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: www.CABreastCancer.org.

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
 - 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:
 - 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.

Table 1. LOI submission and approval results

Award Type	LOIs submitted	LOIs approved	Percent approved
IDEA	22	20	91%
Translational Research Award	6	3	50%

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

Table 2. 2022 full application submissions by award type and priority issue

Award Type ↓	CBCRP Priority Issue				Award Type Totals
	Etiology & Prevention	Community Impact	Detection, Prognosis & Treatment	Biology of the Breast Cell	
Innovative, Developmental & Exploratory (IDEA)	3	0	14	2	19
Translational Research	0	1	1	0	2
Community Research Collaboration (CRC) Pilot	0	1	0	0	1
Community Research Collaboration Full	0	1	0	0	1
Program-Directed Initiatives	5	0	0	0	5
Policy Initiative	1	0	0	0	1
CBCRP Conference	1	0	0	0	1
Priority Totals	10	3	15	2	30

Funding Highlights

Table 3. 2022 grant distribution by award type



Award Type	Number of Applications	Grants Funded (Success Rate)	Amount Awarded	Percentage of Total Funding
IDEA	19	8 (42%)	\$1,562,922	23.9%
Translational Research	2	1 (50%)	\$1,041,037	15.9%
Community Research Collaboration (CRC) – Pilot	1	1 (100%)	\$218,665	3.3%
Community Research Collaboration (CRC) - Full	1	1 (100%)	\$825,697	12.6%
CBCRP Conference	1	1 (100%)	\$25,000	0.4%
Policy Initiative	1	1 (100%)	\$157,897	2.4%
Program-Directed Initiatives	5	4 (80%)	\$2,716,230	41.5%
Total	30	17 (57%)	\$6,547,448	100%


Table 4. 2022 grant distribution by priority issue


Award Type	Number of Applications	Grants Funded (Success Rate)	Amount Awarded	Percentage of Total Funding
Etiology & Prevention	10	8 (80%)	\$3,277,164	50.1%
Community Impact	3	3 (100%)	\$2,085,399	31.9%
Detection, Prognosis & Treatment	15	4 (27%)	\$794,885	12.1%
Biology of the Breast Cell	2	2 (100%)	\$390,000	6.0%
Total	30	17 (57%)	\$6,547,448	100%

Grants Funded in Cycle 28 2021-2022

Community Initiatives Grants

Grant	Grantee(s)	Total Award
 <p>Financial Toxicity among Underserved Hispanic Breast Cancer Survivors Award type: Community Research Collaboration Award - Pilot Priority Issue: Community Impact of Breast Cancer</p>	<p>Eunjeong Ko San Diego State University \$134,915</p> <p>Michelle Avila Kern County Cancer Foundation \$83,750</p>	<p>\$218,665</p>
 <p>Supporting African American Women During Treatment and Survivorship Through Peer Navigation Award type: Community Research Collaboration Award - Full Priority Issue: Community Impact of Breast Cancer</p>	<p>Lisa Goldman Rosas Stanford University \$367,737</p> <p>Starla Gay Charlotte Maxwell Clinic \$457,960</p>	<p>\$825,697</p>

 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.

Core Funding Grants

Grant	Grantee(s)	Total Award
<p>An activated stem cell signature as a biomarker to predict malignant progression of DCIS Award type: IDEA Award Priority Issue: Detection, Prognosis and Treatment</p>	<p>Jay Desgrosellier UC San Francisco</p>	<p>\$195,000</p>
<p>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</p>	<p>Jayla Burton Breast Cancer Action</p>	<p>\$25,000</p>
<p>Blocking the Entry of Breast Cancer-derived Extracellular Vesicles into Normal Cells Award type: IDEA Award Priority Issue: Detection, Prognosis and Treatment</p>	<p>Shizhen Emily Wang UC San Diego</p>	<p>\$204,330</p>
<p>Electroacupuncture for the management of cancer-related cognitive impairment in breast cancer (ECCO)</p>	<p>Alexandre Chan UC Irvine</p>	<p>\$200,792</p>

Award type: IDEA Award
 Priority Issue: Detection, Prognosis and Treatment



Evaluation of cerebrospinal fluid to improve outcomes in breast cancer patients with CNS metastases

Award type: IDEA Award
 Priority Issue: Detection, Prognosis and Treatment

Michelle Melisko UC San Francisco	\$195,000
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Influence of comorbidities on survival disparities in women with metastatic breast cancer

Award type: Translational Research Award
 Priority Issue: Community Impact of Breast Cancer

Reina Haque Kaiser Foundation Research Institute	\$1,041,037
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The pregnancy exposome and risk for premenopausal breast cancer (PMBC) across race/ethnicities

Award type: IDEA Award
 Priority Issue: Etiology and Prevention

Kimberly Berger Sequoia Foundation	\$215,262
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Risk factors for second breast cancer in racial/ethnic minority populations

Award type: IDEA Award
 Priority Issue: Etiology and Prevention

Esther John Stanford University	\$162,775
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Single cell multi-omic analysis of tumor and immune cells in malignant pleural effusions and ascites

Award type: IDEA Award
 Priority Issue: Detection, Prognosis and Treatment

Mark Jesus Magbanua UC San Francisco	\$194,763
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Strategies for Increasing Breastfeeding in Disadvantaged Communities

Award type: Policy Initiative
 Priority Issue: Etiology and Prevention

Ninez Ponce UCLA	\$157,897
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Uncovering a novel pathway in triple negative breast cancer stem cells regulated by GULP1

Award type: IDEA Award
 Priority Issue: Biology of the Breast Cell

Shaheen Sikandar UC Santa Cruz	\$195,000
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Program-Directed Research

Grant	Grantee(s)	Total Award
Women HEALERS Reducing Toxic Environmental Exposures and Preventing Breast Cancer Award type: Program Directed Initiative – Testing Primary Prevention Priority Issue: Etiology and Prevention	Kim Rhoads UC San Francisco \$104,800 Michelle Pierce	\$266,389

	Bay View Hunters Point Community Advocates, Inc. \$161,589	
Farmworker women & Respiratory Exposure to Smoke from Swamp Cooler Air (FRESSCA-Mujeres) <i>Award type: Program Directed Initiative – Testing Primary Prevention</i> <i>Priority Issue: Etiology and Prevention</i>	Gina Solomon Public Health Institute \$747,032	\$980,212
	Nayamin Martinez Central California Environmental Justice Network \$233,180	
Taking Stock: Reducing Breast Cancer Risks by Supporting Black Women's Transitions to Natural Hair <i>Award type: Program Directed Initiative – Testing Primary Prevention</i> <i>Priority Issue: Etiology and Prevention</i>	Bhavna Shamasunder Occidental College \$870,923	\$1,152,548
	Janette Robinson Flint Black Women for Wellness \$281,625	
Hayat Jayida: Primary Prevention of Breast Cancer for Underserved Arab American Women, Pilot Study <i>Award type: Program Directed Initiative – Testing Primary Prevention</i> <i>Priority Issue: Etiology and Prevention</i>	Juliet Lee PIRE California, Inc. \$267,081	\$317,081
	Gamila Abdelhalim Holistic Underground, Inc. \$50,000	

2022 CBCRP Funding by Institution

The following **19 California research institutions and community organizations were awarded new CBCRP funding in the 2021-2022 grant cycle.** Community Research Collaboration (CRC) and Testing Primary Prevention Program Initiative projects are split between institutions.

<u>Institution</u>	<u># of Grants</u>	<u>Amount</u>
Bayview Hunters Point Community Advocates, Inc.	1	\$161,589
Black Women for Wellness	1	\$281,625
Breast Cancer Action	1	\$25,000
Central California Environmental Justice Network	1	\$233,180
Charlotte Maxwell Clinic	1	\$457,960
Holistic Underground Inc.	1	\$50,000
Kaiser Foundation Research Institute	1	\$1,041,037
Kern County Cancer Foundation	1	\$83,750
Occidental College	1	\$870,923
PIRE California, Inc.	1	\$267,081
Public Health Institute	1	\$747,032
San Diego State University	1	\$134,915
Sequoia Foundation	1	\$215,262
Stanford University	2	\$530,512
UC Irvine	1	\$200,792
UCLA	1	\$157,897
UC San Diego	2	\$399,330
UC San Francisco	3	\$2,294,563
UC Santa Cruz	1	\$195,000

2022 CBCRP application evaluation process & review committee rosters

CBCRP thanks the participants in our 2022 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.

Community Impact Review Committee

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

Jean McDougall, PhD, MPH
Assistant Professor
Division of Epidemiology, Biostatistics and Preventive Medicine
Department of Internal Medicine
University of New Mexico
Albuquerque, NM

AI Richmond, MSW
Executive Director
Community-Campus Partnerships for Health
Co-Lead/Engagement Core – Coordinating Data
Collection Center MPI/I-TEAM (CEAL Alliance)
Patient Engagement Advocacy Panel/PCORI
Raleigh, NC

Advocate Reviewers:

Beverly Parker
Living Beyond Breast Cancer
Ardmore, PA

California Advocate Observer:

Amanda Heier
President and CEO
Breast Cancer Prevention Partners
San Francisco, 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:

Abenaa Brewster, MD, MHS

Professor
Department of Clinical Cancer Prevention, Division
of Cancer Prevention and Populations Sciences
MD Anderson Cancer Center
Houston, TX

Dai Horiuchi, PhD

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

Julie Ostrander, PhD

Assistant Professor of Medicine, Division of
Hematology, Oncology and Transplantation
University of Minnesota
Masonic Cancer Center
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

Zhihong Gong, PhD

Associate Professor of Oncology
Department of Cancer Prevention and Control
Roswell Park Comprehensive Cancer Center
Buffalo, NY

Advocate Reviewers:

Valerie Fraser

Michigan Breast Cancer Coalition
Huntington Woods, MI

Eunice Hostetter

ACS Cancer Action Network
Seattle, WA

Susan Siegel

Virginia Breast Cancer Foundation
Richmond, VA

Ad Hoc Reviewer:

Despina Kontos, PhD

Matthew J. Wilson Associate Professor of
Research Radiology II
Associate Vice-Chair for Research
Department of Radiology
University of Pennsylvania
Philadelphia, PA

California Advocate Observer:

Lianna Hartmour

Zero Breast Cancer
Marin, CA

Local Level Needs and Testing Primary Prevention Review Committee

Co-Chairs:

Mary C. White, ScD

Adjunct Professor
Department of Environmental Health
Rollins School of Public Health
Emory University
Atlanta, GA

Ella Greene-Moton

Administrator, Community Ethics Review Board
Community Based Organization Partners
Community /Academic Bridge
Flint, MI

Scientific Reviewers:

Rodney Lyn, PhD

Dean, School of Public Health
Professor, Department of Health Policy and Behavioral Sciences
Georgia State University
Atlanta, GA

Grace Sembajwe, ScD, MSc

Epidemiologist and Associate Professor
Occupational Medicine Epidemiology and Prevention
Northwell Health
Great Neck, NY

Advocate Reviewer:

Jane Segelken, MA, MSW

Volunteer Health Advocate
Cancer Resource Center of the Finger Lakes
Ithaca, NY

California Advocate Observer:

Linda Holden

Patient Advocate for Male and Metastatic Breast Cancer
American Cancer Society Cancer Action Network
Burlingame, CA

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

California Breast Cancer Research Council Programmatic Review Committee

Advocates

Abigail Arons, MPH
Breast Cancer Action

Michele Atlan
Breast Cancer Care and Research Fund

Colleen Carvalho
Bay Area Cancer Connections

Phyllis Howard
Women's Cancer Resource Center

Yamini Ranchod, PhD
Bay Area Young Survivors (BAYS)

Nonprofit Health Organization Representatives

Clara Omogbai, DrPH
California Health Collaborative

Tasha Stoiber, PhD
Environmental Working Group

Medical Specialist

Ujwala Rajgopal MD, FACS, FICS
MD Professional Corporation

Industry Representatives

Christine Meda, MS
IncelDX, Inc.

Melanie Smitt MD
Seattle Genetics

Scientist/Clinicians

Rati Fotedar, PhD
San Diego Community College District

Bryan Goldman, DO
Kaiser Baldwin Park Medical Center

Ana Navarro, PhD
University of California, San Diego

Sharon Pitteri, PhD
Stanford University

Angelique Richardson, MD
University of California, San Diego

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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