

California Firefighter Cancer Prevention and Research Program Pilot and Full Grants

Request for Proposals

University of California Office of Research & Innovation Research Grants Program
Office (RGPO)

[Informational Webinar](#) Date: January 29, 2024 at 1:00 – 2:00 pm Pacific Time

Letter of Intent Due Date (required): February 29, 2024 (by 12:00 noon Pacific Time)

Invited Proposal Due Date: June 13, 2024 (by 12:00 noon Pacific Time)

More information is available on the [California Firefighter Cancer Prevention and Research Program webpage](#).

Tip: Section 1, “Summary of Grant Program,” should be reviewed carefully to ensure appropriateness of proposed ideas and eligibility of planned partners and collaborators.

Section 1. Summary of Grant Program

Program Synopsis

The State of California has designated \$7 million to the University of California (UC) Office of the President, per AB 700, for community-based participatory research projects to reduce the incidence of cancer among California firefighters. Research will be conducted by community-academic partnerships among CA-based fire service organizations and UC campuses to explore carcinogenic exposures and their biological effects in order to understand mechanisms that cause cancer in firefighters and thus help prevent cancer in CA firefighters.

The UC Research Grants Program Office will administer these funds through a peer-reviewed process. This Request for Proposals (RFP) invites applications from teams of CA-based firefighters and UC academics for research awards totaling \$5.9 million in two categories: *California Firefighter Cancer Prevention Pilot Grants* and *California Firefighter Cancer Prevention Full Grants*. These grants will support research to prevent and reduce cancer among CA firefighters by examining the hallmarks of cancer and key characteristics of carcinogens related to firefighters’ occupational exposures, characterizing biomarkers of cancer susceptibility or risk in firefighters, understanding carcinogenic exposures among firefighters, and informing intervention strategies to lower risks of developing cancer in firefighters. The grant mechanisms supported by this funding are:

The **CA Firefighter Cancer Prevention Pilot award** is for a maximum of \$300,000 in direct costs for a 2-year project, plus indirect costs (as described below). The Pilot award supports the initial phase of the project, including strengthening collaborations, development of tools

and methods, testing feasibility, and collecting pilot data. Budgets will be carefully scrutinized for appropriateness to the work proposed.

The **CA Firefighter Cancer Prevention Full award** is for a maximum of \$750,000 in direct costs for a three-year project, plus indirect costs (as described below). The Full award is for projects with a fully developed research plan with supporting preliminary data, carried out by a well-integrated team of scientific and fire service members with demonstrated record of success conducting research. Budgets will be carefully scrutinized for appropriateness to the work proposed.

Application Type	Purpose of Grant	Award Size / Duration	Fire Service Co-Principal Investigator	Academic UC Co-Principal Investigator
CA Firefighter Cancer Prevention Pilot Grants	Lay the groundwork for future, larger research efforts, supporting the initial phase of the project, including strengthening collaborations, development of tools and methods, testing feasibility, and collecting pilot data	\$300,000 / 2 years (\$150,000 / year) Plus IDC	Required At least one California-based fire service organization	Required At least one experienced academically trained UC-based researcher
CA Firefighter Cancer Prevention Full Grants	Support robust partnerships with fully developed research plans that include supporting preliminary data; carried out by a well-integrated team of scientific and fire service members with demonstrated record of success conducting research	\$750,000 / 3 years (\$250,000 / year) Plus IDC	Required At least one California-based fire service organization	Required At least one experienced academically trained UC-based researcher

Submitted proposals will include both a Fire Service Co-Principal Investigator and an Academic UC Co-Principal Investigator. **For technical support in finding a project partner send an email to the California Firefighter Cancer Prevention and Research Program at firefighter-cancer@ucop.edu.**

Eligibility

This community-based participatory research grant opportunity requires participation of a team consisting of individuals representing at least one California-based fire service organization and at least one experienced academically trained UC-based researcher.

This partnership must work together in all phases of the collaborative research project, including:

- identifying the problem and formulating the research questions

- writing and submitting the application
- designing and carrying out the research
- analyzing the research findings
- preparing and submitting annual and final reports
- disseminating the results to both fire service and scientific audiences

The partnership must engage CA firefighters beyond the project team members and ensure that the insights of these firefighter stakeholders are integrated into the proposal and the implementation of any funded project.

The following eligibility criteria apply.

Co-Principal Investigator Eligibility:

- The fire service organization must identify one member who will act as the fire service Co-Principal Investigator (Co-PI) for the purposes of the project. The fire service organization may be any California-based group composed of actively serving and/or retired California firefighters, including state or local fire agencies, firefighter labor unions, or fire departments, or other formal or informal groups of firefighters meeting these criteria. To be eligible, the fire service organization needs to include individuals who experience occupational hazards to products of combustion as firefighters.
- The academic Co-Principal Investigator must be a University of California faculty or staff with principal investigator eligibility.
- All Co-Principal Investigators must reside in California.
- All proposals must be submitted by an Applicant Co-Principal Investigator (“Applicant Co-PI”), who can be either the academic or fire service Co-Principal Investigator. Regardless of who is the Applicant Co-PI, both the Fire Service Co-PI and the Academic Co-PI are equal partners.
- An individual may serve as Co-Principal Investigator on one pilot proposal and one full proposal in response to this RFP. However, the individual may serve as a Co-Investigator (Co-I) on other proposals.

Funded research projects must benefit California firefighters. As noted above, the applicant research and fire service organizations must be based in the state of California. Additional CA-based research and fire service organizations may also participate in collaborating roles on a project. In limited instances, the project may include institutions from outside of California, only if well justified. Co-PIs should email the California Firefighter Cancer Prevention and Research Program at firefighter-cancer@ucop.edu with questions ahead of grant proposal submission.

Project Eligibility:

- All research activities must be based in California.
- All proposals must address priorities as described in Grant Program Priorities and Overview (see Section 2).
- All research must be open, with [no restrictions on publication](#).
- Publications are required to comply with the [University of California Open Access policy](#) as well as state requirements ([AB 2192](#) in 2018).

Competition Timeline

The following table is a summary of the competition timeline. More details are provided in Section 2.1.

RFP Release	Thursday, January 18, 2024
Informational Webinar	Monday, January 29, 2024 at 1:00 – 2:00 pm Pacific Time Registration Link
Required Letter of Intent (LOI) Due	Thursday, February 29, 2024 (by 12:00 noon Pacific Time)
Invitation to Submit Application Announced	Thursday, March 14, 2024
Application Due	Thursday, June 13, 2024 (by 12:00 noon Pacific Time)
Award Start Date	December 1, 2024

Terms of Award

The awards will be made as cooperative agreements, an instrument establishing an "assistance" relationship (in contrast to an "acquisition" relationship) between the Program and the awardees, in which substantial Program scientific and/or programmatic involvement is anticipated during performance of the activity. The purpose of Program involvement is to support and/or stimulate the awardees' activity by acting as a "partner", while avoiding a dominant role, direction, or prime responsibility.

The awardees will be asked to agree to the provisions of this cooperative agreement mechanism, which involve collaborative actions with the Program staff to achieve the project objectives. It is anticipated that these terms and conditions will facilitate the successful conduct and completion of the awards. These terms will be in addition to, and not in lieu of, the relevant Research Grants Program Office (RGPO) policies and procedures for grants administration.

Consistent with this concept, the dominant role and prime responsibility for the activity resides with the awardees for the projects as a whole, although specific tasks and activities in carrying out the studies will be shared among the awardee(s) and the Program collaborators where appropriate, including the following:

Awardees' Responsibilities

Awardees will implement the individual projects' activities, scientifically and administratively, at the awardees' institutions. Awardees will do the following:

- Implement the project/s and refine objectives and methods, as needed;
- Disseminate study results, and interpretations and conclusions of the research within firefighter and academic communities.

Program Responsibilities

The Program anticipates having substantial scientific and programmatic involvement during the conduct of this program and the individual projects. However, the Program role is limited to technical assistance, advice, coordination and general direction. The Program will do the following:

- Convene a FIRESCOPE advisory committee to provide firefighter expertise and leadership perspectives in at least semi-annual review of plans and progress;
- Serve as member/s of the FIRESCOPE advisory committee;
- Facilitate additional expert consultation and provide other technical assistance to projects as requested by the awardees, and as determined by advisory committee; and
- Assist in efforts to disseminate findings.

Section 2. Proposal Preparation and Submission Instructions

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2.0 Grant Program Overview and Priorities

Firefighting, a hazardous occupation, is associated with occupational exposures to burning chemicals and materials. This type of occupational exposure is a known human carcinogen

(IARC, 2023). That is, the chemicals released from burning materials that firefighters are exposed to can cause cancer in human bodies. Recent data on age-adjusted death rates indicate that cancer is a close second to heart disease as the leading cause of death in California (CDC, 2017), but among firefighters nationwide, cancer is the leading cause of death. Firefighters' experience significantly increases risk for multiple cancers, including those of the brain, kidney, esophagus, breast, prostate, melanoma, acute myeloid leukemia, and multiple myeloma. (Kunz, et. al., 2023; Tsai, et. al., 2015).

Community-Based Participatory Research (CBPR) is a research approach that is useful in projects ranging from biomarker characterization to population-wide interventions. The core of CBPR is authentic and comprehensive partnership. In responses to this RFP, it would be demonstrated by clear and equitable integration of perspectives from fire service personnel and academics, and their engagement in:

- research question and specific aims generation,
- development of research methodology,
- project implementation,
- data gathering and analysis,
- report out of results to fire service community, academic audiences, and broader interested communities.

Research that utilizes CBPR methods is noted as a primary objective in California's Comprehensive Cancer Control Plan for 2021-2025:

Objective 1: Encourage minority participation through community-based participatory research (CBPR) that involves community members and stakeholders from the beginning stages through all aspects of the research process, (i.e. study design, implementation, study completion, and disseminating the research findings).

This RFP invites applications from teams of CA-based fire service professionals and UC academics for research to prevent and reduce cancer among firefighters by examining the hallmarks of cancer and key characteristics of carcinogens related to firefighters' occupational exposures, characterizing biomarkers of cancer susceptibility or risk in firefighters, understanding carcinogenic exposures among firefighters, and informing intervention strategies to lower risks of developing cancer in firefighters. Research pertaining to all firefighters, including but not limited to structural and wildland firefighters, are of interest.

Research that “will have a positive, direct, and timely impact on the California fire service” is an over-arching priority (California Firefighter Cancer Prevention and Research Program Act, 2023) in this RFP.

All proposals must address the priority area of:

- Engaging in community-based participatory research (CBPR) model of research.

In addition, projects must align with **one or more** of the following priority areas:

- Examining at least one of the hallmarks of cancer or the key characteristics of carcinogens (Smith et al., 2020) as it relates to firefighters' occupational exposures and cancer risk.
- Identifying and/or examining biomarkers of known and suspected human carcinogen exposures in firefighters.
- Developing and/or testing methods to quantify occupational exposures and biological effects to carcinogens among CA firefighters.
- Examining the effect of exposures among CA firefighters to known and suspected human carcinogens.
- Developing and/or testing interventions to reduce occupational exposures to known and suspected human carcinogens among CA firefighters.
- Developing and/or testing systems-level interventions to reduce occupational exposures among CA firefighters. This includes, but is not limited to, policy and/or practice interventions at the department, organization, agency, and/or other type of group level.
- Developing and/or testing other methods for preventing or reducing the incidence of cancer in CA firefighters.

Example research topics include, but are not limited to:

- Identifying biomarkers of cumulative chemical exposures and/or cumulative effects of chemical exposures.
- Identifying biomarkers of the effect caused by exposures to cancer-relevant chemicals singly or in mixtures in experimental models (e.g., rodent or in vitro tissue culture models).
- Projects that extend *in vitro* and *in vivo* experimental findings into humans are responsive to the RFP.
- Developing experimental models to test for site-specific tissue alterations (e.g. brain cells, connective tissue, kidney cells, breast cells) due to chemical exposure and relate these changes to circulating biomarkers that could be of cellular, epigenetic, proteomic or metabolic origin and can be investigated in humans.
- Examining personal protective clothing and variance of chemical exposures in fighting wildfire among diverse body types.

- Evaluating changes in a relevant biomarker following an intervention or natural change in chemical exposure.
- Developing and testing impact on occupational chemical exposures from modifications to personal protective clothing among men and women firefighters.
- Developing and testing technology that can protect firefighters from carcinogenic exposures.
- Conducting an *in vitro* study of materials collected from actual firegrounds.

Projects that measure chemical exposures in firefighters must include a plan to report back individualized research results to firefighters. It is preferred that the report back plan include a component designed to reduce cancer risk among firefighters via education or the development/implementation of interventions. Publication in scientific journals does not constitute a report back plan.

Projects that are not in alignment with this RFP include:

- Those focused on a disease area other than cancer.
- Projects that consult with fire service professionals, but do not partner with them.
- Projects where teams will limit output to a meta-analysis of published literature.
- Projects that do not study or partner with firefighters with occupational exposures to products of combustion.
- Projects that do not include partnerships with actively serving or retired California firefighters.
- Projects that measure chemical exposures in firefighters but do not include a plan to report back individualized research results to firefighters. Publication in scientific journals does not constitute report back of individualized research results to firefighters.

2.1. Competition Steps and Timeline

The steps and timeline for the competition are as follows:

Informational Webinar:

Program staff in conjunction with the FIRESCOPE Program will host an informational webinar on January, 29 2024 at 1:00 – 2:00 pm Pacific time. The webinar will focus on the Request for Proposals, providing an overview of the grant program, funding priorities, grant types, and application requirements. The presentation will highlight technical support opportunities for identifying fire service and academic partners. Advance registration is required to attend the informational webinar. [Visit the registration page by clicking here](#). A confirmation email containing the Zoom meeting details will be provided to webinar registrants. The webinar recording and supporting documents will be posted to the program’s website after the

webinar.

Letter of Intent:

Applicants must submit a required letter of intent (LOI) through the online *SmartSimple* (<https://rgpogrants.ucop.edu/>) application system by Thursday, February 29, 2024. LOI submissions will be reviewed for compliance with program eligibility requirements and will inform peer review panel planning. All grant types require a LOI submission, and the submission of more than one LOI for each grant type per applicant is not allowed. Submissions from ineligible institutions will not be accepted.

The LOI submission deadline will be strictly enforced, and no invited application may move forward without an approved LOI. LOI applicants will not receive reviewer comments.

Invitation to Submit a Proposal:

LOI applicants invited to submit proposals will be notified via *SmartSimple* by Thursday, March 14, 2024. LOI approval will grant access to the invited application materials in *SmartSimple*. Proposals must be submitted in accordance with application instructions, templates, and deadlines, and must conform to the requirements of the RFP. Applicant Co-PIs are responsible for checking the program website for updates, clarifications, or RFP changes prior to submitting the LOI or invited proposal.

Proposal Submission:

Invited proposals should be submitted through *SmartSimple* by the designated signing official or authorized representative within the applicant organization's Contracts and Grants or Sponsored Projects Office. The Applicant Co-Principal Investigator is responsible for adhering to the applicant organization's policies, procedures, and timelines for submitting a multi-institutional proposal, and for coordinating proposal development and submission with any participating institutions/entities. Applications require signature by a designated signing official or authorized representative, the applicant Co-Principal Investigator, and the non-submitting Co-Principal Investigator upon submission. The proposal submission deadline will be strictly enforced, and *SmartSimple* will not allow submissions after the deadline.

Proposal Review and Selection:

The Research Grants Program Office in the UC Office of Research & Innovation will manage the competitive peer review, scoring, and ranking of proposals based on the criteria and requirements outlined in this RFP and the application instructions. Proposals will be reviewed by multi-disciplinary panels comprised of reviewers with subject matter expertise and community-based participatory research experience, particularly in collaboration with firefighters. Panel composition and proposal assignments will be made to ensure a fair and balanced review and to address any conflicts of interest. Applicants should prepare their proposals in language accessible to a general scientific audience. FIRESCOPE will make final funding recommendations to the University of California.

2.2. Letter of Intent Preparation (required)

A letter of intent (LOI) is required for both grant categories. The Applicant Co-PI must prepare and submit the Letter of Intent in the RGPO [SmartSimple](#) portal.

LOIs may be submitted with only one Co-PI named. Technical assistance is available to help applicants find an appropriate partner Co-PI, and with other aspects of their application. Note that invited applications will require that both Co-PIs be named and have developed a memorandum of understanding for their partnership. For technical support in finding a project partner, and with other aspects of the application, send an email to the California Firefighter Cancer Prevention and Research Program at firefighter-cancer@ucop.edu.

Letter of Intent Content. LOI submissions must include the following information:

- Type of award (Pilot or Full grant)
- Title of proposed research project
- Contact information for at least one Co-Principal Investigator (Co-PI)
 - University of California Co-Principal Investigator
 - Fire service organization Co-Principal Investigator
- Named Co-PI(s) organizations and institutions
- Short description of proposed project. (500 words maximum; 3500 characters)
- Anticipated budget request for the total project
- (Optional) Suggested academic and fire service peer reviewers from outside California

An accepted LOI is required in order to submit an application. LOIs will be reviewed for eligibility, completeness and compliance with program requirements. All LOI decisions will be communicated through *SmartSimple* and are final.

2.3. Proposal Preparation

Two funding mechanisms are available. **Pilot grants** support \$300,000 of funding across 2 years. **Full grants** support \$750,000 of funding across 3 years. Instructions for preparation of proposals will be provided to applicants with accepted LOIs in the future.

A. Components of Application: The application must use the templates provided in [SmartSimple](#). The project description is limited to 10 pages for a pilot project and up to 15 pages for a full project, excluding references cited (11-pt. Times New Roman or Calibri font, 1" margins, single-spaced). The following sections must be included:

1. **Lay Abstract/Project Summary** (max 2400 characters): The Lay Abstract/Project Summary must include the following sections:

- A non-technical introduction to the research topic(s) including the program priorities being addressed and participating academic and fire service organizations
- Collaborative elements
- The question(s) or central hypotheses of the research in lay terms
- The general methodology in lay terms
- Potential impact of the project in lay terms

The abstract should be written using a style and language comprehensible to the public. Avoid the use of acronyms and technical terms. The scientific level should be comparable to either a local newspaper or magazine article. Avoid the use of technical terms and jargon not a part of general usage. Place much less emphasis on the technical aspects of the background, approach, and methodology. Academic applicant organizations must co-develop applications in collaboration with fire service partners. Ask your partner(s) to read the proposal abstract and provide feedback.

2. **Responsiveness to Program and Award Type:** Address, in detail, how the proposed project is responsive to the intent of the community-based participatory research mechanism (collaborative research) and the award type (pilot or full). Carefully review the community-academic collaboration elements in the application instructions (to be provided to submitters of accepted LOIs).
3. **Project Personnel Table and Biosketch/CVs:** Provide contact information and effort for Key Personnel and Other Significant Contributors on your project including the Applicant Co-Principal Investigator, Co-Principal Investigator, Co-Investigators, consultant(s), and support personnel. Attach a three-page biosketch/ resume for each named Project Personnel. A 10% minimum effort is required for Co-PIs on both award types.
4. **Participating Institutions & Organizations:** List all participating institutions and organizations, including fire service organizations and collaborating academic/research institutions. Note that at least one collaborating fire service partner/organization and at least one UC partner are required for this award type. Briefly describe the role of each institution/organization.
5. **Collaborative Agreements:** Describe the team agreements about who will own the data and intellectual property rights. Include the reason that the team made the decision (i.e. what factors were considered, what was important to the team in making this decision). Describe the procedures the team will use to handle disagreements during the study and afterwards. Confirm that each organization will receive their own separate award. This partnered award type requires that each agency receives a separate award. Describe how individual fire service

members not on the research team (including staff and board members of the fire service organization applicant as well as community members outside of the organization, as applicable) will be involved in the planning, conducting, and dissemination of research. Describe how research findings will be disseminated to both the fire service and the scientific communities and what agreements have been made about the timing of dissemination.

6. **Research Team and Mutual Benefit:** Identify the project leadership, including the fire service organization and the collaborating academic/research institution, and Co-PIs representing each organization/institution. Describe both the (1) fire service Co-PI and organization, (2) the academic Co-PI and organization, their expertise, and the unique facilities, resources, or infrastructure that will be brought to bear on the research project. Describe the organizational mechanisms and collaborative approaches that will ensure genuine partnership. This section should include a description of the following 1) the organizational structure of the team; 2) the complementary strengths of the team members and available facilities that will frame a cohesive research program; 3) the specific contributions that each of the participating entities are expected to make to the project in terms of knowledge, research expertise, and access to communities, facilities, resources, data, and equipment; and 4) the overall plan for the team to harness these components for maximum impact.
7. **Proposed Research Activities and Specific Aims:** State the specific priority or priorities being addressed. List the goals, specific milestones, and the short- and long-term outcomes the proposed research will address. Describe how the research activities will generate measurable, tangible outcomes with potential to contribute to the well-being of California's firefighters. Briefly describe how the proposed project is built upon prior research or pilot projects (**Full Award** applications must present sufficient preliminary data to justify the application). State the expected impact the project will have in relation to the priority or priorities of the *California Firefighter Cancer Prevention and Research Program*.
8. **Timeline, Milestones, and Evaluation Metrics:** Identify the research timeline, benchmarks, and milestones. Describe the methods that will be used to assess the effectiveness of the project. Provide a plan for monitoring the research, implementation, and dissemination activities. The proposal must include specific outcomes and metrics to be achieved in the project period. Concrete, measurable, longer-term outcomes also may be included if applicable and whether and how these outcomes will be tracked by the project team.
9. **Itemized Budget and Justification:** Provide a detailed budget, by project year, accompanied by line-item budget justifications in relation to the activities and potential impact. Each institution that is a partner in the project must complete a

budget. Include itemized budgets and justifications for collaborating fire service organization(s) and partnering academic institution(s). That is, the Fire Service Co-PI and the Academic Co-PI will each have their own budget. If a collaborating organization on the project has a subcontract, then that subcontracting organization can complete a budget or the Co-PI institution/organization can complete the budget for the subcontracting organization. The Co-PI who will submit the application through the SmartSimple system. Teams should ensure that the direct costs on the Budget tab do not exceed the cap on the award type. Budgets should reflect the efficient use of resources to maximize outcomes and minimize administrative costs. Research and training support focused on CBPR methods and approaches for students, postdoctoral scholars, and fire service members is encouraged. The guidance for allowable costs, non-allowable costs, and indirect costs is as follows:

- Allowable direct costs. Salaries, fringe benefits, student tuition and fees, supplies, dissemination and publishing, consultants, honoraria, subcontracts, equipment (individual unit cost more than \$5,000), and project-related travel within the state of California. Research activities must take place in California, and costs are expected to be incurred in California.
- Non-allowable Costs. Funding provided by this opportunity may not be used to cover patient care costs, clinical trials, patent execution costs, fundraising costs, or any costs prohibited by California state policy.
- Indirect costs. UC campuses receive a maximum institutional F&A of 35% MTDC (25% for off-campus projects). All other institutions are eligible for indirect costs of up to 25% MTDC or the rate established for the institution through a U.S. Department of Health and Human Services negotiated indirect cost rate agreement (or another similarly established rate), whichever is higher.
- Co-Principal Investigators should include within the budget the amount of time they plan to spend working on the project, if funded. A 10% minimum effort is required for both the applicant fire service and academic Co-PIs.

10. **Letter(s) of Commitment:** Letter(s) of commitment documenting the availability of specific resources (if any) that will be leveraged to complete the proposed research should be included within the proposal.

11. **Assurances (Human participants, animal use, or biohazard issues and the approach to compliance)** Enter assurance information. If available, enter your institutional Federal Wide Assurance (FWA) code or equivalent for Human Participants, an IACUC Animal Welfare Assurance code for Vertebrate Animals, and equivalent for Biohazard and DEA Controlled Substance approvals.

B. Additional Notes:

1. Proposals must describe any human participant (IRB), animal use, or biohazard issues and the approach to compliance (one-page template).
2. Application templates and detailed [SmartSimple](#) instructions will be made available to applicants with accepted LOIs.

2.4. Review and Scoring Criteria

Letter of Intent Review Criteria:

LOIs will be reviewed for eligibility, completeness and compliance with program requirements. All LOI decisions are final.

Criteria:

Proposals will be evaluated through a two-tiered process: peer review and programmatic review. It is a combination of (i) the peer review rating, (ii) the programmatic rating, and (iii) available funding that determines a decision to recommend funding.

Peer Review

All applications will be evaluated by a peer-review committee of individuals from outside of California. The committee will be composed of academics from relevant disciplines, including those who are experts in community-based or participatory research, and fire service representatives. Applications are rated using the following criteria.

- **Importance:** Does the applicant articulate what difference the project would make? From a research perspective, how would the project potentially advance the state-of-the-art? To what extent does the project explore new and potentially useful ways to address the stated intent of the program? Are the concepts and hypotheses relevant? Are methods novel and original? Has(ve) the investigators thought creatively about addressing multiple factors or exposures relevant to cancer in firefighters? **For Pilot Awards:** Will this project lay the groundwork for future work? **For Full Awards:** Does the application present sufficient preliminary data to justify the proposed approach?
- **Partnership and Collaboration:** Does the project propose a community-partnered approach? Does the team propose a sound approach to partnership? Are there MOUs documenting the agreements between fire service and academic partners? Is there fire department leadership support for the project? Will there be sustainable and tangible benefits left with the target audience(s)? Are firefighter communities well-integrated to leverage complementary resources and expertise? Is there a strong collaboration plan? Does the collaboration enhance the reach and impact of the project beyond what can be achieved by individuals? **For Pilot Awards:** to what extent will this project form or strengthen new collaborations? **For Full Awards:** Is a strong partnership in place to carry out this work and does the team have a strong track record of collaboration?

- **Impact:** What is the potential for the project, if successful, to have a positive, direct, and timely impact on the California fire service? What is the potential for the project to ultimately reduce the incidence of cancer in California firefighters? Is there a high-quality, scalable plan for implementation of findings? Will the data yielded by the project be sufficient to inform policy? Will the research generate new approaches or markers that can be used to target and evaluate prevention strategies?
- **Approach and Feasibility:** Are the conceptual framework, design, methods, and analyses well-developed, well-integrated and appropriate to the aims of the project? Does the approach include timeline-driven solution(s) with clear metrics and tangible outcomes? Does the applicant acknowledge potential problem areas and consider alternative strategies? Is the collective academic and fire service expertise of the team suitable for the proposed project?

Programmatic Review

Programmatic review is conducted by FIRESCOPE and involves reviewing and scoring applications with sufficient scores from the peer review process based on the criteria below. In performing the Programmatic Review, FIRESCOPE evaluates only a portion of the application materials (specific sections and/or forms are underlined). The programmatic criteria include the following:

- **Relevance and Impact to Fire Service.** How responsive are the project and Co-PIs to the stated intent of this program? Will the proposed work be relevant and impactful to the fire service community? Compare the Co-PI's statements on the Responsiveness to Program and Award Type form and the contents of the Lay Abstract/Project Summary to the priorities of this program.
- **Fire Service Partnership.** Are the named fire service Co-PIs/organizations clearly driving the proposed research project? How well has the team described the strengths/nature of the proposed partnership and how is it reflected in leadership and involvement in all phases of the project? How well has the team described how both Co-PIs have engaged with the broader fire service community to get their input in the application development process? Are meetings and other communications sufficient for substantive engagement and collaboration? Are the roles and responsibilities of the Co-PIs clearly outlined and is the agreement for sharing of budget clear? [FIRESCOPE will examine the Co-PIs statements in the Lay Abstract/Project Summary, Responsiveness to Program and Award Type form, and the Collaborative Agreements.
- **Diversity and Portfolio Distribution.** To what extent will this project fill a gap in the portfolio and add to the diversity of projects funded by this program, including in terms of subject matter, geography across the state and serving different types of fire service organizations (rural/urban, municipal/state, etc.).

2.5. Submission Guidelines: The RGPO *SmartSimple* Portal

All applications under this funding opportunity must be submitted through the RGPO [SmartSimple](#) portal. *SmartSimple* will be accessible on or around mid-January, 2024. Registration of institutions new to Research Grants Program Office (RGPO) programs requires several days and the cooperation of the authorized organizational representative's office prior to application submission.

Applicants are encouraged to begin the letter of intent, proposal preparation, and online submission process early, in case technical issues are encountered in the online *SmartSimple* portal. The proposal must be initiated and submitted by the Applicant Co-Principal Investigator. UC PIs must apply through their campus sponsored projects office. Additional personnel who may assist in proposal development may be given access by the Applicant Co-PI once the submission is initiated.

Information on how to submit a letter of intent and the proposal are available in the "*SmartSimple* Submission Instructions" in the online *SmartSimple* portal.

Eligibility and submission deadlines will be strictly enforced. All required fields in *SmartSimple* must be completed prior to submission. Failure to complete all components or otherwise comply with provided instructions or failure to submit a complete application may result in administrative declination of the proposal without review.

2.6. UC Program Contacts

The California Firefighter Cancer Prevention and Research Program funding opportunity is managed by the Research Grants Program Office, in the UC Office of Research and Innovation (R&I), in consultation with FIRESCOPE. The Research Grants Program Office administers the proposal submission, peer review, and grant oversight.

Submit any questions regarding the grant program priorities, eligibility criteria, application requirements, submission guidelines, or finding a project partner via email to the California Firefighter Cancer Prevention and Research Program at firefighter-cancer@ucop.edu.

References

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Appendix A: Tips and Guidance for Conducting Community-Based Participatory Research

Research partnerships that are formed to engage communities authentically reap many benefits and may introduce some challenges. Among the potential rewards are increased relevance of the research, increased community support of and participation in the research, improved methodologies and interpretation of data, and improved sustainability of interventions. The challenges of research partnerships include the need for additional knowledge and expertise historically excluded from research, as well as time and resources from researchers and partnering organizations.

Community engagement is best viewed as a *continuum of research practice*, as shown in the figure below. This continuum ranges from traditional early-stage consultation and perhaps modest involvement to collaboration and holistic full empowerment through participation and mutual learning and benefit. For this RFP, simply consulting with the fire service organization or involving the fire service organization in only some aspects of the project is not sufficient. Instead, it is expected that the fire service organization will be a full and equal partner with the academic team.



The continuum of research practice shown here illustrates the varying levels of community engagement, from consultation with partners to full holistic, integral empowerment.

Community engagement in research is an expertise of its own and is better NOT undertaken by individuals with no experience/expertise unless there is a team approach for sufficient support and collaboration. *The damage that can result from inadequate attention to respectful partnership values and practices can reverberate for decades in soured academic-community relations.* Thus, it is recommended that PIs inexperienced in partnered scholarship and/or community engagement recruit and compensate collaborators who can bring the skills needed to promote harmonious and results-driven community engagement processes. Many institutions have qualified faculty, centers, institutes and sometimes university-wide offices and centers devoted to community engagement. Issues that should be addressed in the proposal (and ideally in a Memorandum of Understanding or other partnership agreement document) include:

1. Who/what is the intended fire service community or communities that is/are being engaged? How do the aims of this grant align with/relate to the mission and goals of the proposed partnering entities?
2. How will both the research and specific fire service organization knowledge be integrated and acknowledged/attributed in the research? Is there mutually beneficial learning for the academic partners and fire service community? Identify specific areas of such learning.
3. How do the aims advance the scientific knowledge base and relate to the research program of the investigators?
4. What are the projected policy, practice, and/or fire service impacts of the proposed research

plan?

5. For which aspects of the research plan will the fire service and academic investigators be in a consultative and/or co-deciding role such that the research benefits from the bi-directional, reciprocal expertise of partners (specify roles and initial ideas)?
 - a. Generation of research aims/questions
 - b. Design and measures
 - c. Data ownership and interpretation
 - d. Authorship
 - e. Dissemination that is accessible and/or policy impact/advocacy
6. Will the fire service participants be compensated for their participation? Is there a conflict resolution mechanism in place to address disagreements?
7. If the proposed project is with an existing partnership, what is the evidence for this partnership's ability to continue to work together in a collaborative and effective way that advances the partnership's mission?
8. If this application represents a new partnership, what steps will be taken to identify common goals, build trust and clear communication to forge an effective and respectful partnership that advances the mission of the partner(s) and the research program?
9. What are the initial ideas for potential next steps to sustain this work after the grant cycle (in terms of funding and/or through integration into the ongoing work with partnering organization(s), investigator(s), or institution(s)).