

## 2017 Call for Applications

The Tobacco-Related Disease Research Program of California (TRDRP) offers a unique source of funding that supports investigators at all eligible California institutions who are engaged in research that directly contributes to the elimination of smoking and tobacco use and mitigates its human and economic costs in California.

In the previous grant cycle, TRDRP implemented a number of changes and revisions to our research priorities, grant mechanisms, and the peer review criteria. These were based on the results of an extensive input, analysis, and planning process involving evaluations of prior year grants and surveys and interviews with key stakeholders and other funders. These changes also addressed declining Proposition 99 revenue while strengthening and targeting resources in areas of highest priority and that will inform and impact the evolving reality of tobacco use and tobacco control in California.

This reality changed dramatically on May 4, 2016 when the Governor of California signed into law some of the most significant tobacco control legislation in decades. This new legislation included closing loopholes in the state's smoke-free laws, regulating e-cigarettes as tobacco products, and raising the legal age for the purchase of tobacco products to 21. These developments were almost immediately followed by the US Food and Drug Administration (FDA) announcement that e-cigarettes and other tobacco products like premium cigars and hookahs will be regulated in the same way the government regulates traditional cigarettes and smokeless tobacco. And as we release this call, signatures have been validated to place a proposition before California voters that calls for an increase to cigarette taxes to benefit health care services, public health, and research.

TRDRP's research priorities and funding opportunities reflect these new realities while also being designed to strengthen support for:

- The career development of early and mid-career researchers committed to advancing tobacco-related science, practice, and public policy for California
- High impact single and collaborative multi-investigator studies in new, emerging, and/or under-studied areas of tobacco-related research
- Collaborative research efforts addressing areas of tobacco-related research of particular relevance and high priority for California and the field

## KEY DATES

Letter of Intent (LOI) materials available	<b>Thursday, July 7, 2016</b>
LOI submission due	<b>Tuesday, September 13, 2016 (12 PM PDT)</b> <i>LOI submission required for all applicants except conference awards.</i>
LOI review results available	On or before <b>Monday, October 3, 2016</b>
Application submission due	<b>Thursday, December 8, 2016 (12 PM PST)</b>
Applications reviewed	February 2017
Applicants notified	April – May 2017
Awards start	July 1, 2017

## To get started:

1. Determine your [eligibility for funding](http://www.trdrp.org/funding-opportunities/index.html#eligibility) [http://www.trdrp.org/funding-opportunities/index.html#eligibility]
2. Explore our [six research priorities](http://www.trdrp.org/research-priorities/index.html) [http://www.trdrp.org/research-priorities/index.html] (all applications must address one or more)
3. Review the [2017 award mechanisms](http://www.trdrp.org/funding-opportunities/award-mechanisms/index.html) [http://www.trdrp.org/funding-opportunities/award-mechanisms/index.html] and [dates and deadlines](http://www.trdrp.org/funding-opportunities/dates-and-deadlines.html) [http://www.trdrp.org/funding-opportunities/dates-and-deadlines.html]
4. Familiarize yourself with our [letter of intent and application processes](http://www.trdrp.org/funding-opportunities/award-processes/index.html) [http://www.trdrp.org/funding-opportunities/award-processes/index.html]
5. Contact a [program officer](http://www.trdrp.org/about/staff.html) [http://www.trdrp.org/about/staff.html] with any questions
6. Use [proposalCENTRAL](https://proposalcentral.altum.com/) [https://proposalcentral.altum.com/] to submit your LOI and/or proposal

## HIGHLIGHTS OF THE 2017 AWARD CYCLE

### 1. Emphasis on research impact

All applications will be evaluated for the potential impact of the proposed research. For TRDRP, impact refers to: (1) the scientific impact in a sustained manner on the specified tobacco-related research field, or (2) a targeted impact on tobacco use in specific communities, or (3) direct impact on issues governing state and local policies related to tobacco use and control or any combination of these three components.

### 2. Emphasis on community engagement

Inclusion of perspectives and people representing community groups and community-based organizations are encouraged across TRDRP's portfolio. We encourage community involvement and input to the extent appropriate for the research questions and protocol. Investigators are encouraged to be creative in considering how their line of research could have near-term and downstream impact in California communities including potential policy implications. Community residents could potentially be involved across multiple stages of the research process (i.e., research development, implementation, and/or dissemination). For additional guidance and examples for biomedical research, please review our [FAQ](http://trdrp.org/funding-opportunities/2017-call-for-applications-faq.html) [http://trdrp.org/funding-opportunities/2017-call-for-applications-faq.html].

### 3. The community practice-based research planning award

TRDRP will continue to offer the Community Practice-Based Research Planning Award to promote partnership development among researchers and healthcare practitioners with the goal of conducting health service research that promotes sustainable system change in delivery of tobacco cessation interventions in clinical settings serving low income populations.

### 4. The career development awards

Career development awards are designed to focus on supporting the development of tobacco-related researchers with the highest potential for impact on the field. Towards this end, both early and mid-career development awards are being offered.

## 5. Scientific conference awards

Awards to support in-person scientific conferences that disseminate TRDRP-funded research and convene TRDRP investigators and colleagues are being offered.

## 6. Programmatic review of Letters of Intent (LOI)

In order to ensure that full applications sent to peer review are responsive to all program requirements and priorities set forth for this funding cycle and that resources are used efficiently, TRDRP and its Scientific Advisory Committee (SAC) will be subjecting all letters of intent to a programmatic review prior to acceptance for submission of a full application.

### ELIGIBILITY FOR TRDRP FUNDING

Investigators from California not-for-profit organizations are eligible for TRDRP funding, including but not limited to colleges, universities, hospitals, laboratories, research institutions, local health departments, community-based organizations, voluntary health agencies, health maintenance organizations and other tobacco control groups. The sponsoring institution, in accordance with its own policies and procedures, should designate the Principal Investigator (PI).

The PI must supervise the research project and any trainees directly and in person. Although the research undertaken with TRDRP funds must be conducted primarily in California, part of the work may be done outside California if the need to do so is well-justified (e.g., it is integral to the achievements of a specific aim), and the results of such work may be applied to understanding the causes and/or improving the prevention and treatment of tobacco-related diseases in California.

In accordance with [UC policy](http://policy.ucop.edu/doc/2500500/ReqSubmitProp-Awar) [http://policy.ucop.edu/doc/2500500/ReqSubmitProp-Awar], PIs who are UC employees and who receive any part of their salary through UC must submit grant proposals through their UC campus contracts and grants office. Exceptions must be approved by the UC campus where the PI is employed.

US citizenship is not a requirement for eligibility.

NOTE: Investigators are limited to submitting one proposal per funding cycle. However, those applying for a STAR or Mackay award are allowed to submit a second Letter of Intent (LOI) for review within the same cycle.

### RESUBMISSION POLICY

TRDRP will accept only a single resubmission of the same or very similar project, regardless of change in application title. Under extraordinary circumstances a second resubmission *may* be allowed at the discretion of the program.

## 2017 Grant Award Mechanisms

Grant Mechanism	Purpose of Award	Maximum Award/Year (Direct Cost)	Maximum Award Duration (Years)
<b>High Impact Pilot Research Award (IP)</b>	To gather preliminary data or demonstrate proof-of-principle for tobacco-related research with potential for high impact	\$120,000/year	2
<b>High Impact Research Project Award (IR)</b>	To conduct research that will achieve or advance work towards achieving high impact	\$150,000/year	2
<b>Community Practice-Based Research Planning Award (CP)</b>	To support partnership development among health service researchers and healthcare practitioners to promote sustainable system change in tobacco cessation efforts at healthcare clinics	\$150,000/year	2
<b>Cornelius Hopper Diversity Supplements (CHDAS)*</b>	To train promising individuals either from underrepresented communities and/or those who wish to pursue careers in tobacco-related research focused on underserved communities	\$15,000/year	1
<b>Postdoctoral Fellowship (FT)</b>	To support postdoctoral research training under a designated mentor	\$55,000/year	2
<b>California STAR Award (SA)</b>	To support the early independent career of a tobacco-related/focused scientist within the first three years of a first independent appointment	\$100,000/year	3
<b>Mackay California-Pacific Rim Tobacco Policy Scholar Award (MT)</b>	To build leadership among mid-career researchers to foster evidence-based tobacco control policy with relevance to California and the Pacific Rim region (Asia, Pacific Islands, and Latin America)	\$150,000/year	2
<b>Special Projects (ST)</b>	To support small scientific conferences and other research dissemination activities. To provide limited rapid support for early investigation into emerging issues in tobacco control or tobacco-related disease research	\$5,000	1
<b>Scientific Conference Award (CX)</b>	To support in-person scientific conferences that disseminate TRDRP-funded research and convene TRDRP investigators and colleagues	Up to \$50,000/year	2

\* Cornelius Hopper Diversity Supplement (CHDAS) applications will be accepted as a part of the mentoring – PI's application

## Research Priorities

All applications must address one or more of the program's six research priorities.

- **Environmental Exposure and Toxicology**
- **Early Diagnosis of Tobacco-Related Cancer**
- **Cardiopulmonary Disease**
- **Neuroscience of Nicotine Addiction and Treatment**
- **State and Local Tobacco Control Policy Research**
- **Tobacco-Related Health Disparities**

### Environmental Exposure and Toxicology

**Purpose:** To support innovative and high impact research that advances policies to reduce environmental exposure to the toxic effects of tobacco smoke and tobacco smoke residue, and assesses and eliminates the environmental impact of cigarette waste; toxicology and the exposure science of new and emerging tobacco products.

**Electronic cigarettes and indoor environment** - The emergence of e-cigarettes has complicated policies related to SHS exposure. There is need for further research on the health effects of exposure to e-cigarette aerosol and its constituents. Research in this area is urgently needed to fill this knowledge gap and assist policymakers in assessing the risks and benefits of e-chemicals and levels of nicotine in e-cigarette liquids.

Examples of relevant research topics include:

- Toxicity levels, and markers of exposure to electronic cigarette constituents and aerosol
- Current local policy approaches to controlling aerosol and tobacco smoke exposure in multiunit housing
- Tobacco industry practices aimed at weakening public support for minimizing secondhand aerosol and tobacco smoke exposure in multiunit housing and indoor public spaces
- How safe are e-cigarettes? A demonstration project approach to conduct research studies on use, and health effects in users and exposed non-users

**Secondhand Smoke (SHS)** — SHS is a Class A carcinogen and there is no risk-free exposure level to this indoor and outdoor pollutant. In order to support policies designed to minimize involuntary exposure to SHS, research is needed to understand SHS exposure and health risks in multiunit housing, casinos and the social-behavioral, economic and legal barriers to adoption of smoking bans in these areas.

**Thirdhand Smoke (THS)** — THS refers to the residual tobacco smoke pollutants that remain on surfaces and in dust after tobacco has been smoked, or are re-emitted back into the gas phase, or react with oxidants and other compounds in the environment to yield secondary pollutants. Toxic compounds so far identified in THS include many that are also present in SHS and mainstream smoke, as well as novel tobacco-specific carcinogenic nitrosamines. Emerging evidence from animal model studies alerts us

that involuntary inhalation or dermal uptake of THS can be adverse to human health. Research on specific or unique biomarkers of THS exposure, and toxicological studies on exposure, dose, and response are needed. A better understanding of THS and its effects on human health and disease would address a critical need for information in the formulation of policies related to indoor air quality.

NOTE: TRDRP currently funds a statewide research consortium on thirdhand smoke [<http://www.trdrp.org/highlights-news-events/thirdhand-smoke-consortium.html>]. Applicants who plan to pursue THS research are required to design an approach that will benefit from the existing THS research capacity, infrastructure, and methodologies generated through this consortium. **Through a review of Letters of Intent (LOI), proposals that appear to duplicate research being conducted by this THS Consortium will not be invited to submit full applications.** Please contact TRDRP staff for additional information.

**Tobacco product waste pollution**— Cigarette waste remains the most common form of litter on US roadways and beaches. The environmental burden of cigarette butts is staggering; each year these are dumped by trillions, globally. California is no exception. Nearly all of cigarette filters are made of cellulose acetate, a non-biodegradable plastic that remains in the environment for a very long time. Ingested cigarettes are poisonous to children and adults as well as animals, and butt leachates are toxic to marine and freshwater fish. **A new aspect of waste pollution arises from new product use, e.g. electronic cigarette components and their constituents and the environmental impact of the waste of these products.**

New knowledge about the impact of tobacco product waste on the environment and the risks to human health can raise awareness and inform sound policies aimed at mitigating tobacco waste pollution and product use in sensitive environments.

Examples of relevant research topics include:

- Environmental and economic impact of the production, sale, and use of new products and its related waste
- New policy approaches to reduce or mitigate tobacco product waste at the municipal, county, or state levels
- Exposure and toxicity of cigarette butt and other new tobacco product waste

## **Early Diagnosis of Tobacco-Related Cancer**

**Purpose:** (1) To advance innovative and high impact research in the early diagnosis and molecular characterization of tobacco-related cancer. (2) To advance innovative research aimed at improving the early detection of lung cancer in California's disproportionately impacted populations.

**Early diagnosis and molecular characterization of tobacco-related cancer** - The development of early detection strategies often involves characterizing the molecular mechanisms involved in the pathogenesis of cancer. The more unique the mechanisms are to a particular cancer the more likely they are to be effective biomarkers for early detection. Such characterization also lends itself to precision medicine strategies, which aim to tailor interventions to the molecular features of the disease and/or the patient. Thus the molecular biomarkers that are discovered during the investigation

of new early detection methods may have multiple uses in the management of patients stricken with tobacco-related cancers and therefore have a more broad impact that extends beyond initial diagnosis.

The next generation of TRDRP cancer research support will focus solely on early diagnosis and molecular characterization of tobacco-related cancers. TRDRP is interested in funding research on non-invasive tests or imaging technologies using molecular biomarkers to identify those patients most at risk for developing cancer, or for use as early diagnostic and prognostic screening purposes. Because of the critical lack of effective biomarkers for lung and other tobacco-related cancers, and because of the interest in addressing this void, the TRDRP will only consider applications from projects involving mechanisms that are highly characteristic of a tobacco-related cancer – rather than projects investigating cancer pathogenesis in general. **Through a review of Letters of Intent (LOI), proposals that do not investigate mechanisms that are highly characteristic of tobacco-related cancer will not be invited to submit full applications.**

NOTE: We encourage California researchers interested in this area to utilize resources available from NIH-funded efforts such as the [Cancer Genome Atlas](http://cancergenome.nih.gov/) [http://cancergenome.nih.gov/] and the [Early Detection Research Network](http://edrn.nci.nih.gov/) [http://edrn.nci.nih.gov/] in their proposals to the TRDRP.

Example of relevant research topics include:

- Identification of biomarkers of pre-malignant tobacco-related cancers
- Identification of biomarkers of tobacco-related carcinoma *in situ*
- Development of imaging methods for detecting pre-malignant or early cancerous lesions
- Development of precision analytical techniques to reliably and economically measure trace levels of biomarkers in non-invasive tissue samples such as blood, serum, expired air, saliva, and urine
- Identification of genetic signatures that can be reliably associated with variations in disease susceptibility among users of tobacco products
- Mechanisms of pathogenesis with the potential to inform early diagnostic approaches

**Early detection of lung cancer in California's disproportionately impacted populations** - TRDRP administers contributions to the [California Cancer Research Fund](https://www.ftb.ca.gov/individuals/vcfsr/indvolcon.shtml#14) (CCRF)

[https://www.ftb.ca.gov/individuals/vcfsr/indvolcon.shtml#14], box number 413 on California state income taxes. CCRF contributions are to be allocated as grant awards to support research on the causes and treatments for cancer, expanding community-based education on cancer, and providing culturally sensitive and appropriate prevention and awareness activities targeted toward communities that are disproportionately at risk or afflicted by cancer.

Based on recommendations by a TRDRP-convened Strategic Visioning Committee, CCRF funds have been allocated to support a limited number of pilot or exploratory study proposals into the early detection of lung cancer and the early detection of lung cancer in disproportionately impacted California groups that will be submitted in response to this Call for Applications. Lung cancer incidence, morbidity, and mortality remain disproportionately high among African Americans, and other priority populations in California. Research is critically needed to address this dramatic disparity among California's vulnerable populations. Consistent with the State's goals to achieve tobacco-related health equity among California's diverse populations, the TRDRP is also requesting application for studies of:

- Best practices for early lung cancer detection, especially in resource-limited treatment settings



- Overcoming barriers to lung cancer screening such as:
  - healthcare access issues
  - fatalistic beliefs about screening and a positive diagnosis
- Culturally sensitive health communications on discussing detection and lung cancer
- Overcoming financial and other barriers to lung cancer screening and follow-up care
- Identification of psychosocial and biological correlates of lung cancer detection
- Cost/benefit analysis of lung cancer screening in disproportionately impacted communities

## Cardiopulmonary Disease

**Purpose:** To advance innovative and high impact research on the pathogenesis and long-term toxicity of nicotine and other smoking-related constituents to the heart and lungs.

Cardiopulmonary disease is the medical term used to describe a range of serious disorders that affect the heart (“cardio-”) and lungs (“-pulmonary”). The two primary tobacco-related cardiopulmonary diseases are Cardiovascular Disease (CVD) and Chronic Obstructive Pulmonary Disorder (COPD).

Exposure to tobacco smoke has long been recognized as a prominent risk factor for CVD. Similarly minimizing exposure to tobacco smoke is the only effective way to prevent COPD. However, the mechanisms by which tobacco toxicants increase the risk of CVD and lead to the onset of COPD are still unclear. Despite reductions in smoking over the past decade, CVD and COPD remain the first and second leading causes of death among smokers. It is important to remember also that for every person who dies because of smoking, at least 30 people live with a serious smoking-related illness.

The emergence of e-cigarettes and other new tobacco products that deliver nicotine aerosolized in various solvents raises new critical questions regarding the potential risk for cardiopulmonary disease among users. The use of these new tobacco products has soared over the last few years, particularly among adolescents, and is expected to overtake the conventional cigarette market within the next decade. These new products deliver nicotine and chemical flavorings aerosolized in a base of propylene glycol and/or glycerin via inhalation. Studies have shown that they produce ultra-fine particulate matter and cytotoxic chemicals, which are known to negatively impact heart and lung function, respectively. Nicotine itself is known to impair lung function, particularly in adolescents. Due to the rapid uptake of these products among young people and the lack of existing regulation of these products, research is critically needed to understand more about the toxicity profile and potential for harm from the use of these products.

TRDRP research support under this priority focuses on understanding the etiology and mechanisms of action of tobacco product-induced cardiopulmonary disease. Of interest are projects studying the effects of nicotine and e-cigarette aerosol on the development and function of the heart and lungs. A new category of tobacco products called ‘heat-not-burn’ is being introduced as a reduced risk product in the global markets. Such products will need to be examined for their claimed characteristics and effects on humans.

Examples of relevant research topics include:

- The effect of nicotine, sub-micro particles, and other constituents of tobacco products, and aerosols on:

- endothelial function
- vascular function/vasoconstriction
- inflammatory response
- The effects and mechanism of action of tobacco toxicants and oxidative stress on endothelial function
- The identification of toxicants responsible for platelet activation
- The mechanism by which tobacco toxicants contribute to the development of insulin resistance
- The effect of nicotine, nanoparticles, and other constituents of tobacco product aerosols on:
  - pulmonary function
  - lung development
  - inflammatory response
- The role of inflammation and oxidative stress in COPD pathogenesis
- Biomarkers of COPD susceptibility and progression
- Basic studies aimed at the development of therapeutics to remedy nicotine's effects in the heart and lungs

## Neuroscience of Nicotine Addiction and Treatment

**Purpose:** To advance innovative pre-clinical and human research on the basic neuroscience of nicotine addiction and treatment.

Over 30 million people remain addicted to tobacco products generally and nicotine in particular. Understanding, alleviating, and treating nicotine addiction remains critical to tobacco control efforts. While advances in understanding how nicotine affects the brain and subsequently leads to dependence have been made, the key mechanisms and pathways that can blunt the addictive properties of nicotine are still to be fully identified and understood. With the emergence of new nicotine delivery products such as e-cigarettes and 'heat-not-burn' tobacco products and their rapid uptake among adolescents and young adults, key research is needed to improve our understanding of the long term effect of nicotine, flavorings, and other constituents in such products on the developing human brain. Research that can inform FDA regulations on new tobacco products are of particular interest (see new [FDA deeming rule on new tobacco products](http://www.fda.gov/TobaccoProducts/Labeling/ucm388395.htm) [<http://www.fda.gov/TobaccoProducts/Labeling/ucm388395.htm>]).

Another key area of interest is the co-use of nicotine and other substances such as alcohol and marijuana. It is known that adolescents are particularly susceptible to developing addictions because of the formative stage of their brain development and that they often experiment with multiple addictive substances such as nicotine, alcohol, and marijuana. It is important, therefore, that we understand the biological and behavioral aspects of co-use of nicotine and other addictive substances among adolescents.

TRDRP will continue to fund neuroscience projects focused on improving our understanding of nicotine addiction and its treatment.

Examples of relevant research topics include:

- Longitudinal behavioral and/or neuroimaging studies of the impact of nicotine alone or co-use with other substances on human brain development

- Neuroimaging studies of the acute effects of nicotine alone or co-use with other substances on human brain structure and function
- Studies of brain connectivity and interaction between neural pathways utilized by different agonists (e.g., glutamatergic, cholinergic, dopaminergic, etc.)
- The addictive potential of flavorings and other constituents of e-cigarette aerosol
- Testing the efficacy and side effects of existing cessation drugs in racial/ethnic minority, LGBT and low socioeconomic status groups, sectors typically not fully represented in clinical trials
- Improving the efficacy of existing cessation drugs and/or identifying and developing more efficacious partial agonists

## State and Local Tobacco Control Policy Research

**Purpose:** Research that advances the ability of state agencies, legislative and regulatory bodies, and local communities throughout California to assess, understand, and implement science-based tobacco control policies.

The enactment of five state tobacco laws in June 2016 has changed the tobacco control landscape in California, opening the door for new local and state policy that protects public health. Here is a brief description of the new state laws that went into effect in California on June 9, 2016:

- **SB 5 X2** defines e-cigarettes as tobacco products, and makes aerosolized devices that deliver nicotine and other substances subject to the Stop Tobacco Access to Kids Enforcement (STAKE) Act. This law includes products that aerosolize nicotine and other chemical constituents under the umbrella of state smoke-free laws, age restrictions and other rules governing tobacco products.
- **AB 7 X2** closes loopholes in state smoke free workplace laws for enclosed spaces, including hotel lobbies, small businesses, and break rooms.
- **SB 7 X2** raises the age to buy tobacco products from 18 to 21; however, military personnel between 18-20 will be able to purchase tobacco in California with a military ID
- **AB 9 X2** requires all public, private, and charter school campuses to be tobacco free.
- **AB 11 X2** establishes a sustainable tobacco licensing fee program under the state Board of Equalization.

Although these legislative actions are intended to reduce Californian's exposure to tobacco and nicotine, the near-term and downstream consequences of enactment and coinciding responses of the tobacco industry to offset the public health impact are unknown and warrant investigation. For example, research is needed to examine the:

- influence of raising the tobacco purchasing age to 21 on retailer compliance with STAKE Act requirements
- influence of smoke free school campuses on enforcement, youth tobacco use and availability of tobacco prevention programs for school-aged children
- effect of closing loopholes in smoke free workplace laws on local policymaking to extend worker protections to outdoor spaces (e.g., restaurant patios and business entrances)

Shortly after the California Governor signed the five bills into law, the FDA Center for Tobacco Products on May 5, 2016, finalized a rule extending their regulatory authority to e-cigarettes, cigars, hookah, and pipe tobacco. The effective date of the regulations is August 10, 2016.

While the deeming rule provides a critical foundation for state and local regulation to protect public health, flavored nicotine products (e.g., strawberry flavored cigarillos and bubble gum flavored e-juice) are exempted from regulation. Part of the rationale underlying the exemption is that the federal government asserts that flavorings could assist adult smokers in the quitting process; however, there are no rigorous empirical findings suggesting that flavored tobacco products increase cessation efforts. Research is needed to evaluate likely resulting and intensified local and state efforts to restrict flavored tobacco products including menthol. Further, research is needed to monitor responses by the vape industry and tobacco companies stemming from the FDA's deeming rule.

The FDA considered the continuum of risk in the recent rule making. Underlying the continuum of risk is the assumption that some tobacco products (e.g., e-cigarettes) are less harmful or safer than other products (e.g., combustible tobacco). Research is needed to guide scientific and regulatory conceptualization of the continuum of risk, as there are divergent views on the extent of reduced harm associated with tobacco products.

The FDA does not have authority to determine where e-cigarettes are used in public and private spaces. Local and state policymakers' may use the deeming rule to inform how e-cigarettes and other new products are regulated. Research is needed to examine how the FDA rulemaking facilitates and discourages local and state policy efforts to protect public health.

TEROC's Master Plan (2015-2017) highlights the fact that American Indian gaming casinos continue to be one of the major sources of SHS exposure for employees and patrons in California. TRDRP encourages researchers to work with tribal leadership to measure levels of exposure and increase awareness of the evidence and its effects. In pursuing this line of research, investigators are expected to respect the sovereignty of all American Indians' lands, and seek cooperation at all levels when working in these venues, including patrons, employees, management, tribal members, and tribal leaders.

**Industry Influence** - There are still major gaps in our understanding of how the tobacco industry influences local policy. The tobacco industry remains very active in lobbying the California legislature to block tobacco control bills. At city and county levels, the tobacco industry's influence needs to be more fully understood. Research is also needed on the tobacco industry's contributions to non-profit organizations, including environmental groups, civil rights organizations, private and public schools, civic, cultural, advocacy organizations, and the hospitality industry. Previous research has established that price manipulation and predatory marketing campaigns of the tobacco industry target the most vulnerable populations, including, youth, communities of color, women, and LGBT communities.

Examples of relevant research topics include:

- The tobacco industry's role in maintaining smoking in Indian gaming casinos
- The impact of trade agreements on California's tobacco policies and regulations
- The tobacco industry's role on product promotions targeting rural and low-income groups
- The role of the tobacco industry in affecting local policies and ordinances
- The tobacco industry's contributions to non-profit organizations and their effect on organizational policies and programs
- The tobacco industry's influence in our public schools, civic, cultural, advocacy organizations, and the hospitality industry
- Evaluation of community efforts to curtail the activities of the tobacco industry
- The retail environment and industry marketing tactics
- E-cigarette promotion and marketing and in particular, its effects on youth uptake

# Tobacco-Related Health Disparities

**Purpose:** Research leading to the prevention and reduction of tobacco use and tobacco-related disease among California’s disproportionately impacted groups.

Tobacco use continues to cause disproportionately high rates of morbidity and mortality and reduced quality of life for California priority groups. Traditional (e.g., cigarettes, cigarillos) and new tobacco products (e.g., e-cigarettes, flavored cigars) continue to be widely available and more affordable to purchase in communities with high concentrations of poverty, racial/ethnic minorities, and in densely populated urban communities. Tobacco-related health disparities (TRHDs) affect individuals, families, communities, and the economy in devastating ways. TRDRP focuses this research priority on studies aimed at preventing and reducing tobacco use and tobacco-related disease among the following priority groups (alphabetical listing).

- Active military and veterans
- Blue-collar workers
- Children, adolescents, and young adults
- Incarcerated and formerly incarcerated individuals
- Individuals with mental illness including addictive disorders
- Migrant agricultural workers
- People of low socioeconomic status including the homeless
- People with disabilities
- People with limited education including high school non-completers
- People with mental illness
- Racial/ethnic minorities (e.g., African Americans, American Indians and Alaska Natives, Asian Americans, Latinos, Native Hawaiians and other Pacific Islanders, and individuals identifying with multiple racial groups)
- Rural residents
- Sexual/gender minorities (e.g., Lesbian, Gay, Bisexual, Transgender people)

Multiple complex factors contribute to TRHDs and innovative research that fosters collaboration across disciplines and organizations is needed to promote health equity. We encourage proposals that emphasize engaging community organizations and advocates, community residents, and policymakers at all levels of the research process. Research projects with potential to obtain impactful findings to reduce TRHDs in the following areas are considered responsive to this priority.

California’s recently passed tobacco control laws and the FDA deeming rules have implications for research addressing TRHDs. For example, what does enactment and enforcement of the new state laws mean for TRHDs affecting California priority groups? Are there indications that the laws will increase or decrease TRHDs among priority groups? Further, will enactment of the laws and deeming regulation reduce or increase the price and availability of certain tobacco products in low-income communities? Additionally, research that addresses the public health impact of flavorings including menthol remains a need, as federal legislators and regulators have not been able to move forward with policies restricting access to sweet, candy and fruit flavored tobacco products that are in high demand and high supply in

marginalized communities in the U.S.

**Tobacco prevention:** Best practices are needed to effectively communicate tobacco prevention messages using cultural- and language-appropriate tools for California's diverse population. Healthcare providers, social media, news media, online resources, and traditional print are widely accessed for health information by diverse groups. Studies are also needed to develop and disseminate effective communication strategies to counter tobacco industry marketing and advertising of traditional and new tobacco products to priority groups. Best practices are also needed to synthesize and communicate scientific evidence on TRHDs in a manner that can inform policy decisions at the local, state, and federal level.

**Tobacco cessation:** Evidence-based tobacco treatments remain underutilized by priority groups. Provisions in the Patient Protection and Affordable Care Act have expanded access to FDA-approved cessation medications for Medi-Cal patients and public/private insurance covers medications at low or no cost. Strategies are needed to increase access to cessation resources, educate smokers about the appropriate use of cessation medications, permit exploration of multiple cessation aids that considers negative side effects, and monitor and overcome barriers to utilization. We encourage research that aims to improve the uptake of evidence-based tobacco treatments in settings accessed by priority groups.

Research is needed to improve the science of tobacco/nicotine cessation interventions for priority groups, particularly for youth and young adults, and to determine if evidence-based programs developed for the general population are sufficient to reduce tobacco use in priority groups, the cost effectiveness of tailored interventions and non-tailored interventions, and for which priority groups tailoring improves effectiveness. Interventions focused on cessation should build on existing theories and evidence-based treatments and strive to promote the generalizability of intervention effects within and across priority groups.

*Cessation Medications:* Applicants proposing to use a cessation medication with adult smokers in their study may be able to obtain study medication at no cost through a TRDRP arrangement with a pharmaceutical company. Contact the Program for details.

**Youth:** On June 9, 2016, California became the second state in the U.S. to increase the minimum age to 21 to purchase tobacco products including e-cigarettes. Military personnel 18-20 years old with valid military IDs will be able to purchase tobacco products. With the increased uptake of electronic cigarettes and little flavored cigars among youth, research is needed that addresses the effect the age 21 law has on youth access to tobacco products, including monitoring of unintended consequences with potential to exacerbate TRHDs in priority groups. Even with the enactment of the age 21 law, internet purchases of tobacco products are easy, common, and age violations are rarely punished for internet sales. Research is still needed in the following areas:

- interventions to prevent youth access to all forms of tobacco whether it is aerosolized, combusted or mixed with marijuana leaf or hash oil
- strategies to counter tobacco industry advertising that promotes initiation and daily use and publicizes misleading health messages
- effective communications for school age youth on the impact of aerosolizing and combusting tobacco products with and without marijuana

**Social determinants of Tobacco-Related Health Disparities (TRHDs):** Political, economic, and environmental conditions in which priority groups reside play a major role in sustaining TRHDs. For example, discrimination, stigma, and acculturation are linked to tobacco use and TRHDs for some priority groups. Research that elucidates innovative strategies to modify social and physical environments that promote tobacco-free lifestyles is highly encouraged.

**Collaboration:** The impact of TRHD research findings is expanded through genuine collaborations between academic investigators and community organizations that engage local residents in the research process. We strongly encourage applications that include community engagement at all levels of the research process (development, implementation, dissemination).

### **Additional considerations**

*Surveillance of Tobacco Use:* Surveillance-based epidemiological studies should only focus on priority groups for which there are no or limited surveillance data available. Proposals solely focused on elucidating prevalence rates in priority groups for which representative data have been collected are considered not responsive to this priority. **Through a review of Letters of Intent (LOI), surveillance proposals that focus solely on elucidating prevalence rates where representative data have been previously collected and publicly available will not be invited to submit full applications.**

Multiple linked surveillance datasets are encouraged as new tobacco control regulations are implemented at the local, state, and federal levels, and most population-level surveillance datasets include too few respondents from some priority groups (e.g., American Indians, Pacific Islanders) to examine statistical relationships. Research projects proposing to collect surveillance data should plan to link with existing surveillance datasets to extend the effort and improve the ability to detect meaningful statistical relationships within and across priority groups.

*Secondary data:* Proposals submitted under this priority for the High Impact Pilot Awards and High Impact Research Project Award must not solely focus on the analysis of secondary, archived, or collected data. **Through a review of Letters of Intent (LOI), proposals under this priority for the award types that solely focus on the analysis of secondary, archived, or collected data will not be invited to submit full applications.**

# Details on Grant Award Mechanisms

## 1. High Impact Pilot Research Award (IP)

**Purpose:** To gather preliminary data or demonstrate proof-of-principle to support the feasibility of a new paradigm or research hypothesis. High quality of innovation and clear potential impact are two key components of this mechanism, with the ultimate goal of providing initial support for research with a strong rationale, resulting in the leverage of funding from other funding agencies.

**Anticipated Number of Grants:** Up to 6

**Maximum Award Amount per Year:** \$120,000 (direct)

**Maximum Duration:** 2 years

**Allowable Direct Costs:** Salaries, fringe benefits; supplies; equipment\*, travel

**Project-Related Travel:** As needed (must be fully justified)

**Travel to TRDRP Conference:** Maximum \$750 (mandatory)

**Scientific Conference Travel:** \$2,000 per year (excluding a mandatory allocation of \$750 in one year of the project for travel to the TRDRP Conference)

**Indirect Costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at 25%.

\*Any item costing \$5,000 or more

### Award Requirements:

- Applicants must have a PI-status at the sponsoring institution.
- Awardees are required to commit at least 10% of their research effort each year to activities supported by this award.
- U.S. citizenship is not a requirement.

### Review Criteria:

**Impact (scored separately):** The potential for achieving a clear, short-term or long term impact on tobacco-related disease research, tobacco use prevention, tobacco treatment, or policy. This includes (1) scientific impact in a sustained manner on the specified tobacco-related research field or, (2) a targeted impact on tobacco use in specific communities, or (3) direct impact on issues governing state and local policies related to tobacco use and control or any combination of these three components.

### Criteria-1 (30% scoring weight)

**Responsiveness to intent of the award type:** Is the study pilot or exploratory in nature? Does the study represent a new research trajectory that is not currently funded from other sources? Does the



applicant describe how the pilot study will lead to an expanded research effort in the future including specific funding sources and award types?

**Innovation:** Does the research propose new paradigms, challenge existing paradigms, or is it otherwise highly creative in one or more of the following ways: the concept or question, research methods or technologies, adaptations of existing methods or technologies to new uses or with understudied populations? Does the proposed research represent more than an incremental advance upon published data? For example, does the project challenge existing interventions, clinical practice, or policy; address an innovative hypothesis or critical barrier to progress in the field?

**Criteria-2 (50% scoring weight)**

**Research plan:** Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well integrated, well-reasoned, and appropriate to the aims of the project and the pilot nature of the grant type? Does the applicant acknowledge potential problem areas and consider alternative strategies?

**Near term leveraging potential:** When the TRDRP-funded studies under a High Impact Pilot Research Award are completed, is there compelling promise and high likelihood that their results will constitute a larger R01-level or P01-level study with high probability of funding from another agency such as the NIH? In other words, with TRDRP funding of the proposal, can the applicant leverage funding from other sources to further develop this area of research within 2-3 years after initial funding?

**Criteria-3 (20% scoring weight)**

**Investigators:** Are the investigators appropriately trained and well-suited to carry out this work? Is the work proposed appropriate to the experience level of the PD/PI and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

**Environment:** Does the scientific environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

**Community engagement and communication plan:** Does the applicant propose a sound approach to engaging communities affected by tobacco-use in either a collaborative partnership or by proactively informing about the nature and significance of the research and research outcomes? To what extent does the dissemination of relevant results of funded research include channels and tools targeting clinicians, public health practitioners, tobacco control advocates, policy makers, and the general public?

**Criteria-4 (non-scoring)**

**Protection of human subjects from research risk:** If human subjects are involved, protections from research risk relating to their participation in the proposed research will be assessed.

**Inclusion of women, minorities, and children in research:** If human subjects are involved, the adequacy

of plans to include subjects of both genders, all racial and ethnic groups (and subgroups), and children as appropriate for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated.

**Care and use of vertebrate animals in research:** If vertebrate animals are involved in the project, plans for their care and use will be assessed.

## 2. High Impact Research Project Award (IR)

**Purpose:** To conduct next phase/fully developed research based on promising preliminary or formative data gathered through prior pilot research. High quality of innovation and clear potential for impact are also key components of this mechanism. Proposals should include sound background information, hypotheses and substantial, as well as promising, preliminary or supporting data and reflect a clear progression beyond the earliest phases of the work. **Research Project applications should not be exploratory in nature and lacking in previously developed strong supporting data.**

**Anticipated Number of Grants:** Up to 8

**Maximum Award Amount per Year:** \$150,000 (direct)

**Maximum Duration:** 2 years

**Allowable Direct Costs:** Salaries, fringe benefits; supplies; equipment\*, travel

**Project-Related Travel:** As needed (must be fully justified)

**Travel to TRDRP Conference:** Maximum \$750 (mandatory)

**Scientific Conference Travel:** \$2,000 per year (excluding a mandatory allocation of \$750 in one year of the project for travel to the TRDRP Conference)

**Indirect Costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at 25%.

\*Any item costing \$5,000 or more

### Award Requirements:

- Applicants must have a PI-status at the sponsoring institution.
- Awardees are required to commit at least 10% of their research effort each year to activities supported by this award.
- U.S. citizenship is not a requirement.

### Review Criteria:

**Impact (scored separately):** The potential for achieving a clear, short-term or long term impact on tobacco-related disease research, tobacco use prevention, tobacco treatment, or policy. This includes (1) scientific impact in a sustained manner on the specified tobacco-related research field or, (2) a targeted impact on tobacco use in specific communities, or (3) direct impact on issues governing state and local policies related to tobacco use and control or any combination of these three components.

**Criteria-1 (30% scoring weight)**

**Responsiveness to intent of the award type:** Is the study fully developed rather than pilot or exploratory in nature? Does the study build upon work performed as part of prior pilot work? Do the aims expand and/or advance the scope of the prior study? Does the applicant describe previous research upon which the study is based and report reasonably compelling previous findings and supporting data for the conduct of the proposed project?

**Innovation:** Does the research propose new paradigms, challenge existing paradigms, or is it otherwise highly creative in one or more of the following ways: the concept or question, research methods or technologies, adaptations of existing methods or technologies to new uses or with understudied populations? Does the proposed research represent more than an incremental advance? For example, does the project challenge existing interventions, clinical practice, or policy; address an innovative hypothesis or critical barrier to progress in the field?

**Criteria-2 (50% scoring weight)**

**Significance:** Does this study address an important problem? If the aims of the application are achieved, how will they advance scientific knowledge or clinical practice? What will be the effect of these studies on the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field of tobacco-related diseases, tobacco control, community-based research, nicotine addiction, prevention or policy?

**Research plan:** Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well integrated, well-reasoned, and appropriate to the aims of the project and the more advanced nature of the grant type? Does the applicant acknowledge potential problem areas and consider alternative strategies?

**Criteria-3 (20% scoring weight)**

**Investigators:** Are the investigators appropriately trained and well-suited to carry out this work? Is the work proposed appropriate to the experience level of the PD/PI and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

**Environment:** Does the scientific environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

**Community engagement and communication plan:** Does the applicant propose a sound approach to engaging communities affected by tobacco-use in either a collaborative partnership or by proactively informing about the nature and significance of the research and research outcomes? To what extent does the dissemination of findings include channels and tools targeting clinicians, public health practitioners, tobacco control advocates, policymakers, and the general public?

#### **Criteria-4 (non-scoring)**

**Protection of human subjects from research risk:** If human subjects are involved, protections from research risk relating to their participation in the proposed research will be assessed.

**Inclusion of women, minorities and children in research:** If human subjects are involved, the adequacy of plans to include subjects of both genders, all racial and ethnic groups (and subgroups), and children as appropriate for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated.

**Care and use of vertebrate animals in research:** If vertebrate animals are involved in the project, plans for their care and use will be assessed.

### **3. Postdoctoral Fellowship Award (FT)**

**Purpose:** To support the mentored training of postdoctoral level investigators with clear and direct commitment to and potential for contributing to the advancement of tobacco-related research, practice, and policies.

**Anticipated Number of Grants:** Up to 7

**Maximum Award Amount per Year:** \$55,000 (direct)

**Maximum Duration:** 2 years

**Allowable Direct Costs:** Salaries, fringe benefits; supplies; equipment\*, travel

**Project-Related Travel:** As needed (must be fully justified)

**Travel to TRDRP Conference:** Maximum \$750 (mandatory)

**Scientific Conference Travel:** \$2,000 per year (excluding a mandatory allocation of \$750 in one year of the project for travel to the TRDRP Conference)

**Indirect Costs:** Indirect costs are capped at 8% for both UC and non-UC institutions

\*Any item costing \$5,000 or more

#### **Fellowship Requirements:**

- A 75% minimum time commitment on the part of the postdoctoral fellow is required.
- The candidate must be recognized by the applicant institution as a postdoctoral fellow no later than the award start date.
- The application must be prepared and submitted exclusively by the fellow and must outline an original research project (separate from the project of a mentor).
- A letter of support from the mentor and a minimum of two additional references are required. Letters of support should address the candidate's training, potential, and the commitment of the mentor and the department to the candidate's career development. **In addition, the mentor must provide a detailed mentoring plan that is prepared in consultation with the applicant.**
- U.S. citizenship is not a requirement.

#### **Review Criteria:**

**Impact (scored separately):** The postdoctoral fellow's potential for achieving a clear, short-term or long term impact on tobacco-related disease research, tobacco use prevention, tobacco treatment, or policy. This includes (1) scientific impact in a sustained manner on the specified tobacco-related research field or, (2) a targeted impact on tobacco use in specific communities, or (3) direct impact on issues governing state and local policies related to tobacco use and control or any combination of these three components.

**Criteria-1 (30% scoring weight)**

**Qualifications of the applicant:** Does the applicant present a strong academic background and research training? What is the potential for the applicant to become a successful independent researcher with a commitment to the field of tobacco-related research?

**Criteria-2 (50% scoring weight)**

**Training plan:** Does the proposed mentoring plan include effective ancillary activities that will enhance the training of the applicant as an independent researcher? Are additional experiences planned that will supplement the trainees knowledge of their research field? Are there any didactic or interactive activities planned for increasing the trainee's knowledge base in tobacco control and/or tobacco-related disease?

**Research plan:** Are the conceptual framework, design (including composition of study population), methods, and analyses adequately developed, well-integrated and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics? Will the proposed research training experience significantly contribute to the development of the candidate's career potential as a researcher in tobacco use prevention and treatment, tobacco-related public policy, and/or tobacco-related disease?

**Criteria-3 (20% scoring weight)**

**Mentor's qualifications and commitment:** Based on the advisor and the department, as demonstrated by the letters of support and training plan, the quality of the training resources and environment.

**Environment:** Does the institutional environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support and commitment?

**Community engagement and communication plan:** Does the fellow propose a sound approach to engaging communities affected by tobacco-use in either a collaborative partnership or by proactively informing about the nature and significance of the research and research outcomes? To what extent does the dissemination of relevant results of funded research include channels and tools targeting clinicians, public health practitioners, tobacco control advocates, policy makers, and the general public?

**Criteria-4 (non-scoring)**

**Protection of human subjects from research risk:** If human subjects are involved, protections from research risk relating to their participation in the proposed research will be assessed.

**Inclusion of women, minorities and children in research:** If human subjects are involved, the adequacy

of plans to include subjects of both genders, all racial and ethnic groups (and subgroups), and children as appropriate for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated.

**Care and use of vertebrate animals in research:** If vertebrate animals are involved in the project, plans for their care and use will be assessed.

#### 4. California STAR Award (SA)

**Purpose:** To support the early career development of scientists who have a demonstrated commitment to excellence in tobacco-related research and have strong potential to be leaders in their field. Support is intended for select investigators who have recently been recruited and appointed to a position as an independent faculty member by a California-based research institution. A unique component and requirement of this early career award is the development of a plan for community engagement and dissemination of research results to the community at large.

**Anticipated Number of Grants:** Up to 2

**Maximum Award Amount per Year:** \$100,000 (direct cost)

**Maximum Duration:** up to 3 years

**Allowable Direct Costs:** Salaries, fringe benefits; supplies; equipment\*, travel

**Project-Related Travel:** As needed (must be fully justified)

**Travel to TRDRP Conference:** Maximum \$750 (mandatory)

**Scientific Conference Travel:** \$5,000 per year (excluding a mandatory allocation of \$750 in one year of the project for travel to the TRDRP Conference)

**Indirect Costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at 25%.

**Other:** The funds need to be directed to the PI's activities, such as staff salary support, consumables or equipment

\*Any item costing \$5,000 or more

#### Early Career Award Requirements:

- Applicants for the STAR award should be within 10 years of completing his/her terminal research degree, or should be within 10 years of completing medical residency (or the equivalent).
- Applicants must also be in their **first independent research position at a California-based research institution at the time of submission and be within three years of having started** this position at the inception of the award. For the purpose of this award, "independent research position" means a position that automatically confers eligibility, by the applicant's institutional policy, for an investigator to serve as Principal Investigator on grants, with an appropriate commitment of facilities to be used for the conduct of the proposed research.
- Applicants with independent research position and currently funded independent grant are eligible to apply, although current funding is not a requirement of the award.
- Investigators still in training or mentored status (postdoctoral fellows) or are current recipients of mentored career development awards (e.g., NIH-K's, ACS-MRSG) are not eligible to apply.
- Awardees are required to commit at least 25% of their research effort each year to activities

supported by the California STAR Award.

- U.S. citizenship is not a requirement.

## **Review Criteria:**

**Impact (scored separately):** The applicant's potential for achieving a clear, short-term or long term impact on tobacco-related disease research, tobacco use prevention, tobacco treatment, or policy. This includes (1) scientific impact in a sustained manner on the specified tobacco-related research field or, (2) a targeted impact on tobacco use in specific communities, or (3) direct impact on issues governing state and local policies related to tobacco use and control or any combination of these three components.

### **Criteria-1 (30% scoring weight)**

**Responsiveness to intent of the award type:** Is the applicant a promising early career investigator recently recruited and appointed to an independent research position by a California-based institution with an aim of strengthening the institution's scientific leadership in tobacco-related research? Does the applicant contribute towards achieving and/or strengthening a critical mass of institutionally based tobacco-related researchers?

**Innovation:** Does the investigator's research propose new paradigms, challenge existing paradigms, or is it otherwise highly creative in one or more of the following ways: the concept or question, research methods or technologies, adaptations of existing methods or technologies to new uses or with understudied populations?

### **Criteria-2 (50% scoring weight)**

**Significance:** Does the investigator's research address an important problem? If the aims of the application are achieved, how will they advance scientific knowledge or clinical practice? What will be the effect of these studies on the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field of tobacco-related diseases, tobacco control, community-based research, nicotine addiction, prevention or policy?

**Research plan:** Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well integrated, well-reasoned, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative strategies?

### **Criteria-3 (20% scoring weight)**

**Investigators:** Are the applicant and any co-investigators appropriately trained and well suited to carry out this work? Is the work proposed appropriate to the experience level of the PD/PI and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

**Environment:** Does the scientific environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

**Community engagement and communication plan:** Does the applicant propose a sound approach to

engaging communities affected by tobacco-use in either a collaborative partnership or by proactively informing about the nature and significance of the research and research outcomes? To what extent does the dissemination of findings include channels and tools targeting clinicians, public health practitioners, tobacco control advocates, policy makers, and the general public?

#### **Criteria-4 (non-scoring)**

**Protection of human subjects from research risk:** If human subjects are involved, protections from research risk relating to their participation in the proposed research will be assessed.

**Inclusion of women, minorities and children in research:** If human subjects are involved, the adequacy of plans to include subjects of both genders, all racial and ethnic groups (and subgroups), and children as appropriate for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated.

**Care and use of vertebrate animals in research:** If vertebrate animals are involved in the project, plans for their care and use will be assessed.

### **5. Cornelius Hopper Diversity Award Supplement (CHDAS)**

**Application procedure for CHDAS:** *Request for CHDAS must be submitted as part of an original application (i.e., High Impact Pilot Research Award, High Impact Research Award, California STAR Award, Community Practice-Based Research Planning Award) or as part of an ongoing grant's scientific progress report to be considered for funding.*

**Purpose:** To support the training of promising individuals either from underrepresented communities and/or who wish to pursue careers in tobacco-related research focused on underserved communities.

**Anticipated Number of Supplements:** Up to 10

**Maximum Supplement Amount per Year:** \$15,000 (direct cost)

**Maximum Duration:** 1 year and possibility of 1 year renewal

**Allowable Direct Costs:** Salaries, fringe benefits; tuition, enrollment fees for the trainee, domestic travel

**Equipment:** Not allowed as part of this supplemental funding

**Project-Related Travel:** As needed (must be fully justified)

**Travel to TRDRP Conference:** Maximum \$750 (mandatory)

**Scientific Conference Travel:** Up to \$2000 per year (excluding a mandatory allocation of \$750 in one year of the project for travel to the TRDRP Conference)

**Indirect Costs:** Indirect costs are capped at 8% for both UC and non-UC institutions

#### **Diversity Award Supplement Requirements:**

- The CHDA supplements are intended to support the initial entry of individuals into the field of tobacco-related research. For example, undergraduate students, graduate students that have not advanced to candidacy, or individuals that are working in the tobacco control field but do not have experience in research. **Individuals who are eligible for TRDRP Postdoctoral Fellowships and other career development awards are encouraged to apply through those mechanisms rather than**



### **applying for the CHDAS.**

- Investigators must have at least one year remaining on their TRDRP award to ensure the best conditions and results for prospective trainees. Therefore, the CHDAS application must be submitted as part of an initial application or as part of an annual scientific progress report.
- The CHDAS is available to principal investigators of any TRDRP award **except for** Postdoctoral Awards (FT) and Policy Scholar Awards (MT).
- Eligible trainees may be undergraduate students, graduate students, community members, school personnel or health sciences students.
- Principal investigators should encourage trainees from socioeconomic, cultural, ethnic, racial, linguistic, and geographic backgrounds who would otherwise not be adequately represented in their field or who are from underserved communities. However, in accordance with State law, preference will not be given to applicants based on race, color, ethnicity, gender, or national origin.

### **Supplement proposals will be evaluated for the strength and quality of the following:**

- Trainee must demonstrate a commitment to tobacco research and tobacco control, including pursuit of a research or tobacco control career centered on tobacco-related disease.
- Trainees should document barriers, both current and past, that may prevent her or him from realizing a career in tobacco-related disease research or tobacco control. For example, the absence of a family member who attended college; matriculation in an educational setting with poor curricular support and financial backing for higher education; having a physical or learning disability; and/or working long hours while attending school.
- Trainees should describe **in their own words** the extent that their previous and current research interests focus on cultural, societal, health or educational disparities as they affect underserved segments of our state. Additionally, describe how the proposed research or tobacco control training may contribute towards ending California tobacco-related disease disparities.
- Principal investigators and trainees must construct a detailed, well-rounded training experience. This should include, but not be limited to: scientific research methods that will be learned; classes, seminars and symposia that will be attended; the identification of a relevant research question to be pursued; research team meeting participation; other mentor-like relationships the trainee will have with research team members; and, if applicable, any relevant involvement in the community, school, etc.
- Principal investigators should document the exact amount of time that they will regularly meet with the trainee. Investigators should also identify other members of the research team that will play a mentoring role and specify their time commitment to mentoring the trainee and their contribution to the trainee's learning experience.

## **6. Mackay California-Pacific Rim Tobacco Policy Scholar Award (MT)**

**Purpose:** The Mackay California-Pacific Rim Tobacco Policy Scholar Awards are opportunities for mid-career researchers from diverse disciplinary backgrounds to gain mentored experience and skills necessary to provide leadership in development and implementation of state, country, and region-wide tobacco control policies. These Mackay Scholar Awards are being offered by the California Tobacco-Related Disease Research Program (TRDRP) as part of the program's mandate to support tobacco-related public policy research as well as its translation and application. These awards bear the name of Dr. Judith

Mackay, in acknowledgement of her leadership and success in advancing tobacco control policies throughout the Asia-Pacific Rim and in recognition of the increasingly global nature of these policy challenges.

The aim of this policy scholar grant award is to foster scientifically informed, evidence-based tobacco control policy and practice in California and the Pacific Rim region (Asia, Pacific Islands, and Latin America) by building leadership and cross-regional partnerships among mid-career researchers. Scholars engage their professional and cultural competencies, strengthen their research and communications skills, and develop partnerships and networks, while learning first-hand about policymaking and implementation at state, national, and international levels.

**Eligibility:**

TRDRP seeks candidates with doctorates or equivalent degrees from diverse disciplinary, gender and cultural perspectives and with interest in, ties to, and/or experience in the Pacific Rim region including Latin America. Candidates are required to be at or beyond the mid-career stage (i.e., 15 years post-terminal degree), must reside in the state, and hold an independent research position or visiting faculty appointment at a California applicant/host institution. Candidates with economics and legal backgrounds are particularly encouraged to apply.

**Maximum Award Amount per Year:** \$150,000 (direct cost)

**Maximum Duration:** up to 2 years

**Allowable Direct Costs:** Salaries and salary off-criteria, fringe benefits; supplies; equipment\*, travel

**Scholar Research Expenses:** Up to \$25,000

**Training/Mentoring Expenses:** Up to \$40,000

**Travel to TRDRP Conference:** Maximum \$750 (mandatory)

**Travel to Scientific Conferences, Placements, and Training Sites:** Up to \$10,000 per year (excluding a mandatory allocation of \$750 in one year of the award for travel to the TRDRP Conference)

**Out of State Expenses:** Limited to 25% of total award budget

**Indirect Costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at 25%.

\*Any item costing \$5,000 or more

**Policy Scholar Award Requirements:**

- Applicants must have a doctoral or equivalent degree.
- Applicants must be at least 15 years post completion of his/her terminal research degree or 15 years post completion of medical residency (or the equivalent) at the start of the award.
- Applicants must hold an independent research position (or a commitment for a visiting faculty appointment) at a California-based research institution at the time of submission. For the purpose of this award, “independent research position” means a position that automatically confers eligibility, by the applicant’s institutional policy, for an investigator to apply for extramural grants, with an appropriate commitment of facilities to be used for the conduct of the proposed research.
- Awardees must commit at least 35% of their effort each year to activities supported by the Policy Scholar Award.

- At least 75% of the Scholar’s training and research effort must be based in California
- U.S. citizenship is not a requirement.

### Key Training Elements:

The recipient(s) of this award will identify key tobacco policy issues relevant to California policy priorities that also have relevance to policy efforts in one or more areas of the Pacific Rim. Examples of these policy issues include product pricing and taxation, trade agreements, regulation of new nicotine products, and availability and accessibility of nicotine treatment, among others. It is envisioned that tobacco policy partners who originate in other Pacific Rim countries will also be identified (supported by other funding sources available to the applicant institutions or other TRDRP funder partners) as co-participants in the training program in order to realize the potential for bi-directional learning and to strengthen the impact of these policy efforts.

Towards this end, the mentor(s) interest in and experience with *both* California and Pacific Rim tobacco policy issues as well as their access to regional and global training resources are critical to the quality and impact of the scholar’s experience, achievement of policy goals, and long term career success. The application process includes a comprehensive description of the proposed mentors and training experience including:

- Clear process and deliverables to:
  - Identify a key policy issue with relevance to California as well as the Pacific Rim
  - Frame a policy position or positions
  - Inform policy development and implementation through a range of channels and methods
- Training to strengthen policy research, leadership, and communication skills including:
  - Mentored development and implementation of a research project relevant to the scholar’s tobacco policy objectives
  - Mentoring with senior researchers and policy advocates (California and Pacific Rim)
  - Participation in state and/or regional tobacco control networks (e.g., Southeast Asia Tobacco Control Alliance)
  - Government office placement (e.g., state legislature; finance or health agencies/ministries)
  - Policy and research seminars
  - Leadership training (e.g., Bloomberg)
  - Media training (e.g., Stanford-NBC News, World Lung Foundation)
  - Economics of tobacco (e.g., Asian Development Bank)
  - Litigation and legal challenges (e.g., Campaign for Tobacco Free Kids International Legal Consortium)

### Review Criteria:

**Impact (scored separately):** The applicant’s potential for achieving a clear, short-term or long-term significant impact on important tobacco policy issues in California and that have relevance to the Pacific Rim region. This also includes potential for scientific impact in a sustained and clear manner on the fields of public policy, economics, law, and others.

## **Criteria-1 (40% scoring weight)**

### **Candidate's research background & professional accomplishment**

- Solid and relevant research/professional education and employment/work experience in area of expertise, appropriate to mid-late career stage.
- Record of grants and publications and/or presentations appropriate to mid-late career stage, field, and institutional setting.

### **Candidate's leadership & potential**

- Prior leadership roles relevant to mid-late career stage (e.g., governance or faculty committees; advisory or editorial committees; active in professional societies, non-profit, or community initiatives).
- Skill/potential to organize, build consensus, lead projects and people toward positive outcomes.
- Confidence, maturity, and self-direction with the capacity, initiative and flexibility to work well independently as well as in groups, to make the fellowship a rich and positive experience, to apply skills learned through the fellowship, and take advantage of networks developed.

### **Candidate's communication, interpersonal & outreach skills**

- Excellent communication skills: articulate, cohesive, concise, rational flow of information, and clear in both context and detail.
- Ability to convey research data and scientific knowledge in broader, non-scientific contexts.
- Capacity to work effectively with diverse stakeholders and government officials outside research and scientific communities.

### **Commitment to fellowship mission & opportunities**

- Clarity of and commitment to objectives for applying to the fellowship, and how he/she imagines using the fellowship experience in the future to influence tobacco-related public policy in the California-Pacific Rim region.
- Willingness and flexibility to tackle issues beyond area of expertise, openness and capacity to expand experience in the policy realm, and to interact with policymakers and regulators.
- Realistic expectations, open-minded and adaptable to fellowship opportunities as well as working through challenges.

## **Criteria-2 (30% scoring weight)**

### **Mentor(s) research/scientific background and professional accomplishment**

- Mentor(s) solid and relevant research/professional education and experience in area of expertise and evidence to the application of this background to the advancement of tobacco-related public policy, particularly in California and the Pacific Rim.
- Mentor(s) solid and relevant grants and record of publications and/or presentations appropriate to tobacco-related public policy.

### **Training program, experiences, and opportunities**

- Quality of training program in its ability to strengthen the candidate's ability to play a sustained leadership role in informing the tobacco-related public policy in the California-Pacific Rim region.
- Extent to which institutional, regional, national, and international collaborations and partnerships and existing resources are leveraged in the design and provision of training

opportunities.

### **Criteria-3 (30% scoring weight)**

#### **Significance of the policy issue(s) of interest**

- Does the candidate's research and policy interest(s) address an important problem? If the aims of the application are achieved, how will they advance evidence-based tobacco policy in the California-Pacific Rim region? What will be the effect of these analyses and studies on the development of tobacco policy in general?
- Strength of the research plan
- Are the conceptual framework, design, methods, and analyses adequately developed, well integrated, well-reasoned, and appropriate to the policy aims of the project? Does the applicant acknowledge potential problem areas and consider alternative strategies?

## **7. Special Projects (ST)**

Support can be requested for small scientific conferences to assess tobacco's impact on California populations; or to allow tobacco investigators to evaluate, in a timely manner, new and breaking trends in tobacco control or tobacco-related disease research. In order to qualify for funding, the planned activities must be directly related to one or more of TRDRP's research priorities. The activity must primarily take place in California, involve California investigators, and include, where applicable, discussants and speakers funded by TRDRP. An online broadcast or archiving of an in-person conference (i.e., webcast or webinar) is eligible for support under this Special Projects (ST) mechanism. Proposals may be submitted at any time and should be submitted on proposalCENTRAL. Applications for ST Awards will go through a separate review process. The TRDRP Scientific Advisory Committee will make recommendations regarding funding. ST grants will be limited in number, scope, cost, and duration. Please contact a TRDRP Program officer regarding the appropriateness of your proposal prior to submission.

## **8. Scientific Conference Award (CX)**

**Purpose:** To support in-person scientific conferences that will disseminate TRDRP-funded research and convene TRDRP investigators and colleagues from different disciplines. This flexible mechanism allows for conference meetings of varying scale.

**Maximum Award Amount per Year:** up to \$50,000

**Maximum Duration:** up to 2 years

**Maximum Award Amount:** up to \$100,000 (may vary depending on type of conference meeting(s) proposed)

**Allowable Direct Costs:** Salaries, fringe benefits; supplies; equipment\*, travel

**Indirect Costs:** Not allowed

#### **Award Details:**

- Award can support a single event or multiple conference meetings held in-person, which can be simultaneously broadcast live on the internet and/or archived for later viewing on the internet.
- In order to qualify for funding, the conference objectives must be directly related to one or more of

TRDRP's broad [research priorities](#).

- Conference meetings must take place in California and include TRDRP-funded researchers and colleagues representing multiple disciplines.
- Conference meetings should seek to increase the capacity of California scientists and dissemination of TRDRP-funded research and other relevant findings.
- TRDRP staff will have substantial programmatic involvement in the oversight of conference awards. Applicants interested in applying for this mechanism are required to discuss the conference plan with a [TRDRP Program officer](#) prior to proposal submission.
- The number of conference grants awarded each cycle will depend on results from the peer review, direct cost estimates for each award, demand for the mechanism, and the availability of funds.

**Submission:** Conference award proposals can be submitted at any time through Proposal Central after the original concept has been reviewed and approved by a [TRDRP Program Officer](#). Proposals will undergo peer review at the same time as proposals for other mechanisms, which typically occurs in February or March each year.

**Definition:**

A scientific conference is defined as a one-day or multiday in-person meeting that includes multiple scientific presentations, involves multidisciplinary TRDRP-funded researchers, and may include community advocates. The conference meetings should provide opportunities for TRDRP-funded researchers to assemble to exchange empirically-driven information, network, and stimulate ideas for future research and/or tobacco control efforts in California. While an online broadcast or archiving of an in-person conference can be a component of this mechanism, a proposal for an exclusive online event (i.e., webcast or webinar) should be submitted under our Special Projects (ST) mechanism.

**Review Criteria:**

Reviewers will consider each of the review criteria below in the determination of scientific and technical merit for conference grant applications. In addition, geographic distribution of conference participants representing rural, southern, and northern California regions will be considered in the review process.

**Overall Impact (scored separately)**

The potential for achieving a clear, short-term or long-term impact on tobacco-related disease research, tobacco use prevention, tobacco treatment, or policy. This includes (1) scientific impact in a sustained manner on the specified tobacco-related research field or, (2) a targeted impact on tobacco use in specific communities, or (3) direct impact on issues governing state and local policies related to tobacco use and control or any combination of these three components.

**Criteria-1 (50% scoring weight)**

**Conference Plan:** Are the objectives, specific program, and logistical arrangements for the conference clearly described? To what extent does the format, agenda, and speakers, including the principal topics to be covered, problems to be addressed, and developments or contributions the conference might stimulate relevant to tobacco-related issues in California? Is sufficient justification provided for the conference, including the scientific need, timeliness, and usefulness of the conference to the scientific community?

Applicants are required to submit a list of lead organizing committee members and key conference speakers with letters of commitment. Members of the organizing committee and the speaker roster can be modified later based on feedback from stakeholders and Program staff.

Is the composition and role of the organizing committee well described? Are the names and credentials of key participants (i.e. speakers, presenters, session moderators) in the conference, including the basis for their selection and documentation of their agreement to participate provided? Does the estimate of the expected size and composition of the audience, as well as the method of selection seem appropriate? Is the geographic distribution of conference attendees considered such that there are opportunities for participation from rural, southern, and northern California? For example, a single conference award could support a meeting(s) in northern California and one in southern California.

Are there plans to publicize the conference to all relevant stakeholders (i.e., California colleagues engaged in tobacco control research, education, and community programs) and publish the proceedings (with the latter plan not being required)? Did the applicant clearly describe how the proposed conference is similar to and/or different from related conferences held on the subject during the past 3 years and how the proposed conference will advance the field beyond prior meetings? If this is one in a series of sequential conferences held by a permanent sponsoring organization, the applicant should briefly describe and provide evaluation data from the last conference in the series, and clearly state the scientific contributions expected from the TRDRP-funded meeting(s).

Applications requesting two years of support must provide the following additional information for each year and each meeting requested, in as much detail as possible:

- conference topic(s), objectives, and goals
- tentative dates, locations, and participants (with as much detail as possible)
- contingency plans for future conferences dependent upon, for example, the outcome of the first year's conference or developments in the field.

**Resource Sharing Plan:** Did the applicant describe resources available to them through their host institution that would be used to support the conference(s) and that speak to the potential success of the institution to support a meeting of TRDRP-funded researchers? Individuals should describe other funding and resources that will be used as leverage to expand the scope and reach of the TRDRP-funded conference(s).

### **Criteria-2 (30% scoring weight)**

**Community Engagement:** Community engagement is encouraged, if it is appropriate to the scientific topics to be presented and discussed at the conference. Applicants are encouraged to include community input and residents, if appropriate, on the conference organizing committee, makeup of the target audience, and in the interpretation and dissemination of research findings in presentations. Community advocates, local lead agency representatives engaged in community tobacco control programs, and school-based tobacco prevention educators may be invited to participate and present if it fits with the scope of the scientific content.

Program Officers can be consulted to assist with recruitment efforts and may recommend involvement of scientists, community-based organizations, and community advocates.

### **Significance**

Does this conference address an important problem? If the aims of the application are achieved, how will scientific knowledge, clinical practice, or community programs be advanced? What will be the effect of these endeavors on the concepts, methods, technologies, treatments, services, or preventative interventions that drive the field?

### **Innovation**

Does the conference employ novel approaches or methods to fulfill its purpose? Does the conference draw together appropriate experts who may otherwise not have an opportunity to meet?

### **Approach**

Are the format and agenda for the conference appropriate for achieving the goals and objectives? Is the conference timely for the subject matter? For applications designating one PI and multiple Co-Is, is the Leadership Plan approach, including the designated roles and responsibilities, governance and organizational structure consistent with and justified by the topics of the conference and the expertise of each of the Investigators?

### **Criteria-3 (20% scoring weight)**

#### **Investigator(s)**

Is the PI well-suited for organizing and fulfilling the goals and objectives of this conference? Are the qualifications and past performance of the PI appropriate, and are they well-suited for their described roles in the conference? Are the key personnel and selected speakers appropriate and well-suited for their described roles in the conference? Is the necessary expertise involved for a successful conference meeting(s)?

#### **Environment**

Is the conference site appropriate? Does the applicant organization have the ability to contribute to the probability of success? Do the proposed meetings, exhibits, interactions, etc., take advantage of unique features of the environment or employ useful collaborative arrangements? Is institutional support evident?

#### **Contacts**

Applicants are required to contact a TRDRP [Program Officer](#) to discuss their conference plan prior to submitting an application for this mechanism.

## **9. Community Practice-Based Research Planning Award (CP)**

**Purpose:** To build long-term partnerships among academic researchers and healthcare practitioners that supports health service research to elucidate system-level change factors that promote regularly addressing patient tobacco use in health clinics serving the Medi-Cal population across California. This mechanism is to support the development of consortia that include health clinics, researchers, healthcare providers, administrators, and other groups with the expertise and capacity to create sustainable system change in the delivery of tobacco cessation services in healthcare settings accessed by low-income, underserved Californians who use tobacco at high rates. The research findings are expected to be generalizable across clinical service sites and to concretely inform practical recommendations for healthcare system improvements that result in increased access to evidence-based tobacco cessation treatments, improved quality and coordination of cessation activities, increased patient satisfaction, and higher rates of tobacco abstinence and quit attempts among low-income, underserved tobacco users.

**Anticipated Number of Grants:** Up to 3

**Maximum Award Amount per Year:** \$150,000 (direct cost cap)



**Maximum Duration:** 2 years

**Allowable Direct Costs:** Salaries, fringe benefits; supplies; equipment\*, travel.

**Project-Related Travel:** As needed (must be fully justified).

**Consortia Meetings:** Travel and related meeting expenses (at least one annual meeting is mandatory)

**Scientific Conference Travel:** up to \$2,000 per year may be applied to attend scientific meetings.

**Indirect Costs:** Full indirect costs are allowed to non-UC institutions. Indirect costs to UC campuses are capped at 25%.

**Budget:** TRDRP will issue award funds as one grant to a lead institution or organization, which must support the Administrative Core and have the capacity for fiscal management of grant funds including subcontracts to support the consortium activities. The majority of funds for the Administrative Core are not intended to support the ground up development of a shared electronic health records database, but a small portion of funds may be used to support the addition of tobacco-specific assessments and referral tracking measures for inclusion in an existing electronic health records database. The Administrative Core is expected to be affiliated with the lead institution or organization.

\*Any item costing \$5,000 or more

#### **Award Requirements**

- The lead applicant must have a PI-status at the sponsoring institution.
- The lead applicant PI is required to commit at least 10% of their research effort each year to activities supported by this award.
- U.S. citizenship is not a requirement

**The Community Practice-Based Research Planning Award mechanism is fully described in an uploaded document. [Read more here](https://trdrp.org/files/mechanisms/trdrp-community-practice-based-cessation-research-planning-award-mechanism.pdf) [https://trdrp.org/files/mechanisms/trdrp-community-practice-based-cessation-research-planning-award-mechanism.pdf]**

## **Submission Process**

Submission of a Letter of Intent (LOI) is required to apply for all research awards except for Special Projects (ST), Scientific Conference Award (CX), and Cornelius Hopper Diversity Award Supplements (CHDAS). The Letter of Intent must be submitted through [proposalCENTRAL](#). You will have access to the application template web pages if the LOI is approved, at which time you will receive a notification e-mail. In order to be considered for a programmatic review, a LOI must be submitted using the template available on proposalCENTRAL and must address all sections listed there-in. LOI submission instructions should be strictly followed as stated.

For technical help with proposalCENTRAL, please email [pcsupport@altum.com](mailto:pcsupport@altum.com) or call 800-875-2562 (Toll-free U.S. and Canada). ProposalCENTRAL customer support is available Monday – Friday from 8:30am -5:00pm (EST).

## TRDRP Contacts

Questions regarding scientific issues or TRDRP policies should be directed to the appropriate TRDRP Program Officer:

### **Social Behavioral Sciences and Public Health**

Norval Hickman, Ph.D, M.P.H.

510-987-9032

[norval.hickman@ucop.edu](mailto:norval.hickman@ucop.edu)

### **Biomedical and Environmental Sciences**

Anwer Mujeeb, M.Sc., Ph.D.

510-287-3340

[anwer.mujeeb@ucop.edu](mailto:anwer.mujeeb@ucop.edu)

### **Cancer, Neuroscience, and Health Economics Research**

Tracy Richmond-McKnight, Ph.D.

(510) 987-9811

[tracy.richmond-mcknight@ucop.edu](mailto:tracy.richmond-mcknight@ucop.edu)

### **Director**

Bart Aoki, Ph.D.

(510) 987-9537

[bart.aoki@ucop.edu](mailto:bart.aoki@ucop.edu)

Inquiries regarding LOI/application forms and instructions may be directed to the Research Grants Program Office (RGPO): [RGPOGrants@ucop.edu](mailto:RGPOGrants@ucop.edu) or (510) 987-9386