

AMERICAN CANCER SOCIETY
MENTORED RESEARCH SCHOLAR GRANTS
POLICIES AND INSTRUCTIONS
EFFECTIVE JANUARY 2012
DEADLINE: APRIL 2, 2012

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ANNOUNCEMENT OF APPLICATION FORMAT CHANGES

Beginning with the October 15, 2011 submission deadline, the American Cancer Society is modifying the application format for both the Research Scholar Grants (RSG) and Mentored Research Scholar Grants (MRSG). The new formats will reflect the new, 12 page R01 format instituted by the NIH several years ago. Page limits, formatting, etc will follow the NIH style. The one exception is that an optional 3 page section will be available for applicants to expand on research methods if they deem it valuable to the understanding of their project. This is not a mandatory section. For applicants from previous application cycles who wish to resubmit a modified grant for future cycles, they are allowed to use the previous application format. It is not required that they do so, but that option will be available. More detailed description of the changes are in these policies and instructions.

MISSION

The American Cancer Society is the nationwide, community-based, voluntary health organization dedicated to eliminating cancer as a major health problem by preventing cancer, saving lives and diminishing suffering from cancer through research, education, advocacy, and service.

MENTORED RESEARCH SCHOLAR GRANT

POLICIES

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1. OVERVIEW OF THE EXTRAMURAL RESEARCH AND TRAINING GRANTS PROGRAM OF THE AMERICAN CANCER SOCIETY

With a primary focus on beginning investigators, the American Cancer Society's Extramural Grants Program seeks to support and promote high impact and innovative cancer research across a wide range of disciplines to meet critically important needs in the control of cancer.

Each year, the Society receives approximately 2,000 requests for research funding and health care professional training support. All proposals are subjected to multiple levels of peer review to identify the most meritorious projects for funding.

The Society offers extramural support for research and training via the programs described below. For program specific information, please see Section 19.

GRANT PROGRAMS

HEALTH PROFESSIONAL TRAINING IN CANCER CONTROL – Virginia Krawiec, MPA, Program Director

This program provides grants in support of nurses, physicians and social workers to pursue training in outstanding programs that must meet high standards for excellence. The immediate goal is to encourage highly qualified individuals to enter careers in cancer prevention and control practice. The program goal is to accelerate the application of research findings in cancer prevention and control by increasing the number of nursing and social work clinicians and researchers with expertise in and career commitment to cancer control, and generalist physicians actively engaged in cancer control.

MOLECULAR GENETICS & BIOCHEMISTRY OF CANCER PROGRAM – Michael Melner, PhD, Program Director

This program focuses on the genes involved in cancer and how alterations in those genes (mutations, deletions, and amplifications) play roles in the process. Also of interest is the examination of the molecules involved in cancer (proteins, nucleic acids, lipids, and carbohydrates) and how alterations in those molecules affect the disease. The program highlights potential targets for new treatments of cancer and attacking the signaling mechanisms which control the disease.

CANCER CELL BIOLOGY AND METASTASIS – Charles Saxe, PhD, Program Director

The primary goal of this program is to provide an understanding of the nature of cancer cells so they can be more effectively treated and eliminated. Emphases include understanding the fundamental controls of normal and cancer cells with a focus on how cells regulate when to grow, when to divide and when to die; how cells create an identity and how cells relate to the local environment and to other cells; how cells regulate when and how to move from one site to another. To most completely reach the program goal a wide variety of cells are utilized so all aspects of cell biology can be examined.

PRECLINICAL AND TRANSLATIONAL CANCER RESEARCH – William Phelps, PhD,
Program Director

This program focuses at the interface between laboratory investigations and human testing. The scope of the program includes investigations of the role of infectious diseases in cancer, the synthesis and discovery of cancer drugs, the creation and use of animal models of cancer, and the role of individual or groups of genes in different types of cancer.

CLINICAL CANCER RESEARCH AND IMMUNOLOGY – William H. Chambers, PhD,
Program Director

Focus on increasing clinical research derived from advances in basic and epidemiologic research. Pursue clinical trials of new imaging agents and modalities monitoring cancer development, progression and response to therapy. Improve understanding of cancer-related inflammatory responses, immunosurveillance and immunotherapy. Increased use of the immune system for cancer prevention. Integration of immunotherapy into combination therapies for cancer. Increased fundamental knowledge of the effects of the environment and nutrition on cancer prevention, initiation and progression.

CANCER CONTROL AND PREVENTION RESEARCH –Open, Program Director

Study of behaviors (of individuals or health care professionals or health care systems), or interventions in changing these behaviors or systems, resulting in either a reduction in cancer risk, enhancement in detecting it early, better informed treatment decision-making, or improvement in the quality of life of patients and families. Special emphasis is placed on reducing disparities in disadvantaged groups.

GRANT MECHANISMS

RESEARCH GRANTS FOR INDEPENDENT INVESTIGATORS

Research Scholar Grants—provide the resources for investigator-initiated research in a variety of cancer-relevant areas. Applicants must be independent, self-directed researchers within six years of their first academic appointment. The maximum award is for 4 years and for as much as \$200,000 per year (direct costs), plus 20% allowable indirect costs.

The only eligibility exception is in the Priority Program in Cancer Control: research studies in psychosocial, behavioral, health policy or health services research studies that address cancer health disparities. In this case, investigators can be at any stage of their career.

A second award and term exception is made for applications in **population-based** psychosocial or behavioral studies; awards up to a maximum of 5 years and \$400,000 per year (direct costs), plus 20% allowable indirect costs.

Institutional Research Grants—Awarded to institutions as block grants to provide seed money for newly independent investigators to initiate research projects. Grants are made for one to three years, and average \$120,000 per year. These grants are renewable.

MENTORED TRAINING AND CAREER DEVELOPMENT GRANTS

Postdoctoral Fellowships—Support for the training of researchers who have received a doctoral degree to provide initial funding leading to an independent career in cancer research (including basic, preclinical, clinical, cancer control, psychosocial, behavioral, epidemiology, health services and health policy research). Awards may be for three years with progressive stipends of \$44,000, \$46,000, and \$48,000 per year, plus a \$4,000 per year fellowship allowance. Depending on availability of special endowment funds, the Society annually selects one or more of the top-ranked fellowships to be supplemented above the standard stipend. During the second or third year of the award, ACS Postdoctoral Fellows will be invited to attend a Fellows Symposium to present their work, meet with senior leaders in cancer research, and develop additional professional skills important in their transition to independent research careers.

Mentored Research Scholar Grants in Applied and Clinical Research—Provides support for mentored research and training to full-time junior faculty, typically within the initial four years of their first independent appointment. The goal is for these beginning investigators to become independent researchers as either clinician scientists or cancer control and prevention researchers. Awards are for up to five years and for up to \$135,000 per year (direct costs), plus 8% allowable indirect costs. A maximum of \$10,000 per year for the mentor(s) (regardless of the number of mentors) is included in the \$135,000.

Cancer Control Career Development Awards for Primary Care Physicians— Support for primary care physicians in supervised programs intended to develop clinical and teaching expertise and the capacity to perform independent research or educational innovation in cancer control. Awards are for 3 years and for up to \$100,000 per year. A maximum of \$10,000 per year for the mentor(s) may be included in the budget.

Physician Training Awards in Cancer Prevention—Awards to institutions to support physician training in accredited preventive medicine residency programs that provide cancer prevention and control research and practice opportunities. Awards are for four years in the total amount of \$300,000, based on an average of \$50,000 per resident training year. These grants are renewable.

PREDOCTORAL TRAINING

Doctoral Training Grants in Oncology Social Work—Awards to doctoral students to conduct research related to the psychosocial needs of persons with cancer and their families. Initial 2-year grant providing a stipend of \$20,000 per year with possibility of a 2-year competitive renewal.

Master's Training Grants in Clinical Oncology Social Work—Awards to institutions to support the training of second-year master's degree students to provide psychosocial services to persons with cancer and their families. Beginning in July 2012, the grant term will be **two years** with annual funding of \$12,000 (trainee award of \$10,000 and \$2,000 for faculty professional development). These grants are renewable.

Doctoral Degree Scholarships in Cancer Nursing—Provide support for study in a doctoral degree program in nursing or a related area, and prepare the graduate for a career as a cancer nurse scientist. The initial award is for two years and provides a stipend of \$15,000 per year. Scholarships may be renewed for an additional two years based on satisfactory progress.

Graduate Scholarships in Cancer Nursing Practice—Support for graduate students pursuing a master's degree in cancer nursing or doctorate of nursing practice (DNP). Awards may be for two years with stipend of \$10,000 per year.

PROFESSOR AWARDS

Research Professor Awards—Awarded to outstanding mid-career investigators who have made seminal contributions that have changed the direction of cancer research. In general, applicants will recently have attained the rank of full professor. The awards are for 5 years in the total amount of \$400,000, and may be renewed once.

Clinical Research Professor Awards —Awarded to outstanding mid-career investigators who have made seminal contributions that have changed the direction of clinical, psychosocial, behavioral, health policy or epidemiologic cancer research. In general, applicants will recently have attained the rank of full professor. The awards are for 5 years in the total amount of \$400,000, and may be renewed once.

INTERNATIONAL PROGRAMS

Audrey Meyer Mars International Fellowships in Clinical Oncology—Support for one year of advanced training in clinical oncology at participating US cancer centers to qualified physicians and surgeons from other countries, particularly countries where advanced training is not readily available. This program is limited to non-US citizens and provides up to \$40,000 annually. Annual application deadline is December 1.

American Cancer Society - UICC International Fellowships for Beginning Investigators—One-year fellowships of up to \$45,000 funded by the American Cancer Society to advance the academic career development of beginning cancer investigators from low-, lower-middle- and upper-middle-income countries as defined by the World Bank. Funding preference will be given to applicants who propose to conduct translational, clinical, epidemiologic, psychosocial, behavioral, health services or health policy research. Application forms may be obtained from the UICC Fellowship Department at <http://fellows.uicc.org/>

NEW INITIATIVES

Priority Program in Cancer Health Disparities Research

The American Cancer Society is committed to reducing cancer health disparities and has set strategic priorities for eliminating such disparities through research, education, advocacy, and service. The Society has set as a nationwide objective the goal of eliminating disparities in cancer burdens by 2015. To achieve this goal, the Extramural Research and Training Grants (EG) Department has made the reduction of cancer health disparities a priority area of focus for

the Cancer Control and Prevention Research Program with a call for applications in psychosocial and behavioral research and in health policy and health services research that address cancer health disparities.

Applications will be accepted using one of four mechanisms: Postdoctoral Fellowship, Mentored Research Scholar Grant, Research Scholar Grant, or Clinical Research Professor. Annual deadlines: April 1 and October 15.

REQUESTS FOR APPLICATIONS (RFAS)

Pilot and Exploratory Projects in Palliative Care of Cancer Patients and their Families — Supports investigators performing pilot and exploratory research studies that test interventions, develop research methodologies, and explore novel areas of research in palliative care of cancer patients and their families. Applications will be accepted via the Pilot and Exploratory Grants Mechanism. The maximum award is for 2 years and up to \$60,000 per year (direct costs) plus 20% indirect costs Annual Deadline: October 15

Pilot Studies Using Community Based Participatory Research to Reduce Cancer Health Disparities -This RFA supports funding of pilot studies using community-based participatory research (CBPR) as a means to reduce cancer health disparities. It is funded by the American Cancer Society (ACS) Midwest Division to support researchers in that geographic region. An investigator may be at any career stage, but *must be* a resident of the Midwest Division of the American Cancer Society (Iowa, Minnesota, South Dakota and Wisconsin). Applications will be accepted via the Pilot and Exploratory Grants Mechanism. The maximum award is for two years and up to \$50,000 per year (including indirect costs.) It is anticipated that a total of \$400,000/year for two years will be available to fund four grants per year. Annual Deadlines: April 1 and October 15.

Research Scholar Grant in the Role of Healthcare and Insurance in Improving Outcomes in Cancer Prevention, Early Detection and Treatment—Supports projects that investigate how healthcare costs, healthcare system structure and capacity, socioeconomic factors (including insurance status), personal characteristics (such as race and ethnicity), and delivery of healthcare services affect outcomes related to cancer prevention, early detection, and treatment. The purpose is to stimulate research on the effects of the US healthcare system structure and the role of insurance on access to screenings and treatment. Applications will be accepted via the Research Scholar Grant in Cancer Control and Prevention Program. The maximum award is for 4 years and up to \$200,000 per year (direct costs) plus 20% indirect costs. Annual Deadlines: April 1 and October 15.

2. AUTHORITY FOR MAKING GRANTS

All American Cancer Society grants and awards are made by the Chief Executive Officer on behalf of the Society's Board of Directors.

3. SOURCE OF FUNDS

The American Cancer Society obtains its funds principally from public donations collected annually by our three million volunteers. In order to disseminate information about the Society's Extramural Research and Training Grants Program to our volunteers and to the public, grantees may occasionally be asked to give brief presentations to professional and lay audiences.

4. WHO MAY APPLY

Applicants for American Cancer Society grants and awards must at the time of application be United States citizens, noncitizen nationals, or permanent residents of the United States. Permanent residents must submit with the application notarized evidence indicating that they have a Resident Alien Card or "Green Card" (I-551) or have been approved for the issuance of such card as evidenced by an official passport stamp of the United States Immigration Service or a form I-797 Notice of Action which indicates that the application for permanent residence has been approved. Non-citizen nationals are persons who, although not US citizens, owe permanent allegiance to the United States. They are generally persons born in outlying US possessions (e.g., American Samoa and Swains Island).

The Society's grants and awards are made to not-for-profit institutions located within the United States, its territories, and the Commonwealth of Puerto Rico. A not-for-profit institution is one that –IF REQUESTED- can provide:

- A current letter from the Internal Revenue Service conferring 501(c)(3) status,
- Documentation of an active cancer research program, and
- Assurance that the entity is not affiliated or funded by the tobacco industry.

Unsolicited grant applications will not be accepted from, nor will grants be made for, the support of research conducted at for-profit institutions, federal government agencies (including the National Laboratories), or organizations supported entirely by the federal government (with the exception of postdoctoral fellowship applications) or organizations, such as Foundations operated by, and for the benefit of, Veteran Affairs Medical Centers, whose primary beneficiaries are federal government entities. Applications may be submitted by qualified academic institutions on behalf of Veteran Affairs Medical Centers, provided that a Dean's Committee Memorandum of Affiliation is in effect between the two institutions.

Principal investigators who are US citizens or Permanent Residents working at a not-for-profit institution in the United States may request under special circumstances, that a component of the research be performed at a foreign institution as a subcontract. In these cases, the principal investigator must convince the Society and its review committees that the proposed research cannot be undertaken at an institution in the United States, and that the findings will be relevant to the US population. See the Research Scholar Grant Instructions under "Detailed Budget: Subcontracts" and "Justification of Budget" for more information.

Although applicants may apply for multiple awards, a grantee may not be the principal investigator on more than one ACS Grant at any time. Exceptions are made for recipients of grants that are in response to RFAs and for PIs of Institutional Research Grants.

5. RESPONSIBILITY OF THE GRANTEE INSTITUTION

The American Cancer Society does not assume responsibility for the conduct of the activities that the grant supports or the acts of the grant recipient as both are under the direction and control of the grantee institution and subject to the institution's medical and scientific policies. Grantee institutions must safeguard the rights and welfare of individuals who participate as subjects in research activities by reviewing proposed activities through an Institutional Review Board (IRB), as specified by the National Institutes of Health Office for Human Research Protections, US Department of Health and Human Services Furthermore, grantee institutions must adhere to DHHS guidelines as well as, ACS guidelines regarding conflicts of interest, recombinant DNA, and scientific misconduct. These policies apply to applicants and applicant institutions as well.

To signify agreement by the institution, an application for a grant must bear the signature of the official authorized to sign for the institution. Signature of the department head is also required. Additional signatures are at the discretion of the institution.

It is the responsibility of the institution to immediately report to ACS any action including recertification, loss of certification, breach of conflict, or misconduct which may occur during the term of any award that is pertinent to the work described in the grant application.

6. TOBACCO-INDUSTRY FUNDING AND CONFLICTS OF INTEREST

Scientific investigators or health professionals who are funded by the tobacco industry for any project, or whose named mentors in the case of mentored grants are funded by the tobacco industry for any project, may not apply and will not be eligible for American Cancer Society research and training grants activated on or after July 1, 2005. Scientific investigators, health professionals, or named mentors who accept funding from the tobacco industry for any project during the tenure of an American Cancer Society research or training grant must inform the Society of such funding, whereupon the American Cancer Society grant will immediately be terminated. Tobacco industry funding includes: funds from a company that is engaged in, or has affiliates engaged in the manufacture of tobacco produced for human use; funds in the name of a tobacco brand, whether or not the brand name is used solely for tobacco goods; funds from a body set up by the tobacco industry or by one or more companies engaged in the manufacture of tobacco goods.

The following do not constitute tobacco industry funding for the purposes of this policy:

- Legacies from tobacco industry investments (unless the names of a tobacco company or cigarette brand are associated with them);
- Funding from a trust or foundation established with assets related to the tobacco industry but no longer having any connection with the tobacco industry even though it may bear a name that (for historical reasons) is associated with the tobacco industry.

Tobacco industry funding is defined for purposes of Society grants and awards applicants and recipients as money provided or used for all or any of the costs of the research, including personnel, consumables, equipment, buildings, travel, meetings, and conferences, running

(operating) costs for laboratories and offices, but not meetings or conferences unrelated to a particular research project.

7. PEER REVIEW OF APPLICATIONS

The Society's Scientific Program Directors distribute the applications to the most appropriate Peer Review Committee and then assign each application to at least two committee members for review. Each committee generally has between 12 and 25 members who are leaders in their areas of expertise, plus up to three “stakeholders.” A stakeholder is an individual usually without formal training as a scientist or health professional who has a strong personal interest in advancing the effort to control and prevent cancer through research and training. This interest could stem from an intimate experience with the disease, such as survivorship, a family cancer experience, or being a caregiver.

Depending on the grant applied for, the committees evaluate applications based on some or all of the following criteria: (a) the scientific merit, originality, and feasibility of the application; (b) the qualifications, experience and productivity of the applicant, and the members of the investigative team; (c) the facilities and resources available; and (d) the promise of the research or training as related to the control of cancer or to the benefit to be gained by persons with cancer. At the Peer Review Committee meeting, the applications are discussed and a priority score is voted for each one. Written evaluations of each application are provided to the Council for Extramural Grants (the Council). The Council is a multidisciplinary panel of senior scientists, many having previously served on a Peer Review Committee, up to three stakeholders, and the Chair of the Society’s Research and Medical Affairs Committee serving as an ex officio, non-voting member. After considering the relative merit of the applications, the amount of available funds and the Society’s objectives, the Council establishes the payline to determine which grants will be funded during each cycle. No voting member of a Peer Review Committee or of the Council may serve concurrently on the Board of Directors or the National Assembly of the American Cancer Society.

In general, applications that are not funded may be revised and resubmitted twice; postdoctoral fellowship applications may only be resubmitted once. Resubmitted applications will be reviewed in the same detail and compete on an equal basis with all other new applications. (See Instructions for additional information on resubmission of applications.)

8. APPLICATION DEADLINES

Applications for grants and awards must be submitted as paper copies in addition to submitting them electronically via proposalCENTRAL. ProposalCENTRAL is a consortium of non-profit granting agencies, developed and hosted by Altum. Access is available using links provided in the American Cancer Society web site www.cancer.org (*see Instructions*). The electronic applications must be submitted and the paper copies received at the Society’s National Home Office by close of business (5:00 PM EST) on the specified deadline date. **If the deadline falls on a weekend or holiday, applications will be accepted the following business day.**

No supplemental materials will be accepted after the deadline unless requested by staff for administrative purposes or when needed for the reviewers. The schedule for application receipt and review is provided in the following table.

DEADLINE, REVIEW, NOTIFICATION, AND ACTIVATION SCHEDULE

| GRANTS | Deadline for Receipt of Applications | Peer Review Meeting | Preliminary Notification | Council Meeting | Grantee Notification | Activation |
|---|---|----------------------------|---------------------------------|------------------------|-----------------------------|---------------------|
| Research Scholar Grant | April 1 October 15 | June January | August March | Sept. March | October April | January 1 July 1 |
| Mentored Research Scholar Grant | April 1 October 15 | June January | August March | Sept. March | October April | January 1 July 1 |
| Postdoctoral Fellowship | April 1 October 15 | June January | August March | Sept. March | October April | January 1 July 1 |
| Institutional Research Grant | April 1 | June | August | Sept. | October | January 1 |
| Physician Training Award in Cancer Prevention | April 1 | June | August | Sept. | October | January 1 |
| Research Professor Award | April 1 | June | NA | Sept. | October | January 1 |
| Doctoral Training Grant in Oncology Social Work | October 15 | January | March | March | April | July 1 |
| Clinical Research Professor Award | October 15 | January | NA | March | April | July 1 |
| Master's Training Grant in Clinical Oncology Social Work | October 15 | January | March | March | April | July 1 |
| Cancer Control Career Development Award | October 15 | January | March | March | April | July 1 |
| Doctoral Degree Scholarship in Cancer Nursing | October 15 | January | March | March | April | July 1 |
| Graduate Scholarship in Cancer Nursing Practice | February 1 | March | N/A | April | May | July 1 |

9. NOTIFICATION OF APPLICATION RECEIPT AND REVIEW

Approximately one month after receipt of the application, the applicant will receive an email acknowledgment providing an application number, the assigned Peer Review Committee, and the name and telephone number of the Scientific Program Director of the Peer Review Committee. This email will be sent to the address in the Professional Profile supplied at the time of submission.

Preliminary Notification. Following review, preliminary information regarding the status of an application will be emailed along with instructions to download copies of the reviewers' critiques. The letter of notification will also indicate the likelihood of funding as described by one of the following phrases: experience suggests that (a) your application will be funded, (b) we cannot predict at this time or, (c) your application will not be funded. Please note that all final funding decisions are made by the Council for Extramural Grants which typically meets in March and September.

Applicants may call the Extramural Grants Department at anytime during the review cycle. The Program Director and Program Coordinator will shepherd your application through the entire process. Following receipt and careful consideration of the critiques, applicants are encouraged to contact their Program Director to discuss their review. For those applicants considering resubmission, it is strongly encouraged that they contact their Program Director well in advance of the next deadline.

10. GRANT PAYMENTS

Grant payments will be made at the end of each month, except for nursing scholarships and social work grants, which are made once yearly at the beginning of the year. The American Cancer Society requires that all payments are made to the sponsoring institution and are mailed to the address indicated on the grant activation form. Acknowledgment of payment by the sponsoring institution is not required.

Personnel compensated in whole or in part with funds from the American Cancer Society are not considered employees of the Society. Institutions are responsible for issuing the appropriate IRS tax filings for all individuals receiving compensation from American Cancer Society grants and are responsible for withholding and paying all required federal, state, and local payroll taxes with regard to such compensation. Thus, these and any other tax consequences are the responsibility of the individual recipient and the sponsoring institution. We advise all grant and award recipients to consult a tax advisor regarding the status of their awards.

11. ANNUAL AND FINAL PROGRESS REPORTS

The following policies apply to Research Scholar Grants, Mentored Research Scholar Grants, and Postdoctoral Fellowships. For all other grants, see the appropriate "Required Progress Reports" sections. Annual and final reports represent a critical part of responsible stewardship of the donated dollars. We greatly appreciate your efforts to assist us in this critical responsibility.

A. Both nontechnical and scientific progress reports are to be submitted each year within six weeks after the first and subsequent anniversaries of the start date of the grant, and final reports

are due within six weeks after the grant has terminated. To access the necessary forms for annual and final progress reports, please go to <https://proposalcentral.altum.com>.

- B. The final report should cover the entire grant period. In the event a grant has been extended without additional funds, the final report is not due until the official termination date of the grant. If the grant is terminated early, a final report must still be completed within six weeks of the termination date.
- C. Reports are to be submitted in a timely manner. If this is not possible, a written request to extend the reporting deadline must be made. Otherwise, noncompliance may result in the withholding of payment on all grants in effect at the recipient institution until reports are received.
- D. Please note that up to date annual reports are required when requesting any grant modifications including transfers or no cost extensions.

12. PUBLICATIONS AND OTHER RESEARCH COMMUNICATIONS

Publications resulting from research or training activities supported by the American Cancer Society must contain the following acknowledgment: "Supported by (insert name of grant and number) from the American Cancer Society." In the event that there are multiple sources of support, the acknowledgment should read "Supported in part by (insert name of grant and number) from the American Cancer Society" along with references to other funding sources. The Society's support should also be acknowledged by the grantee and by the institution in all public communication of work resulting from this grant, including scientific abstracts (where permitted), posters at scientific meetings, press releases or other media communications, and Internet-based communications.

Although there is no formal approval process for publications by Society grantees, **it is helpful if investigators notify their Program Directors when manuscripts have been accepted for future publication.** This will allow ample time to consider and coordinate any additional public or Society-wide notifications. If your institution decides to send out a **press release** involving any of your Society-supported research, please notify your local ACS Division office (phone number on your award letter) or your Program Director in advance.

ACS grants to you a limited, revocable, non-transferable license to use the ACS logo (as shown below) in connection with your funded work. We encourage you to use the following ACS logo on any scientific poster, in a Power Point presentation, or any other visual presentation about your funded work where the ACS is noted as a funding source. In turn you agree to provide any materials featuring the ACS logo to ACS upon our request.

Permission to use the logo is limited to the uses outlined in the above paragraph. Any other use must be evaluated and approved by the ACS. Please contact your Program Director regarding any other proposed use of the logo.



13. FINANCIAL RECORDS AND REPORTS

A report of expenditures must be submitted within 90 days of the expiration date of the grant as indicated in the award letter. Any change in terms such as a no-cost extension will alter the date that the report is due. There are different reporting requirements for the Institutional Research Grant (please see the "Required Financial Reports" section in the IRG policies). Annual financial reports are not required. To access the necessary forms, please go to <https://proposalcentral.altum.com>.

Signatures of the principal investigator and the institution's financial officer are required. **Any unexpended funds must be returned to the Society.**

Reports are to be submitted in a timely manner. If this is not possible, a written request to extend the reporting deadline must be made. Otherwise, non-compliance may result in the withholding of payment on all grants in effect at the recipient institution until reports are received.

Institutions must maintain separate accounts for each grant, with substantiating invoices available for audit by representatives of the American Cancer Society. The Society is not responsible for expenditures made prior to the start date of the grant, costs incurred after termination or cancellation of the grant, or for commitments against a grant not paid within 60 days following the expiration date, or any expenditure that exceed the total amount of the award. (See also section 18, "Cancellation.")

14. EXPENDITURES

American Cancer Society *research* grants are not designed to cover the total cost of the research proposed nor the investigator's entire compensation. The grantee's institution is expected to provide the required physical facilities and administrative services normally available in an institution.

For grants that allow indirect costs, the calculation of allowable indirect costs includes all budget items except equipment. See the Instructions for allowable expenditures for Health Professional Training Grants (Nursing Scholarships, Social Work Training Grants, Cancer Control Career Development Awards and Physician Training Awards in Preventive Medicine).

The Society's research grants do not provide funds (direct budget) for such items as:

- Secretarial/administrative salaries
- Student tuition and student fees including graduate and undergraduate; however, tuition is an allowable expense for the principal investigator of a Mentored Research Scholar Grant.
- Foreign travel (special consideration given for attendance at scientific meetings held in Canada)
- Books and periodicals except for required texts for coursework in the approved training plan for MRSGs.
- Membership dues
- Office and laboratory furniture
- Office equipment and supplies
- Rental of office or laboratory space
- Recruiting and relocation expenses

- Non-medical services to patients (travel to a clinical site or patient incentives are allowable expenses)
- Per-diem charges for hospital beds
- Construction, renovation, or maintenance of buildings/laboratories

However, Society research and training grant funds can be used for computer purchases that are for research and training purposes, and can be purchased with direct funds from the equipment budget.

15. OWNERSHIP OF EQUIPMENT

Equipment purchased under American Cancer Society research grants or extensions thereof is for the use of the principal investigator and collaborators. Title of such equipment shall be vested in the institution at which the principal investigator is conducting the research. In the event the American Cancer Society authorizes the transfer of a grant to another institution, equipment necessary for continuation of the research project purchased with the grant funds may be transferred to the new institution. Title to such equipment shall be vested in the new institution.

16. INTELLECTUAL PROPERTY RIGHTS

As a not-for-profit organization supported by public contributions, the Society believes it has the responsibility to adopt policies and practices that enhance the likelihood that potentially beneficial discoveries and inventions will be exploited to the benefit of humankind. It is the desire of the Society that such inventions be administered in such a manner that they are brought into public use at the earliest possible time. The Society recognizes that often this may be best accomplished through patenting and/or licensing of such inventions. Accordingly, the Society has adopted the following patent policy that is binding on all Grantees and Not-for-profit Grantee Institutions (hereinafter "Grantee"). Acceptance of a grant from the Society constitutes acceptance of the terms and conditions of this policy. It is a goal of the Society that the terms and conditions of this policy not conflict with the established patent policy of Grantee.

- A. All notices required pursuant to this policy shall be in writing, and in this policy, the following terms shall have the meaning set forth below.
- i. "Invention" shall mean any potentially patentable discovery, material, method, process, product, program, software or use.
 - ii. "Funded Invention" shall mean any Invention made in the course of research funded in whole or in part by this Society grant.
 - iii. "Public Disclosure" shall mean any publication, presentation, offer for sale or any activity that would affect the patentability of the invention under 35 USC. § 102 or 103.
 - iv. "Net Income" shall mean gross income received by Grantee in respect of a Funded Invention less inventor distributions in accordance with Grantee policy, payments to joint holders of Funded Invention, and unreimbursed directly assignable out-of-pocket expenses resulting from patenting and licensing for Funded Invention.
- B. Grantee shall notify the Society of each Funded Invention made by Grantee within thirty (30) days after the disclosure of the Funded Invention to Grantee's Technology Transfer

Office or the equivalent thereof. Grantee shall promptly determine whether it desires to seek patent or other statutory protection for all Funded Inventions promptly after each Funded Invention is made and shall promptly inform the Society of all decisions to seek or not seek such protection. The Society shall have the right to seek patent or other statutory protection, at the Society's expense, for any Funded Invention in any country where Grantee has decided not to seek protection or has failed to file an application for such protection within six (6) months after disclosure of the Funded Invention to the Society, and, upon the Society's request, Grantee shall file for patent protection for Funded Invention in such countries as directed by Society at the Society's expense.

- C. Grantee shall promptly notify the Society of the filing and issuance or grant of any application for a patent or other statutory rights for a Funded Invention and shall keep the Society reasonably informed of the status and progress of all such applications. Grantee shall pay all costs and expenses incident to all applications for patents or other statutory rights and all patents and other statutory rights that issue thereon owned by Grantee (other than as provided for in Sections B or C). Grantee shall also notify the Society at least sixty (60) days in advance of Grantee's intention to abandon any application for a patent or other statutory right for a Funded Invention or not to take action required to maintain any such application or any patent or other statutory right in a Funded Invention, in which event, at the request of the Society, Grantee shall continue patent protection for Funded Invention as directed by Society at the Society's expense (unless maintenance of such patent rights is inconsistent with Grantee's good name).
- D. Each of the Society and Grantee (the appropriate Grantee technology transfer officer managing Funded Invention) shall promptly inform the other of any suspected infringement of any patent covering a Funded Invention and of any misappropriation, misuse, theft or breach of confidence relating to other proprietary rights in a Funded Invention. Grantee and Society will discuss in good faith further action to be taken in this regard.
- E. Grantee shall notify the Society within thirty (30) days of grant of a license, lease, or other revenue generating agreement involving a Funded Invention. In the event that Grantee fails to license a Funded Invention within five (5) years from the issuance of a patent for the Funded Invention and the Grantee has determined no viable means of commercialization for Funded Invention, Grantee shall license the Funded Invention, with the right to sublicense, to the Society (under standard Grantee license terms on a royalty free basis). However, should the Society receive any revenue from sublicensing the Funded Invention, it will share that revenue with Grantee on a mutually acceptable basis.
- F. Grantee will license a Funded Invention in accordance with Grantee Policy and established practices.
- G.
 - i. The Society waives the receipt of income until the Net Income from the Funded Invention exceeds \$500,000.
 - ii. Once the Net Income from a Funded Invention exceeds \$500,000, Grantee shall pay the Society annually a percentage of the Net Income from the Funded Invention that is

proportionate to the Society's proportion of the financial support for the research that resulted in the Invention. Such royalty payment shall be accompanied by an appropriate statement of account detailing the amount and showing the calculation of Net Income received by Grantee during the preceding year. The Society shall have the right to audit the Grantee's books and records annually, in order to verify the Net Income derived annually from any Funded Invention.

- iii. The percentage of Net Income due the Society from a Funded Invention shall be determined by the parties within 90 days of the date the Society is notified by the Grantee (to be extended by mutual agreement of both parties) pursuant to Section E above of the grant of a license, lease or other revenue generating agreement involving the Funded Invention.

If the parties are unable to agree on the percentage of Net Income payable to the Society or any amount owed to Grantee pursuant to Paragraph E above, the dispute (the "Dispute") shall be resolved as follows:

One of the parties shall request (the "Negotiation Request") that each of the parties appoint a designated executive management representative to meet for the purpose of endeavoring to resolve such Dispute. The designated executive representatives, who shall not have been directly involved in the initial negotiations, shall discuss the Dispute and negotiate in good faith in an effort to seek a resolution. During the course of such negotiation, all reasonable requests made by one party to the other for information will be honored so that each of the parties may be fully advised regarding the Dispute. If the designated executive representatives are unable to resolve the Dispute within 30 days after the Negotiation Request, the parties shall mediate the Dispute with a mutually acceptable mediator within the 30-day period beginning 31 days after the Negotiation Request. If the Dispute is not resolved by mediation within 60 days after the Negotiation Request, either party may initiate arbitration by delivering an arbitration demand to the other party (initiator of arbitration will travel to venue of other party), and the Dispute shall be settled by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA"), except that

- (a) there shall be one arbitrator mutually agreed upon by both parties within 30 days after initiation of arbitration and if the parties are unable to agree upon an arbitrator, the arbitrator shall be appointed by AAA;
- (b) neither party may submit more than 20 interrogatories, including subparts;
- (c) neither party shall be entitled to take more than two depositions and no deposition shall last more than two hours;
- (d) all discovery shall be concluded within 90 days of serving the arbitration demand;
- (e) each party shall bear its own costs and expenses and attorney's fees and an equal share of the arbitrator fees and any administrative fees of the arbitrator; and

- (f) arbitration shall not be utilized if Grantee is prohibited by law from submitting itself to binding arbitration.

The award of the arbitrator shall be binding, and judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

17. EXTENSION OF TERM OF GRANT/TRANSFERS

The termination date of any grant may be extended for up to one year without additional funds upon written request to the Program Director from the principal investigator. An extension of term request form can be found at <https://proposalcentral.altum.com>. Please include with the request an estimate of the funds to be carried over into the extension, and an explanation for the delay in completion of the specific aims. The Program Director must receive a written request 30 days before the expiration date of the grant. Requests for a leave of absence will be handled on a case-by-case basis.

To transfer or change institutions during a grant period, request forms can be found at the same site as above.

Please note that up to date annual reports are required prior to approval of any grant modifications including transfers and no cost extensions.

18. CANCELLATION OF GRANT

If a grant is to be canceled prior to the original termination date, contact your Program Director, and please fill out and submit the Request for Cancellation form which can be found at <https://proposalcentral.altum.com>.

In the event a grant is canceled, the institution is only entitled to the prorated amount of the award accumulated between the start and termination dates. **The Society cannot assume responsibility for expenditures in excess of payments already made to the grantee institution prior to the effective date of cancellation; following cancellation or termination of a grant, no additional payments will be provided to the institution, and all unexpended funds must be returned to the Society.**

Please note that if the award is to be canceled after initiation of the grant period, a final report will be due within 6 weeks of the termination date describing the work completed up to that point.

For Master's Training Grants in Clinical Oncology Social Work, Doctoral Training Grants in Oncology Social Work, Graduate Scholarships in Cancer Nursing Practice, and Doctoral Degree Scholarships in Cancer Nursing, withdrawal from the graduate program requires cancellation of the grant.

19. OVERVIEW OF MENTORED RESEARCH SCHOLAR GRANTS

The purpose of the *Mentored Research Scholar Award* is to support junior faculty members to become independent investigators as either clinician scientists or cancer control researchers. This grant is for individuals whose training primarily has prepared them for a career as a clinician or to conduct clinical or cancer control research, with the goal of strengthening their capacity to conduct cancer research and to increase the numbers of these individuals in the field.

During the five years of the award, individuals are expected to acquire the research training, mentoring and experience necessary for transition into a successful career as an independent investigator. In addition to the research project itself, the activities during the award period must be designed to develop the necessary knowledge and skills in relevant areas through mentoring, and may include participating in appropriate courses and lectures.

20. ELIGIBILITY FOR MENTORED RESEARCH SCHOLAR GRANTS

Individuals meeting the following criteria *are eligible to apply without prior approval* from the American Cancer Society.

Applicants must:

- Be within the first four years of a full time faculty appointment or the equivalent;
- Not be independent investigators. Faculty with independent research programs and/or with independent, extramural research funding (an RO1 or equivalent) may not apply; and
- At the time of application, have four years or less postdoctoral research training/experience. Depending on the amount of research training to date, the peer review committee may recommend to shorten the period of an MRSG. In addition, the total amount of research training may be a consideration for the period of eligibility for subsequent American Cancer Society grants, especially the Research Scholar Grant.

In addition, applicants must have:

- A **clinical** doctoral degree, e.g., MD or equivalent, DNP, PsyD, etc. OR
- A **research** doctoral degree in a clinical discipline, e.g., PhD or equivalent in nursing, nutrition, psychology, social work, etc. OR
- A **research** doctoral degree in a cancer control discipline, e.g., PhD or equivalent in behavioral, epidemiologic, health policy, health services, or psychosocial research.

Note: applicants may not be solely trained in a **basic** science discipline such as biochemistry, immunology, cell biology, etc. Individuals with a research doctorate, postdoctoral training and an independent faculty position are encouraged to apply for the American Cancer Society Research Scholar Grant.

Upon *discussion and approval from the appropriate Scientific Program Director* (listed below), applications will also be considered from candidates who:

- Are beyond their first four years of academic appointment and who have *less* than four years research experience. (Generally, these individuals have had substantial clinical duties and/or teaching responsibilities that did not allow them to participate in research or research training.) OR
- Are full-time faculty with doctoral degrees who have received career development grants of short duration that provide primarily salary support (e.g., American Cancer Society's CCCDA, ASCO Career Development Award). However, support for the combined training may *not exceed* six years. Note: recipients of an NCI K07, K08 or K23 grants are not eligible for the MRSG.

Only upon receipt of a letter confirming eligibility will candidates **in this group** be allowed to submit an application.

The following are not considered as counting against the applicant in the determination of the timeframe for eligibility:

1. Exempt Training – Internships, residencies, and oncology subspecialty training (clinical fellowships) are not considered as research training, and do not count toward the 6 year limit beyond the terminal degree
2. Leave of Absence – An appropriately documented leave of absence will not be counted in the years of eligibility. Leaves of absence may include: military service, family leave, and teaching in a non-research position.

Scientific Program Director to Contact: (Only candidates in Group 2 need to contact the Director.)

- If your proposal includes clinical and/or epidemiologic research, contact William Chambers, Ph.D. at William.Chambers@cancer.org
- If your research is in cancer control (psychosocial, behavioral, health policy and health services or palliative care and symptom management) research, contact Joseph Cotter at Joseph.Cotter@cancer.org.

21. TERMS OF AWARD OF MENTORED RESEARCH SCHOLAR GRANT

A. Budget and Term of Award

Awards are made for up to five years, and up to \$135,000 per year (direct costs) plus 8% allowable indirect costs.

- Applicants must have an institutional commitment for a minimum of 60% of their time dedicated to conducting research on *this* proposal and developing their research career.
- The budget for the period of the grant may include the applicant's salary, prorated according to the percent of effort devoted to the project, and additional funds for the research project proposed.
- Salary and benefits for the mentor may be charged to the grant for up to \$10,000 per year. A maximum of \$10,000 per year is allowable, regardless of number of mentors on the application.
- Salaries of applicant and mentor(s) may not exceed the NCI cap. (If the salary of the applicant or the mentor exceeds this cap, the institution may supplement the Society's contribution from other sources.
- Budgets submitted must be realistic estimates of the funds required for the proposed research. Because of limited resources, the American Cancer Society and its Peer Review Committees expect applicants to exercise considerable budgetary restraint.
- If your application focuses on palliative care and/or symptom management, you will be invited to attend the Katherine M. Foley Palliative Care and Retreat and Research Symposium held in September/October each year in Years 1, 2 and 5 of your grant. Please make sure to include budget (approximately \$1,000 per year) for the PI to travel to this meeting in Years 1, 2 and 5. Your mentor will also be invited to this retreat in this year but they will be asked to pay for their own travel, so please do not include funds for mentor travel to this meeting. If you are unclear if your study falls into this category, please contact the study coordinator, Joseph Cotter (Joseph.Cotter@cancer.org) prior to submitting your

application.

B. Resubmission of Unfunded Applications

Applications that are not funded may be revised and resubmitted.

- However, only two resubmissions are permitted.
- The same eligibility criteria apply as in a first submission.
- Resubmitted applications will be reviewed in the same detail, and compete on an equal basis with all other new or resubmitted applications (see INSTRUCTIONS, Section A3.)
- Letters of recommendation can be reused in a resubmission if the application is resubmitted within a calendar year of the initial proposal.

C. Renewals and Extensions of Awarded Grants

- These grants are not renewable.
- The termination date of any grant may be extended for up to one year, without additional funds, upon written request from the Principal Investigator. The Program Director must receive this request before the expiration date of the grant.

22. EVALUATION OF MENTORED RESEARCH SCHOLAR GRANT APPLICATIONS

The committee will evaluate applications based on the following criteria:

1. **Applicant:** Their academic and scientific qualifications, potential to succeed as an independent investigator, and commitment to research as a career. Letters of reference will be evaluated to determine the applicant's research ability and potential, motivation, ability to plan and conduct research, knowledge of the field of study, and ability to work as a member of a research team.
2. **Mentor(s):** The appropriateness of the mentor(s)' research qualifications in the proposed project area, the role of the mentor(s) on the project, research productivity and prior success in fostering the development of cancer researchers.
3. **Research Plan:** While there is significant competition for these mentored awards, the proposals are not expected to reflect the breadth and depth of the work of a senior scientist. The evaluation of the proposal includes assessment of: (a) The scientific and technical merit of the research question; (b) The design, methodology, and feasibility of the study; (c) The relevance of the proposed research plan to the applicant's career objectives; (d) The medical and health significance of the proposed research to cancer prevention, control and/or treatment; and (e) The appropriateness of the research plan as a vehicle for developing necessary research skills.
4. **Training Plan:** Applications must include a comprehensive training plan involving appropriate core curriculum studies. This will be represented by courses and lectures which enhance the research training of the applicant, *and* which have relevance to the applicant's career objectives.
5. **Facilities/Environment:** Documentation of the institutional commitment to the research development of the applicant must be included. This will be represented by the quality and relevance of the training environment and mentored relationship for the professional development of the applicant; the adequacy and availability of necessary research space and facilities, and training opportunities for the proposed project.

23. CHANGE OF INSTITUTION/MENTOR (S)

Recipients of a Mentored Research Scholar Grant may transfer their grant from one institution to another or change their mentor(s) *only after receiving written approval* from the American Cancer Society. However, it is possible that the transfer may necessitate the submission of a revised application. Therefore, recipients of Mentored Research Scholar Grants wishing to transfer between institutions or mentors should call their Program Director *prior* to initiating the transfer.

Change of Institution: Prior to the formal transfer, the American Cancer Society must receive the following:

- The request for transfer in writing, indicating the anticipated transfer date
- A statement from administrative official of note, at the original institution, relinquishing the grant
- The final Report of Expenditures from the original institution together with a check for any unexpended funds. To access the necessary form for transfer, please go to <https://proposalcentral.altum.com>.
- Mentored Research Scholar Grant transfer forms (the title page, contact information page, and assurances and certification page of application form) completed by the appropriate individuals at the new institution indicating acceptance of the grant and documenting the existence of the appropriate resources and mentorship.
- Payments to the new institution will not be initiated until a final accounting and a check for any unexpended funds have been received from the original institution and the transfer has been approved by the Society. This report must be submitted within sixty days of the date upon which the transfer was requested.

MENTORED RESEARCH SCHOLAR GRANT

INSTRUCTIONS

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A. GENERAL INFORMATION

1. APPLICATION SUBMISSION AND REQUIRED SIGNATURES

Applications must be submitted in two formats: an electronic version and paper copies (original, printed electronic application with official signatures plus three copies). The electronic version is submitted using links provided in the American Cancer Society web site www.cancer.org.

The original copy of the application must carry the signatures (front page) and contact information (second page) for

- **The Applicant**
- **The Institutional Signing Official**
- **The Department Head**

See program specific instructions for additional required signatures.

The electronic applications must be submitted and the paper copies of the application must be received by the Society's National Home Office by close of business (5:00 PM Eastern time) on the specified deadline date. If the deadline date falls on a weekend or holiday, applications will be accepted the following business day.

Contact Altum at 1-800-875-2562 or email, pcsupport@altum.com to address any problems with preparation or submission of the electronic version of the application.

2. FORMATTING THE APPLICATION

Applicants must adhere to the following instructions.

- Insert your name in the header for each section of the application
- All application documents should be single-sided.
- **Type size:** Use 12 point Times New Roman or 11-point Arial as the minimum font size for the text of the application. A 10-point Times New Roman or 9-point Arial font type may be used for figures, legends, and tables.
- **Single-spaced text** is acceptable, and space between paragraphs is recommended.
- **Margins:** The margins of your text should be at least 0.5 inches all around, unless a form with different margins is supplied in the Application Templates.
- **Page numbering:**
 - **Cover Pages.** The first few pages of the application form are considered cover pages and are not numbered. The cover pages include the Signature Page, Contact Page, and General Audience Summary.
 - **Proposal Sections.** The proposal sections are listed in the Table of Contents and must be numbered in the upper right hand corner. Each section should be numbered independently.
- **Appendix:** Material in the application appendix which is not a part of the electronic application will not be furnished to the entire Peer Review Committee; therefore, it is advisable to include tables, figures, or photographs that are essential for the evaluation of your research plan in the main body of the application.

3. RESUBMISSION OF AN APPLICATION

Applications that are not funded may generally be resubmitted twice except for Postdoctoral Fellowship applications which may only be resubmitted once. Applicants are strongly encouraged to contact the appropriate Program Director prior to resubmission to discuss the previous reviews. Please follow these guidelines when resubmitting an application:

- Submit a complete application with a current date—electronic and paper copies.
- When resubmitted, the title of the project can be altered if necessary but should be appropriately marked as a first or second resubmission.
- Select the appropriate application number from the list of your prior submissions on proposalCENTRAL.
- The review committee code (e.g. TBE, CCE, CPPB, etc.) for the previous application must be provided where requested on the title page.
- A “Reply to Previous Review”, not to exceed 3 pages, should be placed where indicated in the Table of Contents of the Application Templates section. It should clearly and briefly address the points raised in the previous review and direct the reader to the specific sections of the text where revisions have been made. Revised portions of the text changed in response to the reviewers’ comments should be highlighted (e.g.: bold type, line in the margin, underlining, etc.). Copies of the reviewers’ previous critiques should be inserted immediately after the Reply to Previous Reviews as indicated in the Table of Contents.
- For resubmission only, a photocopy of the notarized citizenship document is acceptable.

4. CHANGES TO THE APPLICATION

Withdrawal of application: Please advise the Society promptly, in writing (or email), should you decide to withdraw your application for any reason. Your letter (or email) to the Program Director identified in the application acknowledgment letter should include your name, the application number, and the reason for withdrawal.

Change of address: Notify the Society in writing (email) of any changes of address, email or phone number, following the submission of an application. Include your name and the application number.

Change of institution: If you are an applicant for an ACS grant and change your institution, contact the Program Director identified in the acknowledgment email, who will determine whether your application can be reviewed.

5. ACCESSING THE ACS GRANT APPLICATION SYSTEM

NOTE: In order to use the electronic grant application system, including printing copies and electronic submission, it is recommended that you have Adobe Acrobat Reader 5.0 or above. In addition, the system requires a compatible browser. Recommended for Windows is Internet Explorer 6,7 and 8, Firefox 3.0 and 3.5, Safari 3.1 and 4.0 (for Mac Users, although they can also download and use Firefox). In addition to the full version of Adobe Acrobat which can convert documents to PDF, Microsoft has an add-on for Office 2007 called the “XPS and PDF document converter” (or something similar) which is a free download for people who have licensed copies of Office 2007. It can convert any Word or Excel file into a read-only PDF.

Access the American Cancer Society Research site at www.cancer.org.

- Select “Explore Research” followed by “Research Programs and Funding” > “Funding Opportunities” > Index of Grants.
- Select the grant for which you are applying. You are now able to access the electronic grant application process at proposalCENTRAL.
- Once you reach proposalCENTRAL, follow their instructions to login/register and to complete and submit an application.
- The key steps for starting an application are as follows:
 - Click on “Create New Proposal” to select a grant program and start your grant application. Locate the appropriate grant and click on “Apply Now” to create a proposal. Enter a Project Title (unless one is provided) and click SAVE. Once you have clicked on the “Save” button, the links to the other pages of the application appear in the Proposal Sections menu. Your saved application is stored under the “Manage Proposals” tab.

Please note: Detailed information is available through tutorials, provided on the proposalCENTRAL login page.

If you have problems accessing or using the electronic application process, click on “Help” or contact ALTUM Customer Service at pcsupport@altum.com or 1-800-875-2562.

6. EXPLANATION OF REQUIRED INFORMATION

Please note: Not all fields are required for all applications.

Project Title: The title should not exceed 75 characters in length (including spaces). Do not use abbreviations unless absolutely necessary.

Principal Investigator/Applicant Information: Some (or all) of the required information will have been automatically filled in from your profile. The information was provided when you initially registered with proposalCENTRAL and completed the Professional Profile. If any of this information is not current at the time of submission, you will need to update the Professional Profile before finalizing this section and submitting the final version of your application.

Key Personnel. In addition to the Principal Investigator, Key Personnel are defined as individuals who will contribute to the scientific development or execution of the project in a substantive, measurable way whether or not salaries are requested. Typically, these individuals have doctoral or professional degrees although individuals at the masters or baccalaureate level can be included if their contribution meets the above definition of Key Personnel.

Citizenship Status: An appropriate selection must be made in the Professional Profile. At the time of the application, applicants must be US citizens, noncitizen nationals, or permanent residents of the US. Permanent residents must submit with the application notarized evidence indicating that they have a Resident Alien Card or “Green Card” (I-551) or have been approved for the issuance of such card as evidenced by an official passport stamp of the United States Immigration Service or I-797 Notice of Action indicating approval has been obtained. Noncitizen nationals are persons who, although not US citizens, owe permanent allegiance to the United States. They are generally persons born in outlying US possessions (e.g., American Samoa and Swains Island).

Justification of Eligibility: Applicants for American Cancer Society Extramural Grants must satisfy the eligibility requirements defined from each application type. Please indicate the month and year when your last degree was conferred, as well as the month and year of your first independent faculty (or equivalent) position where requested. If your case was evaluated by the American Cancer Society eligibility committee, include a copy of the letter the appendix, list it in the table of contents, and refer to it in the justification space provided.

Justification of Designation “Priority Program in Health Disparity Research”: Indicate on the title page of the application, “Disparities Research” if the proposed study falls into the Priority Focus (Health Disparities Research) in the Cancer Control and Prevention Research Program.

Space: If appropriate, indicate the approximate area of committed, independent research space provided by your institution to support your research program, as well as the name of the department chair responsible for verification of this research space. You must insert a value on the electronic form, even if you need to enter a 0 (zero).

Institution Official: In addition to the name and address of the official authorized to sign for the institution, include an address for mailing checks. Institutional officials should sign the front page; “Per” signatures are not acceptable.

Department Chair: Indicate name, department, and email address of the department chair. Department chairs should sign the front page to affirm the title of investigator and the committed resources.

Primary Mentor: Fill out all of the required fields for your mentor information.

Additional Mentor (s): Fill in this section with the same required information as for your primary mentor (when appropriate).

7. GENERAL AUDIENCE SUMMARY

The general audience summary is a very important part of the application and is intended to provide a clear overview of the proposed research to people who are *not* trained in the sciences but who are interested in cancer research. These include stakeholders, ACS staff members, potential donors and the general public. Normally, **Stakeholders** are individuals without formal scientific or medical training who have a strong personal interest in the prevention and control of cancer. One to three Stakeholders are appointed to each peer review committee as full voting members, and they are asked to assess the ability of an applicant to describe their research plan to a non-scientific audience, and its potential impact on cancer patients. The Stakeholder summary becomes an important part of the overall evaluation of the application by the peer review committee. In addition, **ACS staff members** who work with major donors use these summaries to identify projects appropriate to the interests of donors who wish to support specific areas of cancer research. Last, if an award is made, the summary is made available to the **general public**. **ACS staff members** with responsibility for communicating ACS research to the local media use the summaries to describe the research funded in the region.

The general audience summary must **not** duplicate the structured technical abstract. It should be written in a way that makes the project easily understood by the audience described above. **See the Samples of General Audience Summaries in the Appendix for examples of a properly constructed summary.** This summary should describe the background to the research, the questions to be asked, and the information to be obtained. It should be written in **nontechnical** language, and not contain any scientific jargon. The use of symbols and Greek characters should be avoided for the general audience; if they must be used, they have to be spelled out since they will not appear as characters in the text. The contribution the project is expected to make to the field of study and to cancer in general, or specifically to one or more of the categories identified in Areas of Research in the Appendix, should be made clear. Proprietary and/or confidential information should not be included.

This form is limited to 3,000 characters, including spaces and will truncate at that point. Characters in excess of the limit are not transmitted with the application resulting in an incomplete summary.

8. PROJECT CODING

Please note: not all applications require project coding. Red asterisks indicate required fields. Submit this section electronically only.

Donors frequently have an interest in funding particular types of cancer research. Thus, Research Areas, Priority Areas, and Types of Cancer must be selected for these summaries to be presented to donors for special funding opportunities. *See the Areas of Research in the Appendix for filling out the forms.* **Please note that in completing the Areas of Research section, appropriate items may also include those listed under Resources and Infrastructure Related to [specific area]. See the Appendix for specific terms and examples.**

The information requested is for statistical purposes only and is not part of the application used by the Peer Review Committee for scientific review. Do not submit this section with your paper copy.

9. STRUCTURED TECHNICAL ABSTRACT

Please note: not all applications require a structured technical abstract. Please see instructions for individual applications.

The structured technical abstract is a summary of the proposed research or scholarly project for general scientific audiences. This structured technical abstract should provide a clear and concise overview of the proposed work, including the background, objective, or hypothesis and its supporting rationale, the specific aims of the study and study design, and relevance of the proposed work to the American Cancer Society's mission of eliminating cancer as a major health problem.

Download the Technical Abstract Template and save it to your hard drive. **You must use this form for this portion of the application.** The abstract will need to be uploaded as an

attachment to your application. *The abstract attachment must be converted into a .pdf document before it is uploaded. Please see proposalCENTRAL's FAQ or call support at 1-800-875-2562 if you need assistance.*

Please use the outline below. See the Appendix for an example of a structured technical abstract.

- **Background:** Provide a brief statement of the ideas and reasoning behind the proposed work.
- **Objective/hypothesis:** State the objective/hypothesis to be tested. Cite evidence or provide a rationale that supports it.
- **Specific aims:** Concisely state the specific aims of the study.
- **Study design:** Briefly describe the study design, emphasizing those elements you consider most relevant to assignment of the proposal for peer review.
- **Cancer relevance:** Provide a brief statement explaining the potential relevance to cancer of the proposed work.

If this application is funded, this description will become public information. Therefore, do not include proprietary/confidential information.

10. ASSURANCES AND CERTIFICATION

All activities involving human subjects or vertebrate animals must be approved by an appropriate institutional committee before the application will be funded by the American Cancer Society. Furthermore, compliance with current US Department of Health and Human Services and ACS guidelines for conflict of interest, recombinant DNA, and scientific misconduct is required. The assurances/certifications are made and verified by the signature of the institutional official signing the application.

Vertebrate animals. Every proposed research project involving vertebrate animals must be approved by an appropriate Institutional Animal Care and Use Committee (IACUC), in accordance with Public Health Service Policy on Humane Care and Use of Laboratory Animals, before the application will be funded by the American Cancer Society. Enter the date of the most recent IACUC approval in the space provided.

All research supported by the American Cancer Society (including subcontracted activities) involving vertebrate animals must be conducted at performance sites which are covered under an approved Animal Welfare Assurance **It is the responsibility of the institution to immediately report to ACS any action including recertification or loss of IACUC approval which may occur during the term of any award that is pertinent to the work described in the grant application.**

Human subjects. All proposed research projects involving human subjects must be approved by the appropriate Institutional Review Board (IRB).

The institution must have received approval from the Office for Human Research Protections (OHRP) of the US Department of Health and Human Services (DHHS). Enter the institution's

Assurance of Compliance number(s) in the space provided. Copies of the DHHS policy and information regarding the assured status and assurance numbers of institutions may be obtained from OHRP. The definitions and further sources of clarification for all of these assurances are found in the NIH Grants Policy Statement (Revised 12/03), www.grants.nih.gov/grants/policy, or the NIH Office of Extramural Research.

If institutional review of human subjects (IRB certification) or vertebrate animal use (IACUC certification) has not been completed before the submission date of the application, you must indicate that the approval is pending on the certification page and give the appropriate institutional reference numbers if available. ***Certification of the institutional committee review, clearly labeled with the assigned American Cancer Society application number, must be received prior to activation of a grant for funding. Failure to supply the American Cancer Society with completed IRB and/or IACUC certifications prior to the approved start of funding will result in withholding of payments and may result in cancellation of funding.***

Please note: applications for the Institutional Research Grant and certain Health Professional Training Grants do not require submission of IRB and IACUC certifications. Institutions must, however, be in compliance with the requirements noted above in order to use American Cancer Society grant funding for activities involving human subjects or vertebrate animals.

For funded grants, it is the responsibility to the institution to immediately report to ACS any action including recertification or loss of IRB approval which may occur during the term of the award that is pertinent to the work described in the grant application.

11. PI DATA SHEET AND RESEARCH PROMOTION INFORMATION

Submit this section electronically only.

The requested information is for statistical purposes only and is not part of the application used by the Peer Review Committee for scientific review. This section will not print with the cover pages and does not need to be submitted with your paper copy.

12. COMPLETING ALL APPLICATION SECTIONS AND PRINTING PAPER COPY

- **All application attachments must be uploaded as .pdf documents.** See proposalCENTRAL FAQ or contact support at 1-800-875-2562 if you need assistance.
- **Validate** the application on proposalCENTRAL. This is an essential step. An application that has not been validated cannot be submitted.
- Print application via proposalCENTRAL. To do so, choose “Print” on the menu and select “Print Signature Pages and Attached PDF Files”. **Do not print cover pages for an application that has not been validated.**
- If you wish, print and retain for your files the paper copies of the Demographic and Research Promotion Information and the Project Coding sections. Do not submit these sections in the paper copy of your application.
- Prepare the application for your institution’s internal authorization process. Obtain the appropriate institutional signatures on the first page.

13. ASSEMBLY AND SUBMISSION OF PAPER COPIES

The paper copies (original application with official signatures plus three copies) must reach the American Cancer Society Extramural Grants Office by 5:00 PM Eastern time on the deadline date.

The paper copies must be assembled as described below. To reduce the chance of losing an application, we urge institutions to mail only one application and its copies per package. If more than one application is included in a package, provide a bright-colored cover sheet listing the applications enclosed and stating in ½ inch or larger lettering "MULTIPLE APPLICATIONS ENCLOSED." All **four sets** of the application (original application with official signatures plus three copies) must arrive in the same package arranged in the following order:

- **Original application with official signatures plus an appendix. This is the document that prints when “Print Signature Pages and Attached PDF Files” is selected. This includes Cover Pages, General Audience Summary, Structured Technical Abstract (if applicable), and the Application Templates.**
- **Three copies of the original application, each copy with an attached appendix.**

The original and three copies of the application and appendixes should be held together with a rubber band. Please **do not** staple. Send the complete application package to:

**The American Cancer Society
Extramural Grants Department
250 Williams Street NW, 6th Floor
Atlanta, GA 30303-1002**

Note that any accompanying letters that are not included in the appendix are not distributed to the Peer Review Committees.

14. SUBMISSION OF THE ELECTRONIC VERSION

- Get all signatures on the paper copy before submitting. Please note, the original signed copy of the front page is NOT uploaded in the electronic version; it is to be submitted with the paper copies.
- If any modifications were made during the signature process, make certain that all sections of the electronic version are revised to match the paper copy that is being submitted.
- If you have technical questions regarding the electronic application process, feel free to contact Altum at pcsupport@altum.com or 1-800-875-2562.
- Submitting electronic version of application should be done after your institution has prepared the application for mailing. You have until 5:00 PM Eastern time on the deadline date to complete the electronic submission. Note that the appendix materials are not submitted electronically.

Please note: You will not be able to make any changes to the forms or upload any modifications to the files after submission.

B. PREPARING THE APPLICATION

1. COVER PAGE

Program Eligibility Information Most of the information that is collected online at proposalCENTRAL appears on the cover page. This includes program eligibility information: (1) Last degree conferred and (2) Independent position date. This information *is required* to determine eligibility for an MRSG. If you have received a letter from the American Cancer Society Eligibility Committee, *manually* indicate this on the cover page in the Program Eligibility Information section and attach the letter in the Appendices.

Additional Signatures Both Department Head and Mentor are required to sign in section “Additional Signatures.”

2. APPLICATION TEMPLATES

An application consists of several sections that must be uploaded before the online application is submitted. Templates for these sections are available once an application is started on proposalCENTRAL. The templates must be downloaded to a computer and completed offline using word processing software. Detailed below are the instructions for completing the individual sections. *The sections must be converted into .pdf documents before being uploaded. Please see proposalCENTRAL’s FAQ or call support at 1-800-875-2562 if you need assistance.*

3. TABLE OF CONTENTS (PAGE 1.1)

Complete the Table of Contents by indicating the appropriate page numbers for each section; limit the length of the Table of Contents to one page.

4. STRUCTURED TECHNICAL ABSTRACT (PAGE 2.1)

The structured technical abstract is a summary of the proposed research or scholarly project for general scientific audiences. This structured technical abstract should provide a clear, concise overview of the proposed work, including the background, objective, or hypothesis and its supporting rationale; specific aims of the study; study design; and relevance of the proposed work to the American Cancer Society’s mission of eliminating cancer as a major health problem.

Please use the outline below. See the Appendix for an example of a structured technical abstract.

- **Background:** Provide a brief statement of the ideas and reasoning behind the proposed work.
- **Objective/hypothesis:** State the objective/hypothesis to be tested. Cite evidence or provide a rationale that supports it.
- **Specific aims:** Concisely state the specific aims of the study.
- **Study design:** Briefly describe the study design, emphasizing those elements you consider most relevant to assignment of the proposal for peer review.

- **Cancer relevance:** Provide a brief statement explaining the potential relevance to cancer of the proposed work.

If this application is funded, this description will become public information. Therefore, do not include proprietary/confidential information.

5. DETAILED BUDGET (PAGE 3.1)

- A. Personnel.** Names and positions of all personnel must be individually listed and the percentage of time to be devoted to the project by each person should be noted, even when salary is not requested. If the individual has not been selected, please list as "vacancy."

Personnel may receive salary support up to a maximum that equals the National Cancer Institute salary cap, prorated according to their percent effort on the project. The costs to the institution of employee fringe benefits should be indicated as a percent of the employee's salary. The amount of fringe benefits requested must be prorated to the salary requested. (For example, if 60 percent of an individual's annual salary is requested then no more than 60 percent of that individual's annual cost for fringe benefits can be requested.) If a salary exceeds that of the NIH cap, institutions may supplement Society's funds from other sources.

List all mentor(s) (defined as those individuals who will provide guidance, support and mentoring to you on this award.) If there are collaborators (defined as individuals who will participate actively in the design and execution of the studies) on this application, list them too. Include letters of intent to collaborate in the Appendix. Details of contractual arrangements with mentors and collaborators should be provided in the Justification of Budget.

Mentor(s): \$10,000 per year is the maximum allowable for mentor(s), regardless of the number of mentors on the application.

- B. Permanent Equipment.** Defined as all items of nonexpendable property with a purchase cost per unit that equals or exceeds \$5,000 with a useful life of more than one year. List separately and justify the need for each item of equipment.
- C. Supplies.** Group into major categories (glassware, chemicals, radioisotopes, survey materials, animals, etc).
- D. Travel.** Domestic travel only. Special consideration will be given for attendance at scientific meetings held in Canada. If your application focuses on palliative care and/or symptom management, you will be invited to attend the Katherine M. Foley Palliative Care and Retreat and Research Symposium held in September/October each year in Years 1, 2 and 5 of your grant. Please make sure to include budget (approximately \$1,000 per year) for the PI to travel to this meeting in Years 1, 2 and 5. Your mentor will also be invited to this retreat in this year but they will be asked to pay for their own travel, so please do not include funds for mentor travel to this meeting. If you are unclear if your study falls into this category, please contact the study coordinator, Joseph Cotter (Joseph.Cotter@cancer.org) prior to submitting your application.
- E. Miscellaneous Expenditures.** List specific amounts for each item; examples of expenditures allowed include: publication costs, special fees (e.g., publication costs, pathology), computer time and scientific software, and equipment maintenance).

F. Subcontracts. If any portion of the proposed research is to be carried out at another institution, enter the total costs and provide a categorical breakdown of costs using duplicate copies of the grant application Budget and Justification of Budget pages. Subcontracts required to complete the research project may be with public or private institutions provided that they are not in violation of the ACS policies. Subcontracts involving a contractor residing outside the borders of the United States are not permitted unless the applicant can document that it is not feasible to fund the contract within the United States.

Administrative pages: A letter of Agreement pertaining to the subcontract should be included in the Appendix. Note: Indirect costs for the subcontract may be claimed by either the primary or secondary institution, but not both.

G. Indirect Costs. To help the institution provide proper laboratory and clinical investigation facilities, the Society will permit an indirect cost allowance of up to 8% of the direct costs, excluding permanent equipment. Note: Indirect costs for a subcontract budget may be claimed by either the primary or the secondary institution, but not both, through negotiation with the Principal Investigator's institution.

H. Total Amount Requested. Enter the sum of all years of requested support including indirect costs, and round to the nearest thousand dollars. Transfer this figure to the title page of the application.

6. JUSTIFICATION OF BUDGET (PAGE 3.2)

Justification: Clearly justify each item listed in the budget. This included all permanent equipment costing over \$5,000 (see 5B above), the need for personnel, supplies, travel and other miscellaneous items. If the budget includes a request for funds to be expended outside the United States, its territories or the Commonwealth of Puerto Rico, this section should include an explanation of why such costs are essential for the successful conduct for this project, and why there are no alternatives.

More than one Mentor: If there is more than one mentor on the application, clearly specify the role of each mentor, even if there is no associated cost.

7. BIOGRAPHICAL INFORMATION OF APPLICANT (PAGE 4.1)

Complete the biographical information requested. Do not exceed two pages for total biographical information.

Education and Training. Include all degrees awarded: list the year conferred, institution, and field of study, and if awarded a Ph.D., the name of the mentor. Also list postdoctoral fellowships, residency programs, internships. List title of position, mentor's name, institution, and exact dates of training.

Personal Statement. Briefly describe why your experience and qualifications make you particularly well suited for your role on the proposal. Within this section, if you choose, you may also briefly describe factors that may affect your scientific advancement or productivity.

Positions and Honors. List in chronological order previous positions, concluding with your present position. State duration, title, and institution. For each position, indicate if appointment was independent. For non-independent appointments, list mentor. If the nature of independence of a position requires explanation, use the appendix to justify eligibility. List any honors.

Publications. Give complete references for all peer reviewed publications, including titles; begin each citation on a new line. If the number of publications is extensive, you may give a partial listing; indicate total number of publications (excluding abstracts, non-peer reviewed articles or book chapters).

8. BIOGRAPHICAL INFORMATION OF KEY PERSONNEL (PAGE 5.1)

Provide information for all key personnel involved in the project, including collaborators, even if no salary support is requested. Do not include consultants or individuals that provide technical assistance. Give complete references for all peer reviewed publications. Begin each citation on a new line. If a partial listing is given, indicate total number of publications (excluding abstracts, non-peer reviewed articles and book chapters). Do not exceed two pages per person for total biographical information. Make copies of the form if you have multiple key personnel. This is a required field. Therefore, if no Key Personnel are included a blank form must be uploaded.

9. OTHER SUPPORT (PAGE 6.1)

It is the policy of the American Cancer Society **not** to fund projects that are supported all or in part by another agency; this means that projects are considered to overlap if there are **any** shared *Specific Aims or areas of budgetary overlap*. The Peer Review Committees will make the final decision regarding any questions of overlap. The only exceptions are: (a) funds provided by the institution as “start-up” support to develop a new laboratory or to gather pilot data, and (b) awards that provide only salary support for the Principal Investigator. In the latter case, if the salary support for the PI’s contribution to the project is covered by the other agency, no additional salary support for the PI may be requested from the American Cancer Society.

The following information is required for (1) the principal investigator and (2) all other professional persons listed on the budget page (including collaborators and subcontractors who will receive salary.) *Please provide this information for each person separately and in the following manner. Use continuation pages if necessary.*

1. **Current Support:** List all current awards including funding from intramural and extramural sources (e.g., institutional awards, and grants from for-profit, and not-for-profit agencies, including other grants from the American Cancer Society). For **each** award provide: (a) Source of funds; (b) Grant number; (c) Title of project; (d) Period of time covered by the grant, and (e) Amount of direct cost support for total grant period, and percent effort. (f) Outline the goals of the project in a brief paragraph. (g) *Clearly indicate whether there is any overlap between this grant and the proposed study.* If necessary, an explanatory letter may be included in the appendix to clarify the differences between the present application to the American Cancer Society and currently funded projects.

2. **Pending Support:** List all pending applications to other funding sources including funding from intramural and extramural sources e.g., institutional awards, and grants from for-profit, and not-for-profit agencies, including other grants from the American Cancer Society. For **each** award provide: (a) Agency to whom you are applying; (b) Title of project; (c) Period of time covered by the grant, and (d) Amount of direct cost support for total grant period, and percent effort. (e) Outline the goals of the project in a brief paragraph. (f) *Clearly indicate whether there is any overlap between this grant and the proposed study.* If there is an overlap, clearly indicate that this application will be considered on an **either/or** basis with the current application.

For each pending application that is **not** to be considered on an either/or basis, please include: (a) Abstract; (b) the Specific Aims, in the Appendix. *For preclinical, clinical, epidemiology, psychosocial, behavioral, cancer control, health services, and health policy research, the information must be provided for the principal investigator only.*

3. **Institutional Support (The following information is required for the principal investigator only):** Include: (a) a description of any “start-up” funds provided by the Institution to the applicant; (b) details of the Institutional commitment to the support of the applicant’s salary; and (c) the current term of the applicant’s appointment. These details in support of the PI should be confirmed in a statement from the Department Chair, to be included in the Appendix, which should also describe the Department’s long-term goals for the applicant’s career. Please note that the award of “start-up” funds does not decrease the chances of obtaining support from the American Cancer Society; instead, such support is considered by the Peer Review Committees as important evidence for institutional commitment to the research project.

Please keep the Scientific Program Director current on the status of all pending applications. Failure to provide complete budget information will either delay, or have an adverse effect on, the review of the application.

10. REPLY TO PREVIOUS REVIEW (resubmissions only) (PAGE 7.1)

IF APPLICATION IS A NEW SUBMISSION, upload the provided template with “Not Applicable” in the body. For resubmissions, this section should clearly and briefly address the points raised in the previous reviews and direct the reader to the specific sections where text revisions have been made. Text changed in response to reviewers’ comments should be identifiable in the revised application (e.g. bold type, line in the margin, underlining, etc.). This section should not exceed 3 pages.

Note that resubmissions of applications originally submitted for cycles April 1, 2011 and before will be allowed to use the previous format (see below).

11. PREVIOUS CRITIQUES (resubmissions only)

Electronic copies of the critiques for your previous submission can be downloaded from your “Submitted” page on proposalCENTRAL. Select the link to “View Review Info” then “View Summary Statement” and save the document to your computer. Upload the document to your new application with the other proposal sections.

12. RESEARCH PLAN (PAGE 8.1)

The total length of Section A should not exceed 1 page. The total length of Section B should not exceed 1 page. Sections C-F must not exceed 12 pages. This page limit does *not* include the section on Experimental Details (optional – not to exceed 3 pages). It also does not include the sections on facilities (H), or the references (I) which should come at the end of the application. Research proposals should be realistic in terms of work to be accomplished in the period of time for which support is requested. Although it is permissible to submit applications on an "either/or" basis with other agencies, if necessary, such proposals should be scaled down to fit the Society's term and budget constraints. Failure to conform to the guidelines on type size, page length, or project scope may impact unfavorably on the priority score, or result in the application being returned to the investigator without review.

Organize this section into the following headings:

- A. Experience.** Summarize your experience to date in clinical activities, teaching, and research. For research experience, describe all previous research experience; state the nature, results, where, when, and with whom the work was conducted as well as your role. Also, describe your short and long term career goals in clinical cancer research and the relevance of your proposed project to them. Describe how you expect the proposed training will achieve these goals and the type of position you wish to obtain following the completion of the award period.
- B. Specific Aims.** List the objectives and goal of the research proposed and describe the specific aims briefly in order of priority.
- C. Background and Significance.** Concisely summarize and critically evaluate related work done by others and specifically state how the successful completion of the work proposed in specific aims of the application will advance scientific knowledge or aspects of clinical practice.
- D. Preliminary Studies.** For new applications, provide results of research accomplished by you that are relevant to this proposal in a sufficiently comprehensive manner to indicate their significance. Reprints or preprints may serve in lieu of a detailed report and should be included in the appendix. Reports of unpublished research are considered confidential. Reprints and preprints should be included in each appendix set.
- E. Research Design and Methods.** Describe your proposed methods and procedures in sufficient detail to permit evaluation by other scientists. Discuss potential difficulties and limitations of the methods and procedures, and provide alternative approaches. Order your priorities, and estimate the length of time that you believe will be required to complete each specific aim. Although the time estimated should not exceed the term for which support is requested, it is helpful to state how this project fits in with your long term research goals. If deemed necessary, additional experimental detail may be included in the Experimental Details section (8.1.G).
- F. Statement of Cancer Relevance.** This section of the application is important to the Stakeholders (non-scientific members) on the Peer Review Committees and to a number of general audiences including donors. The use of technical terminology or scientific jargon should therefore be avoided. Describe the short term and long term contributions the project is designed to make to the control of cancer. For basic studies not directly involving human

cancer cells, explain how the results to be obtained will lead to a better understanding of the disease, or improve our ability to prevent, detect, or treat cancer or cancer patients. For more clinically relevant projects involving the etiology, diagnosis, treatment and/or psychosocial or behavioral aspects of cancer in humans, outline the expected contribution of the study to controlling the overall cancer burden. This description might include: an estimate of the potential patient target population; anticipated effects on morbidity and/or mortality; possible impact on quality of life; and the extent to which the findings may be applicable beyond the specific aspect of cancer to be investigated. This section should not exceed 250 words.

- G. Experimental Details (optional – not to exceed 3 pages).** This optional section is available if the applicant believes a more in-depth description of the experimental design will provide significant additional information for the reviewer. It is not meant for procedural minutiae, but to indicate to reviewers the applicant’s understanding of the specific approaches and procedures proposed.
- H. Facilities.** Describe briefly the space and equipment available for you to carry out the proposed research project. Investigators must have an institutional commitment of research facilities. The amount of committed space must be verified by the Department Chair (signature required on title page of the application). This section is of major importance for applicants whose appointment is not in the tenure stream.
- I. References.** The list of references should correspond to the citations under the research plan. Each literature citation should include the names of all authors, title, book or journal, volume number, page numbers, and year of publication. There is no page limitation for the list of references and this section is not included in the 14 page limit.

13. LETTERS OF RECOMMENDATION (PAGE 9.1)

List the name, title and address of three persons, *other than* the proposed mentor(s), who can critically appraise your qualifications. They should include comments on character, motivation, maturity, general knowledge, ability to use research techniques, originality, and specialized experience, and training. The letters will need to be provided electronically on proposalCENTRAL. Provide the names and email addresses of the persons you ask to provide letters of recommendation in the Letter of Recommendations section of the online application. This allows proposalCENTRAL to email those persons a link to the website and give them access to the site to upload their letters. There are specific instructions on the site for you and your recommenders. Your application should not be submitted until these letters have been provided on proposalCENTRAL. **Please Note for Resubmissions Only:** Letters of recommendation can be reused in a resubmission if the application is resubmitted within a calendar year of the initial proposal. In order to submit your application, you will be required to upload the letters on proposalCENTRAL again.

14. PART II

The following sections must be prepared by the proposed *primary mentor*. If more than one mentor is listed on the application, this section should be completed by the primary mentor. Use the templates provided

15. FACULTY OR SCIENTIFIC APPOINTMENT (OF CANDIDATE) (PAGE 10.1)

State the candidate's full-time faculty appointment or equivalent at the activation date of the proposed grant.

16. PROGRAM GOALS AND PROPOSED TRAINING (PAGE 10.1)

Describe the overall goals of the proposed program and indicate how the grant, if awarded, will advance the candidate's career as an independent researcher. A description of the specific plans for research training, including core curriculum studies, courses and lectures, and the mentor(s)' role in this program should be provided. Provide a detailed explanation of the activities planned for the period of the award, including clinical, research, teaching, coursework, administrative duties, etc. Estimate the percentage of time allocated to each area. Explain your role in the program proposed for the Candidate, and the extent of your involvement in the development and writing of this research proposal. If an additional mentor is involved in the candidate's training, describe this person's role as well.

17. INSTITUTIONAL RESOURCES AND ENVIRONMENT (PAGE 11.1)

Document the existence of an appropriate academic and research environment for the proposed training program. Include departmental and other institutional personnel, ongoing research and other relevant activities, facilities, resources, access to any populations or individuals to be studied, relevant collaborative relationships, etc. Reference any relevant accreditation from professional societies or organizations. Describe how the presence of these resources will directly benefit the candidate. Provide a description of any start-up funds available to support the candidate.

18. TRAINING EXPERIENCE OF MENTOR (S) (PAGE 12.1)

Document your background and experience in training clinical and applied cancer researchers. Describe *in detail* (table format preferred) your mentoring experience, e.g., list the researchers you have trained, the extent of their training and their current involvement in clinical or applied cancer research.) Fully describe your current professional responsibilities and activities.

19. BIOGRAPHICAL SKETCH OF MENTOR (S) (PAGE 13.1)

Provide biographical information requested for *all mentors*. Use a separate "Biographical sketch" template for each mentor. Starting with present position, list training and experience relevant to area of project, including teaching and clinical responsibilities. List all recent peer reviewed publications and selected earlier key papers. Indicate if this is a partial listing and give the total number of publications, excluding abstracts, non-peer reviewed articles, and book chapters. This section should not exceed two pages per mentor.

20. SUPPORT OF MENTOR (PAGE 14.1)

List all active and pending grant support including granting agency, title of project, total amount, and term.

21. MENTOR COMMITMENT LETTER

Please provide a letter of commitment to you from **each** of your mentors. The letters will need to be uploaded as an attachment to your application. *The letter attachment must be converted into a .pdf document before it is uploaded. Please see proposalCENTRAL's FAQ or call support at 1-800-875-2562 if you need assistance.*

22. APPENDIX

Appended materials may include, for example, recent reprints or preprints, tables and figures that would lose detail if reduced to fit into the main body of the application, and questionnaires and training materials developed for the study. However, the appendix section should not be used to bypass the page limitation. It is not necessary to number the pages of the appendix, but please list by categories (i.e., reprints, preprints, photographs, letters, etc.) in Table of Contents. **Note that the appendix is *not* duplicated for the entire committee and applicants are urged to keep this section as brief as possible. Appendices are currently *not* submitted electronically.**

Please organize Appendices in the following order:

- Notarized Statement of U.S. residency (if applicable)
- Letter from Eligibility Committee (if applicable)
- Other (Please list each appendix)

APPENDIX A: CLASSIFICATION CATEGORIES

Biology

1.1 Normal Functioning

Examples of science that would fit:

- Developmental biology (from conception to adulthood) and the biology of aging.
- Normal functioning of genes, including their identification and expression, and the normal function of gene products, such as hormones and growth factors.
- Normal formation of the extracellular matrix.
- Normal cell to cell interactions.
- Normal functioning of apoptotic pathways.

1.2 Cancer Initiation: Alterations in Chromosomes

Examples of science that would fit:

- Abnormal chromosome number.
- Aberration in chromosomes and genes (e.g., in chronic myelogenous leukemia).
- Damage to chromosomes and mutation in genes.
- Failures in DNA repair.
- Aberrant gene expression.
- Epigenetics.
- Genes and proteins involved in aberrant cell cycles.

1.3 Cancer Initiation: Oncogenes and Tumor Suppressor Genes

Examples of science that would fit:

- Genes and signals involved in growth stimulation or repression, including oncogenes (Ras, etc.), and tumor suppressor genes (p53, etc.).
- Effects of hormones and growth factors and their receptors such as estrogens, androgens, TGF-beta, GM-CSF, etc.

1.4 Cancer Progression and Metastasis

Examples of science that would fit:

- Latency, promotion, and regression.
- Expansion of malignant cells.
- Interaction of malignant cells with the immune system or extracellular matrix.
- Cell mobility including detachment, motility and migration in the circulation.
- Invasion.
- Malignant cells in the circulation including penetration of the vascular system and extravasation
- Systemic and cellular effects of malignancy.
- Tumor angiogenesis and growth of metastases.
- Role of hormone or growth factor dependence/independence in cancer progression.

1.5 Resources and Infrastructure (*Note:* grants coded as 1.2 in previous versions of the CSO become 1.5)

Examples of science that would fit:

- Informatics and informatics networks.
- Specimen resources.
- Epidemiological resources pertaining to biology.
- Reagents, chemical standards.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

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| Etiology |
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2.1-Exogenous Factors in the origin and cause of cancer

Examples of science that would fit:

- Lifestyle factors such as smoking, chewing tobacco, alcohol consumption, parity, diet, sunbathing, and exercise.
- Environmental and occupational exposures such as radiation, second-hand smoke, radon, asbestos, organic vapors, pesticides, and other chemical or physical agents.
- Infectious agents associated with cancer etiology, including viruses (Human Papilloma Virus-HPV, etc.) and bacteria (*helicobacter pylori*, etc.)
- Viral oncogenes and viral regulatory genes associated with cancer causation.

2.2-Endogenous Factors in the origin and cause of cancer

Examples of science that would fit:

- Free radicals such as superoxide and hydroxide radicals.
- Genes known to be involved or suspected of being mechanistically involved in familial cancer syndromes, e.g., BRCA1, Ataxia Telangiectasia, and APC.
- Genes suspected or known to be involved in "sporadic" cancer events, for example polymorphisms and/or mutations that may affect carcinogen metabolism (e.g., CYP, NAT, glutathione transferase, etc.).

2.3-Interactions of Genes and/or Genetic Polymorphisms with Exogenous and/or Endogenous Factors

Examples of science that would fit:

- Gene-environment interactions.
- Interactions of genes with lifestyle factors, environmental and/or occupational exposures such as variations in carcinogen metabolism associated with genetic polymorphisms.
- Interactions of genes and endogenous factors such as DNA repair deficiencies and endogenous DNA damaging agents such as oxygen radicals or exogenous radiation exposure.

2.4-Resources and Infrastructure Related to Etiology

Examples of science that would fit:

- Informatics and informatics networks; for example patient databanks.

- Specimen resources (serum, tissue, etc.).
- Reagents and chemical standards.
- Epidemiological resources pertaining to etiology.
- Statistical methodology or biostatistical methods.
- Centers, consortia, and/or networks.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

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| Prevention |
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3.1-Interventions to Prevent Cancer: Personal Behaviors that Affect Cancer Risk

Examples of science that would fit:

- Research on determinants of personal behaviors, such as diet, physical activity, sun exposure, and tobacco use, which affect cancer risk.
- Interventions to change personal behaviors that affect cancer risk.

3.2-Nutritional Science in Cancer Prevention

Examples of science that would fit:

- Quantification of nutrients and micronutrients.
- Studies on the effect(s) of nutrients or nutritional status on cancer incidence.
- Dietary assessment efforts including dietary questionnaires and surveys.
- Development, characterization and validation of dietary/nutritional assessment instruments.

3.3-Chemoprevention

Examples of science that would fit:

- Chemopreventive agents and their discovery, mechanism of action, development, testing in model systems and clinical testing.

3.4-Vaccines

Examples of science that would fit:

- Vaccines for prevention, their discovery, mechanism of action, development, testing in model systems and clinical testing.

3.5-Complementary and Alternative Prevention Approaches

Examples of science that would fit:

- Discovery, development and testing of complementary/alternative prevention approaches such as diet, herbs, supplements or other interventions which are not widely used in conventional medicine or are being applied in different ways as compared to conventional medical uses.
- Hypnotherapy, relaxation, transcendental meditation, imagery, spiritual healing, massage, biofeedback, etc., used as a preventive measure.

3.6-Resources and Infrastructure Related to Prevention

Examples of science that would fit:

- Informatics and informatics networks; for example patient databanks.
- Specimen resources (serum, tissue, etc.).
- Epidemiological resources pertaining to prevention.
- Clinical trials infrastructure.
- Statistical methodology or biostatistical methods.
- Centers, consortia, and/or networks.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

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| Early Detection, Diagnosis and Prognosis |
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4.1-Technology Development and/or Marker Discovery

Examples of science that would fit:

- Discovery of markers (e.g., proteins, genes,) and/or technologies (such as fluorescence, nanotechnology, etc.) that are potential candidates for use in cancer detection, staging, diagnosis and/or prognosis.
- Use of proteomics, genomics, expression assays, or other technologies in the discovery of markers.

4.2-Technology and/or Marker Evaluation with respect to Fundamental Parameters of Method

Examples of science that would fit:

- Development, refinement and preliminary evaluation (e.g., animal trials and Phase I human trials).
- Preliminary evaluation with respect to laboratory sensitivity, laboratory specificity, reproducibility, and accuracy.
- Research into mechanisms assessing tumor response to therapy at a molecular or cellular level.

4.3-Technology and/or Marker Testing in a Clinical Setting

Examples of science that would fit:

- Evaluation of clinical sensitivity, clinical specificity and predictive value (Phase II or III clinical trials).
- Quality assurance and quality control.
- Inter and intra-laboratory reproducibility.
- Testing of the method with respect to effects on morbidity and/or mortality.
- Study of screening methods including compliance, acceptability to potential screenees, receiver-operator characteristics.
- Research into improvements in techniques to assess clinical response to therapy.

4.4-Resources and Infrastructure Related to Detection, Diagnosis or Prognosis

Examples of science that would fit:

- Informatics and informatics networks; for example patient databanks
- Specimen resources (serum, tissue, images, etc.)

- Clinical trials infrastructure.
- Epidemiological resources pertaining to risk assessment, detection, diagnosis, or prognosis.
- Statistical methodology or biostatistical methods.
- Centers, consortia, and/or networks.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

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| Treatment |
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5.1- Localized Therapies - Discovery and Development

Examples of science that would fit:

- Discovery and development of treatments administered locally that target the organ and/or neighboring tissue directly, including but not limited to surgical interventions and radiotherapy.
- Therapies with a component administered systemically but that act locally (e.g., photodynamic therapy, radioimmunotherapy and radiosensitizers).
- Development of methods of drug delivery.

5.2- Localized Therapies - Clinical Applications

Examples of science that would fit:

- Clinical testing and application of treatments administered locally that target the organ and/or neighboring tissue directly, including but not limited to surgical interventions and radiotherapy.
- Clinical testing and application of therapies with a component administered systemically but that act locally (e.g., photodynamic therapy and radiosensitizers).
- Phase I, II or III clinical trials of promising therapies that are administered locally.
- Side effects, toxicity and pharmacodynamics.

5.3-Systemic Therapies - Discovery and Development

Examples of science that would fit:

- Discovery and development of treatments administered systemically such as cytotoxic or hormonal agents, novel systemic therapies such as immunologically directed therapies (vaccines, antibodies), gene therapy, angiogenesis inhibitors, apoptosis inhibitors and differentiating agents.
- Defining molecular signatures of cancer cells.
- Identifying molecular targets for drug discovery. Includes mechanistic studies of cellular metabolism, combinatorial chemical synthesis, drug screening, development of high throughput assays and testing in model systems.
- Investigating the molecular mechanisms of drug resistance and pre-clinical evaluation of therapies to circumvent resistance.
- Development of methods of drug delivery.

5.4-Systemic Therapies - Clinical Applications

Examples of science that would fit:

- Clinical testing and application of treatments administered systemically such as cytotoxic or hormonal agents, novel systemic therapies such as immunologically directed therapies (vaccines, antibodies), gene therapy, angiogenesis inhibitors, apoptosis inhibitors and differentiating agents.
- Phase I, II or III clinical trials of promising therapies administered systemically.
- Side effects, toxicity, and pharmacodynamics.

5.5-Combinations of Localized and Systemic Therapies

Examples of science that would fit:

- Development and testing of combined approaches to treatment.
- Clinical application of combined approaches to treatment such as systemic cytotoxic therapy and radiation therapy.

5.6-Complementary and Alternative Treatment Approaches

Examples of science that would fit:

- Discovery, development, and clinical application of complementary/alternative treatment approaches such as diet, herbs, supplements, natural substances or other interventions which are not widely used in conventional medicine or are being applied in different ways as compared to conventional medical uses.

5.7-Resources and Infrastructure Related to Treatment

Examples of science that would fit:

- Informatics and informatics networks; for example clinical trial networks and databanks.
- Mathematical and computer simulations.
- Specimen resources (serum, tissue, etc.).
- Clinical trial groups.
- Epidemiological resources pertaining to treatment.
- Statistical methodology or biostatistical methods.
- Drugs and reagents for distribution and drug screening infrastructures.
- Centers, consortia, and/or networks.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

Cancer Control, Survivorship and Outcomes Research

6.1-Patient Care and Survivorship Issues

Examples of science that would fit:

- Quality of life.
- Pain management.
- Psychological impacts of cancer survivorship.
- Rehabilitation.
- Reproductive issues.
- Long term morbidity.
- Symptom management, including nausea, vomiting, lymphedema, neuropathies etc.

- Prevention of treatment related toxicities and sequelae including symptom management, prevention of mucosities, prevention of cardiotoxicities, etc.

6.2-Surveillance

Examples of science that would fit:

- Epidemiology and End Results Reporting (e.g., SEER).
- Surveillance of cancer risk factors such as diet, body weight, physical activity, sun exposure, tobacco use.
- Analysis of variations in risk factor exposure by demographic or other factors.
- Registries which track incidence, morbidity and/or mortality related to cancer.
- Trends in use of interventional strategies.
- Method development for risk factor surveillance.

6.3-Behavior

Examples of science that would fit:

- Behavior medicine research and interventions.
- Influence of social factors, such as, community, policy, education, and legislation, on behaviors related to cancer control.
- Attitudes and belief systems and their influence on psychological health and on behaviors related to cancer control. For example, how beliefs can alter attempts to seek screening, detection, and treatment
- Interventions to change attitudes and beliefs that affect behavior related to cancer control and cancer outcomes.
- Influences of attitudes and beliefs on compliance to treatment and prevention protocols.
- Psychological or educational interventions to promote behaviors that lessen treatment-related morbidity and promote psychological adjustment to the diagnosis of cancer and to treatment effects.
- Burdens of cancer on family members/caregivers and psychological/behavior issues.

6.4-Cost Analyses and Health Care Delivery

Examples of science that would fit:

- Analyses of cost effectiveness of methods used in cancer prevention, detection, diagnosis, prognosis, treatment, and survivor care/support.
- Development and testing of health service delivery methods
- Interventions to increase the quality of health care delivery
- Impact of organizational, social, and cultural factors on access and quality of care
- Studies of providers, such as geographical or care-setting variations in outcomes
- Effect of reimbursement and/or insurance on cancer control, outcomes and survivorship support.
- Access to care issues.
- Health services research including health policy and practice.
- Analysis of health service provision, including the interaction of primary and secondary care; cost effectiveness of treatments.

6.5-Education and Communication

Examples of science that would fit:

- Development of communication tools and methods.

- Education of patients, health care providers, at-risk populations, and general population about cancer.
- Communication to patients regarding therapeutic options.
- Educational interventions to promote self-care and symptom management.
- Communicating cancer risk to underserved populations, at-risk populations, and the general public.
- Alternative teaching methods to communicate therapeutic options and risk reduction behavior to patients or the general public.
- Communication of lifestyle models that reduce cancer risk, such as communication of nutrition interventions.
- Communicating smoking and tobacco cessation interventions.
- Special approaches and considerations for underserved and at-risk populations.
- Education, information, prevention/screening/assessment systems for the general public, primary care professionals or policy makers.
- Training, predictive cancer models, pain management, and surveillance systems for primary care professionals, telehealth/telemedicine applications.
- Communication regarding cancer genetics, managed oncology care, communicating with survivors.
- Barriers to successful health communication.

6.6-End of Life Care

Examples of science that would fit:

- End of Life Care issues including palliative care, psychological interventions with families at end of life, hospice care, pain management for terminally ill patients, etc.

6.7-Ethics and Confidentiality in Cancer Research

Examples of science that would fit:

- Informed consent modeling and development.
- Quality of Institutional Review Boards (IRB).
- Protecting patient confidentiality and privacy.
- Research ethics.

6.8-Complementary and Alternative Approaches for Supportive Care of Patients and Survivors

Examples of science that would fit:

- Hypnotherapy, relaxation, transcendental meditation, imagery, spiritual healing, massage, biofeedback, etc., as used for the supportive care of patients and survivors.
- Discovery, development and testing of complementary/alternative approaches such as diet, herbs, supplements or other interventions that are not widely used in conventional medicine or are being applied in different ways as compared to conventional medical uses.

6.9-Resources and Infrastructure Related to Cancer Control, Survivorship and Outcomes Research

Examples of science that would fit:

- Informatics and informatics networks.
- Clinical trial groups related to cancer control, survivorship, and outcomes research.
- Epidemiological resources pertaining to cancer control, survivorship, and outcomes research.

- Statistical methodology or biostatistical methods.
- Surveillance infrastructures.
- Centers, consortia, and/or networks.
- Psychosocial, economic, political and health services research frameworks and models.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

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| Scientific Model Systems |
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7.1-Development and Characterization of Model Systems

Examples of science that would fit:

Development and characterization of model systems, including but not limited to:

- Computer simulation model systems and computer software development.
- In vitro models systems.
- Cell culture model systems.
- Organ and tissue model systems.
- Animal model systems such as drosophila and *c. elegans*, zebra fish, mouse, etc.

7.2-Application of Model Systems

Examples of science that would fit:

Application of model systems, including but not limited to:

- Computer simulation model systems and computer software development.
- In-vitro models systems.
- Cell culture model systems.
- Organ and tissue model systems.
- Animal model systems such as drosophila and *c. elegans*, zebra fish, mouse, etc.

7.3-Resources and Infrastructure Related to Scientific Model Systems

Examples of science that would fit:

- Models made available for distribution to the scientific community.
- Centers, consortia, and/or networks.
- Education and training of investigators at all levels (including clinicians), such as participation in training workshops, advanced research technique courses, and Master's course attendance. This does **not** include longer term research based training, such as PhD or post-doctoral fellowships.

APPENDIX B: SAMPLE OF GENERAL AUDIENCE SUMMARY

Clinical and Epidemiology Research

Title: Characterization of Early Breast Cancer by Contrast-Enhanced MRI

Magnetic resonance imaging (MRI) shows great promise as a supplementary tool to mammography and clinical exam for diagnosis and staging of breast cancer. Most research in this area has focused on diagnosis of invasive breast cancer. We have been interested in improving the ability of MRI to characterize early cancer, particularly at the pre-invasive stage. At the present time, the accuracy of MRI to for diagnosing pre-invasive breast disease, or ductal carcinoma in situ (DCIS) is low, mainly because the pattern of contrast enhancement for DCIS is difficult to distinguish from that of benign proliferative disease in the breast. An important emerging application for MRI is screening and surveillance in women at increased risk of developing breast cancer. There are now genetic tests and statistical models that can accurately predict a woman's risk. However, there are few effective options for prevention and early detection. Women with a genetic risk of developing cancer are also likely to develop cancer at an early age when breast tissue is dense and mammography effectiveness is limited. MRI is very sensitive to small cancers and not limited by breast density. The studies we propose will address the specificity of MRI for early cancer and will have direct application to MRI screening and surveillance methods. We believe that in the future, a better understanding of the biological basis of patterns on MRI may lead to new methods for identifying breast tissue that is at risk for developing cancer.

Cancer Control and Prevention Research:

Title: Distrust as a Barrier to Cancer Screening and Prevention

Over the past 40 years technological advancements have had a major impact on medicine in the United States. These advancements have lead to the development of effective methods in cancer screening and, most recently, cancer prevention. These methods have the potential to greatly reduce the burden of cancer, but are being threatened by the rising levels of distrust of physicians and the health care system. This project will investigate the issue of distrust with the goals of increasing understanding of health care related distrust in the US today and investigating the relationship between health care related distrust and attitudes, intentions, and behaviors regarding cancer screening and prevention.

We will focus on a population composed of African American, Caucasian, and Hispanic women to elucidate the relationship between health care related distrust and historically disadvantaged ethnic/racial minorities. These women will be between the ages of 40 and 70, a group for whom effective cancer screening is available and recommended. In order to determine the patterns of health care related distrust and association between distrust and attitudes towards cancer screening and prevention, we will conduct a population-based telephone survey in the United States. We will examine several types of cancer related health behaviors and investigate how distrust may act as a barrier to adopting these behaviors. These behaviors will include adherence

with current cancer screening recommendations for breast, cervical and colon cancer as well as willingness to use new interventions for cancer screening and prevention.

This project builds upon our prior work that has provided a more in-depth understanding of health care related distrust and established the association between health care related distrust and use of PAP smear, clinical breast examination, and influenza vaccination in the City of Philadelphia. This grant will allow us to identify the factors and beliefs the population may have about health care and physicians and determine what role distrust plays as a barrier to cancer screening and prevention. These findings will have the direct potential to improve the delivery of effective cancer screening and prevention behaviors.

APPENDIX C: SAMPLE OF STRUCTURED TECHNICAL ABSTRACT

Title of Project: Benefit Finding Among Individuals Diagnosed with Lung Cancer

Background: Although research in the area of psycho-oncology has traditionally focused on the negative consequences associated with a diagnosis of cancer, the purpose of this research is to go beyond focusing on pathology and to concentrate on how individuals may realize positive life changes from adverse experiences. These positive changes are referred to as benefit finding. Benefits may include, for example, becoming more accepting, focusing more on the importance of relationships with family and friends, and changing life priorities. The central goal of the proposed research is to conduct an in-depth analysis of benefit finding among individuals diagnosed with lung cancer.

Objective/Hypothesis: The proposed study will examine whether individuals adjusting to a diagnosis of lung cancer derive benefits from their experience across time and will assess the relation of benefit finding with quality of life.

Specific Aims: (1) To examine and attempt to validate whether individuals diagnosed with lung cancer engage in benefit finding by (a) assessing individuals' standing in benefit-finding domains before diagnoses of lung cancer or benign lung disease are made and then measuring change in benefit-finding domains reported by these two groups of individuals 1-month, 3-months, and 6-months post-diagnosis; and (b) obtaining corroborating reports of benefit finding from individuals' significant others; and (2) to examine the relation between benefit finding and quality of life for individuals diagnosed with lung cancer and to examine how the timing of benefit finding (i.e., benefits reported early or later in the adjustment process) may moderate the relation.

Study design: A longitudinal, prospective design will be used in this research. The sample will include individuals who present with undiagnosed lung masses, undergo diagnostic procedures, and are then divided into two groups: those with lung cancer and those with benign lung masses. The final sample will consist of 100 individuals with lung cancer and an age-matched comparison group of 100 individuals with benign lung disease. Participants will be interviewed four times. At Time 1 (pre-diagnosis), study measures will be obtained using a questionnaire format. At Time 2 (1-month post-diagnosis), participants will be visited in their homes and study measures using an interview format. At Times 3 (3-months post-diagnosis) and 4 (6-months post-diagnosis), similar interviews will be completed using a telephone-interview format. In addition, one significant other will be interviewed for each participant with lung cancer to obtain confirmation of participants' reports of benefit finding at Times 2 and 3.

Cancer relevance: In sum, an examination of these groups of individuals will allow for an in-depth analysis of cancer-related benefit finding. Ultimately, these findings may enhance our understanding of how the experience of adversity can sometimes yield benefits and how finding these benefits may enhance quality of life for individuals diagnosed with lung cancer.