

AMERICAN CANCER SOCIETY

DOCTORAL DEGREE SCHOLARSHIPS IN CANCER NURSING

POLICIES AND INSTRUCTIONS

Effective July 2009

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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.

DOCTORAL DEGREE SCHOLARSHIP IN CANCER NURSING

POLICIES

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1. OVERVIEW OF THE EXTRAMURAL GRANTS PROGRAM OF THE AMERICAN CANCER SOCIETY

With a 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 and innovative 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.

RESEARCH GRANTS FOR INDEPENDENT INVESTIGATORS

Research Scholar Grants in Basic, Preclinical, Clinical, and Epidemiology Research—Support for investigator-initiated research projects in basic, preclinical, clinical and epidemiology research. The maximum award is for 4 years and for as much as \$200,000 per year (direct costs), plus 20% allowable indirect costs.

Research Scholar Grants in Cancer Control and Prevention: Psychosocial and Behavioral Research —Support for investigator-initiated research projects in psychosocial and behavioral research, including epidemiologic approaches to psychosocial and behavioral research. Awards may be for four years and for as much as to \$200,000 per year (direct costs), plus 20% allowable indirect costs

Research Scholar Grants in Cancer Control and Prevention: Health Services and Health Policy Research—Support for investigator-initiated research projects in health services and health policy research. Awards are may be for four years and for as much as \$200,000 per year (direct costs), plus 20% allowable indirect costs.

Institutional Research Grants—Awarded to institutions as block grants to provide seed money for independent junior 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— Support for mentored research by full-time junior faculty, typically within the first four years of their appointment, with the goal of becoming independent investigators in preclinical, clinical, cancer control and prevention, epidemiologic, psychosocial, behavioral, health services and health policy research. 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 Preventive Medicine—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. Awards are for one year in the amount of \$12,000 (trainee stipend 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 to date.

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—Granted 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 —Granted 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.

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/>

SPECIAL INITIATIVES

Targeted Grants for Research Directed at Poor and Underserved Populations—Support for research projects that focus on poor or underserved populations and address a variety of preclinical, clinical, cancer control, behavioral, epidemiologic, health policy, health services, and basic questions in cancer biology. Applications will be accepted via three mechanisms: Research Scholar Grants, Mentored Research Scholar Grants in Applied and Clinical Research, or Postdoctoral Fellowships. The award structure is the same as for each of the mechanisms described above with one exception. Applications for Targeted Research Scholar Grants in Cancer Control and Prevention Research: Psychosocial and Behavioral Research may apply for 5 years and up to \$400,000 per year direct costs and 20% indirect costs. Targeted Research Scholar Grants may be renewed once.

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 award mechanism. Awards may not exceed a period of 4 years with a maximum budget of \$200,000 per year (direct costs) plus 20% indirect costs.

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. Awards: Up to two years duration with a maximum budget of \$60,000 per year plus 20% indirect costs. It is anticipated that a total of \$500,000 will be available to fund 5 to 7 grants. Annual Deadline: October 15

Postdoctoral Fellowship Awards in the Early Detection of Cancer - Canary Foundation, in partnership with the American Cancer Society, is extending its postdoctoral fellowship program focused on studies towards development of strategies for the early detection of cancer. Research should be directed at new approaches to improve clinical methods for the screening of primary tumors and/or metastases. Awards will be 3 years with stipends of \$44,000, \$46,000, and \$48,000 per yr, plus an annual \$4,000 fellowship allowance. Based upon availability of funds and scientific merit of the applications, it is anticipated that up to 4 awards will be made. To restrict funding to full 3 year fellowships, applicants may at the time of application, have had no more than 2 years of research experience beyond their terminal degree (MD or PhD excluding clinical service). Applicants must be US citizens or permanent residents working with an accomplished mentor at a non-profit institution.

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 two million volunteers.

In order to disseminate information about the Society's Extramural Grants Program to our volunteers and to the public, grantees will occasionally be expected 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. 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).

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. 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 Research Scholar Grant unless one is an ACS-awarded grant targeted to poor and medically underserved populations.

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 regarding financial conflicts of interest, recombinant DNA, research misconduct, and vertebrate animals. 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.

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 initial 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. The evaluations of the committees are provided to the Council for Extramural Grants (the Council), a multidisciplinary panel of senior scientists, most of whom have previously served on a Peer Review Committee, up to three stakeholders, and the Chair of the Society's Research and Medical Affairs Committee, who serves 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 determines which grants will be funded. 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.

Applications that are not funded may be revised and resubmitted. However, only two resubmissions are allowed for Research Scholar Grant, Postdoctoral Fellowships, and Mentored Research Scholar Grant applications. 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 Preventive Medicine	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
Master's Degree Scholarship in Cancer Nursing	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 will shepherd your application through the entire process. For questions concerning the review of the application, the Scientific Program Director can be most helpful following receipt and careful review of the critiques by the applicant. 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, Research Professorships and Clinical Research Professorships, and Postdoctoral Fellowships. For all other grants, see "Required Progress Reports" section.

- 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. Reporting forms and samples of nontechnical and scientific progress reports are available at

www.cancer.org/research. Select “Funding Opportunities” followed by “Grant Reporting Forms.”

- 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. No reminders will be sent regarding annual reports unless the grantee is being funded through a special donation to the Society. Reminders for final reports will be sent by email.
- D. 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, or grants that may be awarded in the future, until reports are received.

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." 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.

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. Forms may be downloaded from the web site: www.cancer.org/research. Select “Funding Opportunities” followed by “Grant Reporting Forms.”

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, 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 16, "Cancellation.")

14. INSTITUTIONAL 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 for such items as:

- Secretarial/administrative salaries
- Tuition (this 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
- Per-diem charges for hospital beds
- Construction, renovation, or maintenance of buildings/laboratories

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

The termination date of any grant may be extended for up to one year without additional funds upon written request from the principal investigator. 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 leave will be handled on a case-by-case basis.

18. CANCELLATION OF GRANT

Intent to cancel a grant must be communicated to the Program Director. In the event a grant is canceled, the institution is entitled to the prorated amount of the award. The Society cannot assume responsibility for expenditures in excess of payments already made to the grantee institution prior to the effective date of cancellation, and all unexpended funds must be returned to the Society. If a grant is to be canceled, please fill out and return the Request for Cancellation form. Forms may be downloaded from the web site www.cancer.org/research. Select "Funding Opportunities" followed by "Grant Reporting Forms." 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. DESCRIPTION OF DOCTORAL DEGREE SCHOLARSHIPS IN CANCER NURSING

The goal of this program is to strengthen nursing practice by providing assistance for advanced preparation in the field of cancer nursing research. This education will qualify the scholarship recipient for the award of a doctoral degree in nursing or a related field, and prepare the graduate for a career as a cancer nurse scientist.

Please read carefully the eligibility and other requirements set forth below before completing the application. Prospective applicants who are unsure of their eligibility or any other of the program requirements should contact the Society for clarification prior to submission of an application. Questions should be directed to:

Virginia Krawiec, MPA
Director, Health Professional Training Grants
American Cancer Society
Extramural Grants Department
250 Williams Street NW, 6th Floor
Atlanta GA 30303-1002
404-329-7612
ginger.krawiec@cancer.org

20. REQUIREMENTS FOR PROGRAM

- A.** The program must be offered within an accredited academic institution in the United States that can award a doctoral degree in nursing or a related field of research.
- B.** The program must offer an affiliation with an organized multidisciplinary program in cancer control or cancer care that allows the applicant the flexibility to develop educational and research activities related to cancer nursing.
- C.** The program of study must be planned with faculty who are experts in the applicant's field of study and can guide the student's educational experiences.

21. REQUIREMENTS OF APPLICANTS

- A.** The applicant must be currently enrolled in or applying to a doctoral degree program in nursing or a related field of research. Students in programs that award the doctorate of nursing practice (DNP) are not eligible for this program, but may apply for a Graduate Scholarship in Clinical Cancer Nursing.
- B.** The applicant must meet requirements for doctoral study and must have been accepted by the institution to which s/he has applied at the time of funding.
- C.** The applicant must have a current license to practice as a registered nurse.
- D.** The applicant must project a program of study that integrates cancer nursing and provides evidence of faculty support for the program of study. Scholarship recipients must take a minimum of 18 credit hours or 6 courses per year (unless coursework has been completed and the student accepted to candidacy).

- E. The applicant must demonstrate a commitment to cancer nursing as evidenced by recent experience, education, and/or research in the specialty area.

22. SELECTION CRITERIA

A successful applicant will provide the evidence for:

- Experience in professional nursing as well as cancer nursing;
- Involvement in professional organizations, including leadership roles;
- Involvement in activities of the American Cancer Society or other relevant volunteer organizations;
- Clear, explicit, and realistic professional goals;
- Consideration of program components, particularly oncology content, in selecting a doctoral program;
- Conduct or plan to conduct research that is important, methodologically sound, and relevant to the health of persons affected with cancer or at risk for cancer;
- Commitment from a faculty advisor who is experienced in the student's area of study and will provide guidance in academic and research activities;
- Selection of a doctoral program which will support the student's professional goals and research; and
- Dedication to cancer nursing research.

As appropriate to time since completion of an undergraduate or entry-level Master's degree in nursing, a successful applicant will show evidence of:

- A developing record of publication, presentations and/or other creative scholarly work;
- Receipt of various academic and/or professional awards and honors.

The complete criteria used by the peer reviewers are included in the Appendix to these Policies.

23. TERM OF SCHOLARSHIP

The scholarship is intended to provide support for a minimum of one year and a maximum of four years of study in a graduate program leading to a doctoral degree. Scholarships become effective July 1 and may be prorated if the student graduates before the end of the academic year.

The initial application is for a two-year grant, which may be renewed for an additional two years. This renewal will not compete with applications from candidates applying for new Doctoral Scholarships. Documentation of satisfactory progress in the graduate program and approval by the peer review committees is required for renewal. (See Required Reports.)

Students who are admitted to BSN-PhD programs without first having earned a master's degree are eligible to apply for the Doctoral Degree Scholarship in Cancer Nursing. However, they should first apply for support via the Master's Degree Scholarship in Cancer Nursing, and subsequently apply for a Doctoral Degree Scholarship. These students may not receive Doctoral Degree Scholarship funding until they have completed any required master's level coursework.

24. SCHOLARSHIP FUNDING

The doctoral degree scholarship provides up to \$15,000 annually for subsistence and tuition expenses. Students who receive more than one year of funding may carry forward to subsequent years any unexpended funds. Specifically, funds remaining at the end of the first year of a two year scholarship may be used in the second year or carried over to a renewal grant at the end of the original scholarship.

Scholarship payments will be made to the institution office designated on the activation form; payments will be made once yearly in July. The institution may not charge indirect costs to the scholarship. The award is not transferable and may not be awarded to other students in the event of the recipient's withdrawal from the degree program.

25. REQUIRED REPORTS

Scholarship recipients intending to request a non-competing renewal of their grant (to receive third and fourth year funding) must submit a report describing the education, research and other relevant activities in which s/he participated. This progress report is due on October 15 of the second year of the grant. The form is available on proposalCENTRAL.

Scholarship recipients whose funding has ended are required to submit their final report within 6 weeks of completion of the grant period. The American Cancer Society will provide a form for this purpose during the final year of the grant.

26. CHANGE OF INSTITUTION/ADVISOR

Recipients of a Doctoral Degree Scholarship in Cancer Nursing may not transfer their scholarship from one institution to another.

During the period from the receipt of an application through the end of an award, change of advisor requires written notice to the Society. Prior to a change, the American Cancer Society must receive a notice of the proposed change in writing, indicating the anticipated change date and the reason for the change. The letter must address the following:

- The total number of graduate and postdoctoral student who will be directly supervised by advisor during the term of scholarship.
- A representative list of previous students, their present employing organization, and position title or occupation (limit to five).
- Advisor's ongoing research activities that relate to your study.
- A brief description of advisor's relationship to date with you.

A Faculty Advisor/Dissertation Chair Biographical Sketch completed by the proposed advisor must also be included. This form is part of the application; contact the American Cancer Society to obtain a copy.

DOCTORAL DEGREE SCHOLARSHIP IN CANCER NURSING

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/research.

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 in completing the proposal sections that make up the electronic version of the application. **Failure to observe type size specifications and/or page limits will result in the return of the application without review:**

- Please remember to 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 5/8 inch 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 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 be resubmitted. However, for Research Scholar Grants, Postdoctoral Fellowships, and Mentored Research Scholar Grants, only two resubmissions are allowed. Applicants are strongly encouraged to contact the appropriate Program Director prior to resubmission. 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 illustrated 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, should you decide to withdraw your application for any reason. Your letter (or email) to the Scientific 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 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 Netscape 7.1 or Internet Explorer 6.0 or above. Recommended for Mac is Netscape 7.1 or Internet Explorer 5.1 or above recommended.

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

- Select “Funding Opportunities” followed by “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.

proposalCENTRAL is a consortium of nonprofit granting agencies, developed and hosted by Altum. 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 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. 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. If required, indicate the month and year your last degree was conferred, as well as the month and year of your first independent faculty (or equivalent) position. If your case was evaluated by the American Cancer Society eligibility committee, include the letter as part of the appendix and refer to it in the justification space provided.

Justification of Designation “Targeted”: If the proposed study falls into the targeted research area, i.e., research that focuses on poor and medically underserved populations, it is incumbent upon the applicant to clearly justify (using published data, and if available, applicant’s pilot data) how this study cohort meets the criteria of poor and/or underserved populations, and to clarify how the results of the proposed study can be used to reduce current disparities. Studies focusing on ethnic-specific groups do not necessarily qualify under this designation if the population under investigation is not documented as poor and/or medically underserved. The justification must appear both in the abstract and in the body of the application. Targeted research is expected to be conducted directly in the underserved populations or using samples (e.g. tissues) from these populations.

Space: If appropriate, indicate the approximate area of committed, independent research space provided 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 official 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 confirm 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 intended to provide a clear overview of your research to people who are *not* trained in the sciences but who are interested in cancer research for a variety of reasons. These include stakeholders, ACS staff members, potential donors and the general public. **Stakeholders** are individuals who usually do not have formal science or oncology training but have a strong personal interest in controlling and preventing cancer and who are voting members of every peer review committee. As part of their review, they are asked to assess the ability of the applicants to describe their research to a non-scientific audience, and this summary contributes to the basis for this evaluation. **ACS staff members** with responsibility for communicating ACS research to the local media use the summaries to describe the research funded in the region. **ACS staff members** who work with major donors use the summaries to identify projects appropriate to the interests of donors who wish to support specific areas of

cancer research, and then provide them to such **potential donors** to allow them to select projects that are of interest to them, and which they may wish to fund by a specific donation. Last, if an award is made, the summary is made available to the **general public**.

The general audience summary must *not* duplicate the scientific 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 Priority Areas 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 Organ Sites must be selected for these summaries to be presented to donors for special funding opportunities. *See the Priority Areas in the Appendix for filling out the forms.* **Please note that in completing the Priority Areas 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.

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.

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 guidelines for financial conflict of interest, recombinant DNA, research misconduct, and vertebrate animals 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. IACUC approvals are valid for a maximum of three years. 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. Likewise, human subjects must be covered by an approved Assurance of Compliance.

Human subjects. All proposed research projects involving human subjects must be approved by the appropriate Institutional Review Board (IRB). The review date should be recent; certification is invalid if the review date precedes the submission date by more than one year. In applications involving human subjects, applicants must address how HIPAA impacts the

proposed research, and how they propose to address potential issues HIPAA may raise for their study.

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 application 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.

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 when you print 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 or bind. 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.
- 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

Please note: students who are applying to more than one doctoral program must submit a separate application for each graduate school to which they have applied.

COVER PAGES

Most of the information that is collected online at proposalCENTRAL appears on the cover page. This includes eligibility information, for example, citizenship. **IMPORTANT:** the applicant's mailing address must appear in the box with the headings "APPLICANT CURRENT INSTITUTION" and "MAILING ADDRESS."

Additional Signatures Both the Department Head and the Faculty Advisor are required to sign in the section "Additional Signatures."

1. 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.*

2. TABLE OF CONTENTS (PAGE 1.1)

The Table of Contents is pre-numbered. Complete the Table by adding the Appendix information. *Note: there is no overall page limit for the completed application.*

3. STRUCTURED TECHNICAL ABSTRACT (PAGE 2.1)

IF YOU ARE SUBMITTING RESEARCH PLAN A, upload the provided template with "Not Applicable" in the body.

(Research Plan B Only) 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.

4. REPLY TO PREVIOUS REVIEW (resubmissions only) (PAGE 3.1)

IF THE 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).

5. 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.

6. PROGRAM PLAN — PART I (PAGES 4.1, 5.1, 6.1)

(To be completed by the applicant)

This section consists of Parts A, B, C, D, and E. Complete items **Part A, B, and C** of the application by providing the information requested. Please note that specific instructions for **Part D** appear below.

PART D. Program Progression Time Line. (PAGE 5.1) Provide all dates, even if some are still to be determined.

PART E. Research Plan A or B (PAGE 6.1) Complete the following section of the application by providing the information requested below on the template entitled “Research Plan” and using continuation pages as necessary. Use the subheadings as identified under Research Plan A or B, and adjust the page heading to indicate which plan you are submitting. The total length of this section must be no longer than five pages for Research Plan A and no longer than seven pages for Research Plan B. This page limit does not include the references, which should be placed at the end of the narrative. References may be numbered sequentially or cited in APA 5th Edition format. Refer to Formatting the Application in the Instructions - Part A, for information about font, type size, line spacing, etc.

Instructions for Writing Research Plan A or B. Based on the current status of your dissertation project, complete Part A or Part B as outlined below. An applicant who is uncertain about which Research Plan to complete should consult with the American Cancer Society Program Director.

Research Plan A

Research Plan A is for individuals who are about to or who have recently entered doctoral study. Research Plan A is NOT for people who have started to write the formal dissertation. You may have sections of the proposal completed based on course work or meetings with your faculty advisor; however, the dissertation is still in the early formative stages of development. Individuals completing this section are typically in the first or second year of their PhD program.

Project Narrative for Research Plan A

Topic

- Be specific in describing the topic or problem that you would like to study and how you came to the idea, e.g., from clinical practice, a gap in the literature, course work readings and papers, your advisor, work on a research project, or some combination of factors.

Review of Literature

- Identify the databases you searched, e.g., MEDLINE, PubMed, PsychInfo, ASCO Abstracts, National Library of Medicine Gateway. Name the concepts, key words, or MESH terms that resulted in the most productive searches.
- Provide a critical review of the literature that provides strong support for the research topic or problem.
- Focus the review on what is known about your topic, what remains unknown, the evidence that is conflicting/mixed in support of your topic, and how your study will address a gap and advance cancer nursing knowledge.

Contribution to the Field

- Describe the dominant contribution of your nursing research study to the health of persons with cancer or those at risk for cancer, with an emphasis on one of the following areas: practice; education; basic, clinical, or translational research; public policy; survivorship issues; cancer control; or another relevant contribution.
- Describe where your dissertation fits in your overall critical research map or anticipated research trajectory, i.e., how does it build on your previous research experiences, if any, how does it provide a critical step to get you from point A to B, and how will it prepare you to further your research in this area of inquiry?

Scientific Expertise of Faculty and Resources to Support the Dissertation

- Describe the cancer nursing faculty and other cancer faculty available to assist and guide you in the development of your dissertation. Identify those individuals that you are considering or have already agreed to serve on your committee. Name the dissertation chair, committee members, credentials, areas of expertise as related to the proposed research, and employers. People in distance degree programs should identify the people in their employing institution or community who will serve as adjunct faculty or members of the committee and tell how they will help you move your study forward

- Briefly describe the facilities and institutional resources available for your dissertation, e.g., clinical materials/patients, required laboratory equipment and bench space, office space for interviews, computers for data entry and analysis, software, transcription assistance, etc.

References (No page limit)

Research Plan B

Research Plan B is for individuals who are at a more advanced stage of dissertation work, e.g., coursework is soon to be or actually completed and an initial draft of the dissertation proposal is about to be written or already written, or the dissertation is more polished and ready for proposal defense, or the defense is completed. We encourage you to apply for a scholarship before the dissertation committee formally approves the proposal so your chair and committee members can consider the constructive comments of the ACS reviewers. Individuals completing this section would typically be finished with their coursework and in the third or fourth year of their PhD program. However, applicants who are at an earlier stage in their academic program, but who have a firm idea about what their dissertation research topic will be and how they will study it, can complete Plan B as a means to propel their work forward.

Project Narrative for Research Plan B

Title and Purpose of Study

- State the title and purpose of the study.
- Identify the research questions, hypotheses, specific aims, and/or exploratory aims for the dissertation.
- Identify if the dissertation is your own independent work, a study that is a spin-off or extension of a faculty member's funded/unfunded research, or a secondary analysis of existing data and source/ownership of these data. If your study is a spin-off or a secondary analysis, provide a succinct description of the parent or primary study (plus funding source if any, grant number, name of principal investigator) that can help the review committee see the distinction between the studies.

Review of Literature

- Identify the databases you searched, e.g., MEDLINE, PubMed, PsychInfo, ASCO Abstracts, National Library of Medicine Gateway. Name the concepts, key words, or MESH terms that resulted in the most productive searches.
- Provide a critical review of the literature that provides strong support for the research topic or problem.
- Focus the review on what is known about your topic, what remains unknown, the evidence that is conflicting/mixed in support of your topic, and how your study will address a gap and advance cancer nursing knowledge.

Contribution to the Field

- Describe the dominant contribution of your nursing research study to the health of persons with cancer or those at risk for cancer, with an emphasis on one of the following areas:

practice; education; basic, clinical, or translational research; public policy; survivorship issues; cancer control; or another relevant contribution.

- Describe where your dissertation fits in your overall critical research map or anticipated research trajectory, i.e., how does it build on your previous research experiences, if any, how does it provide a critical step to get you from point A to B, and how will it prepare you to further your research in this area of inquiry?

Preliminary Work

- Briefly describe any preliminary work conducted by you and what each study contributes to the dissertation, e.g., gathered preliminary data on effect size, developed an instrument, established recruitment and retention strategies, maximized minority enrollment, learned a new statistical analysis procedure, piloted an intervention, conducted descriptive research such as interviews or a survey, etc.
- Identify if you performed these preliminary studies independently, as a course assignment, and/or if you conducted these activities while working on faculty research.
- For **non-competing continuation applications**, describe the progress to date that you have made on your dissertation. Explain how a continuation of funding will contribute to the completion of the dissertation.

Research Design and Methods

- Identify the research design.
- Describe the sample or target population including any exclusion and inclusion criteria. Provide support for the expectation that the sample can be obtained, for example, a letter of support for the study from a person who can authorize access to potential participants at a proposed study site.
- Describe the methodology for enrolling the sample, procedures for implementing the study, the use of intervention and control groups (if applicable), and the analysis plan for each research question or specific aim/hypothesis.
- Provide reliability and validity information for all standardized questionnaires or the methodology and analysis to be used to examine the psychometric properties of instruments.
- If conducting an intervention trial, describe any threats to the internal validity of the intervention and efforts to control or minimize these threats such as the plan for training and supervising personnel, and monitoring dose and intervention fidelity.
- If conducting a group comparison study, provide a power analysis to justify the sample size or describe why a power analysis is not included.

Scientific Expertise of Dissertation Committee and Resources to Support the Dissertation

- Describe the cancer nursing faculty and other cancer faculty available to assist and guide you in the development of your dissertation. Identify those individuals that you are considering or have already agreed to serve on your committee. Name the dissertation chair, committee members, credentials, areas of expertise as related to the proposed research, and employers. Students in distance degree programs should identify the people

in their employing institution or community who will serve as adjunct faculty or members of the committee and tell how they will help you move your study forward

- Briefly describe the facilities and institutional resources available for your dissertation, e.g., clinical materials/patients, laboratory equipment and bench space, office space for interviews, computers for data entry and analysis, software, transcription assistance, etc. For requisite facility and university resources and those that must be allocated, provide a letter of support saying you will have access.

7. PROGRAM PLAN — PART II: INSTITUTIONAL INFORMATION (PAGES 7.1, 8.1)

(To be completed by the faculty advisor/dissertation chair)

Complete items **A - D** of the application. Up to four pages may be used. Please note that specific instructions for the Biographical Information form(s) appear below.

Biographical Information for Faculty Advisor/Dissertation Chair (PAGE 8.1)

The application must include condensed curriculum (curricula) vitae for the faculty advisor and/or dissertation chair. (If the dissertation chair is not the faculty advisor, this form must be submitted for both the chair and the advisor. The curricula vitae must not exceed two pages and the form provided must be used. Those applications that do not adhere to format guidelines will be automatically rejected.

8. LETTERS OF RECOMMENDATION AND SUPPORT

Request recommendations from two (2) individuals (not the faculty advisor or dissertation chair) who will respond before October 15. These letters should be solicited from individuals who can describe the applicant's potential as a scientist, and who have sufficient research background and experience to do so.

The letters will 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 cannot be submitted until these letters have been provided on proposalCENTRAL.***

Letters of Support: a letter is also needed from any individual who is serving as a local resource for an applicant from a distance learning program. Please include in the Application Appendix (see below).

9. APPLICATION APPENDIX

Appendix items may be submitted electronically, but it is not required that you do so.

Appended materials may include a notarized statement of U.S. residency (if applicable), letters of support from local mentors or consultants, recent reprints or preprints, and tables and figures that would lose detail if reduced to fit into the main body of the application. However, the appendix

section should not be used to bypass any page limitations. The appendix must be collated in four separate sets, labeled with the name of the applicant, and attached to each copy of the application. It is not necessary to number the pages of the appendix, but please list by categories (i.e., letters, reprints, preprints, etc.) in the Table of Contents of the application. **Note that the appendix is not duplicated for the entire committee and applicants are urged to keep this section as brief as possible.**

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.

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.

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 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).

Etiology

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).

Prevention

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).

Early Detection, Diagnosis and Prognosis

4.1-Technology Development and/or Marker Discovery

Examples of science that would fit:

- Discovery of markers (e.g., proteins, genes) and/or imaging methods that are potential candidates for use in cancer detection, diagnosis and/or prognosis.

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.

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.

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).

Treatment

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.

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.

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).

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.

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.
- Education and training of investigators at all levels (including clinicians).
- Psychosocial, economic, political and health services research frameworks and models.

Scientific Model Systems

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).

APPENDIX B: SAMPLE OF GENERAL AUDIENCE SUMMARY

Blood and marrow transplant (BMT) is a very intensive therapy used to cure patients with cancer who have no other hope for a cure. The therapy often requires patients to be away from home for several months. During this time, they need to have one or more family or friend caregivers who can stay with them and assist with their physical care and emotional support. These caregivers are vital to the success of the transplant. We know from other diseases where family members or friends assist with the care of the patient that this can be very stressful but rewarding for the caregiver. The caregivers need special education in order to be able to provide good care. Sometimes the caregivers become so stressed that they become physically ill. There have been a few research studies that have looked to see if BMT caregivers have the same experience as caregivers of other types of patients. Virtually all of the subjects in these studies have been upper middle class Caucasians. Caregivers from other cultures may have a very different experience. Because these caregivers are so critical to the success of BMT, we need to understand what their experience is so that we can develop methods to give them better support and keep them healthy and able to provide care. It is important to understand how to do this for caregivers from all cultures. As we reach an understanding of BMT caregivers from different cultures, some of this knowledge may also be applied to caregivers of other cancer patients receiving other types of therapy.

APPENDIX C: SAMPLE OF STRUCTURED TECHNICAL ABSTRACT

REQUIRED ONLY FOR RESEARCH PLAN PART B

Title of Project: Effects of Social Support in Older Women with Breast Cancer

Background: Age is the most important determinant of breast cancer (BC) risk. BC is the most commonly diagnosed cancer in women with nearly 216,000 estimated new diagnoses in the United States during 2004. Over 65% of women diagnosed with BC between 1997- 2001 were 55 years or older. By 2011, 10,000 Americans will turn 65 years old every day. Thus, there is a critical need for evidence that can contribute to age-specific care guidelines specific to the elderly experiencing cancer. Evidence describing the daily living perspective of an elderly person with cancer has increased over the last decade, but questions remain. A particular question of interest is the impact of the cancer symptom experience on an elder's functional ability, specifically social functioning. With the understanding that social relationships are central in a woman's life, social functioning takes on importance in the BC experience. Objective: The main questions of this study are "Does BC treatment-related symptoms affect a woman's ability to engage in social relationships and leisure activities?" and "How does perceived social support, age, and marital status affect this relationship?"

Specific aims: The specific aims and hypotheses proposed to explore these questions will include:

Specific Aim 1. To compare the symptom experience and effect it has on social functioning in two cohorts: older women with BC (age > 60) and younger women with BC (age < 60).

Hypothesis 1a: The increased number cancer-related symptoms and their severity will be related to decreased social functioning of women.

Hypothesis 1b: Increased age in addition to number and severity of symptoms will decrease a women's social functioning.

Specific Aim 2. To examine if perceived social support moderates the effect of the symptom experience on social functioning in a cohort of elderly women with BC.

Hypothesis 2: Increased perceived social support will decrease the effect of symptom experience on social functioning.

Specific Aim 3. To determine to what extent perceived social support is related to age and marital status in older and younger women with BC.

Hypothesis 3a: Older women with BC will have lower perceived social support than younger women with BC.

Hypothesis 3b: Older women with BC who are married or partnered will have increased social support compared to older women who are not married or partnered.

Exploratory Aim. To explore if a particular symptom or combination of symptoms have an increased impact on social functioning.

Study design: This study will be a secondary data analysis of data previously collected to evaluate the effectiveness of a strategy to manage cancer-related fatigue. The data set includes responses to a variety of quantitative measures completed by 221 women, aged 30 to 83. Over one third of the sample is aged 60 or older. After data cleaning, a variety of statistical tests will be conducted. Multivariate linear regression will be used for Specific Aim 1. Multi-step hierarchical regression analysis will test the moderating effects of social support in Specific Aim 2. Independent t-tests will be used to explore expected age differences described in Specific Aim 3. Depending if one or more symptoms are evaluated, the exploratory aim will be evaluated using Pearson correlation coefficient or analysis of variance.

Cancer relevance: The results of this study will increase understanding of the impact of cancer symptoms on social functioning and the moderating effects of social support in the BC experience. Anticipated age related differences will be explicated. Additionally, identifying the symptom or group of symptoms with significant impact on social functioning may also have clinical applications.

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APPENDIX D: SAMPLE OF PLAN OF COURSES TO COMPLETE THE DOCTORAL DEGREE

JANE DOE, University of XYZ

Semester	Course #	Credits
Summer 2007	NUR 781	(3)
	STA 570	(4)
Fall 2007	NUR 790	(3)
	NUR 779	(1)
Spring 2008	NUR 778	(3)
	NUR 779	(2)
	STA 671	(2)
	STA 673	(2)
Summer 2008	BSC 626	(3)
	NUR 791	(3)
Fall 2008	NUR 792	(3)
	PHI 560	(3)
	SOC 681	(3)
	BSC 773	(3)
Spring 2009	NUR 688	(3)
	BSC 779	(3)
	Cognate	(3)
Summer 2009	Qualifying Exams	
Fall 2009	Dissertation	
Spring 2010	Dissertation	
Summer 2011	Dissertation	
August 2011	PhD Completed	

Nursing Courses

- NUR 790 Theory Development and Research in Nursing I
- NUR 791 Theory Development and Research in Nursing II (Qualitative)
- NUR 792 Theory Development and Research in Nursing III (Quantitative)
- NUR 778 Nursing Policy and Healthcare
- NUR 688 Measurement of Nursing Phenomena I
- NUR 779 Dissertation Seminar
- NUR 781 Independent Study: Self-Esteem

Philosophy Course

- PHI 560 Philosophy of Science

Research Design and Methods

- STA 570 Basic Statistical Analysis
- STA 671 Regression Analysis and Correlation
- STA 673 Analysis of Categorical Data
- SOC 681 Research Design and Analysis

Cognates

- BSC 626 Survey of Health Psychology
- BSC 773 Psychosocial Oncology

BSC 779 Behavioral Factors in Death and Dying
Additional cognate(s) to be determined as dissertation topic evolves

APPENDIX E: APPLICATION REVIEW CRITERIA

The following items are used by reviewers in evaluating applications for the Doctoral Degree Scholarship in Cancer Nursing.

- If the application is a resubmission, comment on the adequacy of the response to the prior review.

Biographical Information (Applicant)

- Type of doctoral program (is it a distance learning program?); per cent completed; applicant's GPA
- Professional education to date
- Adequate (e.g. 15 hours over 3 years) continuing education relevant to proposed area of study
- Current certification(s) in cancer nursing or other relevant specialty
- Relevant nursing experience
- Membership in cancer nursing-related professional organizations; note leadership and/or sustained involvement
- Cancer-related volunteer activities; consider period of involvement and/or leadership roles

Professional Contributions

- Research or clinical presentations related to area of study
- Authorship on publications in area of study.
- Research involvement to date; consider role i.e., leadership on own or another's research study versus performance of research tasks such as data collection or management
- Any other professional contributions (standards, teaching tools, videos) related to area of study?
- Professional honors and awards
- Scholastic awards or funded scholarships
- Explication of the relationship between past experiences, doctoral study, and professional goals

Doctoral Program

- Strength of rationale given for choice of doctoral program
- Evidence of experiences relevant to the proposed research and cancer nursing in the program of study
- Integration of cancer nursing content in planned program of study
- Fit between applicant and the program, goals and proposed research

Research Plan

- Feasibility of program progression time line

Part A

- Description of the problem and presentation of the applicant's reason for interest in the topic
- Appropriateness of literature review, particularly given the applicant's time in the program
- Potential contribution to health of people affected by cancer or at risk for cancer
- Relevance to previous research and to building a program of research
- Resources available to conduct the research

or Part B

- Purpose and aims of study; are the latter specific and feasible?
- How well did the background / review of literature summarize the state of knowledge in the area and gaps? Did the results support the proposed research question? Was the method for conducting database searches described?
- Potential of the proposed research to impact the health of people affected by cancer or at risk for cancer
- Relevance of dissertation research to previous research and to building a program of research
- Appropriateness of design / methodology for the research question, and the applicant's time in the program.

- Composition of the dissertation committee (consider also the background and qualifications of the dissertation chair if different from the faculty advisor. For those enrolled in distance programs, consider the individuals who will act as local research mentors)
- Resources available to conduct the research and evidence of access to them

Program Plan Part II

- Evidence of relevant educational and research experience in the training plan
- Qualifications of faculty advisor and/or dissertation chair to mentor student in proposed research area. Consider current and previous doctoral students mentored, relevance of ongoing research, and evidence of commitment and availability.
- Letters of recommendation – should come from individuals who know the candidate well and are qualified to assess the candidate’s academic abilities and potential for a career as a cancer nurse scientist.