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TITLE: Interdisciplinary Research Training in Breast Cancer

PRINCIPAL INVESTIGATOR: Ruth McCorkle, Ph.D.

CONTRACTING ORGANIZATION: Yale University  
New Haven, Connecticut 06520-8047

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<b>14. ABSTRACT</b>  The purpose of this predoctoral and postdoctoral training program is to prepare clinical researchers who will impact the care of women with breast cancer. Under the two program directors, Drs. Ruth McCorkle and Michael DiGiovanna, the program has completed its fifth year. Over the entire training program, six predoctoral and five postdoctoral trainees have been funded. Breast cancer content has been included in the curriculum of the doctoral program. The postdoctoral program has been established within the School of Nursing and included in the bulletin and the School's website. Eleven new breast cancer researchers have been funded by this training grant. Seven breast cancer research studies have been implemented with subsequent funding. Six trainees have received national awards, over 54 presentation have been presented, 45 publications have been published, and 12 grants have been awarded to the trainees. The program has been sustained through an NIH, NINR T32 institutional training grant. These program outcomes were presented at the DOD Era of Hope meeting in Philadelphia, PA in June 2005.					
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## **INTRODUCTION**

The purpose of this predoctoral and postdoctoral training program is to prepare clinical researchers who will impact the care of women with breast cancer or women who are at risk for breast cancer. The predoctoral program prepares the beginning researcher with the knowledge and skills necessary to develop and test clinical interventions. This program builds on the Yale School of Nursing's current doctoral program and other related programs throughout the School of Medicine, including Epidemiology and Public Health. Postdoctoral training prepares the investigator to conduct more complex studies that involve an interdisciplinary perspective and more sophisticated analytic techniques.

The research-training program has completed its sixth year. The two program directors, Drs. Ruth McCorkle and Michael DiGiovanna, met quarterly with their administrative team, which includes three additional researchers in breast cancer: Drs. Tish Knobf, Beth Jones, and Elizabeth Bradley. Dr. Knobf is a tenured Associate Professor at the Yale School of Nursing and has developed a program of research related to chemotherapy induced menopause. Dr. Jones is an Associate Professor in the Yale School of Epidemiology and Public Health and her research is related to factors associated with the incidence of breast cancer in black and white women. Dr. Elizabeth Bradley, an Associate Professor in the School of Public Health, has developed a program of research related to End-of Life care with cancer patients. All of the tasks of the program have been completed and will remain in place during the no cost extension.

## **BODY**

Task 1: Completed.

Breast cancer activities and training activities were developed and implemented.

Task 2: Completed.

All related courses previously developed were offered during the academic year and graduate students in other disciplines enrolled. Extensive research training experiences in breast cancer have been implemented with the program faculty. Dr. LaCoursiere works directly with Drs. Knobf, McCorkle, and DiGiovanna and is currently completing her online survey of needs of women diagnosed with breast cancer.

Task 3: Completed.

A post-doctoral program related to breast cancer research was developed and implemented. The program was built on the well established doctoral program in nursing at the Yale School of Nursing. All trainees were required to develop and implement a research proposal as part of their training and disseminate their findings in the literature and national meetings.

Task 4: Completed.

A formalized program of recruitment was established for both pre and post doctoral applicants who were nurses and non-nurses. Efforts were made to bring established researchers from other fields into breast cancer research and to recruit minorities.

Task 5: Completed.

A formalized system to select and monitor trainees was developed and implemented. Drs. McCorkle and Knobf meet monthly to review the trainees' progress. Trainees were matched with research mentors based on their interests and mentors' program of research. Trainees meet weekly with their mentors and participate in their research activities while concurrently developing their own research proposals. Trainees submit their goals annually and they are

peer reviewed as part of the reappointment process. This process has been extremely helpful and facilitated trainee's success in the program.

**Task 6: Completed.**

There have been a number of activities that the faculty and trainees have participated in that were initially established as a part of the Yale Cancer Center and the Pepper Center on Aging. These have included monthly grand rounds that are co-sponsored by this training program, and monthly meetings of the Breast Cancer Group, under Dr. DiGiovanna's leadership. The trainees have also participated in monthly meetings of the pre and postdoctoral trainees in the School of Nursing. Although the focus of this latter group is not solely on breast cancer, all of the participants are studying vulnerable populations with other chronic diseases and their discussions related to methodological and analytical issues are relevant. As part of the training program, several nationally recognized researchers were asked to present their research at the Yale Cancer Center Grand Rounds. Individual and informal gatherings were held with these researchers during their visits. Journal club meetings were held with all visiting professors.

**Task 7: Completed.**

We have been successful in recruiting our trainees each year. Table 1 lists the trainees by years of appointment. Dr. LaCoursiere was re-appointed to complete a third year so she could complete her online survey study with women with breast cancer.

**The activities of the one postdoctoral trainee are presented.**

**Currently funded One Postdoctoral Trainee:**

**1. Dr. Sheryl LaCoursiere (Appointed September 1, 2003-June 30, 2006 3<sup>rd</sup> year trainee).**

Dr. LaCoursiere received her PhD from the University of Connecticut in May 2003. Her program of research focuses on outcomes related to the provision of Internet-based support for women with breast cancer.

**Key Accomplishments of Dr. LaCoursiere**

- As of July 1, 2006, Dr. LaCoursiere has accepted a fellowship in Medical Informatics, funded by the National Library of Medicine. She will continue her work in the *Breast Cancer Internet Information and Support (BCIIS)*, as noted below.
- Dr. LaCoursiere is Principal Investigator on the study, *Breast Cancer Internet Information and Support (BCIIS)*, which she designed and is currently conducting. The study surveys women with breast cancer on the Internet, and assesses demographic information, medical history, quality of life, perceived support, self-efficacy, attitudes toward online health care, and spirituality, with the intent of developing an online information and support system. Co-investigators are Drs. McCorkle and Knobf, as well as Drs. Danuta Clemmens and Regina Cunningham, previous postdoctoral trainees. The web site for the survey is <http://breastcancersurvey.med.yale.edu>. The team has collected data on over 400 women to date. Findings on the first 202 women have been presented at Eastern Nursing Research Society, as well as the Sigma Theta Tau International Honor Society of Nursing Connecticut Collaborative Research meeting.
- Dr. LaCoursiere is a co-investigator with Dr. Tish Knobf in the study *Breast Cancer Survivorship Rehabilitation: Development of an Educational Support Nursing Intervention*. The major goal of this project is to develop an educational-support intervention to improve adaptation and promote self care for survivors with breast cancer after therapy. Qualitative data on the experience of breast cancer has been collected and is currently being analyzed. A pilot web site is under development.

- Dr. LaCoursiere completed a secondary analysis of the Attitudes Toward Online Health Care (ATOHC) survey in 45 persons who listed cancer as a primary or secondary diagnosis in a previous instrument development study of persons who used the Internet ( $n = 265$ ). In collaboration with Drs. McCorkle and Knobf, the study was published in *Journal of Medical Internet Research*.
- Dr. LaCoursiere had begun an ongoing collaboration with Dr. Cynthia Brandt and Dr. Prakash Nadkarni in the Yale Center for Medical Informatics (YCMI), who are now her postdoctoral mentors. The collaboration had focused on the integration of breast cancer and informatics. Dr. LaCoursiere's activities included a study on the use of the Unified Medical Language System (UMLS) of the National Library of Medicine for cancer communication terminology in over 100 medical languages; this will be for use in categorizing online breast cancer patient communications; and (2) the adaptation of Trial/DB, a software system used for clinical trials, for use with BCIS data analysis. As part of this fellowship, she is also beginning research in telemedicine and telehealth applications at the Veterans Administration Hospital in West Haven, CT.
- Attendance at Yale School of Medicine Postdoctoral Network meetings: (1) Seminar on "Data handling and authorship issues," presented by Dr. Lawrence Cohen and Merle Waxman, Associate Dean of Academic Development, Yale School of Medicine; (2) Two networking receptions
- Attendance and participation at the biweekly pre-and-post doctoral meetings at Yale School of Nursing, led by Dr. Ruth McCorkle
- Attendance and participation at monthly post doctoral meetings at Yale School of Nursing, led by Dr. Margaret Grey, Associate Dean for Research Affairs
- Attendance at monthly Research Rounds, held at Yale School of Nursing
- Attendance and participation at the Center for Excellence in Chronic Illness Care Journal Club Seminars

### ***Reportable Outcomes of Dr. LaCoursiere***

#### Publications:

- LaCoursiere, S. P., Knobf, M. T., & McCorkle, R. (2005). Cancer patients' self-reported attitudes about the Internet. *Journal of Medical Internet Research*, 7(3), e22.
- LaCoursiere, S. P., & Sarkar, M. (2004). Communication and information needs and barriers: An international collaboration model. *Medinfo 2004*, 964-968.
- LaCoursiere, S. P. (2003). Research methodology for the Internet: External validity (generalizability). *Advances in Nursing Science*, 26(4), 257-273.
- Anderson, E., McDonald, D. D., Mikky, I., Brewer, T., Kosciwowski, C., LaCoursiere, S., Andrews, L., & Delaney, C. (2003). Health care implications and space allocation of research published in nursing journals. *Nursing Outlook*, 51(2), 70-83.

#### Publications in press:

- Balducci, L., & LaCoursiere, S. P. (2006, in press). Caregiver End-of-Life Care of the Person with Cancer. In *Caregiving and Cancer*. Athens, GA: Johnson & Johnson/Rosalyn Carter Institute Caregivers Program.
- LaCoursiere, S. P. (2005). *Telehealth support in cardiovascular disease: Dissertation and executive summary*. Agency for Health Care Research and Quality/National Technical Information Service.

#### Manuscripts in preparation:

- LaCoursiere, S. P., Cunningham, R. C., Knobf, M. T., & McCorkle., R. (2006, in preparation). Telehealth interventions in breast cancer: A review of Internet and telephone delivery systems. *Cancer Investigations*.
- LaCoursiere, S. P., & Tarakeshwar, N. Psychological interventions used with breast cancer patients: A meta-analysis. *Psycho-Oncology*.
- Tarakeshwar, N., & LaCoursiere, S. P. A Meta-synthesis of psychological interventions used in breast cancer patients. *Journal of Psychosocial Oncology*.
- LaCoursiere, S. P. Internet-based intervention for persons with cardiovascular disease: An analysis of outcomes. *Nursing Research*.

#### Courses Taken

- *GHD 554 International Health Promotion and Communication: Theory and Application*. This is a required course in the Global Health major at the Yale School of Public Health. This course was by Dr. Gregory Payne, Professor at Emerson College and Tufts Medical School, who is on the Editorial Board of the journal *Health Communication*. In this course Dr. LaCoursiere was exposed to theories of verbal and written communication, and strategies for effective communication in health promotion. She also networked with a number of physicians who had organized health promotion campaigns, and participated in a group team related to crisis communication.
- *IMED 630 Practical and Ethical Issues in Clinical Investigation*. This is a required course for the Investigative Medicine program at Yale Medical School, directed by Dr. Henry Binder, Director of the Yale General Clinical Research Center. Coursework included issues in authorship and mentorship, ethics of clinical investigation, scientific presentation and teaching, and NIH and journal peer review processes. Dr. LaCoursiere also earned a certificate that satisfies NIH research ethical research requirements for career awards.
- *IMED 650 Seminars in Clinical Investigation*. This is a required course for the Investigative Medicine program at Yale Medical School, directed by Dr. Eugene Shapiro, Professor. The course was focused on successful grant writing, and included interdisciplinary participants from the Yale Medical School, Nursing School, Public Health, Geriatrics, and Molecular Medicine. The first half of the semester included subjects such as research topics, writing abstracts, critical review of sample grants, and submitting a grant. The second half of the semester was a mock study section, where class participants each submitted a grant, which was reviewed by classmates; and subsequently, had the opportunity to serve as both primary and secondary reviewers for classmates on their grants.

#### National Meetings, Presentations, and Networking:

- Dr. LaCoursiere orally presented the Breast Cancer Internet Information and Support Study at four different venues: the University of Connecticut Health Center Breast Cancer Research Program in October 2005, Yale Cancer Center Breast Cancer Research Program in November 2005, the Sigma Theta Tau International Honor Society of Nursing Connecticut Collaborative Research Meeting in March 2006, and the Eastern Nursing Research Society in April 2006. A poster was also presented at the International Conference on Communication in Healthcare in October 2005.
- Dr. LaCoursiere presented a paper at the Association of Community Health Nursing Educators meeting in Hartford, CT in June, 2005, on telehealth interventions in breast cancer.
- Dr. LaCoursiere presented two posters at the Eastern Nursing Research Society 17<sup>th</sup> Annual Scientific Sessions in New York, NY in April, 2005, on characteristics of breast cancer patients who use the Internet, and cancer patients' attitudes toward online health care.

- Dr. LaCoursiere presented her dissertation research at the Eastern Nursing Research Society 16<sup>th</sup> Annual Scientific Sessions in Quincy, MA in April, 2004, where she had the opportunity to network with experts in oncology nursing, including Dr. Susan Bauer-Wu, Director, Phyllis Cantor Center, Dana-Farber Cancer Institute, and Dr. Hung-Ru Lin, Head of Research and Development, National Taipei College of Nursing, Taiwan. She was also invited to participate in the Dana-Farber Harvard Cancer Center Cancer Nursing Research – Program in Development.

The references for the abstracts are:

- LaCoursiere, S. P., Knobf, M. T., & McCorkle, R. (2006). The Breast Cancer Internet Information and Support Study (BCIIS). *Proceedings of the Eastern Nursing Research Society 19<sup>th</sup> Annual Scientific Sessions*. Cherry Hill, PA, April 20-22, 2006.
- LaCoursiere, S. P., Knobf, M. T., Brandt, C.A. & McCorkle, R. (2005) Assessing Cancer Patients' Attitudes Toward Online Health Care. *Proceedings of the International Conference on Communication in Healthcare*. Chicago, IL, October 5-8, 2005.
- LaCoursiere, S. P., Cunningham, R. S., Knobf, M. T., & McCorkle, R., (2005). Telehealth interventions in breast cancer: Evidence from two delivery systems. Proceedings of the Association of Community Health Nursing Educators Spring Institute and Annual Meeting, Hartford, CT, June 2-4, 2005.
- LaCoursiere, S. P., Knobf, M. T., McCorkle, R., & Degner, L. (2005). Breast cancer patients online: A study of demographic characteristics, health status, support, self-efficacy, spirituality and attitudes toward online health care. Proceedings of the Eastern Nursing Research Society 18<sup>th</sup> Annual Scientific Sessions. New York, NY, April 7-9, 2005.
- LaCoursiere, S. P., Knobf, M. T., & McCorkle, R., (2005). Cancer patients' self-reported attitudes about the Internet. Proceedings of the Eastern Nursing Research Society 18<sup>th</sup> Annual Scientific Sessions, New York, NY. April 7-9, 2005.
- LaCoursiere, S. P. (2004). TELECARES-NI: TELEhealth CARdiac Education and Support by Nursing Intervention. Poster Presentation at the Eastern Nursing Research Society 16<sup>th</sup> Annual Scientific Sessions, Quincy, MA, April 1-3, 2004.

#### Grant Proposals Submitted:

Dr. LaCoursiere has submitted 8 grant proposals, 2 of which were funded, and 2 of which are under review:

- 2006- NIH Clinical Research Loan Repayment Program, National Cancer Institute. *Telehealth Support in Breast Cancer*. Renewal; under review.
- 2005- National Library of Medicine Informationist Program. *An Internet-based Cancer Communication Intervention*. #1F37LM009060. \$53,428, under review; not funded; fellowship offered under training grant
- 2005- Yale-Howard NIH P20 Partnership Center on Reducing Health Disparities by Self And Family Management. *Development of an Internet-based Information-Support Intervention for African American Women with Breast Cancer*. \$20,000, not funded.
- 2005- Department of Defense Prostate Cancer Research Program (DOD PRCP). *Telehealth Support in Prostate Cancer*. \$125,000, not funded. Score 1.9.
- 2004- Sigma Theta Tau International Honor Society of Nursing, Delta Mu Chapter, Yale University. *An Internet-Based Low-Literacy Cancer Communication Intervention*. \$1,500, funded.
- 2004- Pfizer Clear Health Communication Program. *An Internet-Based Low-Literacy Cancer Communication Intervention*. \$195,000, not funded.



- 2004- DOD Breast Cancer Research Program, Multidisciplinary Postdoctoral Award, *Telehealth Support in Breast Cancer*. \$374,900, not funded. Score 1.7.
- 2003- NIH Clinical Research Loan Repayment Program, National Cancer Institute. *Telehealth Support in Breast Cancer*. \$40,517, funded.
- 2003- Medical Library Association, Lindberg Research Fellowship Award. *Telehealth Support in Breast Cancer*. \$25,000, not funded.

Dr. LaCoursiere has also received partial funding from Dr. Tish Knobf's grant from the Beatrice Renfield-Yale School of Nursing Clinical Research Initiatives Fund. The grant, *Cancer Survivorship Rehabilitation: Phase I Development of an Educational-Support Nursing Intervention* seeks to develop Internet-based educational and support materials for women with breast cancer. This funding has allowed Dr. LaCoursiere to develop the *Breast Cancer Internet Information and Support (BCIIS)* web site that is being used to survey breast cancer survivors.

#### Professional Activities

- Dr. LaCoursiere was included in the 2006-2007 edition of Who's Who in Medicine and Healthcare, and has been nominated for the 2006-2007 edition of Who's Who in America
- Dr. LaCoursiere successfully passed the certification exam in Nursing Informatics from the American Nurses Credentialing Center in June 2006, and is now Board-Certified.
- Dr. LaCoursiere completed the Advanced Business Certificate Program in Information Technology at the University of Connecticut School of Business in May 2006, sponsored by the Connecticut Information Technology Institute.
- Dr. LaCoursiere was invited to be a Research Affiliate of the University of Connecticut Center for Health/HIV Intervention and Prevention in May 2005, and the Center for Health Communication and Marketing in 2006. She was subsequently invited to be a member of the Cancer Interest Group at the University of Connecticut Health Center, and is developing a collaboration with Dr. Carolyn Runowicz, President-Elect of the American Cancer Society, and breast cancer researcher.
- Dr. LaCoursiere received the 2005 Excellence in Nursing Informatics Award from the Oncology Nursing Society in April, 2005
- Dr. LaCoursiere was invited to discuss her journal article on Internet-based research and external validity in the Yale School of Nursing Doctor of Nursing Science Class N905, *Creating Method: Issues in Nursing Research*, March, 2004.
- Dr. LaCoursiere became an invited member of Steering Committee of the newly formed Alliance for Nursing Informatics, which represents 20 nursing informatics groups in the United States.
- Dr. LaCoursiere was selected as Web Site Advisory Board Member, American Nurses' Association- American Nurses' Credentialing Center (ANCC)
- Dr. LaCoursiere was invited to be a Judge for the 2005 International Media Awards for Nursing Excellence, Sigma Theta Tau International Honor Society of Nursing
- Dr. LaCoursiere was invited to present on Internet-based research and external validity, Yale Doctor of Nursing Science Program, Nursing N905 course, *Creating Method: Issues in Nursing Research*, March 4, 2004

In addition, Dr. LaCoursiere:

- Reviewed 3 manuscripts for the journal *Advances in Nursing Science*
- Reviewed 5 manuscripts for the journal *Computers, Informatics, Nursing*
- Reviewed 27 abstracts for Sigma Theta Tau International Honor Society of Nursing 38<sup>th</sup> Biennial Convention, Clinical Sessions, Indianapolis, IN, to be held November 12-16, 2005

- Reviewed 5 papers for American Medical Informatics Association Annual Symposium, to be held in Washington, DC, October 22-26, 2005.
- Reviewed 10 abstracts for the Eastern Nursing Research Society 17<sup>th</sup> Annual Scientific Sessions, New York, NY, held April 7-10, 2005
- Reviewed 6 abstracts for the NIH National State of the Science Congress in Nursing Research, Washington, DC., held October 7-8, 2004
- Reviewed 5 papers for 11<sup>th</sup> World Congress on Medical Informatics, San Francisco, CA, held September 7-11, 2004
- Reviewed 10 abstracts for the Eastern Nursing Research Society 16<sup>th</sup> Annual Scientific Sessions, Quincy, MA, held April 1-3, 2004

### **KEY ACCOMPLISHMENTS OF THE PROGRAM**

The following activities were accomplished in the sixth year:

1. Met monthly with core administrative team to plan and complete the work of the training program.
2. Monitored trainees' progress.
3. Evaluated course work within the School of Nursing doctoral program that included content related to breast cancer research for doctoral students with Yale School of Nursing and other schools within the University to sustain the program.
4. Implemented a long-term plan for recruiting applicants to the doctoral program, including minorities who are committed to studying women with breast cancer
5. Implemented a postdoctoral training program within the School of Nursing and secured funding from NINR for an institutional research training program in self and family management. Recruitment efforts for this program includes applicants who are interested in studying women with breast cancer.
6. Implemented mechanisms for collaboration among program faculty and potential other research and clinical faculty within the University.
7. Identified opportunities for funding trainee's research grants and facilitated submission of proposals to agencies and foundations.

### **REPORTABLE OUTCOMES OF THE PROGRAM**

The following outcomes were achieved:

1. In addition to the three program directors (McCorkle, Knobf, and DiGiovanni), we recruited Drs. Beth Jones, Elizabeth Bradley, Donald Lannin, and Nora Groce as core faculty in the research-training program.
2. The Connecticut State Department implemented a Cancer Planning grant funded by the Center for Disease Control. Dr. McCorkle continues to serve as a member of the Connecticut Cancer Partnership to implement the plan. The plan was developed in collaboration with the Yale Cancer Center, the University of Connecticut, the State Department of Health, the Connecticut Medical Society, and other key organizations throughout the state. Breast cancer was included as one of the major cancer sites that the state has identified to reduce the burden of cancer. Dr. Knobf was also recently appointed a member of the committee and serves as a program leader on the survivorship core. Dr. McCorkle serves as the program leader on the palliative and end of life core. The Cancer Plan was approved by the legislature and funding appropriated and signed by the governor for the 2006-2007 year
3. Dr. McCorkle serves as the co-chair of the American Cancer Society New England's Division Board Outcomes workgroup. This workgroup includes subgroups in breast cancer,

quality of life, exercise and nutrition. Drs. Knobf and Jones also serve as members and key collaborators from other institutions have been identified and are receptive to future research initiatives.

4. Dr. Knobf was re-appointed as an American Cancer Society Professor of Oncology Nursing by the New England Division. This is a very prestigious award and there is currently only one professor in the country.
6. Overall the trainees have been extremely productive and have met the requirements of the training program and expectations of the program directors. Eleven new breast cancer researchers have been funded by this training grant. The program has been sustained through an NIH, NINR T32 institutional training grant. Seven breast cancer research studies have been implemented with subsequent funding. Six trainees have received national awards, over 54 presentations have been presented, 45 publications have been published, and 12 grants have been awarded to the trainees. These program outcomes were presented at the DOD Era of Hope meeting in Philadelphia, PA in June, 2005 during the poster session. See Table 1 for list of trainees by year.

## **CONCLUSIONS**

Over the entire training program, six predoctoral and five post-doctoral trainees have been funded and have been extremely productive. Breast cancer content has been included in the curriculum of the doctoral program and will continue to be included after the training program has ended. The postdoctoral program has been established within the School of Nursing and included in the bulletin and the School's website. Additional funding through a T32 application has been secured through June, 2008 to fund both pre and post-doctoral trainees. Faculty across disciplines are collaborating and future initiatives are planned. These activities will enhance our ability to contribute to the knowledge base related to the care of women with breast cancer or women at risk to develop breast cancer.

**Table 1**  
**Pre and Post Doctoral Trainees by Years of Appointment and Research**

**Postdoctoral Trainees**

Donna Clemmens, PhD, RN – 2000-2002

Assistant Professor

New York University, Division of Nursing

*Adolescents' experiences of living with and communicating about their mothers' breast cancer*

Dena Schulman-Green, PhD – 2001-2003

Associate Research Scientist

Yale University School of Nursing

*Nurses' communication of prognosis and implications for hospice referral: A study of nurses caring for terminally ill hospitalized patients*

Amy Kenefick, PhD, APRN, BC – 2002-2003

Associate Professor

University of Connecticut School of Nursing

*Patterns of symptom distress in older women after treatment for breast cancer*

Regina S. Cunningham, PhD, RN, AOCN – 2003-2005

Chief Nursing Officer/Director of Ambulatory Services

The Cancer Institute of New Jersey

*Transition from treatment to survivorship: Development of an innovative information support intervention*

Sheryl LaCoursiere, PhD, RN - 2003-2006

NLM Post Doctoral Fellow

Yale University School of Medicine

*BCIIS: Breast Cancer Internet Information and Support Study*

**Predoctoral Trainees**

**Shiu-yu Lee, DNSc, BS, MSN - 2000-2002**

Assistant Professor

National Taipei College of Nursing, Taiwan

*Treatment decision-making for the primary treatment of early-stage breast cancer in Chinese American women*

**Pamela Potter, DNSc, BSN, MA, MSN – 2001-2003**

Post Doctoral Fellow

University of Washington

*Breast Biopsy and Distress: Testing a Reiki Intervention*

**Yiyuan Sun, RN, MSN – 2002-2004**

4th Year Doctoral Student

Yale University, School of Nursing

*Symptom disclosure by Asian women with breast symptoms*

**Shan Liu, MSN – 2003 - 2005**

2nd Year Doctoral Student

Yale University, School of Nursing

*Patterns of symptoms in women with cancer after surgery*

**Emily Haozous, RN, MSN, APRN, BC – 2004**

2nd Year Doctoral Student

Yale University, School of Nursing

*The pain experience in native Americans*

**Cindy O’Sullivan, MSN – 2004 – 2005**

1st Year Doctoral Student

Yale University, School of Nursing

*Quantifying nursing interventions to decrease complications and cost after cancer surgery*