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Interdisciplinary Breast Cancer Training Program

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Fort Detrick, Maryland 21702-5012

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The goal of the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program (IBCTP) is to educate and train predoctoral students in a multidisciplinary environment with a focus on breast cancer research. The aims are to 1) recruit predoctoral trainees to the Interdisciplinary Breast Cancer Training program; 2) assure that predoctoral trainees obtain a broad-based breast cancer education and carry out interdisciplinary breast cancer research; 3) administer this program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers. Our faculty is drawn from 11 departments/affiliations. Our training program is designed to prepare and motivate trainees to pursue careers in the fields of breast cancer causation, prevention, diagnosis, therapy and education. In academic year 2001-2002, we had 2 predoctoral students successfully complete their course work and laboratory rotations, and have recruited an additional 2 students for 2002-2003. The IBCTP hosted 6 outside scientists to present seminars on cancer related research and to talk to the predoctoral trainees. The interdisciplinary Breast Cancer Causation and Regulation course received a "very good" evaluation.
Table of Contents

Cover ..................................................................................................................1
SF 298 .............................................................................................................2
Table of Contents ............................................................................................3
Introduction ......................................................................................................4
Key Accomplishments ....................................................................................4
Reportable Outcomes .....................................................................................5
Appendices .....................................................................................................7
INTRODUCTION

The goal of the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program (IBCTP) is to educate and train predoctoral students in a multidisciplinary environment with a focus on breast cancer research. Our faculty is drawn from 11 departments/affiliations. The aims are to 1) recruit predoctoral trainees to the IBCTP; 2) assure that predoctoral trainees obtain a broad-based breast cancer education and carry out interdisciplinary breast cancer research; 3) administer this program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers. Our training program is designed to prepare and motivate trainees to pursue careers in the fields of breast cancer causation, prevention, diagnosis, therapy and education.

KEY ACCOMPLISHMENTS

Specific Aim 1) To recruit predoctoral students to UAB’s Department of Defense Interdisciplinary Breast Cancer Training Program (IBCTP).

Recruiting involves 1) mailings to universities and colleges in the U.S., 2) registration with the Graduate Record Exam Servicics (GRE) and Gradschool.com and 3) a UAB web site (http://main.uab.edu; click onto Graduate School; Programs of Study; Administration and Business; Basic Life and Biomedical Sciences; Breast Cancer Training Program). To students that inquire about the IBCTP, we send out letters, information about the IBCTP and UAB, and graduate school applications. Applications are reviewed by the admissions committee, and selected applicants offered the opportunity of visiting UAB for an interview.

For academic year 2001-2002, 5 applicants (from 37 completed applications) were interviewed and fellowships awarded to 2 students (Damon Bowe and Mubina Nasrin). They have successfully completed their first year of academic studies and lab rotations. Mr. Bowe has chosen to carry out his dissertation research with Dr. Jeffrey Kudlow (Endocrinology) on signal transduction and breast cancer. Dr. Nasrin has chosen to carry out her research with Dr. Coral Lamartiniere (Pharmacology and Toxicology). Her research will be concerned with genistein and paclitaxel combinational therapy of breast cancer. Both students are still being supported by the training grant.

For academic year 2002-2003, 4 applicants were interviewed (from 34 applications) and fellowships offered to 2 students (Timothy Whitsett and Hope Amm). Mr. Whitsett graduated from Yale University with a 3.59 GPA and Ms. Amm graduated from SaintMary’s College (Notre Dame) with a 3.38 GPA. Both have accepted and are enrolled.

Returning as third year breast cancer trainees are Ms. Chantelle Bennetto and Mr. Craig Rowell.
Interdisciplinary education is facilitated by faculty from 11 departments/programs in the form of specialty and core courses including, Breast Cancer Causation and Regulation, Biological Chemistry and Cellular Physiology, Pathophysiology and Pharmacology of Disease, Molecular Medicine and Functional Genomics, Principles of Toxicology, Breast Cancer Seminars, 3 laboratory rotations and electives. Interdisciplinary research is promoted via laboratory rotations, and require primary- and secondary-research foci. Students select their mentors in the second year and, in the third year they will identify dissertation committees that will reflect interdisciplinary research.

In addition to structured lectures, the IBCTP supports a breast cancer seminar series whereby we have experts in cancer causation and regulation come to our campus and provide seminars and meet with our students. This expands the education and training of our predoctoral trainees, and provides them with the opportunity of meeting future employers. This has received a most favorable response from students and faculty. The list of seminar speakers is provided in the Appendix.

Aim 3. To administer this institutional training program with sufficient oversight to insure high-quality education and training, efficient completion of degree requirements, and productive research careers.

The IBCTP Executive Committee oversees the interviewing and selection of prospective predoctoral students, the academic and research program, the progress of the trainees and the budget. The Executive Committee consist of representatives from 5 interdisciplinary research foci: Robert B. Diasio (Cancer Pharmacology), Thearase Strong (Gene Therapy), Clinton Grubbs (Chemoprevention), Francis Kern (Mechanisms of Growth Control), Charles N. Falany (Cancer Causation), plus one student trainee (Mr. Craig Rowell), and Dr. Coral A. Lamartiniere (Program Director). This is an ongoing process.

The appendix contains the lectures for the Breast Cancer Causation and Regulation course for 2000 and 2001. Changes in this course take into consideration the course evaluation by the students and course director. The course in 2000 received a “very good” evaluation.

**REPORTABLE OUTCOMES**

We do have 4 students enrolled in the IBCTP. Please see the Appendix for credentials.

Two students did attend the 2001 American Association for Cancer Research Meeting in New Orleans.

The IBCTP did host 6 seminar speakers. The list of speakers is provided in the Appendix.

After one year, there are no publications by the students.

The IBCTP hosted 6 seminar speakers. The list of speakers is provided in the Appendix.
APPENDIX

Student Credentials

IBCTP Seminar Speakers

2002 Breast Cancer Caustion and Regulation Lectures
<table>
<thead>
<tr>
<th>Student</th>
<th>Previous Degree Institution</th>
<th>Date of Entry</th>
<th>GPA</th>
<th>GRE Verbal</th>
<th>GRE Quantitative</th>
<th>GRE Analytical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Craig Rowell</td>
<td>BS (95) Lake Forest IL MS (00) UAB</td>
<td>2000</td>
<td>3.8</td>
<td>580</td>
<td>610</td>
<td>680</td>
</tr>
<tr>
<td>Chantelle Bennetto</td>
<td>BS (99) U. Saskatoon Canada</td>
<td>2000</td>
<td>4.0</td>
<td>510</td>
<td>660</td>
<td>710</td>
</tr>
<tr>
<td>Mubina Nasrin</td>
<td>MD (94) M.R. Medical College, India</td>
<td>2001</td>
<td>no GPA</td>
<td>690</td>
<td>650</td>
<td>670</td>
</tr>
<tr>
<td>Damon Bowe</td>
<td>BS (99) Bates College Maine</td>
<td>2001</td>
<td>3.5</td>
<td>590</td>
<td>580</td>
<td>710</td>
</tr>
<tr>
<td>Hope Amm</td>
<td>BS (02) Saint Mary's College</td>
<td>2002</td>
<td>3.38</td>
<td>550</td>
<td>640</td>
<td>490</td>
</tr>
<tr>
<td>Timothy Whitsett</td>
<td>BS (02) Yale University</td>
<td>2002</td>
<td>3.59</td>
<td>530</td>
<td>700</td>
<td>750</td>
</tr>
</tbody>
</table>
2001-2002 University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program Seminars

October 23, 2001
Anning Lin, Ph.D.
Ben May Institute for Cancer Research
University of Chicago
"TNF alpha signaling, interplay between IKK, JNK and caspases"

March 12, 2002
Leland Chung, Ph.D.
Biochemistry, and Hematology/Oncology
Emory University School of Medicine
"Biology and Targeting of Prostate Cancer Bone Metastasis"

April 02, 2002
Colin Jefcoate, Ph.D.
Department of Pharmacology
University of Wisconsin Medical School, Madison
"The Role of the Ah Receptor in Physiological and Toxicological Processes, Adipogenesis and Mammary Glands as Models"

April 23, 2002
Lewis A. Chodosh, M.D., Ph.D.
Departments of Cancer Biology and Cell & Developmental Biology
University of Pennsylvania School of Medicine
"Transgenic and Microarray Approaches to Mammal Development and Carcinogenesis"

April 29, 2002
Susan E. Waltz, Ph.D.
Pediatrics and
Children’s Hospital Research Foundation, Cincinnati
"In Vivo Functions for the Receptor Tyrosine Kinase Ron"

June 11, 2002
Andrei Khokhlatchev, Ph.D.
Department of Molecular Biology
Harvard Medical School
"Identification of a new Ras-regulated Pathway that Controls Apoptosis"
Breast Cancer Causation and Regulation
TOX 750
Fall 2002
Mondays and Wednesday, 3-5 pm in Volker Hall 108D
Course Director: Coral A. Lamartiniere
Volker Hall 124; 4-7139; Coral.Lamartiniere@ccc.uab.edu
Administrative Coordinator: Elizabeth Wilson Volker Hall 101C; 4-4579; Elizabeth.Wilson@ccc.uab.edu

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructor (Department)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed Sept 4</td>
<td>Overview of the Breast Cancer Problem</td>
<td>John Waterbor (Epi)</td>
</tr>
<tr>
<td>Mon Sept 9</td>
<td>Environmental Carcinogenesis</td>
<td>Coral Lamartiniere (Pharm/Tox)</td>
</tr>
<tr>
<td>Wed Sept 11</td>
<td>Primary Prevention</td>
<td>Mona Fouad (Preventive Medicine)</td>
</tr>
<tr>
<td>Mon Sept 16</td>
<td>Oncogenes and Suppressor Genes?</td>
<td>Mike Ruppert (Medicine)</td>
</tr>
<tr>
<td>Wed Sept 18*</td>
<td>Estrogens and Breast Cancer</td>
<td>Deodutta Roy (Env Hlt Sci)</td>
</tr>
<tr>
<td>Mon Sept 23</td>
<td>Exam</td>
<td></td>
</tr>
<tr>
<td>Wed Sept 25</td>
<td>Animal Models in Breast Cancer</td>
<td>Clinton Grubbs (Chemoprevention)</td>
</tr>
<tr>
<td>Mon Sept 30</td>
<td>Nuclear Receptors as Targets for Novel Small Molecule Therapeutics</td>
<td>Donald Muccio (Chemistry)</td>
</tr>
<tr>
<td>Wed Oct 2</td>
<td>Steroid Hormone Action in the Breast</td>
<td>Stephen Barnes (Pharm/Tox)</td>
</tr>
<tr>
<td>Mon Oct 7</td>
<td>Signal Transduction and Breast Cancer</td>
<td>Jeffrey Kudlow (Endocrinology)</td>
</tr>
<tr>
<td>Wed Oct 9</td>
<td>Mathematical Modeling of Cancer</td>
<td>Seng-Jaw Soong and Lynya Talley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Biostatistics)</td>
</tr>
<tr>
<td>Mon Oct 14</td>
<td>Exam</td>
<td></td>
</tr>
<tr>
<td>Wed Oct 16</td>
<td>Targeted Immunotherapy</td>
<td>Denise Shaw (Medicine)</td>
</tr>
<tr>
<td>Mon Oct 21</td>
<td>Gene Therapy</td>
<td>Theresa Strong (Gene Therapy)</td>
</tr>
<tr>
<td>Wed Oct 23</td>
<td>Pathology of Breast Cancer</td>
<td>Andra Frost (Pathology)</td>
</tr>
<tr>
<td>Mon Oct 28</td>
<td>Cancer Pharmacology</td>
<td>Robert Diasio (Pharm/Tox)</td>
</tr>
<tr>
<td>Wed Oct 30</td>
<td>Breast Cancer Metastasis</td>
<td>Joanne Douglas (Pathology)</td>
</tr>
<tr>
<td>Mon Nov 4</td>
<td>Exam</td>
<td></td>
</tr>
</tbody>
</table>

* 3:10-3:15 lecture because Dr. Roy has another lecture terminating at 3:00.