

Innovation to Impact:

The Translation of Scientific Research into Societal Benefit

(Spring 2017)

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Credit: 1.5 credit hours

Meetings: Wednesdays, 3:35 to 6:35 pm

Location: Genome Sciences Building (GSB) 1373

Description

Most scientific research takes place in major academic universities. The knowledge, discoveries, and innovations emanating from breakthrough research are typically disseminated through publications, posters, and presentations as well as the education of the next generation of students who enter the academe. The impact of this information is typically on faculty and students, increasing knowledge in the field and opening up new areas of research. More recently, universities, government funding agencies, and society in general are turning to universities to apply their research to solve significant societal problems: cures for disease, better drinking water, safer food, etc. As such, additional avenues of “translation” are developing to increase the impact of these innovations. Translation can take place through thought leadership, public policy, and programs. It can also happen through commercialization of the innovation into products and services. This course provides an understanding of the value of translating science as well processes involved in translation.

Learning Objectives

- Understand the difference and identify examples of basic, applied, and translational research
- Understand the many channels through which translation occurs
- Be exposed to a variety of examples of translation:
 - Dissemination of information through thought leadership
 - Impact of research on public policy, legislation and regulations
 - Development of programs adopted by non-profits and NGO's
 - Licensing of inventions to established companies for development
 - Startups commercializing university research
- Develop a new perspective for academic research that will better inform the students' graduate research and career choices.

Course Delivery

The course will consist of lectures, faculty speakers, guest speakers, and student team project work (see project description below).

Grading

Students will be graded according to the following:

Case Study Presentation (25%)

Each student will choose a university innovation from Endeavors (<http://endeavors.unc.edu/>) that has had some impact on society. Report to the class the following:

- What is the innovation?
- What channel was involved in the translation process?
- What problem did the innovation address?
- What impact did or could the innovation have?

Team Projects (50%)

Student teams will research an innovation from one of the area universities. The project will involve the following:

- Identify university research that has been translated into some form of identifiable impact (thought leadership, policy, program, products, services).
- Interview the faculty responsible for the research
- Interview key people involved in the translation process
- Interview the recipient of the translated research (customer, patient, etc.)

Chronicle the role each played in the translation process as well as the steps involved. Emphasis will be placed on the challenges encountered during the process, steps taken to overcome those challenges and the measurable impact on society.

The project deliverable will be a class presentation along with a written report.

Class Participation (25%)

Syllabus

Class Meeting	Topic	Notes and Readings
1 Jan 11	Course Introduction Team Assignments Translation through thought leadership Guest Speakers: <ul style="list-style-type: none">• Alice S. Ammerman DrPH <i>Director, Center for Health Promotion and Disease Prevention Professor, Department of Nutrition Gillings School of Global Public Health and School of Medicine</i>	

	<ul style="list-style-type: none"> • Kevin Guskewicz <i>Dean of the College of Arts and Sciences. He is also a Kenan Distinguished Professor and Co-Director of the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Center</i> 	
2 Jan 18	<p>Translation through Programs</p> <ul style="list-style-type: none"> • Public health • Pharmacy • Education <p>Guest Speakers:</p> <ul style="list-style-type: none"> • Kurt M. Ribisl <i>Professor, Department of Health Behavior</i> • David Harkey <i>Director, UNC Highway Safety Research Center</i> 	
3 Jan 25	<p>Translation through Public Policy</p> <p>Guest Speakers:</p> <ul style="list-style-type: none"> • Mary Ann Feldman <i>Heninger Distinguished Professor in the Department of Public Policy</i> • James Hunter <i>Legislative Director, U.S. Representative David Price</i> 	
4 Feb 1	Case Study Presentations	
5 Feb 8	<p>Introduction to Technology Commercialization</p> <ul style="list-style-type: none"> • Identifying the opportunity • Protecting the idea • Commercialization pathways <p>Guest Speakers:</p> <ul style="list-style-type: none"> • Don Rose <i>Director, KickStart Venture Services, Office of Commercialization and Economic Development, UNC</i> • Patent Attorney 	
6 Feb 15	<p>Commercialization through Startups and Established Companies</p> <p>Guest Speakers:</p> <ul style="list-style-type: none"> • Bryant Moore <i>Director, Strategic Partnerships, Office of Commercialization and Economic Development, UNC</i> • Kevin Bowles <i>CEO, Pulvinar Neuro and Blackstone Entrepreneur-in-Residence</i> 	
7 Feb 22	Project Presentations	