Timothy Hickey
  Computer Science

  Affiliations
      Film, Television and Interactive Media
      Volen National Center for Complex Systems

Instructional Activities

Term	Course Number	Course Description	Enrollment
Summer 2015	COSI 154AJ 1	JBS INCUBATOR	17
Summer 2015	COSI 293G 2	MASTERS RESEARCH INTERNSHIP	1
Summer 2015	COSI 152AJ 1	WEB APPLICATION DEVELOPMENT	17
Summer 2015	COSI 393G 5	GRADUATE RESEARCH INTERNSHIP	1
Fall 2015	TYP 6A 1	TYP: COMPUTER SCIENCE	20
Fall 2015	COSI 400D 1	DISSERTATION RESEARCH	3
Fall 2015	COSI 293G 6	MASTERS RESEARCH INTERNSHIP	1
Fall 2015	EL 94A 2	EXPERIENTIAL LEARNING PRACTICM	58
Fall 2015	COSI 155B 1	COMPUTER GRAPHICS	41
Fall 2015	COSI 98A 1	INDEPENDENT STUDY	14
Fall 2015	COSI 210A 1	INDEPENDENT STUDY	4
Spring 2016	COSI 400D 1	DISSERTATION RESEARCH	3

Teaching innovations:

I experimented with adding live streaming to my CS155b class in the Fall and we will be submitting a paper about the class to the Frontiers in Education 2016 Conference.

In the Fall, I worked with Antonella DiLillo on a Teaching Innovation grant whose goal is improve the diversity of the students who complete the intro course. We are giving a presentation to the Board of Trustees Academic Affairs committee about the results. One of the innovations we explored was a passive assessment system based on an online homework system. We demonstrated that this passive assessment can be used to predict at risk students in real time. We will be submitting another Teaching Innovation grant based on the lessons we learned from this year.

I am also leading an effort to submit an NSF INCLUDES grant to increase the diversity of first year CS courses at a dozen New England colleges and universities.

My PhD students Fatima is currently building an online software tool that I can use for passive assessment in the Intro to Python programming class I will teach next Spring (2017).

Reading courses, theses, dissertations, research projects (undergraduate and graduate):

I have 3 PhD students who are making excellent progress toward their degree and just admitted a fourth (from the MA program).

William Tarimo will graduate this summer (2016) with a dissertation on Computer Supported Agile Teaching.
Fatima Abu Deeb will graduate in Dec 2017 and is working on the Spinoza project.
Kristian Kime is working on the CalcTutor project.

Xioadong Qu will be working on unbiquitous, passive Brain Computer interfaces

I've also been the advisor of a Schiff Fellow, Daniela DImitrova, who is doing an interesting project on constructing virtual museums accessible via Oculus Rift virtual reality devices and we are working on submitting a paper based on her work to an appropriate journal.

I've been the advisor for several independent studies in the Fall including
* SpeechNInja and project with a BU professor Cara Stepp to develop a 3d game for speech therapy.
* DiscoverDeis - a Brandeis Navigation app which won a Spark Award this Spring
* FashionSnapp - a social fashion app which won a Spark Award last year.
* AppleWatch Design - a project to learn the architecture of the Apple Watch by building a workout app
* Brain Computer Interface - a project to learn how to record and analyze brain wave with simple EEG reader

Advising and Mentoring (undergraduate advisees, graduate advisees, teaching fellows, other interactions, office hours):

      Undergraduate Students: 70   **Graduate Students:**   4

I had rotating office hours which changed each week so that no one was shut out.

Scholarship

Conference Proceedings

Abu Deeb, Fatima and Hickey, Timothy J. <u>The Spinoza Code Tutor.</u>. Proc. of Consortium for Computing Sciences in Colleges — Northeastern Region (CCSCNE15). Worcester, MA: ACM, 2015.

Hickey, Timothy J and Abu Deeb, Fatima. <u>Spinoza: the Code Tutor</u>. Proc. of International Conference on Computer and Information Science and Technology, CIST15. Ottawa, CA: International Academy of Science, Engineering, and Technology (ASET), 2015.

Tarimo, William; Abu Deeb, Fatima; and Hickey, Timothy J. <u>Computers in the CS1 Classroom.</u>. Proc. of 7th International Conference of Computer Supported Education. Lisbon, Portugal: SCITEPRESS, 2015.

Hickey, Timothy J and Tarimo, Willian. <u>Adopting a "Flipped" Interactive Pedagogy Using Teachback</u>. Proc. of Consortium for Computing Sciences in Colleges — Northeastern Region (CCSCNE15). Worcester, MA: ACM, 2015.

Journal Article(s)

Hannah Goldberg, Yile Sun, Timothy J. Hickey, Barbara Shinn-Cunningham, and Robert Sekuler.. "Policing Fish at Boston's Museum of Science: Studying Audiovisual Interaction in the Wild." <u>i-Perceptions</u> 6. 3 (2016): 1-11.

Forthcoming

Timothy J. Hickey and Jason K. Pontrello. "Building Bridges Between Science Courses Using Honors Organic Chemistry Projects." <u>The Journal of College Science Teaching</u> (2016). (forthcoming)

William T Tarimo, Fatima Abu Deeb, and Timothy J. Hickey. "A Flipped Classroom With and Without Computers." <u>Computer Supported Education, CCIS</u> 583. (2016). (forthcoming)

William T. Tarimo, Fatima Abu Deeb, Timothy J. Hickey. "Early Detection of At-risk Students in CS1 Using Teachback/Spinoza." CCSCNE'16, Hamilton College, Clinton, NY. 4/29/2016. (forthcoming)

Ongoing Work
I've had two abstracts to FIE16 approved and will be submitting full versions of these papers in April. One is on Markov Models for Visualizing Learning within and between classes. The other is a paper describing the effect of adding livestreaming to an active learning classroom.

I am working with Professor Bob Sekuler on a Provost's Research Grant to develop Game-based methods for studying the interaction between auditory and visual processing. We have run three experiments this year and are analyzing the results.

Service

Arts and Sciences

From: 09/2015   Through:08/2016   Member

Other

  Experiential Learning Advisory Committee

From: 09/2014   Through: 08/2016   Member

Other

   MKTYP Advisory Committee

From: 09/2014   Through: 08/2016   Member

Undergraduate Curriculum Committee (UCC)

Department Activity

From: 09/2014   Through: 08/2015   Member

Curriculum Committee

From: 09/2013   Through: 08/2015   Director

Other

   Director of the MA in Computer Science and IT Entrepreneurship program

From: 09/2013   Through: 08/2015   Member

Other

   Graduate Admissions Committee

From: 09/2014   Through: 08/2015   Director

Undergraduate Advising Head

University Activity

From: 08/2013   Through: 08/2017   Chair

The Committee on Faculty Rights and Responsibilities

From: 09/2014   Through: 05/2016   Chair

Other

   SOTL Faculty Learning Community

From: 09/2014   Through: 08/2016   Member

Other

   Center for Teaching and Learning Advisory Committee

Other Service
I was one of the main organizers of the Computer Science Jobs Fair which attracted about
40 companies (and more than half were represented by Brandeis alumni) and around 150
students. This involved quite a bit of personal emails to Brandeis CS alums but it was

successful!

I also represented the department at the Academic Fair in the Fall.

I have been running the Teaching and Learning Seminar which meets weekly to discuss recent
work on effective pedagogy.

I organized the Brandeis site for the ACM Programming Contest in Oct 15 and the Boston
Algorithm Festival in Spr 2016

I served on the IIM review committee (as a rep from UCC)

Grant Activity

Grant Proposals

Grant Awards

I've organized faculty from a dozen colleges and universities and plan to submit an NSF
INCLUDES grant this Spring.
I'm also working on submitting a S-STEM and ITEST grant. All of these support broadening
participation in STEM.

Honors and Awards

Title	From	Thru

Intellectual Property

Intellectual Propery
  None

Professional Activities Outside the University

**Professional activities (delegate, invited presenter, organizer, moderator, etc. at
academic conferences, lectures, speeches and presentations) given outside the university.**

**Editorial work, reviews of publications, and membership on selection committees for
national fellowship and grant programs**
  I served as a reviewer for the ACM Journal ... Transactions on Mathematical Software

Society memberships
  Association of Computing Machinery member

Work Outside the University

Courses taught at other institutions.

Employment and/or consultant arrangements

**Management of fiduciary activities in which you have a role as an officer, director,
trustee, supervisor, or founder with respect to any corporation, organization, or group**

Intellectual property which has been developed by you outside of Brandeis University

Other

Additional Comments