CIT Annual Report 2010–2011

The Center for Instructional Technology supports academic excellence at Duke University by promoting innovation in teaching and learning.

CIT staff support the teaching and learning needs of individual faculty, academic programs, departments and schools. To advance Duke's mission and strategic goals, CIT collaborates with librarians, technologists, administrators and many other staff across all of Duke's schools and units on short-term projects and long-range initiatives.

Our Areas of Focus 2010–2011

Supporting teaching effectiveness and innovation

Providing direct support and information about best practices to departments, programs and faculty

- Improving teaching effectiveness by helping faculty select tools and strategies to achieve their goals
- Consulting with programs and schools on broader instructional and academic program planning challenges
- Supporting 46 Faculty Fellows through programs in team-based learning (Physical Therapy), active learning (Biology), evaluating new approaches to teaching research and writing (Thompson Writing Program), and online education (Nursing)

Exploring new technologies

Focusing on mobile, networked, and collaborative devices and tools

- Initiatives in iPads, eBooks and classroom polling
- Investigating open-access educational resources
- Researching and sharing information on emerging technologies and standards, such as QR codes
- Early explorations of 3D video technologies

Building Duke's elearning infrastructure

Providing campus leadership in academic technology

- Planning Duke's eLearning Roadmap and the path from Blackboard to Sakai
- Transitioning WordPress web publishing software to a widely used course tool

Advancing Duke's strategic initiatives

Globalization, interdisciplinarity, and knowledge in service to society

- Planning for Duke in China and other global Duke programs
- Supporting Duke Global Health Institute, DukeEngage, and other strategic academic priorities

Contributing to the conversation at Duke and beyond about teaching and technology

Promoting exemplary teaching practices and innovative and effective uses of technology at Duke and beyond

- Publishing a new WordPress-driven CIT web site, including faculty-authored posts
- Providing an enhanced online monthly newsletter to over 1700 subscribers
- Sponsoring the CIT Annual Showcase and nearly 100 other teaching events attended by over 1000 faculty, students and staff from Duke and other institutions

DUKE UNIVERSITY LIBRARIES

DUKE CIT CENTER FOR INSTRUCTIONAL TECHNOLOGY
Leadership in Teaching with Technology

Supporting Teaching Effectiveness and Innovation

In 2010–11, CIT staff worked on over 1700 inquiries, requests, consultations and projects with over 750 faculty, staff and students from Duke and beyond (figure 1). CIT provided assistance on a wide range of topics (see box below); offered office visits; assisted in the design and assessment of learning activities and student projects; led custom workshops and training sessions for faculty and graduate students; and helped design course activities, web sites and other course materials.

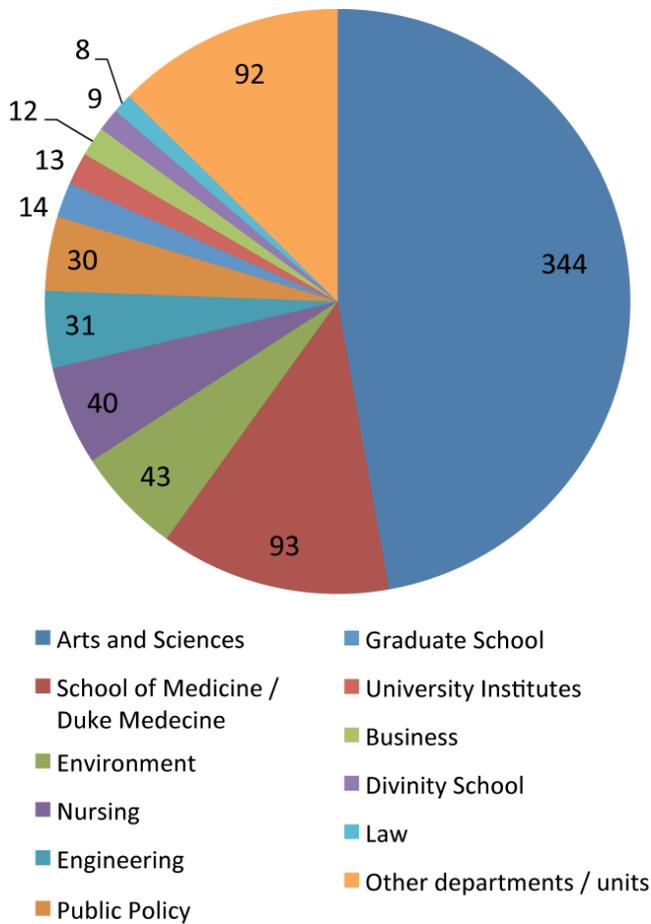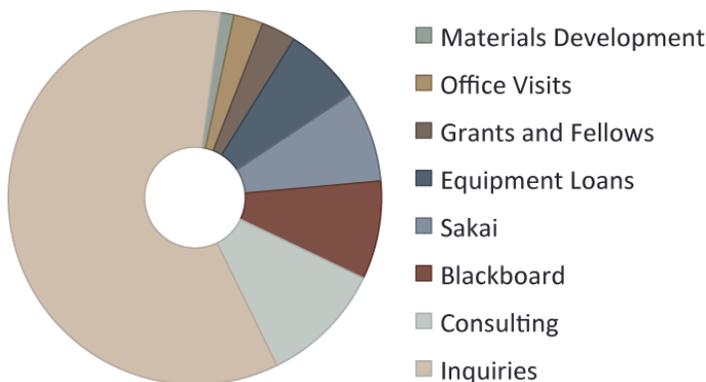**Figure 1. Affiliation of CIT's contacts, 2010–2011**

- Arts and Sciences
- Graduate School
- School of Medicine / Duke Medecine
- University Institutes
- Business
- Environment
- Divinity School
- Nursing
- Law
- Engineering
- Other departments / units
- Public Policy

Figure 2. CIT projects by type, 2010–2011

- Materials Development
- Office Visits
- Grants and Fellows
- Equipment Loans
- Sakai
- Blackboard
- Consulting
- Inquiries

Sample Consulting Questions From 2010 –11

"My students will be using Flip Cameras to reflect on their community work, to interview local citizens, and to create digital stories about their experiences. What's the best way for them to share these videos so other students in the class can comment on their work?"

"I want to convert some PowerPoint lectures into web presentations so that I can use the class time to work on problem sets."

"I and my students would like to create a Google map of monuments we are studying and the stories people have about them. We also need help using Google Earth and need advice on which GPS devices we should buy."

"How can we set up a blog for our course that combines public and private content? We also need to post short video clips in our posts."

"I'm interested in podcasting about various areas of research and scholarship and sharing those with my students as well. I need help with choosing a recording method as well as editing and publishing."

"I'm creating a new course which would use archival video clips from the web during and outside of class time. I may need to embed video into PowerPoint or into my course site. How can I download these videos and convert them into the format I need?"

"I'd like to brainstorm with you about how iPads might be useful for student e-reading and peer commenting and editing on papers."

CIT Faculty Fellows

CIT's signature program for supporting teaching effectiveness and faculty innovation is our Faculty Fellows Program. The Faculty Fellows program provides sustained support over a semester or full year for a group of at least four faculty working together to implement a curricular change in a program or department, infusing instructional technologies into the curriculum to improve teaching and learning. In 2010 –11, 46 faculty from three of Duke's schools participated in the four programs outlined below, representing the largest cohort so far of active Fellows since CIT's founding in 1999.

Teaching Research with Writing
(Spring 2011)

A semester-long Fellowship offered jointly by CIT and the Thompson Writing Program (TWP) supported faculty in developing and evaluating new approaches to teaching research and writing to undergraduates in their disciplines. Fellows met monthly to discuss problems and strategies for more effective teaching of research together with and by means of writing. Topics included setting student learning goals and increasing student engagement, technologies useful for community engagement writing projects, and writing assignments that integrate research into a class. Fellows developed syllabus revisions, rubrics and other materials for use in organizing activities in their courses.

Participants

Jennifer Ahern-Dodson, Instructor, Thompson Writing Program (*Faculty program lead*)

Kathleen Antonioli, Graduate Student, Romance Studies

Jonathan Dueck, Lecturing Fellow, TWP

Mike Ennis, Lecturing Fellow, TWP

Courtney Fitzpatrick, Graduate Student, Biology

Joseph Grieco, Professor, Political Science

Bruce Hall, Faculty, History/AAAS

Kieran Healy, Associate Professor, Sociology/Kenan Institute

Danielle Kane, Lecturing Fellow, TWP

Nan Mulleneux, Lecturing Fellow, TWP

Deborah Reisinger, Lecturer, Romance Studies

Ami Shah, Lecturing Fellow, TWP

Karin Shapiro, Visiting Associate Professor, History

Best Practices in Teaching Online Classes
(2010 – 2011)

Eight faculty members at the Duke School of Nursing (DUSON) worked with CIT staff over the academic year to define and develop "Best Practices" in both technology and pedagogy to be used for teaching online and mentoring faculty about online education. Faculty explored social bookmarking tools, collaborative writing techniques and tools, rubrics and online course design guidelines. Ultimately, Fellows will produce an "Online teaching orientation guide" for faculty in Nursing and other Duke schools.

Participants

Jane Blood-Siegfried, Associate Clinical Professor

Sharon Hawks, Assistant Clinical Professor

Brenda Nevidjon, Clinical Professor

Beth Phillips, Assistant Clinical Professor

Nancy Short, Associate Clinical Professor

Terry Valiga, Clinical Professor

Allison Vorderstrasse, Assistant Professor

Kathy Wood, Assistant Professor

CIT Faculty Fellows (continued)

Scientific Teaching — Biology Fellows
(2009–2011)

To inspire a passion for biology in their students, faculty revising the introductory sequence of biology courses are exploring ways to teach in a more student-centered way, incorporating active learning and encouraging higher order thinking skills. After a "Scientific Teaching bootcamp," faculty focused on creating higher-order learning outcomes for three revised classes and redesigning classes to emphasize active learning techniques. Ultimately, the redesigned course sequence included a new lab sequence aligned with the class-level learning objectives, active problem solving, interactive classroom polling technology, and more frequent two-way feedback about students' learning progress through weekly quizzes.

Participants

Emily Bernhardt, Associate Professor

Nicholas Buchler, Assistant Professor

Kathleen Donohue, Associate Professor

Steve Haase, Associate Professor

Alison Hill, Lecturer

Dan Kiehart, Professor and Chair

Bill Morris, Professor

Julie Noor, Lecturer

Mohamed Noor, Professor and Associate Chair

Mark Rausher, Professor

Chantal Reid, Assistant Professor of the Practice

Julie Reynolds, Assistant Professor of the Practice and Associate Director of Undergraduate Studies

John Willis, Professor

Will Wilson, Associate Professor

Greg Wray, Professor

Justin Wright, Assistant Professor

Student Team Experience in Practice (STEP) Fellowship
(December 2009 – December 2010)

Seven faculty from The Doctor of Physical Therapy program (DPT) in the School of Medicine worked with other classroom faculty and 20 clinical adjunct faculty to apply a Team-Based Learning approach called "Student Team Experience in Practice (STEP)" to the six courses that would comprise the first and second years of the clinical education component. Through their Fellowship, these faculty gained knowledge in teaching methodology, pedagogical theory and assessment strategies for effective, Team-Based Learning activities, built Clinical Performance Rubrics, and developed guidelines to create standard learning modules.

Participants

Kyle Covington, PT, DPT, NCS, Assistant Professor

Corrie Odom, PT, DPT, Assistant Professor

Jan Gwyer, PT, PhD, Professor

Carol Figuers, PT, EdD, Associate Professor

Elizabeth Ross, PT, DPT, Assistant Consulting Professor

Jennifer Moody, PT, DPT, Clinical Associate

Daniel Erb, PT, PhD, Associate Professor

"The CIT Faculty Fellowship has been a valuable opportunity for our faculty to work together to implement a large curricular change with input from experts across campus and our profession. This program has aided our ability to think and act broadly as we have formed an innovative and integrative curricular sequence for our doctoral students."

— Dr. Kyle Covington, DPT fellowship leader

Exploring New Technologies

Focusing on mobile, networked, and collaborative devices and tools

CIT provides opportunities for faculty to explore new technologies in their teaching. In 2010–11, iPads were an intensive focus of interest and exploration.

Exploring the possibilities of iPads for teaching

CIT-purchased devices augmented Duke Digital Initiative equipment in support of course and individual exploration and use by faculty and students. CIT provided consulting, training and support for exploration of these mobile networked multimedia touch-screen devices within and beyond the classroom. Over 100 faculty benefitted from CIT's iPad exploration program. Meghan Kennedy, who joined CIT's staff in 2010 as consultant to the languages, took up the role of coordinating CIT's iPad faculty exploration program. She led monthly iPad user group meetings and published ideas about promising iPad applications and course projects at Duke via CIT's blog. Some of the many iPad uses in teaching explored by faculty at Duke in 2010–2011 included:
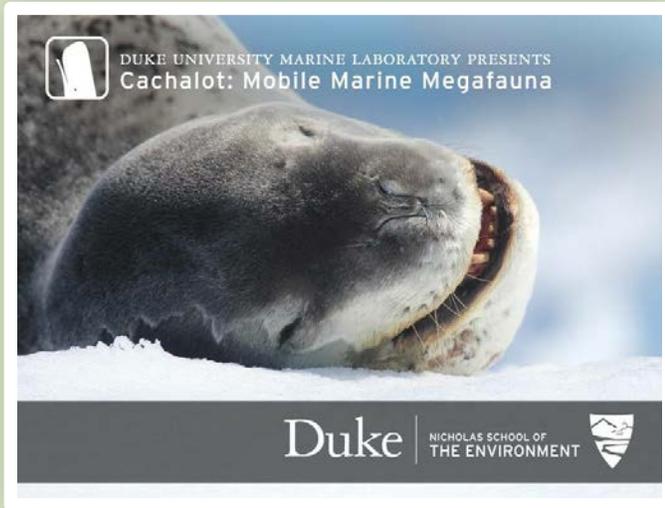
eBooks and eReaders gain momentum

The 2010 Horizon Report predicted a 2–3 year timeline for the widespread adoption of eBooks in higher education. CIT's eBook/eTextbook working group convened in Fall 2010 to:

- Review findings from pilot programs at Duke and other campuses with Kindles, Nooks and other eReaders
- Monitor diverging and emerging standards for formats and devices for delivering electronic text
- Investigate existing and emerging vendor sources for devices and content of interest to Duke faculty and students

Librarian and Head of Collection Development Aisha Harvey talks about new directions for eBooks at the annual CIT showcase

- Investigating the **iPad's impact on student's reading and writing practices**[1]

- Creating, viewing and annotating multimedia resources, such as maps and videos, and social media content

- Exploring the potential of sketching and stylus use and testing applications for annotation, peer feedback, and grading assignments

- **Editing and annotating documents**[2] within and outside of class time

- Exploring iPad applications in discipline-specific context, such as interdisciplinary **field research**[3] or in **music education**[4]

- Displaying video and audio content and projects created by students

- E-reader use for text-based course materials

1. http://cit.duke.edu/2011/06/ereading-pilot-project-the-ipad-and-reading-and-writing-practices/
2. http://cit.duke.edu/2011/01/using-the-ipad-to-edit-and-annotate-documents/
3. http://cit.duke.edu/2011/03/ipadread/
4. http://cit.duke.edu/2010/09/the-ipad-in-music-education/

Interdisciplinary collaboration to develop mobile apps

Dave Johnston (*Duke Marine Lab*) collaborated with students in Richard Lucic and Robert Duvall's Computer Science course, "Mobile Apps: From Concept to Client" to create a digital open access textbook for Johnston's Marine Megafauna course (Bio 127) using compelling multimedia from the Duke Marine Lab. Johnston's Marine Megafauna digital textbook project (*see image, left*) represented an ideal opportunity for interdisciplinary collaboration with computer science students seeking clients for their development projects. The final product is a digital textbook and app for the Apple mobile iOS which has been made freely available for science education through the iTunes store.

Crowdsourcing ethnographic field research

Students in Jonathan Dueck's writing course experimented with iPads for recording ethnographic observational data. At sporting events, students tested ways that different applications might enhance their observations. First, they compared the effectiveness of using Mental Note for capturing rich multimedia observations (audio, photos, videos, and sketches) with traditional paper-recorded observations taken by students in another section of the same course. In this case, the technology was more of a barrier than an enhancement, making sharing easier but not enhancing the quality of observations. At another game, Dueck "followed" students on Twitter ahead of time, capturing their observations along a particular theme during the game. This experiment was more successful, resulting in high quality real-time observations (by aggregating across the students); the instructor also reported that the activity significantly enhanced subsequent class discussion and student understanding of key concepts.

Building Duke's eLearning Infrastructure

CIT fosters collaboration and connection in technology planning for University projects and strategic initiatives. In 2010-2011, staff from CIT took leading roles a number of IT initiatives and provided support to many others. CIT staff have participated in short and long range planning committees in a wide range of roles and have supported faculty participation in pilots of enterprise technologies such as Panopto and Qualtrics. In the coming year, CIT will be heavily involved in a number of projects with a significant emphasis on supporting the transition away from Blackboard to Sakai.

Contributions to planning and building Duke's elearning infrastructre

- Duke eLearning Roadmap group (*Campbell, O'Brien, Caidin*)

- Sakai project sponsors group (*O'Brien*)

- Sakai pilot / implementation team (*Campbell, Caidin, Miller, Belanger*)

- Multimedia Project Studio planning group (*Hendrix*)

- Duke University Medical Center Library Web Advisory Committee (*Zhou*)

- Duke Libraries Video Streaming Services planning group (*Riddle*)

- Duke WordPress Team (*Miller*)

- Working with faculty in testing and deploying lecture and event recording technologies, such as Panopto, which is currently being deployed across the Duke campus (*see **Case Study**, right*)

Let CIT help you stay informed about the latest research, useful ideas and tools available at Duke

Subscribe to our monthly e-newsletter for upcoming event information, funding opportunities and highlights from our faculty projects — including monthly guest posts by Duke faculty

Visit the CIT web site to see our complete calendar of events, request a personal consultation, browse examples of innovative teaching at Duke, and to get ideas for enhancing your course

http://cit.duke.edu/

Case Study: Promoting active learning and student engagement with classroom capture

The School of Medicine's Clinical Research Training Program (CRTP) uses classroom capture to support their multi-site graduate program. CRTP recorded over 200 sessions in 17 courses using Panopto's classroom-based lecture capture system in Fall 2010. These recordings enable students to review or catch up on missed class sessions. These live class recordings are then embedded in Blackboard along with readings, SAS output, and other digital course materials. CIT also supported CRTP's faculty in using Panopto Mobile to record material for students to review before coming to class so that more class time could be used for discussion, problem sets, case studies, or small group work.

CRTP's students use Panopto to review difficult content or prepare in advance for classroom discussions

Full case study: http://cit.duke.edu/2011/03/ lecture-capture-in-the-clinical-research-training-program

Advancing Duke's Strategic Initiatives

Over the past year, CIT staff have been involved in planning and implementing many of Duke's signature programs and strategic initiatives.

Contributions toward Duke's Strategic Initiatives

- Service on University-level planning committees and task forces
  - Library liaison to School assessment representatives committee (*Belanger*)
  - Global Duke Academic Technology Support Team (*Novicki*)
- Service on Duke Library committees and task forces
  - Duke strategic initiatives library working groups in Globalization (*Zhou*), Interdisciplinarity (*Novicki*) and China campus planning (*O'Brien*)
  - Duke Libraries Video Streaming Services planning group (*Riddle*)
  - Duke Libraries Global Services planning group (*Riddle*)

Areas of focus for 2011 – 2012

- Ensuring a successful transition away from Blackboard, including supporting users migrating to Sakai in Fall 2011
- Promoting active learning and other effective teaching strategies through consulting, grants and faculty development opportunities
- Exploring new technologies with a focus on mobile networked multimedia and collaboration through the Duke Digital Initiative
- Investigating the potential of open educational resources and mobile technologies through a targeted iPad course loaner program
- Working with faculty to use WordPress to support course web sites and student projects

Examples of CIT consulting in support of Duke's strategic priorities

- Working with Jen'nan Read's Global Health field research methods students to manage the setup and distribution of iPads, develop a set of exercises to test the iPad's effectiveness for fieldwork, and collect and assess the project's outcomes
- Advising Duke Global Health in defining elearning and LMS tool requirements for the Kilimanjaro Christian Medical Centre project
- Supporting staff from Duke's Haiti Lab as they develop a "Haiti Digital Library" portal
- Helping Duke Global Health combine different tools to create a student-friendly web site for its "One Health" course with combined enrollment from Duke, UNC and NC State
- Supporting DukeEngage in its project at the Spring Creek Literacy Project in Madison County, NC, including planning for eportfolio and multimedia needs
- In collaboration with librarians, supporting the interdisciplinary Borderworks Lab through consulting on technologies including digital mapping and multimedia

Students in Jen'nan Read's Global Health course used iPads in a project co-sponsored by CIT and the Duke Global Health Institute

Contributing to the Conversation at Duke and Beyond About Teaching and Technology

Through presentations, publications, teaching and professional service, CIT stays actively engaged with and contributes to the broader higher education community. Our staff bring this knowledge of best practices, trends and innovative ideas to their daily interactions with the Duke community.

Teaching in Duke courses

- GS301, **College teaching and visual communication** and GS305, **College teaching practicum** (*Crumley*)
- CRP254, **Research Management**, "Working with Technology for Collaboration and Presentation" (*Belanger, Novicki*)

Professional Service

- Grant Reviewer, Bill & Melinda Gates Foundation, Next Generation Learning Challenge (*L. O'Brien*)
- Grant Reviewer, Institute for Museum and Library Services (*Y. Belanger*)

Publications, Conference Presentations and Invited Talks

New Models for Learning – In and Out of the Classroom. Invited presentation. The Reinvention Center National Conference, Washington, DC, Nov. 13, 2010. (*L. O'Brien*)

A Market Research Approach to Faculty Development in IT. Presentation. Educause 2010 Annual Conference, Anaheim, CA, Oct. 14, 2010. (*L. O'Brien with John Fritz, Assistant VP, Instructional Technology & New Media, UMBC*)

Know Thy User: The Duke Libraries User Studies Initiative. Paper presentation. 2010 Library Assessment Conference, Building Effective, Sustainable, Practical Assessment, Baltimore, MD, Oct. 24–27, 2010 Paper forthcoming in published proceedings. (*Y. Belanger with Duke Librarians Diane Harvey, Emily Daly, & Linda Daniel*).

Seize the day: Launching library assessment in alignment with strategic planning. Poster presentation. 2010 Library Assessment Conference, Baltimore, MD. (*Y. Belanger*)

The E-Learning Roadmap: Making Strategic Decisions in a Complex Ecosystem. Presentation at Educause Learning Initiative annual conference, Washington, D.C., Feb 14–17, 2011. (*A. Campbell with Samantha Earp, OIT and Ed Gomes, A&S*)

Deploying iPads as Exploratory Learning Devices. Presentation at Educause Learning Initiative annual conference, Washington, D.C., Feb 14–17, 2011 and at ConnectEd Summit, Abilene Christian University, Abilene, TX, Feb 28–Mar 1, 2011 (*A. Campbell, H. Zhou*)

The Future of Web Content, HTML 5, Flash and Mobile Apps. Presentation, Duke Tech Expo, Jan 6, 2011 (S. Miller)

iPads as a Fieldwork Research Tool. Educause Learning Initiative annual conference, Washington, D.C., Feb 14–16, 2011 (S. Miller With Marc Sperber, Duke Global Health Institute.)

Next Learning, Unwrapped ! (2011). Nick Van Damm. Features a case study on the Duke iPod project and Duke Digital Initiative based on extensive interviews with Yvonne Belanger and other Duke staff. Available from lulu.com

CIT Events and Workshops, 2010–2011

- **CIT Annual Instructional Technology Showcase** (*below*)

- **"E-learning: Theory and Practice"**, Dr. Helen R. Connors, Associate Dean, Integrated Technologies and Executive Director of the University of Kansas Center for Health Informatics (Co-sponsored with School of Nursing) [32 attendees]

- **Social Media workshop for Duke Faculty** (Co-sponsored with Office of News & Communications) [75 attendees]

- **Teaching with Technology workshop** (part of a symposium on teaching in the sciences for Duke Post-Docs organized by Craig Roberts, Neuroscience) [36 attendees]

- **Individual topical workshops and events**
  - Blackboard training (departmental sessions as requested)
  - PowerPoint Makeover Clinic
  - Advanced PowerPoint: Visualization & Interactivity
  - CIT Traveling Technology Roadshow
  - Introduction to the iPad & Monthly iPad Users Group meetings
  - Lecture Busters: Keeping Students Engaged
  - Help your students collaborate online
  - Using digital storytelling with your students

CIT's Spring Workshop Series, May 2011

- 11 workshops on Sakai, Wordpress, DukeCapture/ Panopto, College Teaching & Classroom Management, and Teaching Triangles (peer teaching observation) [116 attendees]

Teaching IDEAS Series — Co-sponsored with Graduate School

- *Strategies to Teach Large Enrollment Classes Successfully*, Michael Palmer, Ph.D., Associate Professor/Faculty Consultant, Teaching Resource Center, U. of Virginia

- *Helping Students Learn to Write Effectively with Graphs, Tables and Illustrations*, Cary Moskovitz, Director, Writing in the Disciplines, Thompson Writing Program

- *Promoting Active Learning in the Science Classroom*, Craig Roberts, Visiting Instructor, Duke Institute for Brain Sciences

- *College Teaching and Visual Communication*, Hugh Crumley, Instructional Technology Specialist; Adjunct Assistant Professor, Program in Education

- *Designing green classrooms and incorporating sustainability in teaching*, Charlotte Clark, Assistant Visiting Professor, NSOE; Casey Roe, Outreach Coordinator, Sustainable Duke

Highlights from CIT Showcase 2011

CIT's eleventh annual Faculty Instructional Technology Showcase on April 29th drew over 200 attendees to sessions on the Sakai transition at Duke, student perspectives on technology at Duke, demonstrations of 3D video, how faculty are using iPads and WordPress in courses, curriculum revisions in Biology and many other topics. Selected sessions are available on the Showcase website (http://cit.duke.edu/showcase2011) including our featured panel "Inspired Teaching at Duke".

Meet the Center for Instructional Technology Staff

Complete profiles available at http://cit.duke.edu/about/staff

Lynne O'Brien, Ph.D.
(*Education*) Director, Academic
Technology and Instructional Services

Amy Campbell, M.S.
(*Ecology and Evolution*)
Assistant Director, CIT

Seth Anderson, M.Ed.
(*Educational Technology*) Academic
Technology Consultant

Yvonne Belanger, M.S.
(*Instructional Design, Development
and Evaluation*) Head, Assessment
and Planning

Dottie Black, M.Ed.
(*Media Arts*) PepsiCo K-12 Technology
Mentor Coordinator

Neal Caidin, B.S.
(*Mathematics*) Head, Applications

Hugh Crumley, Ph.D.
(*Instructional Technology*)
Instructional Technology Specialist

Doug Hayes
Applications Analyst

Meghan Kennedy, M.S.
(*Instructional Psychology and Technology*)
Languages Consultant

Shawn Miller, M.A.
(*Rhetoric and Writing Studies*) Social
Sciences Consultant

Andrea Novicki, Ph.D.
(*Biological Sciences*) Sciences Consultant

Patricia Pawlak, B.S.
(*Geo-Environmental Sciences
and Biology*) Staff Assistant

Randy Riddle, B.S.
(*Public and Applied History*) Humanities
Consultant

Haiyan Zhou, M.L.S., M. Ed.
Online Learning and Health Sciences
Consultant

Areas of expertise and current interests of CIT staff

- Collaboration and productivity tools
- Online teaching methods and e-learning
- Internationalization in higher education
- Blogging and social networking
- Open-access educational resources and standards
- Open source tools for education
- Faculty development
- Project- and problem-based learning

- Educational course and program design
- Assessment and program evaluation
- Curriculum mapping
- E-textbooks and e-readers
- Educational use of mobile devices
- Digital video and imagery
- 3D display technology
- K-12 educational technology and teacher education