AAUP 2013
Open Access Textbooks and MOOCs
In the last year, Massive Open Online Courses (MOOCs) have captivated the public's attention and enrolled millions of students. What texts are professors using for such courses? Must they be open access, or even digital? What presses have benefited from getting on a reading list, whether mandatory or suggested? Panelists will discuss how university presses can work with MOOC providers and professors, and assess the present and future paths of online learning.
Chair: Michelle Pullano, Textbook Marketing Manager, MIT PressPanelists: Alan Harvey, Director, Stanford University Press; Douglas Fisher, Associate Professor of Computer Science and Computer Engineering, Vanderbilt University; Sanjay Sarma, Director of Digital Learning, MIT

INTRODUCTIONS, in the order that we'll speak
- **I'm Michelle Pullano, Textbook and Special Promotions Manager at MIT Press.** I'll begin with an overview, points made for and against MOOCs, recently announced partnerships, and experience with 3 MITP titles used in MOOCs.
- **Douglas Fisher is Associate Professor of Computer Science and Computer Engineering at Vanderbilt University, and as of July 1st, Director of the newly established Vanderbilt Institute for Digital Technology.** Prof. Fisher is a thought leader on flipped classrooms, which he'll talk about today, and a frequent contributor to the discourse on digital learning.
- **Sanjay Sarma, professor of mechanical engineering at MIT, was appointed MIT's first director of digital learning** in November. In this role, Prof. Sarma is charged with assessing how new models of online instruction may integrate with MIT students' campus education and enable global learners access to MIT-quality instruction.
- **Alan Harvey is Director of Stanford University Press.** He's an experienced publisher of digital, short-form, and print-on-demand content. Situated in Palo Alto, where both Coursera and Udacity were born of Stanford professors, Alan breathes the MOOC air, so to speak.

SLIDE 1
"First, MOOCs are not the problem, but I do believe that what higher education does with them could be. Second, not only are MOOCs a lightning rod about everything from the price of college education to relations between faculty and administration, they are also a moving target. They may already or will come to mean different things for different institutions and constituencies: faculty, staff and students. Hence so many reactions, so many ideas, so many misunderstandings."
— Tracy Mitrano, Director of IT Policy and the Institute for Computer Policy and Law at Cornell University, in the Inside Higher Ed *Law, Policy – and IT* Blog

I like this tidy summary of a very untidy topic. We'll broaden the reference to "higher education" here to "purveyors of knowledge" to include our work as publishers. And, we'll include ourselves as a constituency presented with challenges and opportunities.

SLIDE 2

MASSIVE OPEN ONLINE COURSES, or (MOOCS), IN A NUTSHELL
- As we're all well aware by now, MOOCs are free and conducted at a massive scale, taught at the same level of rigor as an elite host university's campus courses, graded by machine and by peer, available in a multitude of languages, and funded by host universities and venture capital.
- *Perhaps the most salient point here impacting us as publishers is this: MOOCs are regularly referred to as next-generation textbooks. In that they are, to learners, what the textbook has been: self-contained presentations of course material. Gulp.*

SLIDE 3
SOME ARGUMENTS OFFERED IN SUPPORT OF MOOCs, and for the purpose of our discussion today, I'm limiting these to the most relevant.
- They're offering world-class instruction to anyone in the world, for free
- For purveyors of knowledge – individual professors, institutions, publishers – MOOCs are an opportunity to raise the game, to ask, How Can We Do Better?
- Instant feedback *from* learner performance in MOOCs is applied to campus and for-credit online courses, allowing us to learn about pedagogy and improve it
- Instant feedback *for* learners is valuable, allowing students real-time metrics of their understanding of course material and performance
- And, an often-heard refrain: MOOCs are A Rising Tide that will Lift All Boats

SLIDE 4
SOME ARGUMENTS OPPOSING MOOCs
- The average reported completion rate hovers around 10% of total registrants (In fairness, many register as auditors with no intention of completing assignments, and many register never to log in again. So, a more accurate completion rate holds up to the number of registrants who are watching lectures and completing assignments).
- Some faculty fear that their jobs will become obsolete or they'll lose academic freedom and become glorified TAs for courses designed by elite universities.
- In a good piece in the May 20th New Yorker, Nathan Heller wrote of the perceived danger of "academia falling under hierarchical thrall to a few star professors."
- The concern: Is it possible that just a few versions of content will come to dominate a course?
- It's argued that if faculties dwindle, fewer fields and subfields can be taught, and there will be fewer institutions available to learners. We can see how this argument is extended to the content that we publish.

THE BIG 3 PLAYERS ARE

SLIDE 5
Coursera – http://www.coursera.org
- Which was founded in early 2012 by Stanford professors Daphne Koller and Andrew Ng
- Is for-profit
- Currently has 83 university partners worldwide

- And is the largest MOOC provider; it now offers more than 375 courses and has registered 3.8 million learners
- In January of this year, the American Council on Education approved 5 Coursera courses for college credit (Pre-Calculus UC Irvine, Genetics and Evolution Duke, Bioelectricity Duke, and Calculus Princeton)

SLIDE 6
edX – https://www.edx.org
- Was founded in May 2012 and is governed jointly by MIT and Harvard; each invested 30 million dollars at the founding
- It's non-profit
- Currently has 27 institutions worldwide in the xConsortium
- And has registered more than half a million learners
- Notably, the edX platform was made available as open source code on June 1st

SLIDE 7
Udacity – http://www.udacity.com/
- Was founded in February 2012 by Sebastian Thrun, David Stavens, and Mike Sokolsky from Stanford
- It's for-profit
- Works with individual professors rather than partnering with institutions
- And has enrolled nearly half a million learners

BRAND NEW PARTNERSHIPS, WHICH ARE NOTABLE AS THE FIRST FORMAL REVENUE SOURCES ANNOUNCED FOR MOOC PROVIDERS
SLIDE 8
- The last week of May, a partnership was announced between **Coursera and 10 state university systems and flagship universities** in which faculty will be able to, on a voluntary basis, offer MOOC content in their on-campus courses.

SLIDE 9
- The partners are listed here: SUNY, Tennessee Board of Regents, University of Tennessee System, University of Colorado System, University of Houston System, University of Kentucky, University of Nebraska System, University of New Mexico System, University System of Georgia, West Virginia University
- The interesting point here is that Coursera had contractual obligations to offer courses from members of the Association of American Universities or "top five" universities in countries outside of North America. The company now has a different part of its website to host material from the new partners, the less-than-elite state universities. There's criticism that Coursera is choosing a potentially large revenue source over their stated mission. The other side of that argument is that most people are educated at public universities, and elite schools aren't well positioned to offer so-called on-ramp courses that would enable a broader group of people to succeed in elite institution MOOCs.

SLIDE 10
- In mid-May, a partnership was announced between **Georgia Tech, Udacity, and AT&T.** It offers a $7,000 online master's degree to 10,000 new students over the

next three years (a sixth of its current master's degree price) hiring ~8 new instructors and relying on a TBD number of Udacity staffers to mentor students. Udacity gets 40% of revenue/GT the other 60%; AT&T subsidizes. There will be 4 enrollment tracks: 1. Degree-seeking students who will complete a master's degree in 3 years, about 6,000 students, 20 times larger than current master's enrollment 2. Prospective degree-seekers who are admitted tentatively and if they do well in two core classes will be admitted to the degree track, about 2,000 students 3. Drop-ins who can earn a certificate, not a master's degree, also about 2,000 students 4. Traditional MOOC learners paying nothing or a small fee, in unlimited enrollments

- In April it was announced that San Jose State University and edX would expand their collaboration begun last fall. Blended sections of the Circuits and Electronics MITx course were offered at San Jose State last fall and this spring. Students watched the online lectures and completed exercises before a class meeting, then spent classroom time on Q&A, problem solving, and discussion. In the early offerings, the pass rate in the blended class was more than 90% while the pass rate in the conventional class was as low as 55%. The same course is now available to as many as 11 other California State University campuses. San Jose State will establish an adaptive and blended learning center to train faculty in offering this blended course and others.

Shifting to specific examples, I'll outline my experience with MITP titles in MOOCs. We've had 3 of our titles formally announced for use in MOOCs that have already taken place. We have 2 others on deck: our Atlas of New Librarianship by David Lankes will be used this summer in a Syracuse University MOOC taught by the author. And, a Neuroethics reader in an announced by not yet scheduled Coursera course taught by an MITP author, but not the author of said Neuroethics book.

<mark>SLIDE 11</mark>
Probabilistic Graphical Models, an 11-week Coursera course
- Taught by Coursera co-founder and MITP author Daphne Koller using her book of the same title.
- In all 3 offerings of the class so far, we've given students a 20% discount code to buy the book directly from the Press. This is a 1,200-page hardcover with a $99 list price.
- In the first offering, March-June of 2012: Class started out with tens of thousands enrolled (not the 150,000 figure we've seen quoted for other MOOCs; this one is graduate-level material). We saw a boost in total sales of more than a thousand copies, a few hundred of those directly through the discount code. Coinciding with the first offering of the course, the book became available through the Kindle Print Replica program, and we've seen several hundred Kindle units sold to date.
- We saw a similar sales pattern, on a smaller scale, in the 2nd iteration of the course September 24-December 7, 2012. In both cases, of the number of students who watched all of the video lectures, about 10% bought the book directly from us. The course was offered for the third time, ending today, so we don't have figures yet from that offering April 8-June 21, 2013, https://www.coursera.org/course/pgm.

- In keeping with Coursera's policy, no textbook is required for the course. Lectures are designed to be self-contained, but learners are referred to the book for further coverage of the topic.

Introduction to Computer Science and Programming, a semester-long edX course using our book, Introduction to Computation and Programming Using Python
- This course was offered for the first time last fall using a book-in-progress that Prof. John Guttag self-published (through Lulu) and sold to students. We issued a temporary paperback and e-book in January to cover the 2 iterations of the course in the first half of 2013. Print and digital editions were priced at $25.00, an experiment with a deliberately low price, and available through the usual retail channels.
- We'll publish a more permanent edition in August, which has been revised and updated. It will stand as the quote unquote real version of the text, also priced at $25, paperback and ebook.
- January 7-30 (4 weeks)
- February 4-June 3 (17 weeks)
  https://www.edx.org/courses/MITx/6.00x/2013_Spring/about
- In the 4-week January course, offered during MIT's Independent Activities Period, the book was recommended. In the spring semester course that began in February, the book was required. We provided free online access to students enrolled in the MOOC. The open online version offered the full text of the book in a static, read-only format (not searchable or downloadable for use offline). The OA version is png, a graphic file format. Each page is a low-res image at 72 dpi (dots per inch, a measurement used to describe the resolution number of dots per inch in a print or digital book). In order to pirate or repurpose this file, one would have to capture low-res images on a page-by-page basis. Probably not worth the effort. And, even with that effort, there's no way to search it or copy and paste it. Printed, it would be a pretty poor quality reading experience.
- We offered a 30% discount to students who wanted to purchase the book direct.
- We've seen total sales of more than a few thousand units, including print and digital editions. The digital editions include an MITP ebook and Kindle Print Replica.
- Both MassBay Community College and Bunker Hill Community College partnered with edX this spring to offer this course as a blend of on-campus and online learning. A professor was designated at each school to teach the course using edX materials and virtual tools. Students who completed the courses were issued MassBay or Bunker Hill credits accordingly and a certificate of completion from MITx.

Computational Neuroscience, an 8-week Coursera course taught by two professors from the University of Washington using our book Theoretical Neuroscience
- Neither professor is involved with either textbook they recommend, but do not require, for the course. The other recommended book is published by Sinauer.

- This is a 450-page paperback with a $55 list price.
- The course has been offered once so far, April-early June of this year
- Tens of thousands registered, and we saw a boost of hundreds of print copies sold. This is not available as an ebook.
- *Suggested Readings: The lectures will roughly follow topics covered in the textbook Theoretical Neuroscience: Computational and Mathematical Modeling of Neural Systems by Peter Dayan and Larry Abbott (MIT Press). The other useful resource for the course is Tutorial on Neural Systems Modeling (Sinauer), which also contains Matlab examples of concepts we will learn in the course.*

SLIDE 14, FURTHER INFORMATION

I'll wrap up and pass the baton to Doug with a short list of further reading. I'll post these slides on the conference wiki next week, where these links will be active.

- The Chronicle of Higher Ed Prof. Hacker blog, 11/6/12, Doug Fisher guest post
  http://chronicle.com/blogs/profhacker/warming-up-to-moocs/44022

- Computing Community Consortium Multidisciplinary Research for Online Education Workshop
  http://www.cra.org/ccc/component/content/article/286-multidisciplinary-research-for-online-education-workshop

- MIT Communications Forum MOOCs and the Emerging Digital Classroom, 3/21/13, http://web.mit.edu/comm-forum/forums/moocs.html

- Laptop U, The New Yorker, 5/20/13, by Nathan Heller
  http://www.newyorker.com/reporting/2013/05/20/130520fa_fact_heller

- MOOCs of Hazard, New Republic, 3/31/13, by Andrew Delbanco
  http://www.newrepublic.com/article/112731/moocs-will-online-education-ruin-university-experience#

- The Chronicle of Higher Education
  http://chronicle.com/

- Inside Higher Ed
  http://www.insidehighered.com/