Engineering a New Home: Creating a Repository Collection for Faculty AND Building a Larger Digital Presence for the School of Engineering

Lauren Todd
Washington University in St Louis

Emily Symonds Stenberg
Washington University in St Louis

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Engineering a New Home

Creating a Repository Collection for Faculty
AND Building a Larger Digital Presence for the School of Engineering

Women workers install fixtures…Circa 1939,
www.flickr.com/photos/library_of_congress/2179136893
Browse Research & Scholarship

- Academic department, school, or college
- Books, monographs, and catalogs
- Conferences and symposia
- Data and data sets
- Electronic theses and dissertations
- Faculty scholarship
- Journals and peer-reviewed series
- Student scholarship

The Open Scholarship repository is a service of the Washington University in St. Louis libraries to provide free access to the scholarly output of the university. See the About and FAQ pages for links to details on mission, content and contributing.

At a Glance

Top 10 Downloads
All time

Recent Additions
20 most recent additions

Paper of the Day

The Method of Law
Max Radin

http://openscholarship.wustl.edu
Emily at Work

AT FIRST I WAS LIKE

BUT THEN I WAS LIKE
Snapshot 2013

- Dec. 2013: 1,161 Items / 106,471 Downloads
  - Graduate ETDs = 974
  - Undergraduate Work = 67
  - Faculty Publications = 75\(^1\)
  - Other = 45

\(^1\) Primarily re-posted journal articles in Biology, Math, and Social Work
COMPUTER SCIENCE & ENGINEERING DEPARTMENT AND OPEN SCHOLARSHIP
Timeline

- April 2014 – Head of Chemistry/Engineering Library contacts Emily
- May – Emily & Lauren discuss project
- June/July – Internal Workshop Introduction to Open Scholarship for library staff who work with faculty
- August – Meet with CSE department
- Through 2015 – The Project!
Word of Mouth

“The Computer Science & Engineering department is looking for a repository tool for their publications, theses and dissertations. I am recommending to the department chair and project coordinator that they look into Open Scholarship to see if it might fit their needs.”
Lauren’s Reaction

Not sure what open scholarship is
Q&A for CSE Collection

• **Whose materials are being submitted?**
  Faculty and students, both graduate and undergrad

• **What type of content is being submitted?**
  Technical reports, theses and dissertations, with the possibility of adding pictures, videos, and other documents later. Journal and conference article reprints, depending on copyright laws.

• **Are these print-only or electronic materials?**
  These would initially all be .pdf documents, with eventually the possible addition of graphics, video, and audio files as well as possibly archive files of software packages.

  **THIS BECAME A MINOR ISSUE. MORE ON THAT LATER.**
Q&A for CSE Collection

• What type of access do you want to provide? The standard is full, open access. Restriction options are generally available for previously unpublished works. This would be open access

• What is your timeline for having the materials available in the repository? Is this a one-time or ongoing project? This is an ongoing project, and we would like everything to be available as soon as possible. Ideally, for unpublished technical reports, availability should be mostly immediate.
Open Scholarship = Perfect Match
PROJECT TEAM

ASSEMBLE!
The Players

Emily Stenberg
Lauren Todd
Librarians

Consulting Services

The Players: CSE

Roch Guerin
Department Chair

Tao Ju
Professor

Lauren Huffman
Project Coordinator

Student Worker X
Excel Coder
The Process

CSE Open Scholarship

New Technical Reports

Older Technical Reports
Creating the Initial Collection

NEW TECHNICAL REPORTS
Collection Customizations

• The Submission Form
  • KISS Philosophy
    • From 19 fields to 8!

• Submission Structure
  • One Bucket flows down to smaller buckets

Browse the Computer Science and Engineering Collections:

All Computer Science and Engineering Research
Conference and Workshop Papers
Conference Posters
Journal Articles
Reports
• Display Additional Metadata on Series page

**Exploring User-Provided Connectivity**
Mohammad H. Afrasiabi and Roch Guerin
Technical Report

**Abstract:**
Network services often exhibit positive and negative externalities that affect users' adoption decisions. One such service is "user-provided connectivity" or UPC. The service offers an alternative to traditional infrastructure-based communication services by allowing users to share their "home base" connectivity with other users, thereby increasing their access to connectivity. More users mean more connectivity alternatives, i.e., a positive externality, but also greater odds of having to share one's own connectivity, i.e., a negative externality. The tug of war between positive and negative externalities together with the fact that they often... Read More

• Advanced Search Function Features
The Launch

Submit
• Staff/Professor Uploads File to CSE Collection

Accept
• Subject Librarian revises and accepts submission

Assign
• Subject Librarian assigns TR number based on their system
The Tweaks

- Too Fast, Too Slow?
- Report Numbers
- File Format & Cover Page
Backfilling the collection

OLD TECHNICAL REPORTS
What is this Google Batch thing?

• Workflow using Google Drive, a “getURLS App script,” and Excel for semi-automated batch upload
• See engagedscholarship.csuohio.edu/msl_facpub/105/ (Cleveland State University, 2014)
Batch Uploading Old Reports

1. Student Worker Codes in Excel Spreadsheet
2. CSE Project Manager shares files in Google Docs
3. Run Script
4. Subject Librarian uploads to bepress
5. Success!
Upload those batch files here.
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Year</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Interference in Symmetric Connectionist Networks</td>
<td>Nils Ahlgren</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Research Proposal: Preference Acquisition through Neural Networks</td>
<td>Takayuki Kimura</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Objective Evaluation of Radiation Treatment Plans</td>
<td>Ajay Apte</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Clinical Decision-Support Systems in Radiation Therapy</td>
<td>Andrew Fingerhut</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Approximation Algorithms for Configuring Hierarchical</td>
<td>Sajid A. Shafique</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Teaching a Smarter Learner</td>
<td>Jean A. Fingershut</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Improving the Speed of a Distributed Checkpointing Algorithm</td>
<td>Sachin G. Goldberg</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Dynamic Reconfiguration with I/O Abstraction</td>
<td>Gail A. Goldman</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>A Taxonomy of Program Visualization Systems</td>
<td>D. Paul</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Asking Questions to Minimize Errors</td>
<td>H. David</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Efficient Computing (on-the-fly)</td>
<td>R. B. Aiken</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>The Programmers' Playground: I/O Abstraction</td>
<td>J. Kenneth</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Design for Reasoning with Policies, Precedents and Resources</td>
<td>P. Lou</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>An Optimal Nonblocking Multicast Virtual Circuit Switch</td>
<td>Apostolos D. Antonopoulos</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Real-time Admission Control Algorithms with Delay and Loss</td>
<td>P. Lou</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Clocking and Asynchronous Instruction Pipelines</td>
<td>Mark A. Franklin</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>The MIM System: Turn-Taking in Dyadic Telephone Dialogues</td>
<td>Derry W. Berger</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>The Programmers' Playground: I/O Abstraction</td>
<td>Kenneth J. Goldberg</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>A Unified Model for Shared-Memory and Message-Passing</td>
<td>P. Lou</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Distributed Computing Systems and Checkpointing</td>
<td>Kenneth J. Goldberg</td>
<td>1983</td>
<td>Washington</td>
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<tr>
<td>Reasoning about Synchrony Illustrated on Three Models of</td>
<td>H. David</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Clotho's Threads on Timelines: Utilities and The Interval</td>
<td>A. Johnstone</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Effective Loss of Multiplexed ATM Cell Streams</td>
<td>D. Robby</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Representing and Learning Propositional Logic in Symmetric Networks</td>
<td>N. Paul</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Learning One-Dimensional Geometric Patterns Under One-Dimensional</td>
<td>D. Paul</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Rationales and Argument Moves</td>
<td>P. Lou</td>
<td>1983</td>
<td>Washington</td>
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<tr>
<td>Congestion Control in ATM Networks</td>
<td>D. Robby</td>
<td>1983</td>
<td>Washington</td>
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<tr>
<td>Self-stabilization by Column Flushing</td>
<td>A. Johnstone</td>
<td>1983</td>
<td>Washington</td>
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<tr>
<td>Strategies for the Parallel Training of Simple Recurrent Networks</td>
<td>D. Robby</td>
<td>1983</td>
<td>Washington</td>
</tr>
<tr>
<td>Trading Packet Headers for Packet Processing</td>
<td>D. Robby</td>
<td>1983</td>
<td>Washington</td>
</tr>
</tbody>
</table>

Note: This table contains a list of publications with their authors, years, and institutions.
To batch upload content via an Excel Spreadsheet:

1. Download spreadsheet for All Computer Science and Engineering Research
2. Complete spreadsheet - contact dc-support@bepress.com or call 510-665-1200 x2 for instructions.
3. Upload spreadsheet:

   Choose File  No file chosen  Upload

⚠️ Note: Please verify spreadsheet metadata before uploading - batch submissions are automatically queued for posting.
Assigning Digital Object Identifiers

- WUSTL DOI system developed by CERL
- Site maintained by Libraries
- EZID license paid for by Libraries
- Assigning to repository content
  - ETDs
  - CSE Reports
- Available for entire university – http://libguides.wustl.edu/doi

![DOI structure](http://dx.doi.org/10.5703/1288284314067)
Current Project Status

"Your call is important to us. Please stay on the line until your call is no longer important to you."
By the Numbers

- 501 Technical Reports from 1993 to present
- 508 items in CSE collection
- 5579 Total Downloads
- 309 downloads for report posted in Jan. 2015

1 Other items self-submitted by faculty
THE PRESENT AND FUTURE OF OPEN SCHOLARSHIP IN THE SCHOOL OF ENGINEERING
MECHANICAL ENGINEERING DESIGN CAPSTONE PROJECT
MEMS 411

- Groups required to “publish” final project report
  - Post to a blog, other website, Twitter
  - Often deleted after the class
- Instructors wanted a permanent archive of past class projects and work
MECHANICAL ENGINEERING DESIGN PROJECT CLASS

MEMS 411: Mechanical Engineering Design Project
Small student teams will complete design projects in an environment simulating a research and development setting. First, working individually, students will complete a conceptual design study for three (3) design briefs. These will be presented to the instructors and students for review and selection of favored concepts. Following the group concept selection, small teams (3-4 students) will be formed for each favored project. These teams will produce a preliminary working prototype, an engineering analysis proposal and associated engineering analyses, a final working prototype which will be “documented” in an appropriate manner (e.g. a CAD model), and a publication that will inform other interested parties of its existence.

Jump to:

2014

Submissions from 2014

PDF Toy Train Group II, Track Laying Train, William Andersen, Jordan Zwetchkenbaum, and Chiamaka Asinugo

Bicycle-Driven Water Pump Group 3, Brent K. Auyong, Michael Park, and James Weber

PDF MEMS 411 Senior Design: Wind Powered Walking Robot, Timothy J. Elliott, Kenna Middleton, and Jose Rodes
Toy Train Group II, Track Laying Train

William Andersen
Jordan Zwetchkenbaum
Chiamaka Asinugo

Publication Date
Fall 12-9-2014

Document Type
Final Report

Author's School
School of Engineering and Applied Science

Author's Department
Mechanical Engineering and Materials Science

Class Name
Mechanical Engineering Design Project (MEMS 411)

Recommended Citation
http://openscholarship.wustl.edu/mems411/13
Bicycle-Driven Water Pump Group 3

Publication Date
Fall 12-8-2014

Document Type
Final Report

Problem Statement
According to a recent study conducted by the NOAA, water shortages are becoming a growing trend and will affect nearly 35 states in the next 5 years. As a result, people are starting to collect excess rainwater and gently used water in large rain collection barrels. In an effort to reuse water, our customer requested a bicycle-powered device to pump water from their rain collection barrel to their garden approximately 50 yards away. This device must be a one-person operation and work without electricity. By reusing water and storing them in collection barrels, the user can save up to $8.00 a month and up to 55 gallons of water at a time. Our design will also allow our customer to empty a full barrel in 15 minutes and move the water up to a height of 15 feet.

Author's School
School of Engineering and Applied Science

Author's Department
Mechanical Engineering and Materials Science

Class Name
Mechanical Engineering Design Project (MEMS 411)

Recommended Citation
http://openscholarship.wustl.edu/mems411/1
Changes for 2015 Semester

- No Embargo Option
- Fully explain “Third-Party Search” Option
- “Spirit of Open Scholarship”
Good candidate for Open Scholarship:

WE ARE THE THREE BEST FRIENDS

THAT ANYONE CAN HAVE
Let’s Do this!

From: Todd, Lauren  
Sent: Wednesday, May 13, 2015 10:20 AM  
To: Matteucci, Sandra; Dahlheimer, Seema  
CC:  
Subject: Best Technical Writing Final Reports for Open Scholarship

The time has come to build our Technical Reports Repository!

Please email those students with the reports you want to save into the collection. The individuals must submit the projects themselves. Here are the instructions on how they can submit their work. Let me know if you have any questions!

Instructions for Students
How to publish your Technical Writing Final Report to Washington University's Open Scholarship
2. Click on "My Account" and then click "Create New Account." This will allow you to submit your report and edit your revisions.
3. After you have created and confirmed your account, go to http://openscholarship.wustl.edu/engr310/
4. On the bottom left column, click "Submit Research."
5. Read the "Submission Agreement," agree to the terms and click to continue.
6. Fill out the required fields in the submission form and attach the main file. Consider the following:
   - Embargo Period: Do you want your research visible only after a period of time?
   - Third-Party Search: Do you want the text of your report to be searchable in Google?
   - Additional Files: Do you have any video files, sketches, etc. that you would like attached to the report?
7. Click Submit.

You will receive an email confirmation, and when the file is posted, you will be emailed a permalink to the report.
ANYONE?

BUELLER?
RETROSPECTIVE (EECE) CHEMICAL ENGINEERING THESES
To be added to Open Scholarship

• In addition to NOT Instead of Print
  • Copies came from EECE
• Print theses already scanned
  • Individual PDFs
• Not comprehensive
  • Approx. 230 theses from 1972-2007
• First batch RTD project
WHERE OPEN SCHOLARSHIP STANDS NOW

Spruce Villa, 1948, CC BY-NC-ND 2.0
https://www.flickr.com/photos/whitbyarchives/2382796841
Snapshot 2015

- Sep. 2015: 6,335 Items / 383,574 Downloads
  - Graduate ETDs = 1,938
  - Undergraduate Work = 2,975
  - Faculty (& Staff) Publications = 912
  - Other = 510

- Sep. 2015 (with Law Content): 13,871 Items / 1,651,864 Downloads

1. 2606 individual pages from 21 undergraduate journal issues
Then and Now

Open Scholarship Content*

* Does not include Law publications
Some Broader Takeaways

• Offer services and resources that are needed.
• Be patient. (If you build it...)
• Get out of your silo.
• Share the responsibility.
• Have a plan, but be flexible.
• Replicate success.
Questions?
Comments?
Concerns?

Thank you!

emily.stenberg@wustl.edu
lauren.todd@wustl.edu

Slides will be at http://openscholarship.wustl.edu/lib_present/21

http://onwardstate.com/2013/07/23/the-26-gifs-that-even-more-perfectly-describe-penn-state/conan-bowing/