

CASE STUDY: BIOTECH.RPI.EDU

The culmination of a decade of web development and infrastructure at Rensselaer.

BACKGROUND

As Rensselaer's Center for Biotechnology and Interdisciplinary Studies (CBIS) celebrates its 10th Anniversary, we launch a new website that highlights nearly ten years' worth of web development and application building by Communication and Middleware Technologies (CMT) within the Division of the Chief Information Officer (DotCIO).

The project was initiated in March 2013 by CBIS in preparation for the 10th Anniversary celebration on September 10, 2014. An outside contractor, Jan Smith, was hired to manage the content gathering and authoring, information architecture, and client relationship. CMT's Arlen Johnson and William Gill were engaged to manage application development, site building (including more information architecture and a photo shoot), and middleware integration. This proved to be a fruitful marriage of skills, and turned into an excellent collaboration between the client (CBIS), the consultant (Jan), and the developers (Arlen and William).

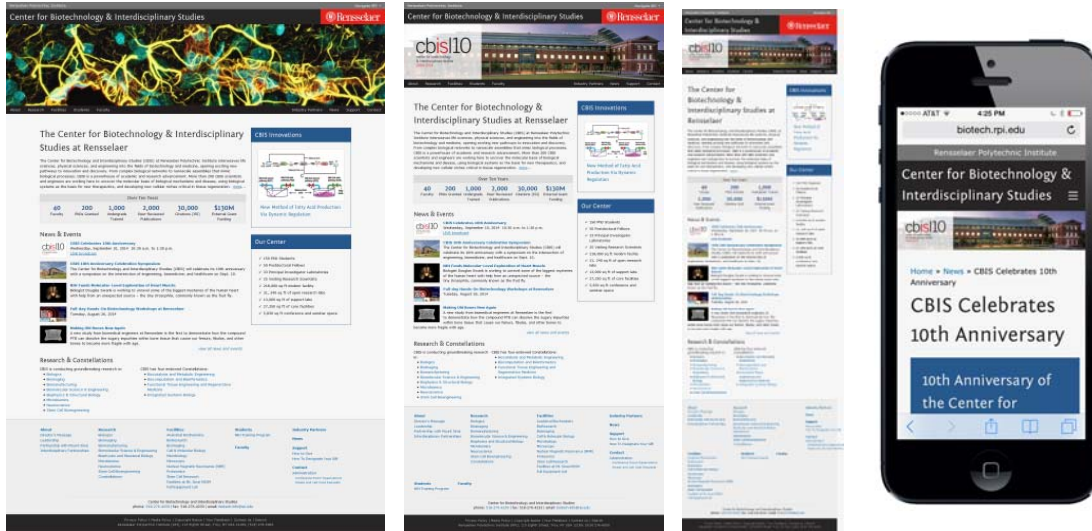
The result is a website that is

- **Fully responsive** – for use on any platform or device, including the dynamic, server-side scaling of media assets for quicker downloads
- **Content managed** - built on the Drupal platform, constructed from years of in-house development culminating in a mature Rensselaer content management framework
- **Data driven** – allowing CBIS to rely on existing systems and services and especially their colleagues in DotCIO and Strategic Communications and External Relations (SCER) to provide content for their website. Specifically, biotech.rpi.edu aggregates data directly from these CMT provided systems:
 - News.rpi.edu - for news stories and press releases about biotechnology written by the professionals in SCER
 - Events.rpi.edu – for integrating calendar data into their news stories as provided by Rensselaer's Bedwork platform
 - Faculty.rpi.edu – for faculty profile information, including titles, bios, photos, and publications, as maintained by Rensselaer's faculty
- **Intended as a base platform for other website development on campus.** The CBIS website evolved from many years of infrastructure building within CMT, and it is intended as a framework which can accommodate the needs of campus-wide website management. CMT has collaborated with SCER's Web Production unit to ensure consonance in design approach and to ensure a rich feature set that meets the needs of the campus.

FEATURE HIGHLIGHTS

RESPONSIVE DESIGN

The CBIS website has been made fully responsive to display appropriately on devices both large and small. It has been tested on wide desktop screens down to smartphones in portrait mode (iPhone and Android). We also validated the implementation across platforms – Microsoft Windows, Apple’s OS X, and Linux, and on every major modern browser including Internet Explorer, Chrome, Firefox, Safari, and several mobile browsers.



RENSELAEER “MEGA-MENU”

To allow for easy integration with the core campus websites and directories, an RPI “mega-menu” has been developed through the collaboration of SCER and DotCIO. The menu descends from the topmost bar of the website, and is suitable for use on sites across campus.



Copyright Arlen D.H. Johnson & Gary Schwartz, 2014. This work is the intellectual property of the authors. Permission is granted for this material to be shared for non-commercial, educational purposes, provided that this copyright statement appears on the reproduced materials and notice is given that the copying is by permission of the author. To disseminate otherwise or to republish requires written permission from the authors.

Note that, in conjunction with the other header elements, we have prominently branded the website as Rensselaer, including the text elements “Rensselaer Polytechnic Institute”, “Rensselaer”, and “RPI”:




SLIDESHOW AREA

The area below the main title accommodates photographic slideshows and other media, and can be used to highlight important messaging.



RESEARCH HIGHLIGHTS BOX

CBIS Innovations



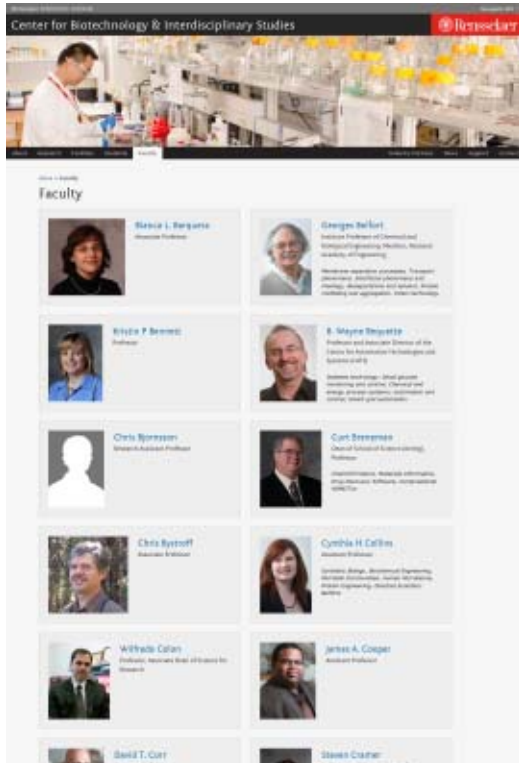
Humanities & Science Meet
Through BioArt

The “CBIS Innovations” box allows site managers to highlight important research at CBIS and point to resources both on and off the biotech.rpi.edu website. An important consideration in developing this feature was ensuring that the image assets uploaded by the site managers would display well regardless of the quality of those images. This allows site editors the freedom to quickly highlight important news and research discoveries without having to be experts in photo or graphics manipulation, which is itself a very specialized skill not expected of those without training in graphic design or web production.

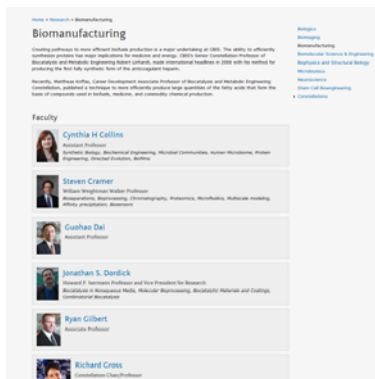
Several sections of the site display this feature, and site editors may drive different content to different sections as needed, including the front page. When more than one item is available, a random selection is made by the system on each page load.

FACULTY LISTING

Faculty associated with CBIS are imported and updated automatically from faculty.rpi.edu, the faculty profile system maintained by CMT. Each faculty profile is fully imported as content within biotech.rpi.edu, allowing the system to have full programmatic control over the profile contents and media assets, including scaling faculty photographs for use on multiple output formats. Faculty profile data is automatically updated every hour.



Because the faculty profiles are fully imported, they can be associated with research programs within the center by node reference, allowing the site to present arbitrary faculty lists per program, as chosen by the content editors at CBIS. The ability to display faculty profiles and listings differently on different pages (or even on different websites) to fit the specific context required is a particularly strong feature of this approach.



Copyright Arlen D.H. Johnson & Gary Schwartz, 2014. This work is the intellectual property of the authors. Permission is granted for this material to be shared for non-commercial, educational purposes, provided that this copyright statement appears on the reproduced materials and notice is given that the copying is by permission of the author. To disseminate otherwise or to republish requires written permission from the authors.

NEWS LISTING

The collection of news and announcements on the CBIS website is an aggregation of content from news.rpi.edu, tagged for the center and content created locally within the CBIS website itself. News items are aggregated and sorted by publication date (unless specific content has been tagged to remain at the top of lists, a Drupal feature). This provides the best of both worlds: institute wide, high-level news stories and press releases can be written by dedicated news staff, while more local announcements, such as accolades for graduate students who have been granted awards, can be managed by staff local to CBIS. These news items can then be streamed back out of the site for inclusion in other institute systems, such as DotCIO's "Morning Mail" or campus digital signage.

This feature also allows for the inclusion of third-party endorsements via news outlets outside of Rensselaer, a feature managed and curated by the news and editorial staff at SCER.

Home > News

News & Events

cbis|10
center for biotechnology
& interdisciplinary studies
2004-2014

CBIS Celebrates 10th Anniversary
Wednesday, September 10, 2014 10:30 a.m. to 1:30 p.m.
[LIVE broadcast](#)

CBIS 10th Anniversary Celebration Symposium
The Center for Biotechnology and Interdisciplinary Studies (CBIS) will celebrate its 10th anniversary with a symposium on the intersection of engineering, biomedicine, and healthcare on Sept. 10.

NIH Funds Molecular-Level Exploration of Heart Muscle
Biologist Douglas Swank is working to unravel some of the biggest mysteries of the human heart with help from an unexpected source - the tiny *Drosophila*, commonly known as the fruit fly.

Full-day Hands-On Biotechnology Workshops at Rensselaer
Tuesday, August 26, 2014

Making Old Bones New Again
A new study from biomedical engineers at Rensselaer is the first to demonstrate how the compound PTB can dissolve the sugary impurities within bone tissue that cause our femurs, fibulas, and other bones to become more fragile with age.

Peter Tessier Named Richard Baruch Professor
Protein engineering expert [Peter Tessier](#) has been named the Richard Baruch M.D. Career Development Professor at [Rensselaer Polytechnic Institute](#).

Upcoming Events

Big Data and Healthcare Analytics: Rensselaer-Mount Sinai Joint Symposium
Thursday, September 4, 2014 11:00 AM - 5:00 PM

10th Anniversary of the Center for Biotechnology and Interdisciplinary Studies
Wednesday, September 10, 2014 10:30 AM - 1:00 PM

The third annual SINAINnovations conference
Tuesday, November 18, 2014 - Wed, November 19, 2014 (all day)

Research Forums

CBIS sponsors free public forums to share information about our key research initiatives.
[Learn more.](#)

CBIS Innovations

Like the faculty feeds, once news stories are imported into the CBIS website, they remain there. This allows users to remain on-site while reading news stories. News and announcements will, blog-like, roll off the bottom of a given page as new items appear in the lists over time. Users can view older content by paging through news.

EVENTS AND CALENDAR INFORMATION

Upcoming events associated with CBIS are drawn onto the biotech.rpi.edu from Rensselaer's public calendar system (<http://events.rpi.edu>). Once imported, they can be attached to a news item, providing structured calendar data and iCalendar downloads for calendar clients.

Home > News > CBIS Celebrates 10th Anniversary

CBIS Celebrates 10th Anniversary

Structured calendar data

iCal download

10th Anniversary of the Center for Biotechnology and Interdisciplinary Studies

Wednesday, September 10, 2014 10:30 AM - 1:00 PM

calendar details | download

Purpose: Acknowledge and celebrate the achievements of faculty, staff, and students over the past decade that are linked to CBIS, and highlight pertinent and promising work continuing to take place there.

Attendees: By invitation only: Rensselaer faculty, staff, and students, local educational leaders and elected officials, Rensselaer Polytechnic Institute Advancement guest list

Location: Center for Biotechnology and Interdisciplinary Studies

Live broadcast:

- [View the LIVE broadcast beginning at 10:30 AM](#) (check viewing requirements)

Schedule:

- 10:30 AM - Welcome and introduction of Dr. Jackson by Dr. Vashishth
- 10:35 AM - opening remarks by Dr. Jackson followed by introduction of keynote speaker, Dr. Scott Friedman '76
- 11:00 AM - Dr. Friedman delivers keynote address
- 11:45 AM - Dr. Jackson thanks Dr. Friedman and invites guests to poster session and buffet lunch reception in the Atrium
- 11:50 AM - Poster presentation, commemorative t-shirt give-a-way and reception
- 1:30 PM - Event concludes

For more information contact:
Peter Grimm, Director, University Events
518-276-6237 (office), 518-378-9657 (cell)

Cheryl McGlothlin, Sr. Events Planner, University Events
(518) 276-6608 (office), (518) 378-9656 (cell)

cbis|10
center for biotechnology
& interdisciplinary studies
2004-2014

Link to event in public calendar

This allows for calendar information to be comingled with a rich-text narrative about an event. The feature also allows for the possibility of creating lecture series and other programs in which multiple events can be associated with a single page of content.

FACILITIES AND EQUIPMENT

CBIS core facilities are highlighted on the website, and specific technology is associated with each or multiple facilities. This is managed through standard Drupal content types, and highlights the value of well-structured content. Each facility was broken into multiple content fields such as "technologies", "contact information", and "policies for use". Each associated piece of technology is likewise subdivided into fields such as "title", "make and model", and "rates & fees".

Copyright Arlen D.H. Johnson & Gary Schwartz, 2014. This work is the intellectual property of the authors. Permission is granted for this material to be shared for non-commercial, educational purposes, provided that this copyright statement appears on the reproduced materials and notice is given that the copying is by permission of the author. To disseminate otherwise or to republish requires written permission from the authors.

TECHNOLOGY AND SERVICE

The CBIS website sits on top of DotCIO's VMWare services on a Linux VM running Apache 2.4 and Drupal. The site draws on other Drupal instances hosted by CMT as well as the Bedework calendar server and other custom middleware.

Twenty-four hour site monitoring, database and file backup, system updates and oversight are all performed by DotCIO staff.