

CAREERS

COLUMN Junior researchers can learn soft skills by forming their own groups **p.257**

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WEB DESIGN

Webcraft 101

An eye-pleasing website can boost the appeal of a laboratory, and creating one has never been easier.

BY ROBERTA KWOK

Emilio Bruna admits that his first laboratory website was painfully ugly. Bruna, a plant ecologist at the University of Florida in Gainesville, put together the site in 2002 using Microsoft FrontPage software. The background colour was a homely tan, the text was unevenly indented and a news ticker advertising for research-assistant applicants crawled along the bottom of the page. Bruna calls the look “horrible”. He later upgraded to a university website template, but he disliked the generic corporate look.

He was never really satisfied with the design until he started using the free website-building tool WordPress last year, which allows users to

choose from thousands of designs, edit from any computer and easily customize their sites with ready-made modules such as an automatically updated Twitter feed. Bruna chose a clean, attractive template and added elements such as a slideshow of current projects and blog posts. Although he acknowledges that his current site (<http://brunalab.org>) is still not the pinnacle of sophisticated design, he calls it a major improvement on the previous version. The new site has attracted admiring comments from colleagues, and Bruna believes that it offers a clearer, more appealing presentation of his research that provides other scientists with easy access to his papers and data.

Many scientists consider creating and maintaining an aesthetically pleasing, up-to-date

website a low priority. But a compelling lab homepage can help to attract students and funding. Some students browse potential advisers’ websites to help them decide whether the lab culture is a good fit, and scientists sometimes check other researchers’ sites to keep up to date on a lab’s work or to decide whether they want to collaborate. Thoughtful design also makes it easier to read and process information.

“It’s so important to have an appealing current webpage because this is your professional presence online,” says Liz Neeley, who is based in Seattle, Washington, and is assistant director of science outreach at the science communication organization COMPASS. “It’s the face that you’re showing to the broader world.”

Although social-media sites have gained importance as communication tools, a website remains a convenient, centralized source of information about projects, publications, research products and teaching — as well as an opportunity to showcase what makes the lab unique. By carefully organizing their content, considering their target audience and following some simple design guidelines (see ‘Digital delight’), scientists can craft a site that presents their accomplishments and scientific approach. And with many user-friendly tools now available, building a new website does not have to be expensive or onerous. “There’s no excuse for having an ugly webpage anymore,” says Bruna.

CRAFTING THE CONTENT

At a minimum, says Neeley, every lab website should have a concise one- to two-paragraph research summary, a list of lab members with titles and biographies, and a head shot of the principal investigator. Lab websites also often list research projects, publications, data sets, software, job openings, collaborators and contact information.

For more in-depth content, Neeley suggests a layered strategy. An overview summary on the first page could emphasize key projects and other issues that the principal investigator considers to be important, such as public outreach or open science. A research page could provide project descriptions in layman-friendly language, with links to papers or more technical information. This allows interested readers to get a range of information without diving into details right away, says Neeley. Be selective about which projects are featured on the front page; if too many are included, the less important ones “might be taking attention away from what really is relevant”, says Gaby Hernández, a graphic-design researcher and educator ▶

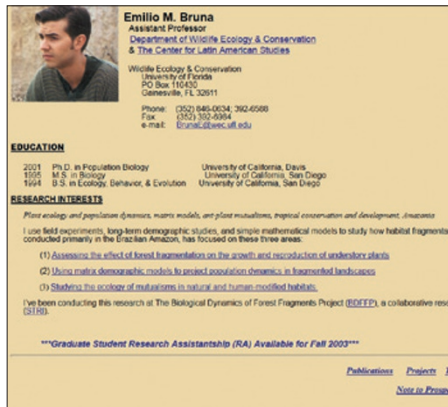
RATCHI/SHUTTERSTOCK; SCREENSHOT: R. DUNN/V. MCCOY

► at the University of Houston–Downtown in Texas, who has worked with scientists on communication and data visualization.

When crafting the site, consider who it is targeting. Astronomer David Kipping used to have a somewhat crowded, blog-like website aimed at a popular audience. But when Kipping, who is currently at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts, entered the job market last year, he wanted to tailor the site towards busy faculty members reviewing his applications. So with guidance from design-savvy family members, Kipping reworked the site (www.davidkipping.co.uk) to look more like an online CV, with easy-to-find pages for papers and project descriptions, and newly added information about his teaching record. His list of publications included links to the papers, as well as associated animations and ‘cheat sheets’ of equations that convey the main points of the studies (because many researchers might not read the entire paper). The goal was to “help the reviewer to very quickly find the relevant information”, says Kipping. And, he notes, an appealing website “can also show that you are capable of putting together a nice presentation and outreach tool”.

Details or illustrative flourishes can entice prospective students. Bruna added the slideshow of projects to his website, including images of his team’s work in Brazil, partly to attract students who are interested in tropical ecosystems. The ‘lab members’ section mentions the activities of lab alumni and includes e-mail addresses for current students, so prospective students can contact them for input about the lab. To reduce time spent responding to e-mail enquiries, Bruna included instructions on what information prospective students should send; most applicants follow those guidelines, he says.

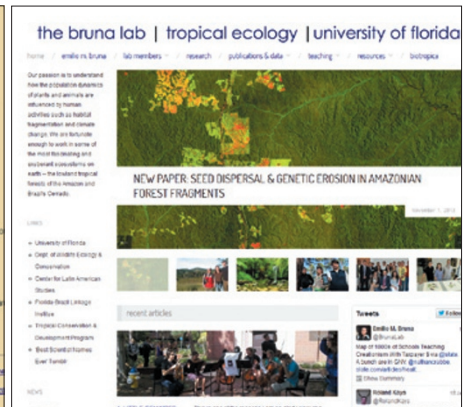
But sites can use more than research summaries or publication lists to attract prospective students: they can articulate a lab’s philosophy and mission, helping to set the tone for the lab’s culture. Neuroscientist Kay Tye signed a contract to become an assistant



Emilio Bruna calls his first lab website (left) “horrible”; the updated version (right) features a slideshow.

professor at the Massachusetts Institute of Technology in Cambridge in 2011, and soon after, she set out to recruit the right people for her new laboratory. She put up a lab website (www.tyelab.org) that included a philosophy statement describing her expectations for lab members; she emphasized the importance of having a positive attitude, communicating honestly, supporting other lab members and taking care of oneself (for example, by making time to socialize and exercise). Many applicants have cited the philosophy statement as a reason they wanted to work with her, says Tye. And stating expectations up front deters applicants who might not be a good fit. “People who don’t identify with this philosophy won’t apply, and then we won’t waste our time,” she says.

Some researchers even add website content to attract funding. Bruna applies primarily to the US National Science Foundation in Arlington, Virginia, for grants, and the agency has emphasized the importance of sharing data. So Bruna’s site includes a statement supporting such policies and clear links to his data sets. “If you’re an applicant for a grant, this is your opportunity to sell yourself,” he says. If funders are interested in social impact, images of the scientist working with, for example, farmers affected by the research could be helpful, says Hernández. A website can also assist with crowd-funding.



In 2012, Ethan Perlstein, an independent evolutionary pharmacologist and founder of the research company Perlstein Lab in San Francisco, California, published several blog posts on his site (now at www.ethanperlstein.com) to promote a campaign to fund his amphetamine research. The campaign ultimately raised more than US\$25,000 (see *Nature* **490**, 133; 2012).

ATTENTION TO DESIGN

To get started, look at other people’s websites and identify appealing elements, says Kipping. Researchers might find inspiration at the Tumblr page Great Lab Websites (<http://go.nature.com/iwn9kn>), which was started this year by biologist Michael Eisen at the University of California, Berkeley, or at the web-design gallery site Inspire (www.siteinspire.com).

Consider the personality or values that the site should express. Perlstein is an open-science proponent and heavy social-media user, so his front page features a stream of blog posts, videos and automatically updated content from his accounts on data sharing and social media sites. Other researchers might prefer a more conventional look. “I don’t think there’s one size fits all,” he says.

Choose images that are specific to the research. For example, ecologists often use pictures of forests, but a close-up of the plant species being studied would be more unique, says Hernández. Ensure that images are in focus and have enough contrast to clearly show the subject.

Simple fonts such as Helvetica are easier to read than ornate fonts, and dark grey text generally looks better than black, which can appear too heavy, adds Hernández. A light background is easier on the eyes, and the colour of links should be clearly distinguishable from non-linked text. When choosing the link colour, stick with the site’s existing colour palette; for example, a website with blue border lines could also have blue links.

But scientists don’t need design expertise to create an appealing website — many ‘ready-made’ website templates are available. WordPress is one of the most popular sources of free design templates; Kipping used a template

DIGITAL DELIGHT

How to create a clear and attractive website

- Avoid crowding the home page with too much information, which can distract the reader from the most important content.
- Structure content in layers. Give a brief overview statement, then allow the reader to click to other pages for more details.
- Minimize the number of clicks needed to reach important information. Include clear links to source material, such as paper PDFs, data sets and software.
- Consider the target audience for the site, such as prospective students or hiring

- committees, then add or emphasize elements that are relevant to that group.
- Include a clear head shot of the principal investigator.
- Select images specific to the research, such as the plant species being studied, rather than a generic forest photo.
- Use simple fonts. Dark grey text on a light background is easy to read.
- Ensure that the link colour is clearly distinguishable from non-linked text. Stick to a consistent colour palette. **R.K.**

from the Mac program RapidWeaver; and the online service Squarespace offers slick designs and web hosting starting at \$8 per month. Whatever template they choose, researchers should ensure that the design has been optimized for mobile devices with, for example, alternative layouts that are easier to view on a smaller screen.

Costs for a customized site can vary depending on the requirements. Neil McCoy, a freelance web designer in Raleigh, North Carolina, who specializes in science communication, charges \$60 per hour and says that an academic site usually costs between \$1,000 and \$3,000; sites at the higher end of the price range might involve custom graphics or a large amount of content, such as many pages or photo galleries. Perlstein paid a company about \$8,000 for his website, which has advanced features such as the automatic import of content from alternative metrics sites. The design process, complete with mock-ups and a test site for Perlstein's review, took about three months. However, for scientists on a budget, graphic-design students might be willing to build a simple site relatively cheaply.

Improving a site doesn't have to take a lot of time. Bruna spent a weekend setting up his WordPress site and now spends about an hour per week updating it with news. But updates every couple of months,

“Like it or not, we are in the business of marketing and promoting our work.”

when papers are published or accepted, will probably suffice for most scientists. Researchers could reduce maintenance time by displaying only representative publications rather than a comprehensive list. If overhauling the entire site sounds overwhelming, focus on the improvement that would yield the biggest gain, such as writing an overview statement or updating the publications list, says Neeley. Finishing a simple site is better than leaving a complicated one under construction; a website should not look like an abandoned project, says Attila Csordas, a bioinformatician at the European Molecular Biology Laboratory's European Bioinformatics Institute in Hinxton, UK, who helped to judge a 2007 lab-website competition hosted by *The Scientist*.

The rise of social media means that websites bear less of the burden of representing the lab than they did several years ago, says Csordas. Even so, the lab website remains a key element of a scientist's public profile. “Like it or not, we are in the business of marketing and promoting our work,” says Bruna. “Those things do matter.” ■

Roberta Kwok is a freelance science writer in Seattle, Washington.

COLUMN

Self-taught soft skills

Junior researchers can learn career-boosting skills by forming their own groups, says **Alexandra Lucs**.



Junior researchers are becoming increasingly aware that in addition to honing their scientific know-how, they need to develop their ‘soft skills’, such as the art of communicating, managing or collaborating. For most, opportunities for formal training in soft skills are limited. Independent courses are starting to emerge, such as the ‘Leadership in BioScience’ sessions at Cold Spring Harbor Laboratory in New York, but not everyone can afford the requisite time or money.

At the Feinstein Institute for Medical Research in Manhasset, New York, several young investigators and I are trying a different approach. We have found an easy and inexpensive way to foster our people skills by taking on the training ourselves. By forming a small group, we have learned soft skills from each other, as well as from resources found online.

We decided to include no more than one person from any given laboratory to avoid intralab politics and to ensure that members feel free to speak openly and confidentially about any personnel issues that might arise. This is particularly important when discussing, for example, what makes a good manager, the ways in which researchers influence others around them or the tools needed to manage difficult conversations.

Some were initially sceptical; they simply hadn't considered the importance of soft skills in a laboratory. But after discussing the need to better negotiate our future positions, hire a strong talent pool and mentor or manage current personnel, the doubters quickly understood the potential benefits.

Our ten-person group has met monthly since April 2013, with each meeting lasting 1.5 hours. We begin the sessions with brief updates on each

member's career progress and challenges, such as their grant applications, invitations to talk and problems in hiring capable personnel.

An online tool called Lean In (<http://leanin.org>) has greatly facilitated our efforts. Although intended for women, the website's informative videos feature topics that are relevant for both genders. They address such issues as ‘How do team dynamics affect scientific contributions?’, ‘How can we exert influence in our collaborations?’, ‘Who at our institutions can help us learn how to become group leaders?’ and ‘How can we negotiate for new positions?’ We watch the videos on our own and discuss them as a group.

One topic that we discussed was when to ‘walk away’: that is, how to recognize when a position or job offer does not fulfil your aims. The goal of one of our members was to become a professor, but she identified some additional goals, such as independence, upward mobility and the ability to pursue science research. She received a job offer that seemed to satisfy these requirements, but she didn't jump on it — not yet. She knew she could walk away if need be. At her next meeting she firmly stated that she needed her academic appointment within a certain time frame. There were no threats, only calm determination, and she got what she wanted.

Another group member recognized that her often-docile demeanour led to her contributions being under-appreciated. It inspired her to become a better advocate for her career, and she quickly got two job offers. Before joining the group, she would simply have accepted the first offer she received, but instead she negotiated with specific salary and time commitment requirements in mind. Both employers agreed.

An unanticipated benefit of this group is that we have formed a strong network. We talk to each other more outside meetings and have formed interdisciplinary collaborations. In attempting to learn soft skills together, we have also enhanced each other's science.

In the past few months, new people have joined our group to replace those who have moved on. Some may enter the group with doubts about its merit. But soon they realize just how important these soft skills are — and just how much we can teach ourselves. ■

Alexandra Lucs is a postdoctoral fellow at the Feinstein Institute for Medical Research in Manhasset, New York.