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Acknowledgements

Thanks to my family friends, mentors, and colleagues who have helped me think deeply about diversity and inclusion, to the US Forest Service for letting me be a part of transforming our agency to be inclusive and expansive in our scientific agenda, and to the University of Wisconsin Madison Graduate School for inducting me into the Edward A. Bouchet Graduate Honor Society and inviting me to give a panel presentation on "The Future of the Academy: Maintaining and Strengthening Academic Diversity in the Midst of the Current Economic and Political Climate." I would also like to thank the Botanical Society of America, the Human Diversity Committee, and Brenda Molano-Flores, Chair of the committee, for supporting my travel to the Botany 2014 conference as the invited speaker for the Enhancing Scientist Diversity in Plant Biology Luncheon.

Postdocs: Improving our Visibility in the Research Workforce

By Jessica M. Budke, Katherine Esau Postdoctoral Fellow, University of California – Davis; jessica.m.budke@gmail.com

Do you know how many postdocs work at your institution? When I started my postdoctoral fellowship over two years ago, I had no idea that there are more than 6,000 postdocs in the University of California system with 600 of those postdocs working at the Davis campus. Over the past 30 years the number of postdoctoral positions in the United States has steadily increased to over 63,000 at more than 300 institutions (Einaudi et al., 2013). Postdocs are not only at large research universities, but we are working at primarily undergraduate universities such as Bucknell University and Willamette University, as well as research institutions such as The Field Museum and the Smithsonian. Despite the prevalence of postdoctoral researchers, we are often an invisible component of the research workforce.

The National Science Foundation (NSF), National Institutes of Health (NIH), and National Postdoctoral Association (NPA) define a postdoctoral position as "a temporary and defined period of mentored advanced training to enhance the professional skills and research independence needed to pursue his or her chosen career path." Although additional training acquired during a postdoc is an asset to our careers, it is important to remember that postdocs are PhD-holding, early-career researchers who contribute significantly to both our research groups and institutions. The contributions of postdocs often extend beyond the lab bench. Postdocs write grants and papers, mentor undergraduate and graduate students, present research at seminars and conferences, and teach courses in addition to our research responsibilities. Despite these contributions, the temporary nature of postdoc work, as well as the "trainee" rather than "staff" status, has been often used to justify low pay and minimal benefits for postdocs (Cain et al., 2014).

Postdoc Unionization At The University Of California

In order to push back against the undervaluing of our contributions, postdocs at the University of California voted in 2008 to form a stand-alone postdoctoral researchers' union: UAW 5810 (http://uaw5810.org/). Previously, postdocs negotiated individually for salary and benefits, resulting in uneven pay rates within and across departments and campuses. Salaries stagnated and in one instance, a full-time postdoc at the University of California was paid an annual salary of only $18,000 (Cain et al., 2014). After more than a year of negotiating, we won a 5-year contract that established a minimum salary scale, guaranteed annual salary increases, comprehensive health benefits at low cost, and a one-year minimum contract, in addition to many other benefits (Figure 1). These steps forward have significantly improved the postdoc experience at and beyond the University of California.

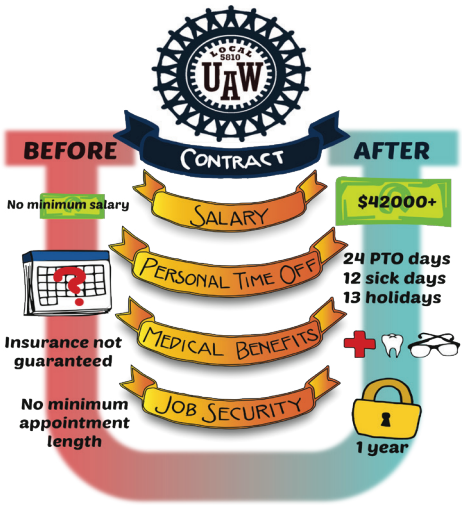

Figure 1. Union rights equal postdoc wins (Cain et al., 2014). The University of California (UC) Postdoc Union (UAW 5810) achieved a number of improvements for postdocs. Postdocs are now paid minimum salaries guided by the NIH NRSA Fellowship scale and receive guaranteed annual raises. Previously, time off was at the PI's discretion and there was no guaranteed leave. Now, postdocs at UC can have up to 6 weeks off at 70% pay for maternity leave. Postdocs have 24 days of personal time off (PTO) per year, in addition to 12 sick days and 13 UC "public" holidays. Postdocs and dependents also receive comprehensive health, dental, and vision insurance. Postdocs must be appointed for at least 1 year and many are appointed for longer.

I see unions not only as a progressive force advocating for early-career researchers, but I am also excited about the positive inroads unions can make for women in science. Significant biases against women still exist, which can influence both the evaluation and hiring of female scientists (Moss-Racusin et al., 2012; Jones and Urban, 2013). For university faculty, one way unions address these biases is by increasing transparency in the tenure and promotion process. Clarifying and communicating expectations equally to all faculty may be one reason why unionized faculty have a significantly higher percentage of women at the associate and full professor ranks compared to non-unionized faculty (May et al., 2010). Faculty unions also improve pay equity due to the presence of non-discrimination clauses in union contracts, resulting in a smaller salary gap between men and women (Rhoades, 1998). As a woman in science, I appreciate that the postdoc union at the University of California negotiated an experienced-based, minimum salary scale mirroring that of the National Research Service Award Fellowships (National Institutes of Health, 2014). These pay standards value the contributions of all postdocs equally and help to eliminate gender biases in pay.

Policies including maternity/paternity leave and subsidized childcare are not only critical for the retention of women in science, but they help to make science a more family-friendly career path for everyone. The median age of people finishing their PhDs in 2013 was 31.8 years old (Fiegener, 2014). This places many postdocs in the middle of prime parenting years when they are having and raising young children. In California the average cost of childcare is over $1000 per month (Child Care Aware of America, 2013), and at expensive campuses such as San Francisco, Berkeley, and Davis it can be up to $2000. For a starting postdoc making $3500 per month, these expenses can consume one third to one half of their salary, representing a significant financial cost. For University of California postdocs there is currently no reimbursement for childcare expenses and few campuses have university-sponsored childcare services with discounts for university affiliates such as postdocs. This places significant financial pressure on postdocs' decisions to start and maintain a family while continuing to work. This pressure may be especially acute for women, who often bear a larger proportion of childcare responsibilities (Bureau of Labor Statistics, 2014). A priority area for the postdoctoral union at the

University of California is to push for cost-of-living adjusted childcare subsidies or reimbursements for postdocs in our next contract. Decreasing the financial strains on postdoc families may also help to stem the flow of women leaving science during the postdoctoral phase of their careers.

Postdocs Taking Action

The postdoctoral union also gives members a voice in political decisions that directly impact our work. We launched a campaign to push for increased federal funding of science in the United States. Postdocs took photos of themselves with whiteboard signs stating why we support science funding and posted them to social media (Figure 2), similar to BSA's #iamabotanist campaign. Additionally we supported a "Dear Colleague" letter written by Congressional Representatives Jim McDermott (WA) and George Miller (CA) calling for congress to restore science and research funding that was cut from the 2013 federal budget during the sequester (http://uaw5810.org/wp-content/uploads/2013/09/McDermott_Miller_Letter_Color.pdf). This letter was ultimately signed by 39 members of Congress and then distributed to all congressional offices. In conjunction with other organizations around the nation, this campaign helped to restore US science funding to pre-sequester levels. By bringing together a group of people with common concerns and goals, the postdoc union enables us to have an impact on important issues beyond the University of California.

Another way postdocs are taking action to increase our visibility is by establishing new venues

Figure 2. University of California postdoctoral researchers sharing why we support science funding through a whiteboard campaign.

for sharing our research. In 2013, postdocs at UC Davis started a seminar series for postdoctoral scientists studying plants. This seminar series has featured postdocs from many fields including Botany, Plant Pathology, Ecology and Evolutionary Biology, Plant Biology, and Genomics, just to name a few. We have also hosted postdocs from nearby institutions, such as the Lawrence Berkeley National Laboratory, Stanford University, and UC Berkeley, thanks to the financial support of the UC Davis Plant Biology Department. In a similar vein, postdocs in the Plant Biology Department led the organizing of a Postdoctoral Research Symposium at UC Davis in May 2015 (https://sites.google.com/site/ucdavisprs/home). This included a full day of research talks, a networking lunch, poster session, and awards ceremony that featured the research of postdocs from many departments across campus. Through these events, postdocs have taken action to create professional development opportunities for sharing our research and honing our presentation skills in preparation for national and international conferences. By increasing the visibility of our research, postdocs demonstrate the value and importance of our contributions to the wider campus community.

POSTDOCS MOVING FORWARD

Within the sometimes hidden postdoctoral community I have found a passionate and engaged group of peers who have played a significant role in improving the postdoc experience at the University of California. By forming a union we not only came together to gain better working conditions for postdocs, but we also joined our voices to advocate for wide reaching issues, such as science funding and family-friendly workplaces. These experiences have broadened my perspective on what it means to be an active member of the scientific community. Identifying challenges and issues that impact science and scientists is an important first step that is best followed by actionable plans that move us forward toward progressive polices and solutions that can reverberate at and beyond our home institutions.

Our first postdoctoral contract at the University of California will expire in September 2015 (University of California, 2010). In the coming months I will be joining together with postdocs from across the ten University of California campuses to engage in the collective bargaining process with the university. During these negotiations we will continue to increase our visibility through public statements and petitions, outreach to state and federal elected officials, and demonstrations, which will build support for our next contract. Our goals are to negotiate a contract that supports the professional and personal lives of postdocs so that we can continue to produce cutting edge research that expands our knowledge of the world. Having the support of the broader scientific community, including botanists, will be critical toward our achieving these goals.

Tips for Building a Union

1. **Start the discussion by talking to your colleagues.**
   - Do you share concerns about your working conditions?
   - Are there common themes?
   - Compile a list of concerns and issues
   - It's best to have these discussions during non-work hours in a place where everyone can openly share their thoughts and opinions.
2. **Building support for a union..**
   - Develop an active and engaged group of colleagues from across your institution to form a core organizing committee.
   - Formulate a list of improvements you would like to achieve.
   - Evaluate the support for a union around your key issues by talking to a wide array of colleagues.
3. **Contact an organization that can help with the next steps of forming a new union.** Groups that have helped postdocs with unionization:
   - American Association of University Professors - American Federation of Teachers (AAUP-AFT)
   - The Canadian Union of Public Employees (CUPE)
   - Public Service Alliance of Canada(PSAC)
   - United Automobile, Aerospace, and Agricultural Implement Workers of America (UAW)
   - University Health Professionals (UHP)

Acknowledgements

Thanks to Dr. Mackenzie Taylor for inviting me to contribute my perspectives in this article. This piece is dedicated to my postdoctoral colleagues in the United States and abroad. I hope that each of you obtain a permanent position that enables you to continue to follow your scientific and botanical passions.

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Grady Webster Euphorbiaceae Virtual Herbarium and Publications

UC Davis Professor Dr. Grady Webster (1927-2005) was an internationally recognized expert on the Euphorbiaceae who helped countless scientists identify their Euphorbiaceae collections. Due to Dr. Webster's efforts, the herbarium at the UC Davis Center for Plant Diversity has a large, well-identified collection of Euphorbiaceae (>40,000 specimens). Now, we are pleased to announce that the Grady Webster Euphorbiaceae Virtual Herbarium and Taxonomic Resources site is available for use at our website: http://herbarium.ucdavis.edu/taxonomicresources.html.

This website, created with the support of the National Science Foundation (Award no. 1057391), provides specimen images of the genera *Croton, Dalechampia, Euphorbia*, and *Phyllanthus* and some of their segregate genera. We have provided at least one specimen image of each species that we house in our herbarium. Specimens were chosen for imaging by Dr. Paul Berry, Dr. Ken Wurdack, and Dr. Scott Armbruster; we thank them for their help.

In addition to the Virtual Herbarium, we have provided a list of Dr. Webster's publications as well as a list of his unfinished manuscripts with links to pdf versions, if allowed by the journal's publisher. In addition, we curated all Dr. Webster's unmounted specimens and databased all specimens associated with his Vascular Flora of Maquipucuna, Ecuador; label data from those specimens are available at our specimen search engine at: http://museums.ucdavis.edu/GIS_dataoption_mdb.aspx.

It is our hope that by providing these images, publications, manuscripts, and label data, we will both assist and inspire another generation of botanists to continue Grady's work.

—Ellen Dean, Curator, UC Davis Center for Plant Diversity, eadean@ucdavis.edu