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# Obie Alums: Life in the Sciences After Oberlin

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# Obie Alums: LIFE IN THE SCIENCES AFTER OBERLIN

## Chelsea Martinez '02

By Anna Dardick

Chelsea Martinez has managed to capture, distill, and employ the essence of the Oberlin experience since graduating. While at Oberlin, she majored in Chemistry and minored in History and Math, but the jack-of-all-trades theme continued post-graduation. She has taught pre-algebra and chemistry at a boarding school in Virginia, switched to a public school in California, attained a PhD in Chemistry from University of Texas at Austin, interned at the LA Times Health section, and worked at the Office of Science and Technology Policy in Washington, D.C. She has now come full circle and currently works as a Visiting Assistant Professor at Oberlin.

Martinez did not ever think that she would come back to Oberlin to teach, although she acknowledges that many of her graduate school peers are envious of her Oberlin professorship. Martinez concedes that there are some differences between her student and faculty years at Oberlin, but "things are more the same than I thought they would be." She now works with professors who used to be her own teachers, markedly Michael Nee, with whom she took Organic Chemistry and Organic Mechanism and Synthesis.

Martinez's doctoral thesis focused on synthetic peptides: for example, construction of novel enzymes with made-to-order functions to catalyze a specific reaction. Although she researched in a lab that had a dual focus in organic chemistry and molecular biology, she favored the former for her experiments. She enjoys organic chemistry because "you have to do everything for yourself" – you synthesize your own compounds, set up and break down your own experiments, and you don't send away a compound to be analyzed at another facility.

Now, as a professor, Martinez revels in "watching people work out basic concepts" and "look at things from different perspectives." There's one hitch, though – "I hate lecturing," she says, smiling at the irony. Ideally, she would lead a class with "more conversations and more collaborative work."

Any advice for current students? "Take advantage of more things," she says, "Be as broad as you can." As a student, Martinez worked at WOBC, taught an ExCo about producing a children's radio show, and researched in four different labs, at Oberlin and around the country. Now, she encourages students to attend concerts and join clubs that are out of their comfort

zones. "Take advantage of the people," she says, noting that she keeps in touch more regularly with her Oberlin friends than those from her other various exploits and studies. True to the Oberlin education and mindset, Chelsea Martinez has dabbled in a variety of fields and followed her passions in education, public policy, and organic chemistry. The only question left is: what's next?

## Bruce McEwen '59

By Veronica Burnham

Before he was a prolific researcher with over 700 publications, numerous awards, and a picture of his smiling face on display in the glass case in the science center's Bent corridor, Bruce McEwen was a once a young, passionate Obie, traipsing through Tappan Square. McEwen, who is currently the Alfred E. Mirsky Professor of Neuroscience at Rockefeller University, is head of the the Harold and Margaret Milliken Hatch Laboratory of Neuroendocrinology. The research in McEwen's lab is focused on studying the effects of hormones on the mammalian brain, both physiologically and behaviorally. He is best known for his research on the actions of estrogen and glucocorticoids (stress hormones) in the brain, in conjunction with the modulation of memory, emotion, and neuroplasticity.

McEwen attended Oberlin in the late 1950s, and his story is steeped in Oberlin history. He credits his decision to pursue chemistry major to current Chemistry Professor Emeritus Norman Craig, who was then in his first couple years of teaching at Oberlin. McEwen's interest in the inner workings of the brain was sparked when he took a psychology class in his sophomore year. "I took a psychology course with Celeste McCollough, a young visual system psychophysiologist," explains McEwen, "who planted the seeds that led me ultimately to behavioral neuroscience." McCollough, Oberlin's first full-time female faculty member of the Psychology Department, is most well-known for her characterization of the "McCollough Effect", a now-widely explored oddity of human visual perception. McEwen began to explore research at Oberlin, under Professor Peter Jack Hawkins, on a project he describes as "an organic chemistry project that was distantly related to biochemistry".

When asked about his favorite part of receiving an undergraduate education at Oberlin, McEwen explains, " Besides the serious academic atmosphere, exposure to diversity of cultures … and the music and arts scene were very stimulating, and I acquired a strong social conscience that has guided my current interest in how deprivation affects the brain and body and what needs to be done about it in our society." This consciousness of human deprivation was to greatly color the rest of McEwen's career. After graduating from Oberlin in 1959, Bruce McEwen went on to receive his Ph.D from Rockefeller University. While at Rockefeller, he worked in the lab of Alfred Mirsky and Vincent Allfrey on the regulation of gene expression through protein-DNA interactions. McEwen himself was involved in studying "how cell nuclei get energy to make nucleic acids." McEwen received his Ph.D. in cell biology in 1964 and went on to complete a postdoc in Sweden, where he was first introduced to the study of the brain through a project involving neural proteins. Following a brief stint at the University of Minnesota, he moved back to Rockefeller University to join the lab of psychologist Neil Miller. In Miller's lab, McEwen began exploring the effect of hormones on behavior and gene expression, and the rest, as they say, is modern neuroscience.

# Aaron Levin '68

By Lizzie Roberts

Careers in science writing don't necessarily begin with careers in scientific research. Aaron Levin is a self-described "writer specializing in science and medicine but interested in pretty much everything" who graduated from Oberlin in 1968 with a B.A. in history. From there he went on to pursue graduate study in classical archaeology and an M.A. in publications design.

Before plunging into the world of science journalism, Mr. Levin spent many years working as a professional photographer. Among his other assignments, he documented archeological research at several Mediterranean sites. His earliest excavations took place in Tel Anafa, Israel. He spent one summer working in Tunisia as a supervisor with the Oberlin Art Department's very own Susan Kane. He later spent several seasons as the excavation photographer at Pompeii and Paestum in Italy, and Caesarea in Israel.

His years working in Israel led to an extended photographic project documenting Israelis who took part in the country's struggle for independence in 1948. In 1998, he published a compilation of those black and white portraits and interviews entitled Testament: At the Creation of the State of Israel.

His launch into journalism occurred after earning his masters degree in publication design from the University of Baltimore in 1991. After being commissioned to write a few articles on cardiology and oncology, he discovered his bent for medicine and science. Mr. Levin has since contributed to a number of publications, from Journal of the National Cancer Institute and Drug Topics to Archaeology and Weight Watchers. After thirteen years working as a freelance journalist, he joined the staff of Psychiatric News.

Presently, Mr. Levin works as a senior staff writer, drawing most of his inspiration for articles from science meetings or reading journals. His beats include child psychiatry, military mental health, and disaster psychiatry, but he is also enthralled by neuroscience and genetics. "It's the future of psychiatry to understand what goes on in people's brains, beginning at the cellular and molecular level," he explains. "I try to cover them as much as I can."

Mr. Levin emphasizes that you don't need to come from a scientific research background to successfully pursue a career as a science writer. He knows some writers who have gotten their PhD's and said, 'I can't work at a lab bench anymore.' Others, like him, took a slower and more circuitous route into the profession. Not having an advanced degree in the sciences by no means held him back in his career: he is an active member of the National Association of Science Writers, the Association of Health Care Journalists, and a past president of the Washington DC Science Writers Association.

# Interview: Styer

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why I came to Oberlin – it was dumb luck, but really good luck. And I have found all sorts of beautiful places to hike here.

**So, hiking is one of your activities outside of teaching and researching?**

Yes. Last summer, I hiked the span of Pennsylvania from Maryland to New York. And the summer coming up, I am planning on hiking the Colorado trail from Denver to Dorango. The summer after that, I want to hike the span of Idaho. By then, I'll be sixty and maybe ready to slow down.

**Last question – what would your advice to students interested in graduate school and research be?**

Well, the first thing is to make sure you are interested. You know, when you were five years old, you went to kindergarten. It was the natural thing to do. And then first grade through twelfth, and then the next thing was to go to college. And you're probably at a point now where you go, I don't know what to do, and it's tempting to keep on doing the same thing. Graduate school is very rewarding, but it's extremely hard. If you're not sure that's what you're interested in, I recommend you take a while to become interested. I spent two years between undergraduate and graduate school because I wasn't sure what direction I wanted to go. Even if you are sure, it might make sense to take some time off – how long have you been in a classroom? What percentage of your life is that? There is life outside of the classroom. I don't say that everybody should go to graduate school. The first thing is to make sure that is really what you want to do, because it is a lot of work and a lot of money. If you really want to, you can learn so much. You will be surrounded by very bright people who are very intense and on the cutting edge of their field. All of the students around you will be very sharp and all of the professors around you will be very sharp, and if you are motivated, you can lap up knowledge like no other. And the time, I spent in graduate school, boy, I learned a lot and it was a great experience. But it was a great experience because I was sure this was what I wanted to do and I was willing to work like a demon, which I did and was expected to. It was great, but if you're not certain, it can be very grinding down. There is a lot of work. And if you're not willing to see that work as fun, and if it isn't fun to you it will be very grinding.

**J: That's so fascinating. Thank you ftaking the time to let me interview you.**

S: It was very nice talking to you.

*Interview by Jessica Lam*