

T H E N I C H E

V2 #1

DEPAUL UNIVERSITY | DEPARTMENT OF BIOLOGICAL SCIENCES

FROM THE DESK OF THE CHAIR



Though we are getting ready to start another school year, there were a number of exciting events that took place at the end of the 2011-2012 academic year that I would like to tell you about. The end of a school year is always an exciting time for our graduating seniors, their families, and our faculty and staff. It was very gratifying to see our students finish their degree and start the next chapter of their lives whether it's attending graduate school, professional programs, entering the work-

force or continuing their education in other areas. The end of the year was capped off with a college Honors Banquet and of course commencement. At the first annual College of Science and Health Honors Banquet we were able to recognize Daniel Clark as our Outstanding Senior. Daniel was very deserving of this award, and you will get an opportunity to read a profile of Daniel in this issue of The Niche.

In May 2012, we received decisions concerning faculty applications for promotion and tenure. I am pleased to announce that Talitha Rajah, Ph.D., was promoted to the rank of associate professor with tenure and Kenshu Shimada, Ph.D., and Margaret Silliker, Ph.D., were both promoted to the rank of professor. In addition, Rima Barkauskas and Carolyn Martineau were given long-term contracts and promoted to senior instructors. All of these faculty are very deserving of these honors and I would like to wish them all continued success in the coming years.

As soon as we finished congratulating and recognizing our graduating seniors, we immediately turned our focus back to those departmental initiatives that we hope will strengthen our programs and enhance the educational experience of our students. As one example, we have a group of faculty working on a set of courses that will provide field based educational opportunities. Drs. Sparkes and Bystriansky recently taught a new course (Bio 318) entitled Field Studies in Marine and Estuarine Biology that will be profiled in this edition of The Niche.

There are of course a number of other initiatives that the department is working on that we hope to let you know about in the upcoming issues of The Niche. So stay tuned. As always, thank you for your continued support and stop in to see us if you are ever on campus. ■

John Dean

Chair of Biological Sciences

FUN IN THE FIELD

The Biological Sciences Department is always looking for ways to further enhance the field skills and experiences of our students. We are excited to report on a new field course, developed by Tim Sparkes, Ph.D., and Jason Bystriansky, Ph.D. To pilot the course, a group of undergraduate students from biology, environmental science and political science spent a week in South Carolina during December 2011, in the new course entitled Field Studies in Marine and Estuarine Biology (BIO 318). Students examined invertebrate diversity in several habitats (salt marsh, mudflat, sandy beach), observed shore birds and participated in a trawl of Charleston Harbor. The students also spent a day netting local fish species and participated in an oyster reef restoration program. The positive impacts on students' first experience engaging in science in a coastal area were apparent, with student comments such as "amazing experience," "I learned so much," and "I want to come back and do more."



1. Tim Sparkes with Brendan Butkus and Alexander Adam
2. Alexander Adam, Oriana Napoleon, Brendan Butkus, Lizz Merritt, Mattina Alonge, Emily Lam, Marina Klipinister, Becca Furrer, Shelby Judd, Annie Strong, and Alexis Boin at the Grice Marine Station, Charleston, SC
3. Jason Bystriansky working with Brendan and Emily to demonstrate seine netting at Coffin Point
4. Katie Schwartz with a trawl-collected puffer fish from Charleston Harbor

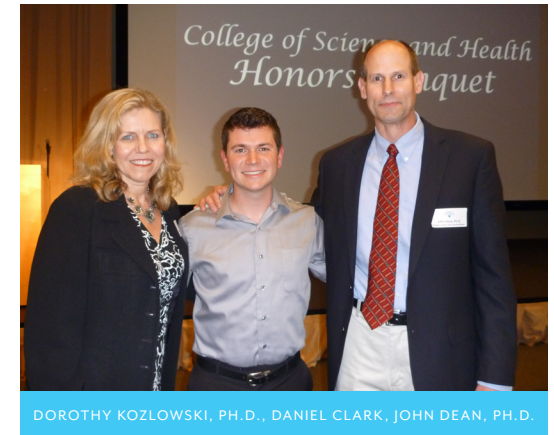
SENIOR OF THE YEAR DANIEL CLARK

Daniel is a biology (neuroscience)/psychology (cognitive neuroscience) double major graduating magna cum laude this June 2012. He has been working with Dorothy Kozlowski, Ph.D., on the long-term effectiveness of stem cell transplantation for traumatic brain injury. He has presented a poster of this work at local meetings and also the National

Neurotrauma Society Meeting in July, 2011. At the National Neurotrauma Society Meeting, Daniel's poster was one of 16 chosen to represent the top student posters at the meeting (out of about 150). An article of this research can be found in the 2012 CSH Undergraduate Research Journal.

In addition to his work as a student and researcher, Daniel has played a role on the executive committee of the newly formed Neuroscience Club which he helped to develop and become an official DePaul club. Additionally, Daniel has been volunteering since 2008 at Children's Memorial Hospital for Child Life 3W Bedside and the PACU. Furthermore, he has been working with DePaul Housing Services since 2008 and has worked jobs including senior lead desk receptionist and facilities assistant. His work in addition to his activities earned him the Spirit and Mission Award from Housing Services.

Lastly, Daniel has been a leader in Global Brigades a student-run organization that leads service trips (from Medical and Public Health to Microfinance and Environmental Brigades) to Honduras, Panama and Ghana. Daniel organized these trips for students at DePaul and played a large role in their success these past three years. His work in this organization led to receiving the national Presidents' Volunteer Service Award for his contribution with the DePaul Public Health Brigade. After graduation, Daniel will be working with Global Brigades USA on student initiatives before applying to schools for a professional degree in public health.



DOROTHY KOZLOWSKI, PH.D., DANIEL CLARK, JOHN DEAN, PH.D.



FROSTY FRIDAY FLASHBACKS

Are the summer months already starting to make you feel a little hot under the collar? The Niche has just the solution to your problem. If you were involved with summer research or classes, you may have been part of the Frosty Friday ice cream celebrations that have been held over the summer in the last decade or so. But whether you were there or not, no need to worry, we've got some of those tasty ice cream recipes from the Frosty Fridays that you can try out for yourself. Just take these mixtures and freeze them in any kind of ice cream freezer or cut the recipe in half and place it a bowl in the freezer and whip it up every 10 to 15 minutes or so, for a couple of hours until firm. So have some fun and try some out and don't forget to stay cool. ■

BASIC VANILLA

3 quarts half and half
2 1/2 to 3 cups sugar
1 tsp vanilla

BASIC STRAWBERRY

2 quarts half and half
1 quart strawberry puree
2 1/2 to 3 cups sugar
1 tsp vanilla

ORANGE MINT

2 large cans orange juice concentrate
2 quarts half and half
1/2 cup sugar
1 tsp vanilla
1 tsp mint extract

LEMMON'S LEMON SHERBET

2 quarts half and half
1 quart fresh squeezed lemon juice
1 quart sugar
1 tsp vanilla

BUMPY ROAD

3 quarts half and half
2 1/2 - 3 cups sugar
1/2 bag of small chocolate chips
(mixed in near end)
2 cup small marshmallows
(mixed in near end)
1 tsp vanilla

RICH CHOCOLATE MINT

3 quarts half and half
2 dark chocolate bars
(or one bag of dark chocolate chips)
3 1/2 cups sugar
1 tsp vanilla
1 tsp mint extract

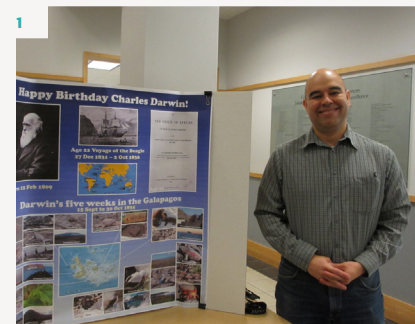
Warm up 1 quart of the half and half.
Melt chocolate (carefully in microwave or over double boiler).
Mix melted chocolate into warmed half and half.
Cool half and half mixture, then add with other ingredients when making ice cream.

PINEAPPLE KIWI

1 can crushed pineapple or pineapple slices
4-5 fresh kiwis
blend kiwis and pineapple into a puree
(about 2 cups), add to
3 quarts half and half
3 cups sugar
1 tsp vanilla

CARROT CAKE (NON-DAIRY)

1 small can crushed pineapple
or pineapple slices (1 cup)
5-6 well cooked carrots (3 cup)
Blend carrots and pineapple into a puree
(about 4 cups total)
2 quarts almond milk
3 1/2 cups brown sugar
1 tsp vanilla
1 Tbs cinnamon
1/4 tsp allspice



- Darwin Day**—Evolutionary Biologist Windsor Aguirre, Ph.D.
- BIO v. CHE Annual Softball Game**—Back: Dan Clark, Stephen Johnson, Dorothy Kozlowski, Ph.D., Kevin Crittenden, Jason Bystriansky, Ph.D., Abram Garcia, Nick Schertz; Middle: Katie Merva, Nick Staropoli, Jalene LaMontagne, Ph.D., Michelle Johnson, Heather Anderson, Emily Zajecka, Allison Grecco; Front: Tim Sparkes, Ph.D.
- Chicago Area Undergraduate Research Symposium (CAURS)**—Back: Trevor Grandpre, Jenna Bergevin, Yuri Zapata, Front:

Suzi O'Hare, Rupali Padhiar, Michelle Saenz, Chris Gallardo

- Commencement**—Biological Sciences Faculty Back: Dorothy Kozlowski, Ph.D., Jason Bystriansky, Ph.D., John Dean, Ph.D., Phillip Funk, Ph.D.; Front: Stan Cohn, Ph.D., Eric Norstrom, Ph.D., Jalene LaMontagne, Ph.D., William Gilliland, Ph.D.
- Senior Reception**—Bethany Litt, Margaret Johnson, Deseree Poellnitz, Stacey Mei
- Commencement**—Lauren McDonald and Ramneek Mangat

DOING A DOUBLE TAKE

They say two heads are better than one, and in the Department of Biological Sciences we know this better than anyone, as we have several pairs of twins going through the program together. To get a sense of the delights and dilemmas of being twins in science, we interviewed three of these pairs to give you an inkling of what it is like to double up in the sciences



MARINA (LEFT) AND GABRIELLA (RIGHT)

Marina and Gabriella Giovanni

Incoming seniors for the class of 2013, Marina and Gabriella have been together in many biology classes. Marina (psychology major and biology minor) and Gabriella (biology major) have been in almost all the same classes. “We do try to take the same classes at the same time,” says Marina, “We have the same study habits too which is

always nice. It also helps us to save money on books.” While Marina almost went to the University of Illinois, Gabriella convinced her to come to DePaul and take advantage of the much smaller class sizes. Both of the twins also want to go on to medical school, ideally the same one, but they know that may not be possible. When asked about twin studies for research they said “We know that happens but we’ve never really been interested in participating in something like that.” Marina adds, “We have thought about attending that annual twin picnic in Ohio, but Gabriella hasn’t really been interested in going. Maybe sometime!”



FIONA (LEFT) AND DAVID (RIGHT)

Fiona and David Lane

David (chemistry major and biology minor) and Fiona (biology major) enjoy being in the sciences together. As they put it, “It’s nice to have a study partner.” They have taken a number of their classes together where they have had the ability to, “save money on books, carpool, study together, that kind of stuff.”

Their application and acceptance to DePaul wasn’t as coordinated as it might seem. “We both applied without telling each other and both decided to go without talking to each other. It just worked out!” Their older brother is an aerospace engineer and their mother was in biology, so they have been surrounded by science growing up. Fiona stated they were from the Magic

School Bus generation, and that she wants to be Ms. Frizzle for Halloween someday. When asked about being twins at the same school, they suggested taking many of the same classes if you can to save on textbooks and to bounce ideas off each other. And as for the best twin question they’ve been asked? Fiona says she has been asked, “Are you identical? Clearly, we are not identical!”



KATE (LEFT) AND ANNE (RIGHT)

Anne and Kate Koronkiewicz

Both biology majors, Anne and Kate say they enjoy going to school together, especially “to have a study buddy.” They are excited to be the science pioneers in their family, but they say everyone in their family has been very supportive and thrilled for them. Their family is well acquainted with DePaul, as their father and older brother

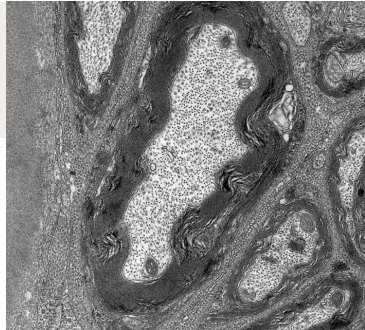
attended the university as well. They decided to come to DePaul as well since the facilities were newer and better than at some of the other programs they were looking at. Kate is interested in going into areas such as rehabilitation and physical therapy, while Anne is interested in neuroscience and medical school. In terms of advice for twins at the same school, they suggest taking the large classes together but “take the smaller classes separately, as it helps to develop individuality.” Kate and Anne are excited to be graduating at different times which they feel will give each of them their own special moment.

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RESEARCH IN ACTION

ZEBRAFISH EARN THEIR STRIPES



If something is beginning to seem fishy in Biology you're right! This issue's faculty research in action picture is from the lab of Elizabeth LeClair, Ph.D. It is a cross section of a zebrafish myelinated axon. LeClair's lab works on the development of the sensory structures known as maxillary barbels in the zebrafish. Each barbel carries taste buds, solitary chemosensory cells, and epithelial nerve endings, all of which regenerate after amputation. The use of this model system helps scientists better understand the way in which neurons, and the myelination of their axons, grow and regenerate during development. Beyond the science itself, this work also highlights the strong connection of our faculty in connecting research with collaboration and education. The publication for this work (onlinelibrary.wiley.com/doi/10.1002/cne.23147/abstract) includes three undergraduate co-authors, all of whom were able to use Northwestern's Cell Imaging Facility as part of LeClair's collaboration with the lab of Topczewski at Children's Memorial Research Center. For more information about the imaging facility the students use, check out feinberg.northwestern.edu/cif. 