Research and Clinical Excellence Day

Patrick Wolfgram & Arya Saniee
Second-year dental students, Class of 2018

October 15, 2015 marked the UCSF School of Dentistry’s 13th Annual Research and Clinical Excellence Day (RaCED). This is the one time each year that the entire school joins together, all students, faculty, and staff, to acknowledge the research conducted by the school. UCSF’s commitment to top-tier research is evidenced by the National Institutes of Health (NIH) funding awarded to the school. The School of Dentistry was ranked #1 in NIH funding for the 23rd year in a row in 2014.

Nineteen of the pre-doctoral projects presented this year were funded as part of the UCSF Summer Research Fellowship program, headed by Dr. Lisa Chung, DDS, MPH. The process begins with students seeking out research mentors that share similar research goals, and together they develop a project to be completed in roughly ten weeks over the summer. Roger Mraz, facilitates this conversation between students and faculty, organizes several research events throughout the year, and contributes enormously to the execution of RaCED. The remaining twelve pre-doctoral researchers found their mentors independently of the summer program. The success of RaCED continues to inspire those in attendance year after year. (continued on p. 6)

A Cultural Research Experience: Yelizaveta Luchkovska

Completing the Summer Research fellowship was like training for a half-marathon, doable for a new runner but still a challenge for an experienced person. My project presented me with many unexpected challenges and I learned a tremendous amount about the Russian community here in San Francisco, about the Russian language, and about the way Russian speaking people perceive dental care. In short, my project was centered on assessing Oral Health Literacy (OHL). OHL is defined as the “degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate oral health decisions” according to the Healthy People 2010. My goal was to create a survey which can effectively measure OHL in a Russian speaking population. (continued on p. 7)
Over the summer, I worked in Dr. Wu Li’s lab on a project studying amelogenin’s effect on hydroxyapatite crystal interaction. I joined Dr. Li’s lab, because I have always enjoyed wet lab and bench work despite the long hours I expected from working in a basic science lab. I actually prepared in advance by creating my mutant DNA constructs during the Spring quarter prior to the summer program. Because of this head start, I began running experiments right away in the summer and everything ran smoothly.

Originally, I expected a biochemical approach to my project, but the project moved in the direction of material science. It was a completely different. I was more comfortable with E. coli, SDS-PAGE, and light microscopy, and now I was bombarded with surface hardness, modulus of elasticity, and graphs and numbers on excel sheets. However, this was a great opportunity for me to step outside my comfort zone and have new, rare experiences.

However, these new methods did not yield sufficient data for my research poster. In the end, I only incorporated data from select procedures throughout the summer in my research. That is the nature of research. Although I spent three months collecting data using, only a few yielded meaningful.

The biggest lesson I have learned is to be interest driven rather than technique driven. It is easy to limit yourself with certain techniques after you have mastered them, but it is important to be open minded and receptive to new approaches and techniques. This is where collaboration is valuable, because, while one person cannot master all fields of science, there are experts in other fields who could help.

Research is like a roller coaster ride, and you never know where you will end up. I learned to troubleshoot and think critically. I have learned so much more because of these obstacles, and I definitely consider my summer research project a very fruitful experience!

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Time Spent on Research Per Week

On average, the summer research students reported to have spent 33 hours weekly on research-related activities.

- Life is good! x 2
- 0 - 10 Hours

- Okay, let's see how it goes... x 3
- 21 - 30 Hours

- Should be okay if I approach it carefully. x 6
- 31 - 40 Hours

- Bring it on!!! x 9
- 41 - 50 Hours

- Gotta power up first! x 2
- 51 - 60 Hours

Research, Breaks, and Boards

- 29%
  Of students did not take any break while conducting their research project.

- 81%
  Of students reported to have traveled during their breaks from research.

- 24%
  Of students who participated in summer research took the NBDE Part I and have traveled.

- 7.8
  The average score rated by the students about their summer research experience on a scale of 1 (bad) to 10 (awesome).
Mentor of the Year: Stefan Habelitz

The Mentor of the Year Award is intended to recognize outstanding achievement in mentoring by recognizing those faculty members who have made exceptional contributions to a student’s education and experience. Below is an excerpt of the nomination by Yun Yi (Joseph) Chen.

There were times when the experiment that I set up would work beautifully with good results, but more often than not the experiment would give results that did not make sense. These were definitely the toughest moments to deal with. Fortunately, my mentor was always able to analyze my situation critically and propose a plausible explanation or even a solution sometimes. I realized that I was running all of my experiments expecting something amazing to happen every time. And when the outcome I observed did not match my expectation, I falsely interpreted the undesirable outcome as my own shortcomings. Fortunately, my mentor was able to help me break my loop of negative thinking during our meetings. The most important thing I learned was to approach scientific research with an open mind set. This applies surprisingly well to clinical dentistry as well. A dental provider must be open minded when evaluating his or her own work and not be disheartened by failures.

Words of encouragement are nice, but there are times when actions speak louder than words. Dr. Habelitz has definitely demonstrated this through his lightning-fast email responses to help me all throughout my scientific endeavor. He is an exceptional educator and mentor who guides his students in every way he can.

Research and Clinical Excellence Day
Award Winners

Postdoc Category
- First Place: Elaine Emmerson, PhD
- Second Place: Jeffrey Van Haren, PhD
- Third Place: Karina Carneiro, PhD

Graduate Category
- First Place: Sarah Anne Wong
- Second Place: Kei Katsura
- Third Place: Jacob Simon

Predoc Category
- First Place – The Ernest Newbrun Award for Research Excellence: Wendy Fu
- Second Place: Caleb Tam
- Third Place: Brianna Devito

Research Associate:
Benjamin Cheung
Faculty Interview: Dr. Thomas Lang

Wendy Fu
Second-year dental student, Class of 2018

Dr. Thomas Lang, PhD, is a Professor in Residence in the Department of Radiology and Biomedical Imaging in the UCSF School of Medicine. He is the new Associate Dean of Research at UCSF School of Dentistry.

WF: Could you tell us a little about your back story and how you chose to pursue a Ph.D.?
TL: I entered college as a history major and really planned on becoming an academic historian. In the last quarter of my freshman year, I came across a course called “Physics for Poets,” since it satisfied the minimum science requirement for humanities majors. Dr. Norman Nacherieb taught us rigorous thermodynamics; it wasn’t really physics for poets at all. That course ended up inspiring me to change my major to chemistry. I did summer school, took the math requirements, and ended up researching in a lab where researchers worked on the Manhattan Project. That experience really told me that I wanted to become a researcher. So I went to Berkley and got my Ph.D. working on nuclear chemistry.

WF: Where did your interest in history come from?
TL: From my mother and my maternal grandfather. My mother was a school teacher. She had a master’s degree in French literature and was always reading and was interested in humanities.

WF: Do you have a favorite era that you like to read?
TL: When I was in college, I was really interested in the age of exploration, when the European explorers first began their circumnavigations of the world. The historical condition, the shear story of those people who were setting out across the world with a minimal amount of technology and support - those were really interesting to me.

WF: What are some of your responsibilities and goals as Dean of Research?
TL: To create and foster both the collaboration and resources to build a cohesive school-wide research program. One of my goals is to work with the faculty, researchers, and students to foster inter-disciplinary collaborations. The researchers in our school are some of the most creative people in the country, but we need more of these fantastic people collaborating and working together to translate basic research into clinical advances.

WF: How do you foresee research development or new areas of research in dentistry at UCSF?
TL: I am hoping the collaboration will result in major programmatic grants, not for a single department but a school-wide one that will support research themes that unite people across the school. One of example is the CAN DO (Center to Address Disparities in Oral Health) project.

WF: Any advice or words of wisdom for dental students and how they can get involved in research?
TL: For dental students, the experience and the mindset of research is valuable to everybody - not just to researchers but clinicians as well. When you see an anomaly in a patient, you will approach the problem in a fundamentally different way than you would without the research experience. Maybe you use this experience to open your eyes, like how my eyes were open by the course that I didn’t want to take initially.

Another lesson I learned is that to be a researcher is to be persistent. The important thing is to accept that things aren’t always going to go right, that you will have failures, but pick yourself up and keep going. I remember how hard things were for me. Coming into the life science field from physical chemistry, I literally understood nothing. It took a while before things made sense to me. So work hard and be persistent and be open to new experiences and challenges.
In high school, I was the begrudging “volunteer” of a program that sought to develop critical thinking skills in students through the use of literature and philosophy. It was an honors course offered for high achieving students—which I wasn’t. This resulted in Monday evenings with our instructor, Mr. Sapakie, slowly stroking his goatee and gazing out amongst the forty of us squeezed into his small English classroom. He would dramatically pause, turn with flair, and ask, “What is knowledge?”

For the uninspired young adolescent, this was a difficult question to answer. What do we really mean when we say “knowledge”—a word we have come to use readily in conversation yet can’t fully define? Mr. Sapakie would throw up his hands up in the air in frustration and exclaim, “It’s just how you interpret the information you have!”

In the early spring of this year, UCSF selected the Summer Research Fellows and sent them in search of knowledge. We aimed to encourage collaborative knowledge through the Summer Research Fellowship Journal Club. The program was simple: two participating fellows present an article relevant to their project each week in hope that exposure to each other’s research would expand our critical thinking abilities.

Thanks to funding from the John Greene Society and research director, Roger Mraz, our little journal club took off and we had a successful run of student-led presentations and discussions. It wasn’t much, but it was knowledge. Being able to understand and appreciate one another’s work, its significance, and contribute your own experience was all part of a valuable and essential set of clinical and professional skills.

While our journal club was a small blip in the great expanse of scientific literature and discussion, we found that translational research across all fields of study encourages innovation and accelerates our scientific understanding of the world. It’s all about how you interpret the information you have, and we hope our journal club helped the summer fellows do this with greater knowledge at hand.

The morning presentations ranged from inter-professional dental outreach to care for patients with mental illness to clinical cases discussing the restoration of maxillary incisors fractured at bone level. These presentations were followed by lunch and a poster session where the audience was able to view all 55 posters, 31 being pre-doctoral research.

The attendees caught a glimpse of the opportunities available at UCSF. Linda Kim, a first year dental student, thought the day “captured the diversity of exciting research UCSF offers” while her classmate, Catherine Tang, found it “inspiring and motivational” to watch her peers present such complex and relevant ideas. Eliza Tran, a third year dental student, noted that the importance of Research and Clinical Excellence day is that it helps students and faculty “deliver better healthcare services to our patients.”

The afternoon session featured more of the diverse research at UCSF, as well as special nominations and awards. Ophir Klein, MD, PhD, a professor of Orofacial Sciences and Pediatrics, discussed the development, evolution, and regeneration of teeth. Because mentorship was an important theme throughout the day, the John C. Greene Society acknowledged Dr. Stefan Habellitz, Ph.D, as Mentor of the Year for his work with summer research fellow, Joseph Chen. To conclude the day, Thomas Lang, PhD, Associate Dean of Research, announced the winners in the Pre-Doctoral, Graduate, and Post-Doctoral categories.
A Cultural Research Experience: Yelizaveta Luchkovska
(continued from p. 1)

The first month, I designed my study. I loved the freedom to design my own project, but with so many choices, I didn’t know where to begin. Fortunately, this is where Dr. Gansky, my mentor, stepped in and helped me create a straight-forward, easy-to-follow plan.

As I started the translation process, I encountered my first challenge. I assumed translating 30 words from English to Russian would be pretty simple. Little did I know that many dental terms in English did not have direct, single term translation to Russian. For instance, “calculus” translated to “tooth stone” and “apicoectomy” translated to “removal of the tip of the root of the tooth.” These terms were ineffective in testing OHL because they were neither challenging to comprehend nor very difficult to pronounce, even for a layperson. Dr. Gansky suggested I create a team of bilingual dental experts to help me brainstorm a list of new dental terms which were similar to the terms used in the original English survey, both in meaning and in difficulty. Creating a team helped me avoid problems which I did not foresee myself like regional differences in language and double-meanings.

“Despite the hundreds of flyers I posted, not a single person contacted me to participate in my study.”

I was ready to test my survey. I imagined 100 eager volunteers calling me day and night. Unfortunately, no one called. Despite the hundreds of flyers I posted, not a single person contacted me to participate in my study. I waited 2 weeks. Time was running out. I made a list of all the reasons why the Russian speaking people who saw the flyer chose not to call: fear of having to speak English with an American, forgetting about the flyer, the inconvenience of having to schedule an interview, and more. To overcome these barriers, I had to re-strategize. I went to senior daycare centers with Russian Speaking staff and patients, to the Jewish community center that had a Russian immigration services department, and I sat in the waiting rooms of Russian Dental offices. I interviewed everyone who was interested in taking the survey right there on the spot. This eliminated many of the possible reasons for not completing the survey. I even walked around Stow Lake in the Golden Gate Park with a tablet at hand. At first, I felt awkward approaching strangers and asking them to take their time to complete a survey for my study, with no direct benefit to them. But, funnily enough, people were interested in my work. Most of the study participants were genuinely excited to learn that there is interest in represent-

My research allowed me the opportunity to learn about the way people from the Soviet Union perceive dental care. Many people still operate under a corruption influenced mindset. People offered to sign anything I want for my survey, and told me to complete the survey for them to get the result that I want. When I expressed my interest in conducting honest research, I even got berated for “following the rules.” Most people genuinely believed that all research is biased by financial contributions to the researching parties. I also learned that patients still exchange money under the table for substandard dental care, even here in the US. One woman told me that she had her friend’s gold crown, from a tooth that fell out, put into her mouth on a molar. I gained more out of my research project than I could have ever expected. My project enabled me to learn about the Russian community’s opinion on the American health care system as an insider, not as their health care provider.

“My project was about challenging myself to a goal, making a plan, and finding creative ways to overcome the challenges that came my way.”

So like training for a marathon, completing my Summer Research Project was a full of ups and downs and was an incredibly rewarding experience. It became so much more than the poster. My project was about challenging myself to a goal, making a plan, and finding creative ways to overcome the challenges that came my way. My project was about the experience of working with my incredible mentor and team of dentists and discovering more about my future patients.
Staff Interview: Kathryn Gabriel
Caleb Tam
Second-year dental student, Class of 2018

UCSF is one of the premier research institutions in the world, but what does it really take to make research happen? In a single word: money, and lots of it. In this article, we sit down with Kathryn Gabriel, Financial and Grants Analyst from the Office of the Dean, and discuss how scientific research is funded here specifically at the UCSF School of Dentistry and what all of this means for students.

CT: Good morning Kathryn. To start off, can you first give us a short description of your role here at UCSF?
KG: Yes of course. My official title is Financial Analyst, also Grants Analyst. This means I help handle all of the grants that come through the Dean’s Office. My role is primarily to help manage funding for the Associated Dental Students (ADS) and for those who participate in the summer research fellowship program.

“"If there’s one thing I want the incoming fellows to know, it’s that I always look forward to interacting with students.”

CT: It seems you wear many hats. Can you elaborate specifically on your position as it relates to summer fellows?
KG: I work every year with program administrators like Roger Mraz and Dr. Thomas Lang, Dean of Research, to pool money from all different sources and then create a budget for how this money should be divvied up. The support we receive from all the departments within Dentistry, faculty, and private donors every year determines how many students we can accept into the summer fellowship. After the summer, in December of their D2 year, we prepare a budget for the upcoming AADR. We look at how many students will be participating, the location, current airfare/hotel costs, etc. and then create a budget for each student.

CT: What are the different sources of funding for summer fellows?
KG: Most of the funding comes from within the school of Dentistry itself, really mostly from the ADS budget which is why I am so involved. What usually happens is we give ADS (Associated Dental Students) their budget for the year, and then everybody has a meeting where they battle it out and eventually whatever comes back to the summer fellowship program will be the majority of our fund for that year. We do have individual contributions from each department within the school; so for example, Dr. Sargent, Dr. Perry, and Dr. Greenspan frequently make contributions, but in general individual pledges differ from year to year. So really, pretty much all of the funding comes from within the School of Dentistry itself — although, every once in a while outside sources may also contribute. For example, Delta Dental actually contributed last year, but again this is not consistent.

CT: Are there any interesting stories from your time here at UCSF? Is there anything you would like to say to the students — any advice that you can share to make the experience better for incoming fellows?
KG: So I’ve actually been here at UCSF for almost 10 years, I started in 2006. One of the things I remember coming in was I didn’t think I would enjoy interacting with students, but it turns out I love working with them. I mean, I get excited every time I get to meet a new group of ADS representatives, but then I get sad because it means the old representatives are about to graduate. I go on Facebook and try to keep up with them — I even tell my kids about it! What I usually miss the most is just the conversations I have with students about school, choices, and life in general. If there’s one thing I want the incoming fellows to know, it’s that I always look forward to interacting with students. I am very approachable and my door is always open.

CT: Finally, can you tell us a little bit about yourself outside of UCSF? What are some of your hobbies/interests?
KG: I’m actually originally from the Philippines, but now I live in the Bay Area. I love San Francisco because it caters to everyone. Whether you are single, married, have kids, don’t have kids, there is always something to do. I have kids, so that occupies most of my time when I’m not here at UCSF, especially my 18-year-old — you know how it is at that age. My husband always asks me to move to a different state in the middle of nowhere, but I love it here too much — where else am I going to be able to find my Filipino groceries, you know?!

Editor’s Note
Thank you very much for taking some time to read our JGS Quarterly Newsletter, Explorations. This year, our goal is to increase the breadth of content both in the subject matter and also the style. For example, this newsletter includes a multi-dimensional infographic. We hope that by diversifying our articles, you, the reader, found more current topics of interest, discovered new insights, and overall had an entertaining time kicking-back with our newsletter over a nice warm/cool beverage depending on your location! If you have only browsed the pictures up to now, I hope you can find a little break from clinic, studying, work, or Facebook to read some intriguing stories and find something that might benefit your future research or practice! If you have any comments, could not find what you were looking for, or would like to contribute to our next newsletter, please email us at Anna.Nonaka@ucsf.edu.

Lastly, I would like to express my personal thanks to the classmates and members of the UCSF community who made this quality newsletter possible. Despite strenuous course loads and extensive extra-curricular involvement, you all set aside some of your personal time to make a contribution to our research community and JGS. Thank you!

- Anna Nonaka
UCSF SoD Class of 2018

Pictured above: Anna Nonaka, 2015-2016 JGS Newsletter Editor-In-Chief
Message from the JGS President: Wendy Fu

I am very honored to be leading the John C. Greene Society (JGS) this year as its president. It’ll be an exciting year and there are many things that I am looking forward to accomplishing. I also have amazing board members. It is truly a wonderful to find people who share such an immense passion for student research and work together for its advocacy. I am also eager to see the continual growth of JGS through new opportunities like the journal clubs that will become quarterly electives this year – all captured in the newsletters that our editors work hard to put together.

JGS would not be where it is today without the faculty and administrative members of UCSF School of Dentistry. Each year they put in an incredible amount of work into facilitating research activities at UCSF and connecting students to potential mentors. I would also like to recognize the past JGS board for setting up such a strong platform for us to execute and grow. Thank you! Finally, I want everyone to remember the kind of passion and curiosity for knowledge that we started this new school year with. As cliché as this sounds, dental school is only the beginning of a lifelong journey of learning. It is important that we stay inquisitive. It is a curious mind that will continue to push us to strive towards becoming more knowledgeable individuals and better healthcare providers in the future.

About John C. Greene Society (JGS)

The John C. Greene Society was founded in 2002 and named in honor of Dean Emeritus, Dr. John C. Greene. JGS is a primarily student-run organization that supports the research interests of students at the University of California San Francisco’s School of Dentistry.

Throughout the year, JGS provides dental students with research exposure through a variety of activities and opportunities that cover the multitude of research interests in the School of Dentistry. Our activities range from research electives to fellowship socials, and the board members support incoming researchers along their entire application process and beyond. Our researchers travel to conferences in California, across the country, and even throughout the world to present their findings.

If you are interested in learning more about JGS or contacting the board, please visit our Facebook page or website:


Special Thank you to

Dr. Benjamin Chaffee
Dr. Lisa Chung
David Hand
Dr. Thomas Lang
Roger Mraz
Arya Saniee
2015-2016 JGS board

And anyone we may have missed who has helped us on our journey this year.

If you have suggestions for future articles, please email the editor at Anna.Nonaka@ucsf.edu.

Opinions expressed in this newsletter do not necessarily represent those of the UCSF School of Dentistry.

Picture credit to David Hand, Arya Saniee, and UCSF SoD.