We all entered this often challenging process with the end goal of contributing to something we know to be important. Research – it’s purpose is about thinking critically with the goal of contributing to progress in our profession. We are all familiar with the idiom “a fresh pair of eyes.” Student research yields new insight – your insight – to a science that benefits from different perspectives. In return, research provides students a new way of thinking that strengthens our community in addition to his or her own career.

Tufts University is noted for the clinical relevance of its research. In 2016, our community was, once again, honored to receive the AADR National Student Research Group award for most accepted student abstracts and we proudly watched many members of our family inducted into the Andrews Research Honors Society.

Our students have the opportunity to learn about, and teach us about, monumentally important scientific developments. Our students change the world by finding ways to manage chronic pain, testing new bioactive materials, and more. They use their expertise in chemistry to find more efficient and effective bonding agents so that future patients do not have to suffer further discomfort. They are making better doctors for all of us and, in the process, strengthening the critical thinking skills that make them excellent clinicians.

Thank you to all students who are devoted to our research, recognize its importance and work hard every day for our science.

-Gerard Kugel
Associate Dean of Dental Research
Welcome to the Fall 2016 edition of the Bates Student Research group newsletter! The annual Bates Andrews Research Day on March 2nd, 2016 was a success, with an unprecedented 77 student research presentations and concluding remarks from Dr. Fiorenzo Omenetto, a Frank C. Doble Professor of Engineering and Bioengineering at Tufts University.

TUSDM continued to earn accolades at the AADR Annual meeting in Los Angeles, receiving the 2016 NSRG award for most accepted student abstracts. Our strong presence at this and other national conferences, such as ADEA, showcases the student, faculty, and administration’s emphasis on integrating research into dental curriculum and future dental careers.

At the Bates Andrews Dinner, students and faculty heard from the keynote speaker, Dr. Chad Anderson (D’04), who spoke about his career as a dentist-scientist and inspired students to integrate research following graduation. New students and faculty were also inducted into the Andrews Research Honors Society. We congratulate these individuals for their commitment to and success in research! (Continued on page 3)
Our newsletter also highlights some of our newest student researchers at TUSDM. We are excited to watch their inspiring work flourish in the coming years, and hope many more will join them.

We can’t wait to see where student research takes us this year. We hope you all come support your classmates and the diversity of research ongoing at TUSDM during our next Bates Andrews Research Day in Spring of 2017.

We are so proud of the research conducted at TUSDM and hope you enjoy learning about the work your fellow colleagues are engaged in!

Sincerely,
-BSRG Executive Board

2016 Bates Day Awards

Best Postgraduate Poster Presentation: Dr. Zuhair Natto (PG)
Best Scientific Research Presentation by a Senior: Hannah Gilman (D’16)
Best Overall Predoctoral Table Clinic: Matthew Coletti (D’18)
2nd Place Award for Predoctoral Table Clinic: Jacob Donohue (D’17)
3rd Place Award for Predoctoral Table Clinic: Lauren Gerkowicz (D’18)
Research Committee Award for Basic Science Research: Kathryn Weber (D’17)
Massachusetts Dental Society and ASDA Public Health Award: Khusbu Patel (D’16)
Omicron Kappa Upsilon Hilde Tillman Award: Gayathri Shenoy (IS’17)
Dr. Chad Anderson Family Award for Innovation Methodology and Research: Alissa Mariano (D’16)
Dr. Aikaterini Papthanasiou Award for Promotion of Esthetic Dentistry: Michelle Ta (D’17)
Scientific Merit Award for First-Time Presenters: Jennifer Denike (D’17)
Oral Health Disparities Award: Douglas Kim (D’16)
BSRG ‘Peer Reviewed’ Award: Andrew Lum (D’18)
ADEA Student Group Educational Research Award: Kathleen Molgaard (D’17)
Proctor & Gamble AADR Traveling Fellowship Award: Nancy Epstein (D’19)
AADR Student Research Day Award: Kunal Dani (IS’16)

2016 Andrews Society Inductees: Sama Abdul-Aziz | Alisha Anand | Kelly Barbera | Tyler Brady | Risha De Leon | Alec Eidelman | Lauren Gerkowicz | Sara Golkari | Alexander Gomes | Gabriel Hayek | Alexis Irby | Mansi Jailwala | Robert Johnson | Hannah Leahey | Diana Li | Andrew Lum | Kathleen Molgaard | Sangita Murali | Sabrina Nguyen | Stephen Reichheld | Daniel Seay | Jordan Thomas | Andy Tran | Sarah Treff | Christopher Paolino | Kathryn Weber | Dr. Sarah Pagni | Dr. Yong Hur
at a glance: growth in research

2010 33
2011 42
2012 43
2013 56
2014 57
2015 70
2016 77

2014

2015

2016 bates day posters

survey | chart review | bench | focus group
---|---|---|---
| clinical |
| basic sciences |
| dental materials |
| public health |
| educational |

STUDY DESIGN Heatmap
1st year students (1)

2nd year students (19)

3rd year students (21)

4th year students (35)

Postgraduate residents (9)

56* faculty members involved with student research

88* presentations at nat’l conferences (AADR and ADEA 2016)

*Received 2016 NSRG award for most accepted student abstracts
BSRG: Tell us about your project! Alisha Anand (D’18): I worked with 3M Oral Care in Seefeld, Germany on their experimental bulk fill composite. Sahar Mostafavi (D’17): I also worked at 3M ESPE in Seefeld, Germany testing the flexural strength of temporary crown and bridge material.

BSRG: Any challenges? AA: Working with new equipment with German instructions, luckily my new friends at 3M took the time to translate all the instructions for me! Also learning to use Excel with German commands for data collection.

BSRG: How was your experience different from research done at school? AA: It was really interesting to see the research and development side of dental materials. While at school I never really thought of how products come from an idea and develop into actual useable products.

BSRG: What was the most interesting aspect of your project? SM: Getting to work with some of the best German engineers who design oral health products we use every day in the clinic such as Impregum and Cavit. We got to tour the facilities and see what the manufacturing process entails, which was very interesting. And of course we got to do some traveling and sight-seeing which was my favorite part of the experience.

BSRG: What advice do you have for students who want to do this kind of research in the future? SM: This is a really unique opportunity we have as Tufts students and I highly recommend it to anyone who is interested in research. Industry sponsored research is a big part of dentistry and getting familiarized with the process was a very valuable experience.

industry research: germany - 3M
BSRG: Tell us about your project!
Jacob Donohue (D’17) & Tim Reichheld (D’18): Our projects were sponsored by SDI in Melbourne, Australia. While we were at the company, we investigated the hydraulic conductance and staining effects of different dental materials.

BSRG: Any challenges?
JD & TR: For the most part the project ran smoothly. We had some challenges with having enough samples for the testing, but we managed to complete our project within our timeframe.

BSRG: What plans do you have for the future of this project?
JD & TR: Both of us have been preparing our project for presentation at AADR/IADR as well as Bates Day next spring. We hope our project will inspire future students to follow and conduct similar experiments at SDI.

BSRG: How has this research changed your perspective on dental materials?
JD & TR: This project expanded our knowledge and understanding of dental materials that we often take for granted in clinic. We were able to see how companies work to develop and improve materials.

BSRG: How was your experience different from research done at school?
JD & TR: The projects were much more involved than research completed at school since we had access to additional resources and facilities. We were able to work side-by-side with materials specialists in the lab for the full 2 weeks of the program.

BSRG: What was the most interesting aspect of your project?
JD & TR: The most interesting aspect of our project was working with dental materials we have not had the chance to work with in the clinic at school.

BSRG: What advice do you have for students who want to do this kind of research in the future?
JD & TR: Always explore different types of dental materials and read current research on all different kinds of materials.
“I have always been fascinated by science and the field of research because it allows me to develop my problem solving, critical thinking, and collaboration skills. This year I hope to explore the different research areas in dentistry. I am especially interested in regenerative options for horizontal bone loss, stem cell therapy, growth factors, and cell sheet engineering for rehabilitating oral function.”

- Mythilee Kugathasan (D’20)

“My project examines diabetes patients, and the pathology that occurs with diabetic foot ulcers. I am looking for any changes in gene and protein expression that occur to the extracellular matrix. Working on research has given me a lot of opportunities for creative thinking and a more profound understanding of molecular biology and disease pathology. While it has been much like adopting a puppy, it has been totally worth it.”

- James Leung (D’17)

“Growing up, I enjoyed the problem solving aspect of engineering, so I entered the University of California San Diego with the intent of majoring in structural engineering. I soon realized that studying biology, and working on research would allow me to apply the critical thinking and hands-on aspects that I loved about engineering. Research is a great break away from the monotony of studying in dental school. Additionally, many of the skills I’ve learned doing research can be applied to the field of dentistry.”

- Tracy Gerona (D’20)

“Seeing results materialize for the first time is my favorite part about doing research—especially for a project that you’ve been planning for weeks or months. While my main goal is to become a strong clinician, I believe understanding the science of dentistry is equally important. I see research as the bridge between science and the practical application that leads to improved health.”

- Yannis Koroneos (D’20)

“Right now I’ve been investigating signaling pathways involved in the development of basal cell carcinoma. I’ve always enjoyed working with tissue cultures and my mentor’s enthusiasm has made transitioning into research in dental school very easy. Often students forget that a lot of the skills learned in the laboratory can be transitioned into the dental clinic to make us better clinicians. In addition, research has been an excellent opportunity to step away from studying and make my dental school experience more well rounded.”

- Sunnie Kuna (D’19)

student research corner
“Research has shown me different ways to approach learning, by forcing me to apply textbook knowledge to the real world. One of the reasons I decided to attend Tufts was its rich research history, and I hope to make the most of this experience by contributing back so future generations can continue to benefit.”
-Alex Joseph (D’20)

“After going on many humanitarian trips in warm climates, it got me thinking about the impact that storage containers and weather can have on heat sensitive dental materials. Once I returned, I started researching the phenomenon that the viscosity of fluoride varnish increases in high temperature storage situations.”
-Grace Kim (D’19)

“The most challenging aspect of doing research is time management. As first year students, we are balancing research with classes while adjusting to grad school, but so far the support from faculty, research mentors, and classmates have made it into a very positive experience. In addition, realizing the “bigger picture” in health care by relating what we’re taught in the classroom to real world situations has been a big reason why I’ve continued to do research.”
-Amanjot Sarao (D’20)

“My project this year is titled ‘Investigating Tufts University School of Dental Medicine’s perceptions of eProfessionalism and Social Media usage. This important topic often gets overlooked by students during school but the implications it can have both during and after we graduate can be great. While research may not interest everyone, I still encourage people to try it out since I believe it represents the scientific foundation to our clinical application of dentistry.’”
-Alec Eidelman (D’18)

“I was amazed that there was still so much to learn about bioactive cements when I began my research project which examines the increases in shear bond strength over time compared to conventional dental cements. While I’ve enjoyed the discovery and opportunity that comes with research over the past 6 years, research in dental school has been unique by broadening my toolbox for educating my future patients.”
-Zamone Sawyer (D’19)

Match these fun facts to their rightful owners!

1. I dominate the court while playing for the Tufts D’18 intramural basketball team.
2. I love college football (GO Buckeyes!), and before dentistry I wanted to become a dancer/ballerina.
3. The Italian blood in me has made me love cooking since day one!
4. The #1 activity on my bucket list is to swim with sharks!
5. I used to breed beta fish, and had 50+ in my parent’s living room at one point during high school.
6. I saw Lonesome George before he passed away (the last of the Pinta Tortoise subspecies, and the rarest creature in the world at the time).
7. Growing up, I wanted to be a detective just like Hercule Poirot and Sherlock Holmes.

a) Kyle Jonna (D’18); b) Anthony Falone (D’19); c) Gayathri Shenoy (D’17), d) James Leung (D’17), e) Elizabeth Betances (D’18), f) Zamone Sawyer (D’19), g) Sunnie Kuna (D’19)

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Tufts University School of Dental Medicine
Upcoming Calendar:

Summer Fellowship Application Deadlines:
- D’18 students: 2/21/2017
- D’19 students: 2/21/2017
- D’20 students: 1/30/2017

Yankee Dental Congress: 1/25/2017
Bates Student Research Day: 3/8/2017
AADR/IADR General Session: 3/22/2017
ADEA Annual Session: 3/18/2017