

# IN THE LOUPE



Winter 2018 | Volume 1 | Issue 2



**On-going Projects**

- Bond strength of adhesives
- Commercial product comparison
- Adhesion technique differences
- New experimental adhesives
- Determine fundamental material properties (Tensile analysis)
- Controlled cutting technique
- Speed of removal
- Lengths of time
- Heat index

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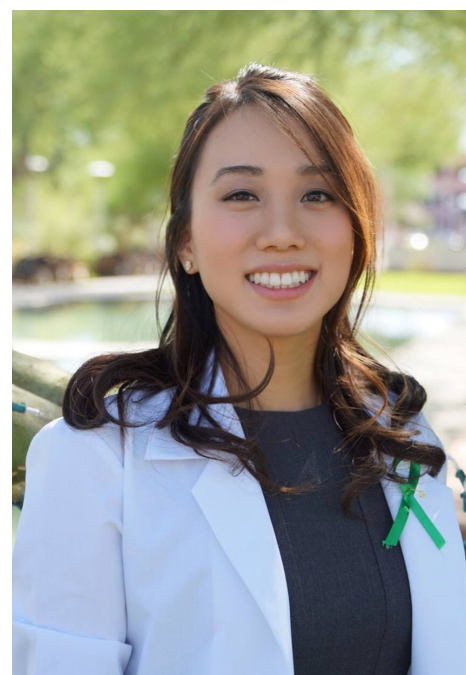


## LETTER FROM THE EDITOR

Hello Everyone!

Thank you for taking the time to look through SRG's 2nd issue of "In The Loupe". This will be my last issue as Editor and I am very thankful to have had this experience. I started in SRG as the Secretary and added on the Editor position as I wanted to become more involved. The SRG community is one of the most diligent and fun communities I have ever seen and I am so glad to have been a part of it. Elections for our next Editor as well as all SRG officer positions will be taking place on February 4th and I encourage you to apply! Please feel free to reach out to any of our officers if you are interested!

This issue of "In The Loupe" covers a lot of useful information including tips on poster presentations, how to



write a CV, new things in dental research, and personal experiences with research! I am very impressed, as always, with this issue's contributors and would like to give a big thank you to everyone who contributed their writings! I hope you all enjoy reading their stories.

Sincerely,

- Tiffany Bui



# President's Welcome

Happy New Year Midwestern!

2018 has been a long and exciting year! Is it possible for time to “feel” longer if a year has the same number of days? I would say so – spending two hours doing a crown prep in sim feels much longer than spending two hours doing the same crown prep in clinic. 2018 has been filled with lots of firsts for SRG including helping to co-host the Arizona AADR scientific symposium, and launching our first and second edition of our “In The Loupe” research group newsletter! All of this in addition to continuing to providing students with information about how to get involved in research, and information on research opportunities and grants. From leading socials promoting research among students to general meetings, I’ve been very lucky to see SRG’s grow more and more every year.

My personal growth mirrors SRG as I’ve learned the importance of surrounding yourself with other hard-working people. From my dedicated clinic partner, to my passionate research partner, parents, and friends, we can accomplish much more with the help of others. I’ve been very thankful to have worked with such an amazing group of SRG leaders

and members helping bring research to the foreground at Midwestern. I encourage everyone to get involved with SRG in some way – whether it be in leadership nationally or at a chapter level or just attending more meetings throughout the year. I’ve been extremely blessed to be surrounded by people who are knowledgeable about a plethora of different research topics and couldn’t have asked for a better term as SRG president.

Here’s to a 2019 filled with more ground-breaking research and continued growth in the field of dentistry.

Sincerely,  
Christy Tran  
2018 SRG President  
2018 NSRG Councilor-Elect

*- Christy Tran*

# A Message From Our Faculty Advisor



Hello, everyone.

Congratulations on being a part of our research community, whether you're actively involved in a current project, or

not. While you may not realize it, you are all actively involved in research every day - you collect data all the time on your preferred cheeseburger joint, which earbuds to buy, or how much to spend on rent or a new car. Of course, our research here at the MWU CDMA is more involved (and I would say more interesting), but research is a part of our daily lives and will be a part of your dental careers forever.

I am so proud and inspired by all of the students who choose to take on additional responsibilities by becoming involved in clinical and benchtop research while in dental school. I assure you, there are many lifelong benefits of doing so, and there are plenty of short-term benefits of engaging in this work as well.

We have dedicated and amazing faculty who are ready to work with you in whatever capacity you are able to become involved, and we will help you all along the way in every project. We want to see you succeed - here at MWU and beyond.

Please be sure to ask any of our SRG student leaders, faculty, or me about the research currently underway, how you can become involved, or about any ideas you have for new research projects. Almost any idea can be tuned into a research project, so please let us know when you want to talk about your new project! Thanks for taking the time to read this newsletter, and many thanks to all who are involved in our Student Research Group and are helping to put this newsletter together. Spread the word about the benefits of research. I look forward to talking with you and wish you all the best this holiday season.

Sincerely,

*- Dr. John C. Mitchell*



Arezoo Holdaway '21

# Tips For Presenting Your Poster

**Presenting your research in a conference, in front of your colleagues and some of the most well-known experts in the field, is one of the most exciting perks of research that you get to experience in your academic life. While it is very exciting, it can also be very nerve-wracking. I want to share few tips that I have learned over the past couple of years presenting at different conferences.**

- **Be inviting:** Stand next to your poster with a smile on your face! Some presenters like to give time to their audience to read through their posters, and just say “Let me know if you have any questions.” I, on the other hand, like to greet and welcome everyone and ask, “Would you like me to walk you through my poster?” Some people take me up on the offer, while others just like to read through the poster and ask questions at the end.
- **Be familiar with your poster:** Practice! Practice! Practice! Take time to go over your poster days in advance and know it by heart. Try to use a combination of words and pictures so you can point to images as you talk about your work. Try to summarize your entire poster in 3 minutes or less.

- **Think of it as telling a story:** This is your project, and it’s something that you have been working on for the past few months, so tell it like a story. Not only will it make it more interesting to the audience, it will help you remember the presentation.
- **Don’t be afraid to say, “I don’t know”.** I think the hardest lesson I learned during my poster presentation was to admit when I did not know the answer. Remember that research is a learning experience, and it’s a lot of trial and error. It is okay to not know the answer to every question. Ask for their business card and say that you don’t know the answer to the question, but would like to investigate and get back to them. It not only shows your enthusiasm in the subject, but also opens more networking opportunities with people who have similar interests across the field.
- **And last but not least, dress professionally, and wear comfortable shoes!** You will be walking around all day and standing next to your poster for close to 3 hours, so make sure you look professional and are comfortable.



By: Erica Mueller '19

# How To Write A CV

I reached out to an office about a job recently and they asked me for a CV. I realized that I didn't have a dental CV. I also wasn't sure how to make one so I started doing some reading and asking around on what should be on a dental CV. Today, I am going to share some tips that I have found.

- **Start early!!!** For those of you still in your first year or two start a document of things that you do because 3 years later you may forget things like leadership positions or research topics.

- **Include CE courses that might be relevant.** Things like lasers, implants, invisalign and other CE gives you a leg up on other applicants. Some employers might also be looking specifically for someone who can, for instance, place implants.

- **Limit long text.** Most parts of your CV should be short bulleted responses. Employers often get a bunch of resumes and they are less likely to read long paragraphs.

- **Don't be afraid to sell yourself.** Sometimes it is easy to get into the habit of downplaying accomplishments. Your CV is not the place to do that.

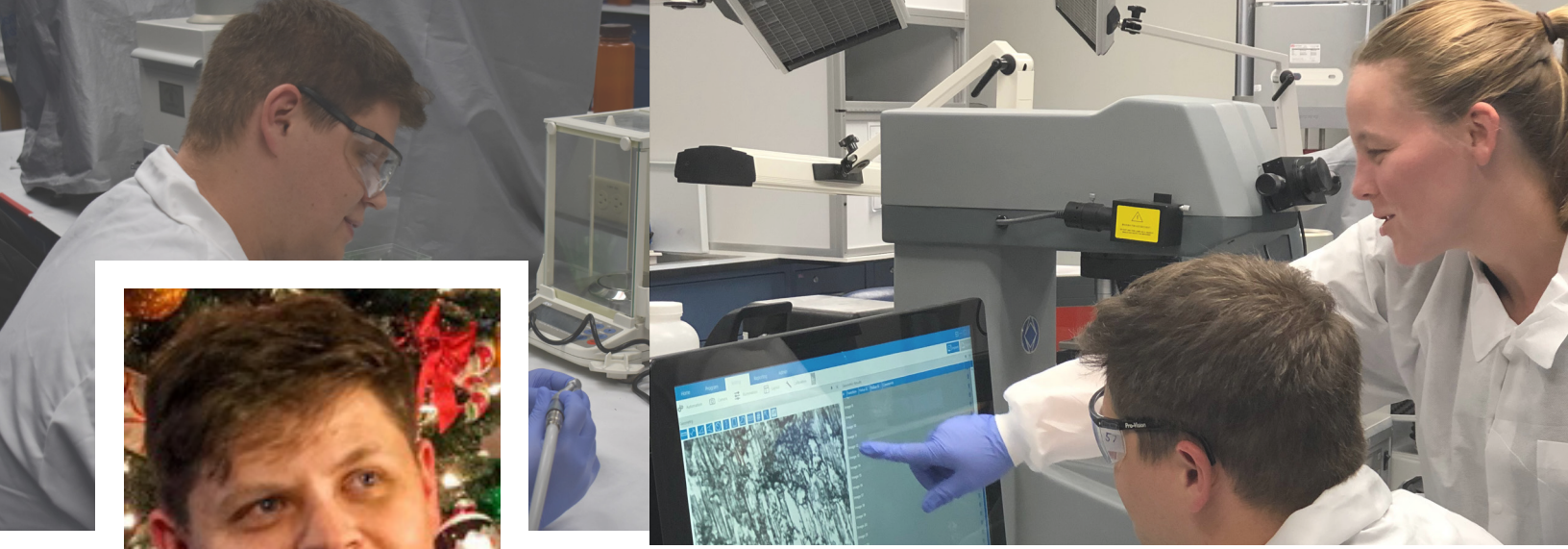
- **Avoid repetition.** When talking about your positions try to avoid saying "I was responsible for" over and over and over again. Mix it up!!

- **Have a section that includes your professional credentials.** If you are a Midwestern graduate you will be certified in certain lasers, you will be certified in invisalign. Include these along with your licensure and professional memberships.

- **Community service section.** This section is important because it shows your dedication to helping people and some offices may have connections to the sites you volunteered at.

- **Finally, keep it simple.** It is easy to look up resumes and find elaborate resumes with 18 different fonts, 20 different colors, and space for a vision board. While these may seem amazing, often with CVs it is best to keep it simple.

Often your CV will be lightly perused or skimmed, at least for the initial read. So, give them some succinct and simple to look. CVs are all about getting you an interview and often employers will have a number of them to look at. They are not going to want to look at a 20-page resume that talks about how you were a lifeguard in high school. So keep it simple, keep it succinct and only include relevant facts. If you follow these steps it should hopefully give you a good start to your CV.



By: Brian Gibson MBS

# My First Year Of Research

Last year, I began the Master's of Bio-medical Science program here at Midwestern. Before I began the program, the prospect of research was a little intimidating. To me it was always a mysterious and distant prospect. Considering the importance of having a research background when applying for professional school only added to my apprehension. Looking back, I am happy that I chose to pursue a research degree.

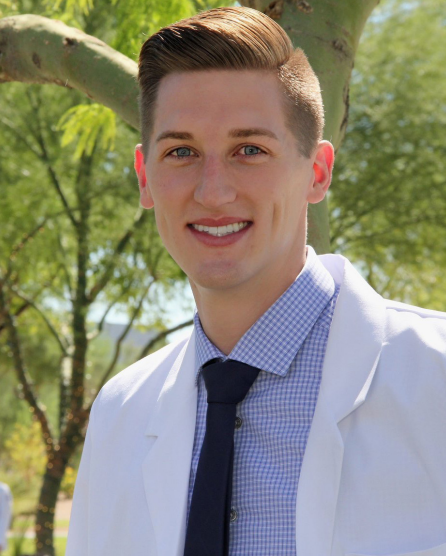
Currently, I am in the middle of my own project with the CDM research lab. Despite my inexperience, I have found nothing but support and encouragement from my team. That support is crucial because research can be an emotional roller-coaster. During my first year as a researcher, I have discovered several things. First of all, science is hard. It demands attention to detail, planning and a curious mind. There can be some serious let-downs, so it is important to celebrate even the smallest victories. That being said, there is nothing more gratifying than a well-planned, well-executed experiment. The better our experimental design, the more we can trust the data. It's all about the data, right?

As it turns out, research not only

benefits the scientific community, but it can benefit the individual as well. Having meaningful research experience can open doors down the road. It is important to recognize that now is the time to gain such meaningful experiences. For me, my experience has been one of personal growth. It has given me a new perspective on the world around me. I know that my research experience will help me to become a better clinician in the future.

Dental research is a blend of many different aspects of the dental health care system. There is bound to be something for everyone. Whether your jam is cell work, bacterial studies, material science or a combination, there's plenty of work to be done. Midwestern has remarkable lab facilities, so make sure to check them out. We have a weekly meeting during lunch that is open to students who are interested in research. Feel free to email me with any questions.





By: Trent Snow '22

## What's New In Dental Research?

Are primary teeth actually worth anything more than a quarter or even a dollar from the Tooth Fairy? According to a new clinical trial performed by Songtao Shi of the University of Pennsylvania and professors from the Fourth Military Medicine University in Xi'an, China, it has been shown that stem cells can actually be extracted from primary teeth and can be used to treat an injured permanent tooth.

Injuries can often happen to permanent teeth, and many of them occur in childhood. Trauma caused by either a hit in the mouth or a trip and fall can affect an immature permanent tooth causing it to lose blood supply and actually die. This dead permanent tooth can often have root defects and loss of sensation. Normally these types of teeth require an apexification procedure which tries to promote root development but does not replace the lost tissue from the injury.

A clinical trial performed in China studied children with mixed dentition who had an injured permanent incisor. The re-

searchers took stem cells from one of the children's own healthy baby teeth, called human deciduous pulp stem cells, and grew them up in a laboratory. They then placed those cells into the injured incisor and compared them a year later to children who had a normal apexification. The results showed that the children that had the stem cell treatment were the only ones that regained some sensation in their injured tooth. Along with regaining sensation, they showed that they had healthier root development and thicker dentin compared to those that had the apexification procedure.

The benefits of using stem cells from the patient's own teeth reduces the chance of host rejection, which implies this treatment is only available to those who still have healthy primary teeth left. Further research is being completed on patients with stem cells from another person's tooth, and they are hopeful to start a clinical trial here in the United States. Various studies are being done on stem cells and there are very promising results in this field of dentistry.

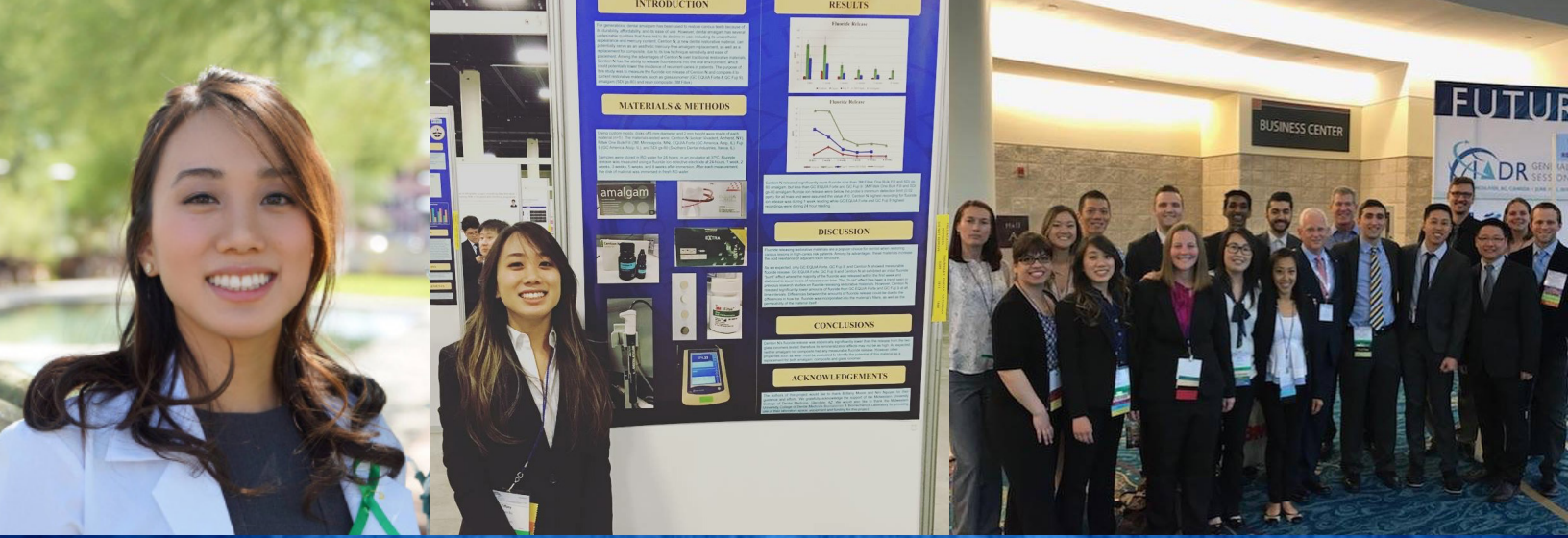


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Kun Xuan, Bei Li, Hao Guo, Wei Sun, Xiaoxing Kou, Xiaoning He, Yongjie Zhang, Jin Sun, Anqi Liu, Li Liao, Shiyu Liu, Wenjia Liu, Chenghu Hu, Songtao Shi, Yan Jin. Deciduous autologous tooth stem cells regenerate dental pulp after implantation into injured teeth. *Science Translational Medicine*, 2018; 10 (455): eaaf3227 DOI: 10.1126/scitranslmed.aaf3227





By: Tiffany Bui '20

## Why Do Research If You Aren't Specializing?

**I often get asked the question, “Why bother with research if you aren't planning to specialize?” My short answer to that question is I am simply trying to be the best I can be and research has helped me improve myself tremendously. Here is a simple list on some reason how!**

- **Doing research has helped me evaluate my own work in detail.** Currently, I am doing a microleakage study and this gives me the opportunity to look at the fillings I placed in slices under a microscope. I was able to learn a lot about my own work and where I needed to improve on.
- **Doing research has helped me become more detail oriented.** In research, missing one small detail can mean having to redo all your samples and re-collecting all your data (I am speaking from experience). Being more detail oriented has helped me in clinic because dentistry works kind of works in the same way. If you miss a small detail it will come back to bite you and you often have to start over.
- **Doing research lets me figure out what works best for me.** I often get to work with the newest materials and

evaluated their properties with existing well-known materials. Playing around with different materials allows me to figure out which ones I like working with and which ones I do not.

- **Doing research has made me a better speaker.** At MWU, you are encouraged to present the research you do at multiple conferences. This means a lot of talking to people you do not know while being fully aware that you are being judged. Though at first it may seem frightening, this experience has helped me become more comfortable with myself and my public speaking ability. I can say with full confidence that I am definitely better than where I started.
- **Doing research has made me a better people person.** For me, this was probably the biggest perk about research. Doing research, I had the opportunity to talk to a lot of different people. Sometimes it was the CEO of a dental material company, sometimes a professor at another school, sometimes it was peers I had never spoken to before. These are people I probably wouldn't have had the chance to speak to otherwise and through research, I was able to make many new friends and connections.



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