Are electronic cigarettes as healthy as they claim?

URCA Assistants Nick Ballard and Alec Piwowarczyk from Dr. Barbara McCracken’s lab are using cell cultures to answer this question. Their main job is to maintain gum tissue fibroblast cell cultures. In order to do this, they need to change media and split cell plates in order to produce new generations. They are using aseptic techniques to avoid contamination in the cell plates. After enough cells are cultured, they plan on subjecting the cells to e-cigarette fluid to see if there is an inflammatory response in gum cells (if cytokines are found, that is evidence of inflammation). If there is inflammation, many other issues could arise, which would suggest that electronic cigarettes are not as healthy as they claim to be.

Nick’s favorite part of URCA is the opportunity to perform tests and learn techniques that cannot be taught in a regular classroom setting. Alec’s favorite part is that it gives students a chance to develop a closer relationship with their professors. According to Dr. McCracken, “Nick and Alec have been enthusiastic in their pursuit to learn new things in the lab. In no time I was able to turn cell culture duties over to them because of their meticulous attention to detail. I am excited to have them working in my lab and I hope they will consider continuing with me after their URCA semester is over.”

After graduation, Alec plans to further his education in the field of dentistry, and Nick plans to attend medical school.
Featured Associate:

**Madeline Douglas**  
**Mentor: Dr. Becky Luebbert** (Nursing)

Madeline is working on several projects related to suicide assessment and prevention. One activity, iCARE, is a campus-wide suicide prevention initiative. Madeline is reviewing data from the Suicide Prevention, Exposure, and Awareness Knowledge Survey (SPEAKS) that SIUE students took to assess this issue on our own campus. She is also evaluating the attitudes and beliefs of nurses who work in non-psychiatric settings regarding suicide assessment, and hopes to submit a manuscript on this topic soon. Madeline became interested in suicide prevention and assessment after learning how prevalent suicide is. She wanted to learn more about how she could educate others about assessing and preventing suicide. She really enjoys URCA because she is interested in continuing her education through research and URCA gave her the opportunity to see exactly what good research entails.

Featured Assistants:

**Rebecca Ngo**  
**Mentor: Dr. Chin-Chuan Wei** (Chemistry)

Rebecca is studying Coomassie Brilliant Blue (CBB), a dye commonly used to determine the concentration of a protein. However, the concentrations determined from assays vary between proteins, raising questions about accuracy. Accuracy is important because CBB is one of the main chemical reagents that is used to determine the concentration of a protein in the chemical industry. Rebecca’s work is one of the first studies to investigate the accuracy of this widely-used dye. Rebecca states that she’s had a very good experience with URCA and feels like she has improved her critical thinking skills. She’s looking forward to applying those skills next year when she plans to attend medical school.

**Ryan Robbins**  
**Mentor: Dr. Eva Ferguson** (Psychology)

Ryan is working on the Ferguson Parental Values Inventory. His lab is currently collaborating with a funding group to see if its parent training program can increase Democratic parenting. He enjoys learning about parenting styles and engaging in research that could shape lives for the better. He has learned how to run advanced statistics and to present his findings. In URCA, he oversees six other undergrads. His favorite part of URCA is his team; he states that he couldn't ask for a better group of students with whom to work.