

Statement of Intent

Dear GPC,

I am writing this letter seeking a travel award to help fund my trip to the largest biomedical engineering conference in the United States. Biomedical Engineering Society (BMES) is an international conference. I am planning on presenting my research and also representing the Office of Technology Management and Industry Relations (OTMIR) here at the university to network with potential companies. I am seeking funding for travel and registration for the conference. My department is willing to pay for all but \$90 of a hotel room for the duration of the trip.

My research is focused on finding a way to stop progression of post-traumatic osteoarthritis (PTOA). PTOA is a condition where swelling and pain occur from a multitude of different joint traumas leading to degeneration of articular tissue. Common types of traumas that can create PTOA include sports injuries, car accidents, or falling. Most common sites of PTOA include knee, wrist, and finger joints. Deterioration of articular tissue leads to bone-on-bone joint articulation which causes tremendous pain and leaves sufferers unable to perform simple tasks like walking or gripping/picking up objects. Treatments for PTOA are currently limited. Only therapies that temporarily provide pain relief are available and no long-term treatment or regeneration of tissue is available today. My work includes combinatorial use of the profound benefits of extracellular matrix (ECM), curcumin, hyaluronic acid, and gold nanoparticles (AuNP). The ECM is the stabilizing/structural material found throughout the body and provides a structure for cells to grow within the body. ECM does not create an immune response when implanted within the body and also stimulates regrowth of a patient's natural tissue. Curcumin is a natural Indian spice and anti-inflammatory agent commonly found in foods like curry. Hyaluronic acid is a biological lubricating material that can draw water at the site of injection. AuNPs are known for their anti-inflammatory and anti-oxidative properties. These materials were bound to ECM creating an injectable gel. Our studies have shown that a combinatorial use of all of these materials helps to stabilize the PTOA environment. This injectable material may provide a long term treatment modality for PTOA.

Other than the time I spend working on my research, I also work for the OTMIR at the University. OTMIR is the department that works with researcher to patent technologies that they have developed within their respective labs. My position at OTMIR is to review prior art on technologies, generate marketing reports, and communicate with companies to license out technologies that we are patenting. With this

being an international conference, this brings in large biotech companies that look for potential employees or potential technologies they're interested in. This conference will allow me to make new contacts within these companies which will enable OTMIR and the University to potentially license technologies developed by our researchers. Making direct contacts like these can also significantly help me acquire a job when I finish with graduate school.

It has always been my dream to gain a critical role within a biotech company to either lead a group of researchers to solve clinical problems or work with external companies or universities to collaborate on technologies to solve clinical problems. This conference is a great stepping stone to enhance my career in a multitude of facets.

Being able to attend an international conference like this is huge for my career not only for my current work but once I move on from the University too. Presenting a poster at a large conference like BMES helps my scientific communication skills with my peers and world renown minds. Directly communicating with companies about potential licensing opportunities helps to prepare me for a future career in technology transfer. This conference is the ultimate culmination of my personal life goals and can greatly impact my current work as a graduate student and potential future work as an employee of biotech companies.

I would like to thank the reviewers for taking the time to review my application.