M.S.

RITA MATTA

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EDUCATION

Yale University, Biomedical Engineering M.S. Candidate **Expected: May 2017**

University of Connecticut, Bachelor of Science in Engineering GPA: 3.88/4.00 **2012-2016**

Major: Biomedical Engineering; *Minor*: Material Science and Engineering

RESEARCH AND WORK EXPERIENCE

Yale University Gonzalez Lab: *Microparticle Encapsulation of Neural Stem Cells* **August 2016-present**

Position: Enhanced and conducted a microparticle encapsulation using neural stem cells to promote neurovascular regeneration in stroke subjects. Collaborated with multiple teams and presented data/suggestions based off my experimental conclusions

Key skills: stem cell culture, microencapsulation technique, polymer synthesis, materials chemistry

Yale University: *Teaching Fellow* **August 2016-present**

BENG 335L: Physiological Systems Lab (Fall 2016)

BENG 405: Biotech and the Developing World (Spring 2016)

Medtronic: *Biomedical and Analytical Chemistry R&D Intern* **Winter 2017, Summer 2016**

Position: Evaluated biocompatibility of a novel adhesive through cytotoxicity, cell-mesh interaction, cell integration, wettability, and chemical elution studies. Data generated will influence developmental process. Conducted a 3-D wound healing assay using collagen hydrogels in order to observe cell infiltration in a tissue-like environment demonstrating the feasibility of a product concept

Key skills: cytotoxicity, SEM, histology, contact angle, elution test, collagen hydrogel formation

UConn Health Center: *Electrical Stimulation Plate for Neuronal Tissue Regeneration* **Fall 2015-Summer 2016**

Position: Senior design project to design a novel cell culture plate coupled with electrical stimulation using ionically conductive polymers for promotion of axonal regeneration when electric charge is supplied. Cell studies and image analysis show promising results of stem cell differentiation and further evaluations are ongoing. Presented device and data (NEBEC, NY 2016 and ASAIOfyi, CA 2016) winning 2nd place at Senior Design Demonstration Day

Key skills: SolidWorks, electrical stimulation, QuickField, design, machining, tissue testing

University of Connecticut Vanden Berg-Foels Lab: *Intro to Collagen Network Assembly (Spring 2015), Collagen Network Research Methods (Fall 2015-Spring 2016)* **2015-2016**

Position: Research of existing literature to identify known mechanisms of collagen fibrillogenesis and collagen network formation. Research protocol development, continuing to benchtop studies creating a hyaluronic acid hydrogel. Literature synthesis will be submitted as part of a manuscript for peer-reviewed journal

Key skills: hyaluronic acid hydrogel, protocol formation, collagen network formation, literature synthesis

Medtronic: *Biomedical and Analytical Chemistry R&D Intern* **Winter 2016, Summer 2015**

Position: Validated a custom tissue culture protocol for immunohistochemistry using several cell lines and target proteins through Western Blot and IHC staining for evaluation of protocols, product components and shipping conditions. Cultured staphylococcus bacteria and evaluated viability and other test conditions to support test method development

Key skills: immunohistochemistry, Western Blot, bacteria assays, cancer cell studies, biomarker expression, histological tissue processing techniques

Covidien*: Biomedical and Analytical Chemistry R&D Intern* **Summer 2014**

Position: Performed cell proliferation studies, viability staining and fluorescent imaging, and collagen production studies as well as evaluated cell interaction and integration with non-woven polymeric material used for staple line reinforcements to support development efforts

Key skills: cell culture and cell studies, fluorescent microscopy and image analysis, SEM imaging, histology

University of Connecticut*: Engineering Tutor Center* **2014-2016**

Position: Tutor and mentor undergraduate students in the School of Engineering