

Ahmad Alassaf, Ph.D.
Majmaah University, Saudi Arabia
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EDUCATION

University of Miami, Coral Gables, FL
University Degree : Doctor of Philosophy in Biomedical Engineering
Graduation year : Dec 2019

The Catholic University of America, Washington D.C
University Degree : Master of Science in Biomedical Engineering
Graduation year : Jan 2014

King Saud University, Riyadh, Saudi Arabia
University Degree : Bachelor Degree in Biomedical Technology
Graduation year : May 2009, Class Topper

ACADEMIC EXPERIENCE

Assistant Professor, Majmaah University, Saudi Arabia (Jan 2020 –Present)
Teaching courses in Medical Equipment Technology Department for full time.
MET 232: Anatomy for Bioengineering
MET 237: Physiology for Bioengineering
MET 365: Advanced Mechanical Equipment's 2
MET 591: Graduation Project

Teaching Assistant, University of Miami, FL (Aug 2017– July 2019)
Worked as a teaching assistant for BME 566: Cell and Tissue Engineering Laboratory.
Made necessary preparations for the lab, maintaining the course in blackboard site, assisting students and grading their lab report.

Lecturer, Majmaah University, Saudi Arabia (Feb 2014 –Aug 2014)
Taught two courses in Medical Equipment Technology Department for the full semester.
BMTS 365: Biomedical Mechanical Instrument 2. MET 246 Biomechanics.

Teaching Assistant, Majmaah University, Saudi Arabia (May 2010 – Jan 2014)

RESEARCH EXPERIENCE

Graduate Research Assistant – Physio mimetic Microsystems Laboratory (PML)
Supervisor: Ashutosh Agarwal, PhD (Aug 2014 – Dec 2019)
Developed Heart -on-chip platform that extended the lifetime of neonatal rat myocyte (NRVM) from four days until thirty days. Developed multiple micro-chips, using cleanroom facility, that were used for different applications such as neuromuscular junction and pancreatic islets diseases. Mastered neonatal rat myocyte harvest on microelectrode array (MEA) to collect non-invasive electrophysiological readouts.

Graduate Research Assistant – Tissue Engineering Lab
Supervisor: Victor Frenkel, PhD (Jan 2012 – Jan 2014)

Developed 3D biological scaffolds for evaluating ultrasound exposures. Optimized gelatin and chitosan ratio to fabricate the scaffolds due to their favorable cell binding and beneficial structural characteristics.

PUBLICATIONS

1. **A Alassaf**, M Ishahak, A Bowles, A Agarwal. (2020). Microelectrode Array based Functional Testing of Pancreatic Islet Cells. Micromachines
RR Besser, A Bowles, **A Alassaf**, D Carbonero, R Maciel, M Saporta, A Agarwal. (2020). A Chemically Defined Common Medium for Culture of C2C12 Skeletal Muscle and Human Induced Pluripotent Stem Cell Derived Spinal Spheroids. Cellular and Molecular Bioengineering
2. RR Besser, A Bowles, **A Alassaf**, D Carbonero, I Claire, E Jones, J Reda, L Wubker, W Batchelor, N Ziebarth, R Silvera, A Khan, R Maciel, M Saporta, A Agarwal. (2019). Enzymatically Crosslinked Gelatin-Laminin Hydrogels for Applications in Neuromuscular Tissue Engineering. Biomaterials Science
3. **A. Alassaf**, G.Tansik, V.Mayo, L.Wubker, D.Carbonero, A.Agarwal. (2019). Engineering Anisotropic Cardiac Monolayers on Microelectrode Arrays for Non-invasive Analyses of Electrophysiological Properties. Analyst
4. RR Besser, I Claire, R Maciel, **A Alassaf**, D Carbonero, M Saporta, A Agarwal. (2019). In vitro recapitulation of the dysfunctional neuromuscular junction in Charcot-Marie-Tooth disease. Journal of the Peripheral Nervous Society
5. Bui, Aleid, **Alassaf**, Wilson, Raub, & Frenkel. (2017). Development of a custom biological scaffold for investigating ultrasound-mediated intracellular delivery. Materials Science & Engineering C
6. **Alassaf, A.**, Aleid, A., & Frenkel, V. (2013). In vitro methods for evaluating therapeutic ultrasound exposures: Present-day models and future innovations. Journal of Therapeutic Ultrasound

CONFERENCES

Tansik G, **Alassaf A**, Mayo V, Velluto D, Agarwal A, “Dynamic Modulation of Gelatin Methacrylate Hydrogels to Mature Human Stem Cell-Derived Cardiac Tissues”, Poster # 636, 2018 Biomedical Engineering Society Annual Meeting, Atlanta, GA, Oct 2018

Hill J, Ishahak M, **Alassaf A**, Rawal S, Agarwal A, “Bonding of Non-Elastomeric Materials to Engineer Resealable and Reusable Microphysiological Systems”, Poster #533, 2018 Biomedical Engineering Society Annual Meeting, Atlanta, GA, Oct 2018

Besser R , Maciel R, Claire I , **Alassaf A**, Carbonero D, Saporta M, Agarwal A, “In Vitro Recapitulation of the Dysfunctional Neuromuscular Junction in Charcot-Marie-Tooth Disease”, Oral Presentation, 2018 Biomedical Engineering Society Annual Meeting, Atlanta, GA, Oct 2018

Alassaf A, Mayo V, Bhansali D, Agarwal A, “Finding the Optimum Microenvironmental Factors to Engineer Cardiac Tissues”, Poster #288, 2017 Biomedical Engineering Society Annual Meeting, Phoenix, AZ, Oct 2017

Alassaf A, Mayo V, Pimentel K, Bhansali S, Agarwal A, “Engineering a Multi-Functional Cardiac Physiometric Microsystem”, Poster #393, 2015 Biomedical Engineering Society Annual Meeting, Tampa, FL, Oct 2015

Makavana B, **Alassaf A**, Mayo V, Agarwal A, “Engineered Cardiac Tissue for Regenerative Medicine and Drug Testing”, Poster #661, 2015 Biomedical Engineering Society Annual Meeting, Tampa, FL, Oct 2015

Aleid A, **Alassaf A**, Wilson O, Mehl P, Frenkel V, “Optimization of 2D Biological Scaffolds for Investigations on Ultrasound Mediated Drug Delivery”, Poster # A-8, 2013 Biomedical Engineering Society Annual Meeting, Seattle, WA, Sep 2013