

Senior Research Associate/Associate Scientist - Biomaterials

What we do

United Therapeutics Corporation focuses on the strength of a balanced, value-creating biotechnology model. We are confident in our future thanks to our fundamental attributes, namely our commitment to quality and innovation, the power of our brands, our entrepreneurial culture and our bioinformatics leadership. We also believe that our determination to be responsible citizens — having a positive impact on patients, the environment and society — will sustain our success in the long term.

We currently have five approved products on the market and a long-term mission of providing an unlimited supply of transplantable organs for those who need them.

Our company was founded by an entrepreneur whose daughter was diagnosed with a life-threatening condition. She sought to find treatment options and a cure for her daughter and patients like her. We are founder-led, and relentless in our pursuit of “medicines for life”. We continue to research and develop treatments for cardiovascular and pulmonary diseases, pediatric cancers and other orphan diseases.

How you'll contribute

Develop the polymer formulations that will enable 3D bioprinting of human organs. Develop cutting edge 3-D printing bio-inks for organ scaffold printing. Contribute to efforts to design and formulate bio-inks, and surface coatings, and provide expertise on material properties required for lung scaffold printing and materials characterization. This work will support the development of methods to produce bio-inks for 3D printed lung scaffolds that are suitable for cellularization.

Key job responsibilities

- Contribute to bio-ink development efforts towards creation of 3D printed scaffolds
- Maintain a deep understanding of current and emerging technology in the biomaterials, polymer chemistry, and bio-ink space
- Provide hands-on reduction to practice for manufacturing of prototypes for the Organ Manufacturing program, including the use of biomaterials, non-biologic polymers, coupling and crosslinking chemistries and coatings
- Identify and evaluate raw materials for bio-ink development and lung scaffold production efforts
- Select and employ appropriate analytical techniques for formulation and development of bio-inks suitable for 3D printing
- Develop and evaluate robust approaches to enhance cell interactions with novel bio-inks

- Collaborate and work closely with biomedical and mechanical engineers, polymer chemists, and molecular biologists
- Provide expertise regarding surface modification, crosslinking, and coatings, particularly with regards to differential material interfaces and luminal surfaces that will ultimately contact cells.
- Maintain high level of communication with internal cross-functional R&D team, as well as external vendors, and consultants.
- Collaboratively and independently conduct (and supervise, if necessary) lab work and prototype performance testing, and interpret data and results to provide guidance on bi-oink design iterations.
- Make recommendations and set new directions for the project based on data, and test results based on program objectives and goals
- Perform other duties as assigned

For this role you will need

Minimum Qualifications

- MS degree in Chemistry, Materials, Surface Science, Polymer Chemistry, Biomedical Engineering, or related field for Senior Research Associate level; PhD in Chemistry, Materials, Surface Science, Polymer Chemistry, Biomedical Engineering or related field for Associate Scientist level
- 2+ years of experience in an engineering R&D environment, not inclusive of time in graduate school
- Demonstrated success (i.e. products and/or publications) in polymer chemistry and surface functionalization with polymers or monolayers
- Knowledge of fundamentals in organic chemistry
- Proficient with MS Office (Excel, PowerPoint, Word)
- Able to travel up to 10% as needed

Preferred Qualifications

- PhD in Chemistry, Materials, Surface Science, Polymer Chemistry, Biomedical Engineering, or related field
- Experience in aseptic technique and mammalian cell culture
- Experience working with peptides
- Experience working with analytical systems: rheometer and Instron
- Experience in 3D printing hydrogels

Life as a Unitherian

At United Therapeutics, you'll realize quickly that it is not an ordinary place to work! When you join our company, you will learn, grow, contribute, have fun, and be challenged... all while making a difference in the lives of our patients.

We strive to be an organization that engages the minds, hearts, and most spirited efforts of each of our employees. Our sense of purpose transforms what we do from work into mission, occupation into vocation and achievement into success.

We challenge our employees with innovative and revolutionary projects, offer an environment which fosters high-level job performance and provide a highly competitive total rewards package. This is what makes United Therapeutics a stimulating place to work.