

Nathan T. Wood

Email (EDU): woodn@tamu.edu | **Email (Personal):** contact@nwoodweb.xyz

www.nwoodweb.com

3528 TAMU, College Station, Texas, USA, 77843

First Author Publications

- 2025** **Wood, N.**, Doria, E.D., Li, W., Pei, Z., Qin, H., *Effects of Calcium Chloride Crosslinking Solution Concentration on the Long-Term Cell Viability of 16HBE14o- Human Bronchial Cells Embedded in Alginate-Based Hydrogels*. Biomimetics
- 2024** (Equal Authorship) Rahman, T.*, **Wood, N.***, Akib, Y.A., Qin, H., Pei, Z., *Experimental Study on Compatibility of Human Bronchial Epithelial Cells in Collagen-Alginate Bioink for 3D Printing*. Bioengineering.

Co-Authored Publications

- 2025** (Under Review) Rahman, T., **Wood, N.**, Pei, Z., Qin, H. *Effects of Extreme Temperature on Human Bronchial Epithelial Cells in 3D Printed Samples*. Bioengineering.
- 2024** Rahman, T., Rahman, A.M., Pei, Z., **Wood, N.**, Qin, H., *Effects of Coaxial Nozzle's Inner Nozzle Diameter on Filament Strength and Gelation in Extrusion Based Bioprinting with In Situ Ionic Crosslinking*. Journal of Manufacturing and Materials Processing.
- 2023** Rahman, T., **Wood, N.**, Rahman, A.M, Pei, Z., Qin, H., *Applying In-Situ Ionic Crosslinking in Bioprinting Using Algae Cells: A Preliminary Study*. American Society of Mechanical Engineers Journal of Manufacturing Science and Engineering.

Awards

- | | | |
|----------------|--|--------------|
| 2024 | Texas A&M Department of Biology Engagement Scholarship | \$500 USD |
| 2023 | DataBlitz Award, Texas A&M Biology Student Postdoc Research Conference | \$250 USD |
| 2022 | Consortium for Mathematics and Its Applications Successful Participant | |
| 2022 | University of Florida Department of Mathematics Robert Long Prize | \$250 USD |
| 2017-22 | Florida Academic Scholar (Full Tuition and Stipend) | \$33,000 USD |
| 2017 | Eagle Scout | |

Presentations

- 2024** **Poster** *Assessment of Biocompatibility of Alginate-Methylcellulose Bioinks for Bioprinting of 16HBE14o- Human Bronchial Epithelial Cells*, Presented for incoming graduate students and previously U.S Department of Defence and Italian CNR officials.

2024	Poster/Tour	Provided U.S Department of Defence and Italian National Research Council Officials of Qin Group's cell culture space, provided presentation on work on alginate-methylcellulose bioinks to support growth of human bronchial epithelial and human lung microvascular endothelial cells. Escorted officials across Texas A&M University for two days.
2024	1.5 Minutes	<i>Role of reactive oxygen species in modulating ammonium chemotaxis in chlamydomonas reinhardtii</i> , TAMU Biology Student/Postdoc Research Conference.
2024	Poster	<i>Role of reactive oxygen species in modulating ammonium chemotaxis in chlamydomonas reinhardtii</i> , TAMU Biology Student/Postdoc Research Conference.
2023	1.5 Minutes	<i>Initial Three Dimensional Constructs of A Set of Ionically Crosslinked Chlorella vulgaris Cell Cultures</i> , TAMU Biology Student/Postdoc Research Conference.
2023	Poster	<i>Initial Three Dimensional Constructs of A Set of Ionically Crosslinked Chlorella vulgaris Cell Cultures</i> , TAMU Biology Student/Postdoc Research Conference.

Teaching

Spring 2025	BIOL351 (TAMU)	Microbiology Laboratory	48 Students
Fall 2024	BIOL351 (TAMU)	Microbiology Laboratory	48 Students
Spring 2024	BIOL206 (TAMU)	Introduction to Microbiology Laboratory	72 Students
Fall 2023	BIOL351 (TAMU)	Microbiology Laboratory	48 Students
Spring 2023	BIOL351 (TAMU)	Microbiology Laboratory	48 Students
Fall 2022	BIOL111 (TAMU)	Introductory Biology I	48 Students
Spring 2022	MCB3020L (UF)	General Microbiology Laboratory	30 Students
Fall 2020	BSC4434C (UF)	Introduction to Bioinformatics	70 Students
Spring 2020	MCB2000L (UF)	Microbiology Laboratory	32 Students

Service

2025	Score Judge, Department of Energy Regional Science Bowl (High School)
2024-Ongoing	Mentoring four undergraduates
2024	Mentoring incoming Ph.D student
2024	Reviewer for Scientific Reports
2023	Mentored incoming Ph.D student
2023	State Level Science Olympiad (High School), proctoring and grading Cell Biology exam, grading Anatomy and Physiology exam
2023	Score Judge, Department of Energy Regional Science Bowl (Middle School)
2023	Darwin Day (Primary School Audience) exhibition for Department of Biology
2022	Mentored three undergraduates in bioinformatics and enzyme kinetics research
2019	Student dormitory move in volunteer, traffic guidance during inclement weather
2019	UF Department of Chemistry Chem-A-Thon (High School Audience), demonstrated rapid urease test
2019	Student dormitory move in volunteer
2017-8	Florida Hospital (now Advent Health) Transportation Volunteer

2017 Eagle Scout Project, lead 33 students in assembly of outdoor pullup bars for East River High School

Technical Skills

Biochemistry	Enzyme kinetics, affinity column purification
Cell Culture	16HBE14o- and HULEC-5A, cell banking and cryopreservation, monolayer cell culture, viability assays (2D and 3D), migration assays (2D and 3D), 3D scaffold culture, Air Liquid Interface
Molecular	DNA electrophoresis, SDS-PAGE, Native PAGE, ELISA, primer design and verification of vector, TRIZOL/phenol-chloroform extraction, protein extraction
Optical Microscopy	Live cell phase contrast and epifluorescent microscopy, immunofluorescence, laser scanning confocal microscopy, superresolution (Zeiss AiryScan), image analysis
Spectroscopy	Continuous wave EPR, UV-Vis
Computer Hardware	Assembly and disassembly of components, BIOS/UEFI, Coreboot flashing, fault-finding, kernel compilation and drivers
Computer Languages	R, POSIX Shell, Python, Sed, Awk, C
Computer Networking	HttpD, RelayD, PF
High Performance Computing	SLURM scripting
Markup	L ^A T _E X, HTML/CSS, Markdown
Multimedia	Audio and video (Audacity, FFMPEG, KdenLive), raster graphics (GIMP, Imagemagick), vector graphics (inkscape), Publishing (L ^A T _E X)

Languages

English (USA)	Native Speaker
Arabic (MSA, Masri, Iraqi)	2 years university education
Spanish (Latin America)	2 years high school education

Academics

2022-Ongoing	Ph.D Student, Microbiology	Texas A&M University
Earned 2022	B.S Microbiology and Cell Sciences	University of Florida

General Skills

American Heart Associated CPR/AED/First Aid for Adult and Pediatric Emergencies
 ARRL Technician License (KN4TTV)
 Can lift masses in excess of 25kg (50 Lbs)