

# Stephen Timothy Gordon II

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## Education

- East Texas Baptist University. Marshall, Texas - Freshman year, (2015-16)
- Louisiana Tech University. Ruston, Louisiana
  - B.S in Electrical Engineering (Graduated 2021)
  - MS in Electrical Engineering (Expected Spring 2025)
  - PhD in Civil Engineering (Expected Winter 2025-2026)

## Projects

- Hardware Implementation of PID circuit for temperature controller
- Microcontroller software implementation of salinity and temperature control
- Development of Auto Packet Report System (APRS) based high altitude weather balloon tracking for Louisiana Tech Aerospace Engineering Club
- Chase and Recovery specialist for Louisiana Tech Aerospace Engineering Club high altitude weather balloons
- Mesh network testing for long-range communications with Louisiana Tech's Ham Radio Club
- Development of an inductive microwave heating system for geopolymers (Capstone Project)
- Electrical characterization of geopolymers (Ongoing – PhD Study)
- Development of geopolymer 3D printer (Ongoing – PhD Study)

## Skills and Experience

- Experience in programming with VHDL, C, 6502 assembly, Python, and MATLAB.
- Proficient in DOS, Windows, and Linux Operating Systems.
- Trained in hardware implementation of digital and analog circuitry (design, fabrication, and assembly).
- Operation, management, and repair of multiple types of additive manufacturing systems (Fused Deposition Modeling and UV stereo lithography).
- Licensed Technician class ham radio operator.
- Skilled in Linux-based server operations including website creation, containerized applications, and remote management.
- Skilled in multiple CAD software including SolidWorks Finite Element Analysis, Arena System Simulation, LTspice Circuit Analysis, EAGLE Schematic, MATHCAD, and Inkscape.
- Proficient in Microsoft's Suite of Office tools (Excel, Word, PowerPoint, etc.)
- Oral Presentation in both classroom and conference settings.
- Proficient in Teaching engineering concepts in classroom and laboratory settings

## Prior Employment

Louisiana Tech University Prototyping Lab, 3D Printer Technician (August 2019 – March 2020)

- Maintenance and Operation of MakerBot, Creality, Anycubic, and many more models of 3D printers.
- Developing 3D print files using a variety of slicer software (Z-suite, MakerBot Print, Cura, ChituBox, PrusaSlicer, etc.)
- Designing parts for additive manufacturing using CAD 3D Modeling Software (Autodesk Fusion 360, SolidWorks, Blender)

Louisiana Tech University, Graduate Teaching Assistant (August 2021 – March 2024)

- Teaching Assistant for ENGT 220 (Fall 2021 and Fall 2022): Applied Engineering Mechanics
  - Assisted teaching faculty with grading assignments, proctoring exams, conducting lectures, and assisting with course projects during study hall
- Teaching Assistant for CVEN 302 (Winter 2021-2022, Spring 2022, and Winter 2022-2023): Construction and Building Materials
  - Assisted teaching faculty with grading assignments, proctoring exams, preparing questions for homework and quizzes, conducting labs, and conducting lectures.
- Teaching Assistant for CVTE 475(Fall 2023 and Fall 2024): Soils in Construction
  - Assisted teaching faculty with grading assignments, preparing course material, conducting lectures, proctoring exams, and conducting labs and grading lab reports.

Louisiana Tech University Instructor of Record, CVEN 302: Construction and Building Materials (March 2023 – May 2023, December 2023 – February 2024, March 2024 – May 2024)

- Development and presentation of complex engineering topics covering a range of construction techniques, building materials, and material properties including
  - Thermal expansion of concrete, steel, and asphalt
  - Concrete mix design
  - Aggregates
  - Geopolymers
  - Steel construction
  - Concrete Construction
  - ASTM testing for wood, plastics, and concrete
- Hands-on education through lab covering material properties and concrete mix preparation and testing

## Awards and Scholarships

- Dean’s list for Fall 2015 and Spring 2016 semesters at East Texas Baptist University.
- Awarded the “Shoot for the Moon” award for the Engineering 122 Freshmen Design Expo for the construction and design of a 3D printer made from repurposed inkjet printers and document scanners.
- Dean’s list for Spring 2020 and Fall 2020 quarters at Louisiana Tech University
- North American Society for Trenchless Technology 1<sup>st</sup> place for student poster contest (2022)
- North American Society for Trenchless Technology 3<sup>rd</sup> place in student poster contest (2023)
- Awarded the Argent Memorial Scholarship by the North American Society for Trenchless Technology (2023)
- Awarded the SC-NASTT Student Scholarship by the South-Central Chapter of the North American Society for Trenchless Technology (2023)
- First Place in Louisiana Tech University’s 3-Minute Thesis Competition (2023)
- North American Society for Trenchless Technology 3<sup>rd</sup> place in student poster contest (2024)
- 3<sup>rd</sup> Place in Louisiana Tech University’s Graduate Student Research Symposium Poster Contest (2024)

## Journals

- Paneru, A., Sagar, V., Tarikuzzaman, M., Lynam, J.G., **Gordon II, S.T.**, Alam, S. (2024) Innovative Pavement Materials: Utilizing Corn Stover and Fly Ash in Geopolymers. *Environments*, 11, 192. <https://doi.org/10.3390/environments11090192>
- Tarikuzzaman, M., Shank, A.M., Agan, E.G., Sagar, V., Lynam, J.G., **Gordon II, S.T.**, Alam, S. (2024) Tensile Strength and Porosity of Regolith-based Cement with Human Hair. *Front. Space Technol.* 5:1448787. <https://doi.org/10.3389/frspt.2024.1448787>
- Hashm, H., Alam, S., **Gordon, S.**, Kraft, J., Saleh, M. Y., Lvov, Y., Matthews, J., Radadia, A., Weiss, L., Amritphale, S., Bailey, D., Manzur, T. (2023) Halloysite Clay Nanotube Composites as Coating Materials with Enhanced Properties. *Construction and Building Materials*, 392, 131961, ISSN 0950-0618, <https://doi.org/10.1016/j.conbuildmat.2023.131961>.
- Sharma, R., Seetala, N., Clower, W., Amritphale, S., Alam, S., **Gordon, S.**, Matthews, J., Radadia, A.D. Synergistic effect of Mill scale and MoS<sub>2</sub> in geopolymer composites for EMI shielding application. *Journal of Materials Science: Materials in Electronics*, vol. 33, pp. 20056-20067, 2022. 03.

## Peer-Reviewed Conference Proceedings

- **Gordon, S.**, Chakma, T., Hesser, M., Kraft, J., Alam, S., Eklund, S., Mathews, E., Matthews, J. (2024). Styrene Emission Evaluation – An Innovative Controlled Test Setup. No Dig Conference, April 14 -18, Providence, RI.
- Chakma, T., **Gordon, S.**, Alam, S., Matthews, J. (2024) Exploring Rapid Solidifying Fly Ash Cementitious Materials for Making Structural Components. 2024, Center for Applied Energy Research World of Coal Ash Proceedings, May 13-16, Grand Rapid, MI.

## Book Chapters

- Alam, S., **Gordon, S.**, Bassett, B., Cobb, K., Jefferson, B., Nwoha, N., Manzur, T., Crittenden, K., Matthews, J. (2024). 3D Printing of Fly ash Based Geopolymer Materials. Net-Zero Future Conference, June 19-21, Oslo, Norway - Under Process

## Conferences

- Presented research posters at the 2022, 2023, and 2024 North American Society for Trenchless Technology (NASTT) Conventions
- Competed at the Conference of Southern Graduate Schools (CSGS) 3 Minute Thesis 2024 competition, Greenville South Carolina
- Presented research on Styrene emission through CIPP liner at NASTT 2024 Convention, Rhode Island
- Attended ACS Spring 2024 convention, New Orleans
- Presented research on rapid curing of geopolymers at the World of Coal Ash 2024 Conference, Grand Rapids MI
- Presented research on 3D printing of Geopolymers at the Net-Zero Future Summer 2024 Conference, Oslo Norway