Tyler Chism

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Experience

- Nanomatronix; R&D Scientist, June 2019 to Present.
  - Conduct research in the areas of biomedical engineering, microelectronics, & nanotechnology.
- Inrock Drilling Systems; Guidance Engineer, May 2018 to May 2019.
  - Use Vector Magnetics software to analyze signal from underground probe, creating novel algorithms and formulas to analyze large amounts of data from tracking the probe underground and calculate optimal steer pattern for HDD bores to come out at the clients specified location within tolerances.
  - Work as sole Inrock representative traveling to job sites of clientele across the US for the pilot hole on HDD bores. perform tasks including design of bore profiles & Autocad drafting, bit tracking, radius & projected bore path calculations, tooling and hardware recommendations, as well as troubleshooting.
- Baxter Healthcare; Quality Lab Associate I, April 2017 to May 2018.
  - Assumed role as SME for the implementation of new Lab Information Management System (LIMS) software that is replacing current processes with an integrated global system to better manage large data.
  - Solely responsible for the development of plant process conversion templates for the LIMS system, taking responsibility for the creation, approval, and troubleshooting of RM and ML LIMS materials templates.
  - Encompassed a multidisciplinary training approach for standard work enabling me to become an analyst of raw materials, EO residuals testing for manufactured lots, as well as analyst for chemical testing of plant water.
- Marion County Paving; Surveyer/Laborer, Oct. 2016 to April 2017.
  - Placed in charge of GPS survey equipment and helped improve construction site surveying and planning.
  - Assisted paving and concrete crew with all forms of labor. Operate heavy machinery and work with hand tools and power tools.
- Dr. Z Ryan Tian's Research Lab UARK; Lab Technician, Jan. 2013 to May 2016
  - Complete fabrication of experimental devices and setup, design of parameter adjustments, and analysis of data for solar energy conversion and photodetection experiments for Zinc Oxide photodetector thesis work which included training others to fabricate devices, and create and optimize experiments using the device
  - Helped optimize the reaction conditions to prepare high-quality carbon-coated $Na_3V_2(PO_4)_3$ nano-particles so as to optimize their performances as cathode materials for sodium ion batteries
  - Synthesis and preparation of nanocomposite membranes made of titanate nanofibers and graphene oxide for low-temperature sodium-sulfur rechargeable batteries
- Department of Chemistry & Biochemistry UARK; Graduate Assistant, Aug. 2014 to Dec. 2015
  - Lab instructor; Instructed & prepped labs for Chemistry I, II, Chemistry II for engineers, Honors Chemistry II, and Fundamentals of Chemistry August 2014 to December 2015

Technical Skills

- Hands on Microfabrication: Photolithography, Physical Vapor Deposition, Plasma Enhanced Chemical Vapor Deposition, Liquid & plasma etching, Acid Cleaning, & Wire Bonding
- Hands on Characterization: Nuclear Magnetic Resonance Imaging, Liquid & Gas Chromatography, Mass Spectrometry, UV-Vis Spectroscopy, Powder X-ray Diffraction Microscopy, & Infrared Spectroscopy
- Extensive study of semiconductor device physics, microelectronic circuit fabrication techniques, transistors and logic gates, as well as general computer science theory
- Proficient with: Autocad drafting, Data Management, Technical Writing & Presentations, Microsoft Office, Power Tools, Hand Tools, Survey Equipment, Transit, Voltmeter, Heavy Machinery, Electrochemical Analyzer, soldering iron, gas cylinders, as well as equipment repair
- Hands on experience in quality control following SOP's, JIB's, standard work, corrective & preventative action (CAPA), and 6S practices. Proficient with Chemistry lab work in the medical industry following FDA guidelines and regulations.
- Proficiency operating and maintaining Gas Chromatograph and related software for ethylene oxide residuals testing for quality control of manufactured lots adhering to strict FDA regulations

Education

- **M.S.** Microelectronics-Photonics engineering program University of Arkansas, spring 2016 **GPA: 3.8**
  - Thesis: Investigation of optical properties of zinc oxide photodetector.
  - Advisor: Prof. Ryan Tian

- **B.S.** Biochemistry; University of Arkansas, spring 2014 **GPA: 3.3**

- Continued self-learner
  - Continued self-education in computer programing (C++, Python, SQL, JavaScript, HTML, CSS, etc.)
  - Actively pursuing advanced knowledge of machine learning, deep learning, & neural networks.

Coursework

Engineering:
* Microelectronic Fabrication
* Semiconductor devices
* Integrated Circuit Fabrication
* Programming in C
* Engineering Materials

Biology/ Biochemistry:
* Biochemistry I & II
* General Microbiology
* Cell Biology
* Organic Chemistry I & II
* Physical Chemistry
* Analytical Chemistry

Materials:
* Advanced Nanomaterials Chemistry
* Catalysis
* Materials Chemistry
* Solar Energy storage and Conversion
* Advanced Inorganic Chemistry

Business Management:
* Operations Seminar Courses: Infrastructure, personal Management, Management/Leadership
* Commercialization of Research
* Proposal Writing and Management
* Engineering and Science Ethic

Meeting Presentations

- **Tyler Chism**, Garrett Torix, Ryan Tian "Exploring New Physics in Photon-Photoelectron Interactions on Micropatterned, Zinc Oxide Hyper-Branched Nanorods", American Chemical society regional meeting, November 4th, 2015, Memphis, TN.
- **Tyler Chism**; Huajun Zhou; Z. Ryan Tian "ZnO Nanostructures' new behavior in harvesting and converting solar-energy", 2014 ASSET Initiative Annual Conference, September 4th, 2014, Little Rock, AR.
- H. J. Zhou, **T. F. Chism**, X. D. Yang, Z. R. Tian, "Structure and function oriented multistep nanosynthesis of arrayed hierarchical tree-like wide light-incidence-angle photocatalysts," NSF EPSCoR Annual Meeting, Little Rock, AR, September 4th, 2014.

References

- Matt Leftwich – (000)-000-0000
  - Owner, Nanomatronix, mleftwich@nanomatronix.com
- Michael Rybak – (281)-949-8715
  - Operations Manager, Inrock, Michael.Rybak@inrock.com
- Chris Roth – (281)-377-5039
  - US Guidance Manager, Inrock, Chris.Roth@inrock.com
- John Abraham – (870)-421-5632
  - Quality Manager, Baxter Healthcare john_abraham@baxter.com
- Bryan Plumlee – (870)-424-5281
  - Senior Software Quality Engineer, Baxter Healthcare, bryan_plumlee@baxter.com
- Dr. Z Ryan Tian – (479)-283-8245
  - Associate Professor, Department of Chemistry & Biochemistry UARK, rtian@uark.edu
- Shane Davenport – (870)-449-5700
  - Owner, Marion County Paving
- Dr. Rick Wise – (479)-575-2875
  - Director, Microelectronics-Photonics graduate program rickwise@uark.edu