

ARIFUZZAMAN TAPASH

(609) 271-3264

arifuzz@okstate.edu

<https://www.linkedin.com/in/atapash>

808 N Monroe St #29

Stillwater, OK-74075

OBJECTIVE

Seeking a full-time research and development position in an industrial setting that calls for experience in solid-state NMR spectroscopic investigation of heterogeneous polymers/copolymers systems.

SUMMARY

- **PhD Student** in Oklahoma State University.
- Research area: Solid-state NMR, **polymer science**, **polyethylene**, styrene-butadiene copolymer.
- 4+ year experience in **polymer characterization** with **solid-state NMR** spectroscopy.
- 1+ year experience in **fabrication** of polymer composites, & mechanical characterization.
- 1+ year experience in analyzing oil shale geological rock with solid-state NMR spectroscopy.
- 2+ year **management experience** in university dormitory dining.
- Key skills: **NMR**, **DSC**, EPR, OriginPro 9 (data analysis), **mechanical testing**.
- Availability: January 2016, willing to relocate and travel anywhere.

EDUCATION

- PhD, Chemistry (anticipated) **Dec 2015**
Oklahoma State University. GPA: 3.64
Dissertation title: Development of robust solid-state NMR method to study morphology & phase behavior of heterogenous copolymer and gradient-copolymer.
Adviser: Professor Jeffery L. White
- MS, Applied Chemistry & Chemical Engineering **June 2009**
University of Dhaka, Bangladesh. Result: First class
Dissertation title: Fabrication and mechanical characterization of jute fiber reinforced PP-clay & PP-PVC hybrid composite material.
Adviser: Professor A. M. Sarwaruddin Chowdhuri
- BSc, Applied Chemistry & Chemical Engineering **June 2007**
University of Dhaka, Bangladesh. Result: First class

PROFESSIONAL EXPERIENCE

Research Experience

PhD, Graduate Assistant, Oklahoma State University. **Aug 2010-Present**

- Developed a simple 'solid-state NMR' method to quantify the distribution polyethylene chain in different morphological regions, specifically the morphology of crystal-amorphous interface. (Supported by **NSF** and collaborated with **Chevron Phillips Chemical Co.**)
- Developed an experimental method based on NMR & DSC to understand component specific heterogeneity & differential phase partitioning of styrene-butadiene gradient copolymer. (Supported by **NSF** and collaborated with **Chevron Phillips Chemical Co.**)
- Studied maturity of oil shale geological rock by solid-state NMR and EPR.
- Gained experience in using, maintaining & troubleshooting Bruker 300 MHz solid-state NMR instrument, and in developing NMR pulse program.

MS thesis, University of Dhaka, Bangladesh.

Aug 2007- June 2009

- Fabricated jute fiber reinforced PP-clay & PP-PVC hybrid composite materials, and characterized by various mechanical testing.

Work Experience

- Quality Assessment Officer in a textile testing laboratory, Qtec (Japan), Dhaka Branch, Bangladesh. **Sep 2009-June 2010**

Industrial Experience

- Summer intern, Training Institute for Chemical Industries, Bangladesh. **May 2009-June 2009**
 - Obtained theoretical and practical training on various industrial processes.
- Intern, Renata Pharmaceutical Ltd., Bangladesh. **Dec 2007- Jan 2008**
 - Worked at QC lab and pharmaceutical process industry.

Volunteer Work

- Served as a temporary **NMR Spectroscopist** and maintained departmental NMR facilities for 10 months in Department of Chemistry, Oklahoma State University. **Aug 2014-May 2015**

TECHNICAL SKILLS

- | | | |
|---------------------------|-------------------------------|-----------------|
| ▪ Solid-state NMR | ▪ OriginPro 9 (data analysis) | ▪ DSC |
| ▪ Polymer physics/science | ▪ Mechanical testing | ▪ Diffusion NMR |
| ▪ Fabrication | ▪ Gradient copolymer | |

PUBLICATIONS

- ❖ Tapash, A.; DesLauriers, P. J.; White, J. L. Simple NMR experiments reveal the influence of chain length and chain architecture on the crystalline/amorphous interface in polyethylenes. *Macromolecules* **2015**, 48, 3040-3048.
- ❖ Clough, A.; Sigle, J. L.; Tapash, A.; Gill, L.; Patil, N. V.; Zhou, J.; White, J. L. Component-specific heterogeneity and differential phase portioning in gradient copolymers revealed by solids NMR. *Macromolecules* **2014**, 47, 2625-2631.
- ❖ Robel, F. N.; Islam, T.; Tapash, A.; Chowdhury, A. M. S. Fabrication and characterization of jute fiber reinforced PP-clay-based nanocomposites. *JoPC* **2014**, 2, 19-29.
- ❖ Islam, R.; Islam, T.; Nigar, F.; Saha, S.; Tapash, A.; Sharmin, N.; Dey, K.; Mustafa, A. I.; Khan, R. A.; Khan, M. A.; Zaman, H. U. Fabrication and mechanical characterization of jute fabrics: reinforced polyvinyl chloride/polypropylene hybrid composites. *Int. J. Polymer. Mater.* **2011**, 60, 576-590.

AWARDS

- 'National Science & Technology Fellowship' grant recipient from the 'Science & Technology Ministry' of the '**Government of Bangladesh**' for excellent research in MS level (2008).
- Second prize in graduate poster section in 2015 ACS 60th Pentasectional Meeting.

AFFILIATIONS

- American Chemical Society

OTHER ACTIVITIES

- ➔ Led 20+ people as a member of **management committee** in the university dormitory student's dining, University of Dhaka, Bangladesh.
- ➔ Vice president of 'Bangladesh Student Association', Oklahoma State University.

Reference available upon request