

Curriculum Vitae

Nukhalu Callaghan-Patrachar

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Education:

2007-2008	Shambhala School Halifax, N.S.
2009-2011	Dr. John Hugh Gillis High School Antigonish, N.S.
2011	Graduated, Dr. JH Gillis High School First Class Honors
2011-2013	Student, Mechanical Co-Op Engineering, Concordia University
2013-2017	Student, BSc Honors, Physics, Saint Francis Xavier University
2017	Graduated, BSc Honors, Saint Francis Xavier University
2017-	Student, MSc, Biophysics, University of Guelph

Honors Thesis (StFX University):

The Microscale Structure of Cheese, supervisor, Dr. Carl Adams (March 2017)

Research Work Experience:

Jul – Aug 2013: Research Assistant, Dr. Tara Callaghan, Psychology Department, St. FX University, duties included videography for research studies.

- May – Aug 2014: Research Assistant, Dr. David Pink and Dr. Carl Adams, Project focus -Edible Oils, Duties included C++ programming for Fluidix simulations and literature searches.
- May – Aug 2015: Research Assistant, Dr. David Pink and Dr. Carl Adams, Project focus -Bread Dough, Duties included USANS experiment planning and design, and literature searches.
- Nov 2015: Research Assistant, Dr. David Pink and Dr. Carl Adams, Project focus -Bread Dough, Duties included conducting USANS experiment at NIST facility in Gaithersburg, MD.
- May - Aug 2016: Research Assistant, Dr. David Pink and Dr. Carl Adams, Project focus -Soft Cheese, Duties included USANS experiment planning and design, and literature searches; also conducting the USANS experiment at NIST facility in Gaithersburg, MD.
- May - Aug 2017: Research Assistant, Dr. Alejandro Marangoni, Project focus -Natural/Bio -Grease, Duties included DSC measurements, XRD data analysis, Rheometric measurements and analysis as well as literature searches.

Other Academic Work Experience:

- Sept 2014- Apr 2016: Lab Demonstrator employed by the Physics Department, St. FX University. Duties included demonstrating experimental procedures, assisting students with procedure and questions related to the experiment and assessing lab completion.
- Sept 2015- Apr 2017: Tutor employed by the Centre for Accessible Learning, St. FX University. Duties included tutoring in Statistics, Mathematics and Physics courses at the 100-300 level.

Volunteer Experience:

- August 2007 Activities with children, Lewa Children's Home, Eldoret, Kenya
- July- August 2008 Assisted with activities with younger campers, Big Cove Camp, NS
- May 2013-2016 Mayfest Science Camp, St. Francis Xavier University, Antigonish, NS
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Publications and Presentations:

C-Patrarachar, N. (2016). The microstructure of Bread Dough. Paper presented at the annual Atlantic University Physics and Astronomy Conference, St. John's, NF.

C-Patrarachar, N. (2017). The microstructure of Cheese. Paper presented at the annual Canadian Undergraduate Physics Conference, Halifax, NS.

C-Patrarachar, N. (2017). The microstructure of Cheese. Paper presented at the annual Atlantic University Physics and Astronomy Conference, Fredericton, NB.

Bethany Townsend , Fernanda Peyronel , Nukhalu Callaghan-Patrarachar et al. (2017). Shear-induced aggregation or disaggregation in edible oil: Models, computer simulation and USAXS measurements. Manuscript in progress to be submitted to J. Appl. Phys.

Academic References:

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