

EMMANUEL OMERE

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EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Urbana-Champaign, IL

Doctor of Philosophy, Mechanical Engineering, December 2019 (expected)

Focus: Shape shifting fins in HVAC&R applications

Masters of Science, Mechanical Engineering, December 2016 (expected)

GPA: 3.48/4.00

Thesis: A literature review on low-quality waste heat recovery in residential and commercial settings

UNIVERSITY OF EVANSVILLE

Evansville, IN

Bachelor of Science, Mechanical Engineering, Minor in Mathematics, May 2013

GPA: 3.70/4.00

HARLAXTON COLLEGE

Grantham, England

Study abroad, Fall 2009

PROGRAMMING AND SOFTWARE SKILLS

MATLAB, EES, ANSYS Fluent, AutoCAD, NASTRAN, LabVIEW, MS Office

ENGINEERING EXPERIENCE

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Research Assistant

Spring 2014 – Present

- Investigating various smart materials and actuators that will enable the design of a heat exchanger with fins that modify their shape in order to improve overall thermal system performance
- Developed mathematical models to thermodynamically quantify the possible resulting heat transfer enhancements and pressure drop penalties associated with smart fin incorporation into various thermal systems
- Conducted a literature review on low temperature waste heat recovery in residential and commercial settings that assesses the potential of proposed emerging systems

Computational Fluid Dynamics for Wind Power Generation

Spring 2014

- Co-developed a computational model that comprehensively analyses a wind tunnel blade approximated as an air foil in order to understand the effects of flow separation and wake formation, across various flow regimes, on lift, drag, and other flow metrics

Two Dimensional Unsteady Recirculating Flow

Spring 2014

- Developed a mathematical model which solves the 2-D unsteady Navier-Stokes equation in order to understand the development in time of vortices formed within a cavity that has steady laminar flow across it

UNIVERSITY OF EVANSVILLE

Reduction of Convection in a Thermosiphon

Fall 2012 – Spring 2013

- Led and mentored underclassmen in an independent research project involving reduction of convective heat loss in a flat-plate solar collector as part of a thermosiphon with resolution to increase its overall thermal efficiency

WORK EXPERIENCE

WALLS-TIES, & FORMS

Co-op, Engineering Department

Fall 2010

- Supported building construction by designing specific panel layouts for international projects
- Maintained panel design accuracy by updating drawings in the corporate headquarters engineering library
- Demonstrated working knowledge of CAD by transferring hand drawings to computer designed panel layouts

LEADERSHIP EXPERIENCE

MECHANICAL ENGINEERING HONOR SOCIETY (PI TAU SIGMA)

President

Spring 2012

- Lead the University of Evansville chapter to recruit new members and organize initiation events
- Participated on the Dean's Advisory Council, which organized all engineering events

HONORS

Tau Delta Kappa (Engineering Honor Society), Pi Tau Sigma (Mechanical Engineering Honor Society), Kappa Mu Epsilon, (National Mathematics Honor Society), National Society of Collegiate Scholars