NIDAL ALIF

nalif@fiu.edu

EDUCATION

01/92 - 12/96   **Doctor of Philosophy** in Mechanical Engineering, Major: Solid Mechanics, Minor: Materials & composite materials, December 1996. Florida Atlantic University, Boca Raton, Florida. GPA: 3.75/4.00.
Thesis: Mechanical Characterization of Woven Fabric Composite Materials.

06/90 - 12/91   **Master of Science** in Industrial & Manufacturing Systems Engineering, December 1991. Florida Atlantic University, Boca Raton, FL. December 1991 GPA: 3.80/4.00. Thesis: Object-Oriented Process Planning Systems (OOPP) for PCB Manufacturing.

08/82 - 08/86   **B.S. in Mechanical Engineering**, August 1986, Yarmouk University, Jordan, GPA: 3.27/4.00.

INVENTIONS

05/2005   **United States Patent** "*US 6,893,676 B2*", Nidal Alif, Ph.D., "Glow in the Dark Heat Transfer Method and Composition", May 17, 2005.

03/2019   **United States Patent** "Pending", Nidal Alif, Ph.D., "Multi-Dimensional Heat Transfer Method and Composition" Re-Filed on March 21,2019.

EXPERIENCE

01/98- Present   **Florida International University.** (*11/2022-current*) Assistant Teaching Professor Collage of Mechanical and computing Engineering. courses; Statics, Introduction to Engineering, Senior Design. *Currently*, working on Artificial Intelligent (AI) solutions in different Mechanical Engineering topics.

Quality Transfers, Inc. *est. 2009*
Owner and President, Engineering Projects that serve new products design and prototypes in different engineering disciplines.
Fashion Textile, Inc. *est. 2003*
Beach Brand, Inc. *est. 2018*
Owner and president, in the field of industrial engineering. Manufacturing of Paper Graphics. The product is manufactured at both locations in the USA to meet the Global high-demand. Custom design, innovation, and development of Engineering Products (*see project development*)
The three companies were sold for profit.

University of Miami. Mechanical & Aerospace Engineering Department, courses; Mechanical Design (I) "Design of Machinery", Mechanical Design (II), System Dynamics, and Applied Numerical Methods for engineers and scientists *(04/2008 – 01/2010)*.

University of Jordan. *Assistant Professor,* Mechanical Engineering

Department, courses; Vibrations, System Dynamics, Dynamics, Special topics in Energy Development. *(01/2010 – 05/2011).*

PROJECT DEVELOMPMENT

Team leader in the areas of Design, heat transfer, flexible-Industrial technologies, materials, solid mechanics, and Robotics. Responsible for research and fund research programs through company's contracts. Design and analyze of new custom-made machineries. Set-up and build new industrial factories and laboratories.

Worked on over 400 engineering projects in the fields of Engineering design and industrial engineering. Find below a short list for some of these projects:

1. Printed Circuits Boards (PCB), Factory automation through Installing up-to-date K11R5 controllers for the existing TT8800 robotic-system. Each controller is equipped with class 2 E-stop for safety and waste reduction issues. The new system was enhanced with a new manufacturing process controlled by bar-codes and CCD cameras to develop a unique robotic-inspection station.

2.Simulation of thermal-flow inside waved-pipes for a petroleum company.

3. The use of robot-integrator (RobotWork) to automate an existing robotic-cells together with Group Technology (GT) in order to minimize the retrieval time of the data-process-flow in the case of using one robot for different applications.

4. Wheels Industry, designed, planed, and installed all the required machinery for a Brazilian company in Sao Paulo to produce a state-of-the-art modern look spinning wheels (*A team of 7 engineers worked on the project for a period of 9 months*).

5. Software Development Engineer, designed a PCB software which integrates the customer requirements, production, marketing, inventory control, accounting and management departments. Planning, directing and coordinating various manufacturing processes to improve manufacturing methods and quality standards.

SOFTWARE

CAD: AUTOCAD, SOLIDWORKS
CAM: MASTERCAM.
Witness Simulation: FLEXSIM
Programming: Visual Basics, C, C++, MATLAB and FORTRAN.
Systems: Windows 11, DOS.
Modeling: CATIA, Simulink, Object Vision.
Relational Database: ACCESS.
Statistical processes: PIPESTATE, MINITAB.
Robotics Programming: AML, RPL, Maple.

Heat Transfer: ENERGY2D, RadTherm, COMSOL.
Graphics & analysis: Photoshop.
AI Tools: TensorFlow, PyTorch, Colab, Scikit.

PUBLICATIONS

Alif, N., "Software Development for the Prediction of Elastic Properties for Weave composites", 2009.

Alif, N. & Carlsson L.A., "Comparison between Models for Elastic Property predictions of Woven Fabric Composites", ICCE/1, August 1994.

Alif, N. & Carlsson L.A., "Failure Mechanisms of Woven Carbon and Glass Fiber Composites", in ASTM STP 1285, 1997.

Alif, N. & Carlsson L.A., "Mode I, Mode II and Mixed Mode Interlaminar Fracture of Woven Fabric Carbon/Epoxy", in ASTM STP 1242, 1996.

Alif, N. & Carlsson L.A., "Two-Dimensional Elastic Model for Satin Weave Fabric Composites", 1997.

Alif N. & Carlsson L.A., "The effect of Weave Pattern and the interface Yarn De-bonding on Mode I Delamination Resistance of Woven Fabric Carbon/Epoxy" Joint ASME/ASCE/SES June 1997.

MEMBERSHIP

* ICCE   *ASME

HONORS

B.S. Honor Graduate
Ph.D. Honor Graduate