

Basel Alsayyed

Ph.D., P.Eng., CMfg Eng.

Webpage: <http://www.engg.uaeu.ac.ae/balsayyed/>

Email: balsayyed@uaeu.ac.ae

Tel: 971 56 613 4530

=====

EXPERIENCE:

Assistant Professor, Mechanical Engineering, UAE University (joined Aug 2009)

Teaching Mechanical engineering courses for both graduate and undergraduate levels. Gave many training courses in six sigma and DOE. In addition to research and service to the university and to the community at large through technical committees and individual consultations. Currently, a member in the university steering committee for education quality assurance committee; a member in the university steering committee for policy making and review of HSSE, college purchasing committee, and a member of the university procurement committee.

Team Lead: DaimlerChrysler Corp., Auburn Hills, MI PLM strategy, Knowledge Based Systems (August 2001- Aug 2009)

Managing a software development team of 5. Developed different level of quality software in terms of size and complexity. Used IDS-Houston-DaimlerChrysler quality assurance and PMI project management Process.

Lead many successful projects at Chrysler in many areas, including product development, materials, substance of concern, recyclability and many others.

Sr. Technical Specialist: DaimlerChrysler Corp., Auburn Hills, MI PLM strategy, Knowledge Based Systems (August 2000- August 2001)

Use latest theories in ontology to develop ontology systems and expert systems to help make designs more intelligent. Avoiding changes in the design by considering the design guidelines, environmental & governmental requirements and regulations along with performance rules and cost targets up-front at the design stage. Those expert systems save the company by standardizing some materials and components and avoiding the government lawsuits and fines. It also helps the communication of large information systems across the corporation platforms.

IDS training, ontology, engineering and software theoretical and practical experience along with the management experience are put to work in the following projects:

- 1) Knowledge based Recyclable Materials System (KRMS): Project lead: gather and formalize the requirements for the project, design and architect the knowledge-based system. Also, manage the project meetings, documentation and development. **Patent** has been filed for using ontology in managing the materials and vehicles data.
- 2) Design Synthesis ontologies: coordinate and manage the creation of ontologies for the suspension system, chassis, body in white, fuel system, fasteners, powertrain, vehicle ontology, and KRMS materials ontology..
- 3) Common Knowledge Based Engineering Framework (CKBEF): maintain OntoWorks ontology development tool, and co-manage the changes and the users of the tool.
- 4) KBS Support: Manage the MetaModel for the ontology authoring tool (OntoWorks). Support users of ontology in Chrysler and help the introduction of ontology in new projects.
- 5) SE&E for IMDS: Pollution Prevention material tracking system for Chrysler vehicles. Introduce a KBS for tracking SOC in all vehicle parts..

Project Engineer: Mannesmann Rapistan Systems, Grand Rapids, MI, (contract through CSI, June 99 – July 2000)

Configuring and implementing Pick-to-Light Systems (RapidPick²) for a wide variety of material handling applications. Main tasks include, configuring the computer hardware and software, customization of codes to meet the customer requirements, and commissioning and installing the full system at the customer site. Tools used, RapidPicck², C and C++ in Unix environment, and Visual Basic.

Knowledge Based Engineer: Ford Motor Co., Dearborn, MI (9/97– 6/99)

Develop design advisors where the manufacturing and assembly design rules are implemented in the background of the CAD system. Used Pro-E and Ideas CAD systems. Implementation of those rules up-front did reduce the design time tremendously and also improve the design quality. Earned a US **patent**, (*Knowledge Based Design Advisor for Instrument Panel*) *Panel Generation*).

Adjunct Faculty: Industrial and Manufacturing Engineering, WSU, Detroit, MI (9/94 – 7/97).

Awarded the **Excellence in Teaching Award for 1995**.

Taught the following courses:

Facilities Planning and Design (Graduate and Undergraduate level)

Probability Models and Data Analysis (Graduate and Undergraduate level)

Engineering Economics (Undergraduate)

Statistical Quality Control(Undergraduate)

Research Assistant: Industrial and manufacturing Engineering, WSU, Detroit, MI (9/94 – 7/97)

Developed a smart costing system for machined parts. Cost and manufacturing processes Knowledge is integrated with a virtual geometric representation of the machined parts to help make fast decisions about the manufacturability and the cost.

Instructor:Mechanical Engineering Department, College of Engineering & Technology (CET), (8/1992-3/1994), (12/1987-4/1991), (9/1983-12/1985).

Taught the following courses:

Facilities Planning and Design

Engineering Economics Analysis

Strength of Materials

Materials Science

Industrial Safety

Machining Theories, along with different types of Machining workshops

Welding Theories, along with different types of welding workshops

Statics

Dynamics

Theory of Machines

Measurement Science

Chairman, Mechanical Engineering Department: (CET), (4/1991-8/1992)

- Manage the three programs in the department at the BSc. And the diploma level.
- Total number of personal was 31(technicians, engineers, instructors and professors)
- Introduced the first BSc program in mechanical engineering in the college
- Developed the department curricula
- Assured the quality of the programs offered in the department

Research Assistance: NC A&T State University (12/1985-12/1987)

CAD/CAM Integration research and the developing a CAD/CAM Integrated software called (CADMan). The form feature approach has been used to integrate CAD & CAM.

Production Engineer: Alquds shoes Factory, Hebron, W. B., (3/1989-3/1994).

Developed, implemented and maintained a computer inventory system for Alquds factory.

Facility Manager: Hetin Plastic Co. Hebron W. B., (2/1988-3/1989).

Designed the plant layout and supervised the installation of new injection molding and printing lines. Used AutoCAD.

Design and manufacturing engineer: Sandouqa Jewelry Factory (SJF), Jerusalem, W. B., (8/1992-3/1994).

Used Master Cam and Design 3D softwares to implement new designs and developed the process plans for those new designs. Furthermore, Followed up and supervised the actual manufacturing of those designs.

EDUCATION:

- Ph. D. in Industrial Engineering, Wayne State University, Detroit, MI.(Sep. 94 - Dec., 98)
- Master Certificate in Project Management, George Washington University, (Sep. 2006)
- MS in Manufacturing Engineering. Wayne State University, Detroit, MI.(Sep. 94 - Aug., 95)
- MS in Industrial Engineering, NC A&T State University, Greensboro, NC (Dec., 87).
- BS in Industrial Engineering , NC A&T State University, Greensboro, NC(May 80 - Aug. 83).
- Certified Manufacturing Engineer, SME, Dearborn MI. (March, 97)

SPECIAL SKILLS:

- * Excellent project management skills. Including cost, risk, scheduling, quality, contracting and negotiation, and leadership.
- * Expert in six sigma (**6σ**) theory and application.
- * Excellent use of many drafting and design packages, such as **Ideas, Pro-Engineer, AutoCAD, VersaCAD, Design CAD2D, Design CAD3D, CADKey, Master-CAM, CADTech.**
- * Strong manufacturing supportive operations background.
- * Plant layout design, material handling systems design.
- * Control and programming of Robots and CNC machines.
- * Reliability and Quality Control: DOE, Tolerance and Parametric Design, SPC, QFD, DFMEA, Multivariate Analysis.
- * Capability in teaching CAD/CAM.
- * Operating Systems: UNIX, DOS, Windows.
- * Programming languages: Java, C, C++, Basic, and Fortran.
- * Software Packages: MINITAB, LINDO, NASTRAN and MS NASTRAN, HM.
- * IDS training course: DaimlerChrysler Corporation.

Recent Publications & Patents:

Alsayed, B., Harib K., “ A new FlexDie Implementation for Sheet Metal Manufacturing”, chapter in a Book, “Advances in Sustainable Manufacturing”, - Springer-Verlag Berlin Heidelberg (2011).

Alsayed, B., Shahin, T. “CAD/CAM Integration Using Ontology Modeling”, submitted to Computer Aided Design and Application Journal - Publisher CAD Solutions ().

Alsayyed, B., Aldajah S., Hamdan, M. O., "Cooling Machine Tools Using Vortex Tube", *Submitted to Journal of Manufacturing Processes* (April 2012).

Hamdan, M. O., **Alsayyed, B.,** Elnajjar, E., "Nozzle Parameters Affecting Vortex Tube Energy Separation Performance", *Submitted to Heat and Mass Transfer Journal - Springer* (December 2011).

Alsayyed, B., Haik Y., "Six sigma as methodology for DFX", Proceedings of In-Tech, International Conference on Innovative Technologies, Bratislava, Slovakia , 1-3 September 2011

Alsayyed, B., Shahin, T. "A New Approach for CAD/CAM Integration Using Ontology Modeling", International CAD Conference and Exhibition, Dubai, UAE, (June 21-25, 2010).

Alsayyed, B., Harib K., " A new FlexDie Implementation for Sheet Metal Manufacturing", The 8th Global Conference on Sustainable Manufacturing , Abu Dhabi, UAE (November 21-23, 2010).

Alsayyed, B., Hamdan, M. O., Elnajjar, E., "Optimal Parametric Model for Vortex Using DOE", The annual ASME International Mechanical Engineering Congress and Exposition, IMECE2011, Denver, Colorado, 11-17 November 2011.

Patents:

Alsayyed, B., USA patent # **US6477517**, (*Knowledge Based Design Advisor for Instrument Panel*), (November 5, 2002).

Alsayyed, B., USA patent # **US 6909925** (*Knowledge based recyclable materials system*), (June 21, 2005).

Alsayyed, B., USA patent # **US 6909625B2** (*Knowledge based recyclable materials system*), (June 21, 2005)

Alsayyed, B., "Reverse of direction of Drag Force on moving vehicles" USA provisional EFS ID **7576275**, (2010) and TDC application (2011)

Alsayyed, B., Elnajjar, E., Aziz M., "Thermal Controller for Hybrid Water Heating", TDC Application (May 2011)

Alsayyed, B., "Solar Generator" TDC Application (June 2011)

HONORS AND AFFILIATIONS:

- P Eng.: licensed professional engineer in Ontario.
- Certified Manufacturing Engineering, SME, since Mar. 31,1997.
- Excellence in Teaching Award, Wayne State University, Detroit, MI 1995.
- Deans Honor Board, NC A&T State University, Greensboro, NC.
- Most Outstanding graduate student (1987), IIE Society.
- Member of American Mechanical Engineering Society(ASME).
- Member of Society of Manufacturing Engineering (SME).
- Member of Society of Society for Automotive Engineering (SAE)
- Member of Society of American Society for Quality (ASQ)
- Member of the Institute of Industrial Engineering (IIE).
- Member of Jordan Engineers Association.
- Member of Palestine Engineers Association.

REFERENCES:

Available upon request