

Resume of Prof. Saied Darwish
Industrial Engineering Department
King Saud University



Name: Saied Mohamed Hassan Darwish

Academic rank:

Professor,
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DEGREES & EXPERIENCE

- **20 years** of experience in the field of manufacturing engineering.
- **Ph.D.**, Birmingham University, U.K., 1987. Thesis title: "Adhesive bonding of metal cutting tools".
- **M.S.**, Egypt, 1978. Thesis title: "Visco-plastic behavior of metals under torsional impact and axial thrust".
- **B.S.**, Egypt, Alexandria University, Alexandria, Egypt, 1975.
- **Service on this faculty** (17 years)

- Original appointment, 1991 Assistant Professor
- *Professor* from January 2002 to present, Industrial Engineering Department, King Saud University
- *Associate Professor* from 1993 to February 2002, Industrial Engineering Department, King Saud University
- *Assistant Professor* from September 1987 to January 1993, Industrial Engineering Department, King Saud University
- Research Fellow from September 1987 to June 1989, Mechanical Engineering Department, Kuwait University, Kuwait.
- *Research Associate* from September 1983 to May 1987, Department of Mechanical Engineering, Birmingham University, U.K.

Consultancy , patents, etc.

- **European Patent** No. 0058152 (dated 29.08.84) for Marwin Cutting Tools, Leicester, U.K. (Bonded metal cutting tools).
- **Consultant** for the Aluminum Company of Egypt (x- Minister of Industry Eng. Soliman Reda Ali), 1988-1991.
- **Consultant** for Saudi Arabian Standards Organization (**SASO**) 1993-now.
- **Chairman** of the Technical Committee on specifications of Furniture, Saudi Arabian Standards Organization.
- **Constancy work** for the air forces through King Abdullah Institute.

SUBJECTS OR COURSES TAUGHT DURING THE MOST RECENT ACADEMIC YEAR

Undergraduate level (power point lecturing)

- IE 458 Computer aided manufacturing.
- IE 352 : Manufacturing processes (II) .
- IE 433 : CAD/CAM.
- IE 351 : Manufacturing processes (I).

Post graduate level

- IE 557 Advanced Manufacturing Processes.
- IE 550 Analysis of facility design.

Post graduate Supervision:

- Supervised 3 M. Sc. thesis in KSU.
- Supervised 2 M. Sc. thesis in Egypt.
- Supervised 1 M. Sc. thesis in Kuwait University.

Scientific Research Fields

Funded Research

a- King AbdulAziz City for Science and Technology funded projects.

- Advanced Manufacturing Technologies in Saudi Engineering Industries – Actuality and Aspirations. King AbdulAziz City for Science and Technology, Three years Grant No AT 22-36, (2003-2006).
- A Grant for CAD/CAM of artificial knee joint (2007-2008).

b- National Funded Research Projects:

- Evaluation of CIM technologies in Saudi Industries. Deanship of Scientific Research, King Saud University, Grant No :AR-30 (2003-2005).

c- Saudi Basic Industries Company (SABIC) funded Research:

- Manufacturing of bonded heat exchangers, using **SABIC** structural steel , Saudi Arabian Basic Industries Company **SABIC**., Eighteen month Grant **/429** (2008-2009).
- Manufacturing of Bonded Structures Using SABIC Structural Steel , Saudi Arabian Basic Industries Company **SABIC**., Eighteen month Grant **/429** (20087-2009).
- Resistance welding of **SABIC** steel sheets, , Saudi Arabian Basic Industries Company **SABIC**., Eighteen month Grant **58 /428** (2007-2008)
- Optimization of machining conditions for **SABIC** structural steel, Saudi Arabian Basic Industries Company, Eighteen month Grant (2003-2004).
- Modeling of Riveted and Riveted-bonded Joints for SABIC steel constructions, **SABIC** Company, Eighteen months Grant. Grant No. 30/ 425 (2004-2005).
- Modeling of shrink fitted joints of **SABIC** structural steel, Saudi Arabian Basic Industries Company, Eighteen month Grant **14/426** (2006-2007).
- Case hardening of **SABIC** polymer tubes through vertical waterierst, Eighteen month Grant (2005-2006).

d- College of Engineering Research Center funded research

- Machining of hard materials with bonded tools, Research Center, College of Engineering, King Saud University, Grant No 26/424.
- Modeling and design of adhesive bonded milling cutters, Research Center, College of Engineering, King Saud University, Grant No 12/422.
- A Book on " Manufacturing Automation using PLCs", Research Center, College of Engineering, King Saud University, Grant No 16/424, (2003-2004).
- Optimization of hip joint replacement, Research Center, College of Engineering, King Saud University, Grant No 51/426, 2005-2006).
- A Book on " Manufacturing engineering processes selection", Research Center, College of Engineering, King Saud University, Grant No 50/426, (2005-2006).
- Effect of heat treatment on fatigue and toughness properties of steel" Research Center, College of Engineering, King Saud University, Grant No 2/426, (2005-2006).
- Optimization of machining conditions of fatigue enhanced steels. Research Center, College of Engineering, King Saud University, Grant No 69 /427, (2006-2007).
- The Selection of Manufacturing Engineering Processes (Machining processes) . Research Center, College of Engineering, King Saud University, Grant No51/428, (2006-2007).
- Manufacturing artificial hip joint locally, Research Center, College of Engineering, King Saud University, Grant No- /429, (2007-2008).

Writing in international books:

- Invited by Prof Chao –Ting Chi, to write a chapter on “Resistance welding of dissimilar joints (Joints of different materials& thickness” in the international book: Materials characterization in weld for modern welding technology”.

Writing local books:

- A Book on “Manufacturing engineering processes selection (metal cutting processes)", for the Research center of KSU.
- A Book on “Manufacturing engineering processes selection (metal forming processes)", shared with Dr A Al-Samhan, for the Research center of KSU.
- A Book on “Manufacturing Automation using PLCs", shared with Dr A Al-Samhan, for the Research center of KSU.

Refereeing for international journals and conferences.:

- Refereeing for the **International Journal of European Polymer**
- Refereeing for the *International Journal of Materials Processing Technology*.
- Refereeing for the **International Journal of Adhesion & Adhesives**.
- **Organizing and chairing a special session** on “Design, Analysis and Simulation in Bio-engineering Environment” for the METU 2006, Turkey.
- **Refereeing for King Abdullah University** “Researchers nominating committee., 2008
- **Member of the International Committee of UMTIK** conference, 2004,2006,2008

Refereeing for National journals and conferences.

- **Member of the scientific committee, 7th Saudi Engineering Conference, 2007**, Saudi Arabia.
- Coordinator of the **registration Committee, 2nd Industrial Engineering Conference, IIEC2004**, Saudi Arabia.
- **Coordinator of the scientific sub-committee** on manufacturing systems, **2nd Industrial Engineering Conference, IIEC2004**, Saudi Arabia.
- **Area Editor** - Second Industrial Engineering Conference, Saudi Arabia, 2004.

Participation and attendance in International conferences:

- ACE-X 2008 , 2nd International conference on Advanced Computational Engineering, 2008, **Spain**.
- UMTIK,2006, 6th International conference on Machine Design, **Turkey**. 2006.
- UMTIK,2004, 4th International conference on Machine Design, **Turkey**. 2004.
- International conference on Materials Processing Technology, Edinburgh, **UK**, 2004.

Participation in Research Chairs

Member of the Technical Committee, of Princess Fatimah Alnajras's, Research Chairs for Advanced Manufacturing Technology, in the Industrial Engineering Department.

Honors and awards

- Research Associate ship from the SERC, U.K 1983- 1987.
- Research Fellowship from Kuwait University, Kuwait, 1988
- Research Grant from The Aluminum Company of Egypt on modeling holding furnaces, Egypt, 1989.
- Research Grant from The Aluminum Company of Egypt on modeling aluminum reduction cells, Egypt, 1990.

UNIVERSITY AND SOCIETY SERVICES

University activities

- Cooperative Member of the NANAQ program, **office of vice dean for knowledge exchange.**
- Sub- Coordinator of the Saudi Car project program, **office of vice dean for knowledge exchange.**
- Member of the Attraction of researchers and Staff program **office of vice dean for knowledge exchange.**
- Member of the Innovation and intellectual program, **office of vice dean for knowledge exchange.**

College of Engineering Activities

- Coordinator of the academic committee of the faculty of engineering.
- Member of post graduate studies committee of the faculty of engineering.
- Member of the ABET academic committee of the faculty of engineering.

IE Departmental Activities

- Coordinator of the Scientific groups (system engineering & Manufacturing systems), I.E. Department.
- Coordinator of the Lab Committee, I.E. Department.
- Coordinator of the ABET accreditation committee, I.E. Department.
- Coordinator of the ABET accreditation committee, College committee.
- Coordinator of the Academic Committee.
- Member of the student registration Committee.

Faculty Development Programs during last five years

- Participated in the development of the study plan (132 hours) , of the IE department and the engineering college of King Saud University, Riyadh, Saudi Arabia
- ABET accreditation activities in IE department and the College.
- Participated in the development of the study program of the IE department of King Saud University, Riyadh, Saudi Arabia
- Participated in the development of the program of the Technical College in Riyadh, Saudi Arabia.

Seminars and workshops and short courses

- A Seminar on CAD/CAM design and manufacturing of aluminum holding furnaces. ”, King Saud University
- A seminar on “Hip joint replacement”, King Saud University..
- A Seminar on “Measuring low thermal conductivities” ”, King Saud University.
- .A Seminar on Design and manufacturing of bonded tools” ”, King Saud University.
- A group of seminars on **ABET** accreditation, IE department.
- A group of short courses on "Maintenance management for the Saudi electric company", Saudi Arabia.
- A group of short courses on "Maintenance management for the ministry of health", Saudi Arabia.
- A group of short courses on "Maintenance management for Saudi Telecom", Saudi Arabia.
- A seminar on Controlling the densification behavior of **NANO** microstructures to meet different applications

Titles of M. Sc. Supervised

- A Master thesis on "The design of a bonded gear box", Kuwait University, Kuwait.
- A Master thesis on "CAD/CAM of fits and tolerance selection", Assiut University, Egypt.
- A Master thesis on," Knowledge base for metal welding processes", King Saud University, Saudi Arabia.

- A Master thesis on," Spot welding and weld-bonding of dissimilar materials", King Saud University, Saudi Arabia.
- A Master thesis on," Knowledge base for metal welding processes", King Saud University, Saudi Arabia.
- A Master thesis on," Weld ability models for identifying spot welding zones", King Saud University, Saudi Arabia.
- A Master thesis on," 3D modeling of Spot welding and weld-bonding of dissimilar materials", King Saud University, Saudi Arabia (underway- co-supervision with Dr. E. Bahkli).

List of Publications

1. S. M. Darwish, “ Adhesive bonding in medical applications), ACE-X2008, 2nd International conference on Advanced Computational Engineering, **2008**, Spain.
2. S. M. Darwish, , Al-Samhan “ Parametric study on cemented hip joint), ACE-X2008, 2nd International conference on Advanced Computational Engineering, **2008**, Spain.
3. S. M. Darwish, , Al-Samhan, "The effect of cement stiffness and tibia tray material on the life span of artificial knee", Int. J. Of Adhesion & Adhesives, vol. 28, pp 120-125, **2008**.
4. S. M. Darwish, M A E Saleh,” Controlling the densification behavior of NANO microstructures to meet different applications”, Knowledge based industries & Nano technology conference, Qatar, **2008**.
5. S. M. Darwish, Al-Samhan, “Rationale choice of polyethylene layer thickness in artificial knee replacement”, Proceedings of the Institution of Mechanical Engineering, Part L, Journal of Machine Design and Applications (In press)
6. S. M. Darwish, Al-Samhan, "The signature of cement stiffness and tibia tray material on the life span of artificial knee", UMTIK Conference, Turkey, vol.2, pp 681-690, **2006**.
7. Al-Samhan, S. M. Darwish, H. Al-Khawashki, M.M. Zamzam, "Optimization of polyethylene layer thickness of artificial knee", UMTIK Conference, Turkey, vol.2, pp 703-712, **2006**.
8. Al-Samhan, S. M. Darwish, "Factors influencing thermo-mechanical stresses developed in bonded tools", Int. J. Of Adhesion & Adhesives, vol. 25,pp 379-388, **2005**.
9. E. Al-Bahkli, A. Al-Samhan, S.M. Darwish, "Thermal stresses of riveted and riveted-bonded joints", 6th Int. Congress on Thermal Stresses, Vienna University of Technology, Austria, pp 353-356, **2005**.

10. A. Al-Ahmari, S. M. Darwish," Optimization of machining conditions for **SABIC** structural steel", UMTIK Conference, Antalya,Turkey, **2004**.
11. S.M. Darwish "Analysis of weld-bonded dissimilar materials", Int. J. Of Adhesion & Adhesives, vol. 24, pp 347-354, **2004**.
12. S.M. Darwish and A. Al-Samhan, "Thermal stresses developed in weld-bonded joints", J. of Materials Processing Technology, vol. 153-154, pp 971-977, **2004**.
13. S.M. Darwish "Characteristics of weld-bonded commercial aluminum sheets", Int. J. Of Adhesion & Adhesives, vol. 23,pp 169-176, **2003**.
14. S.M. Darwish, "Weldbonding strengthens and balances the stresses in spot-welded dissimilar thickness joints", J. of Materials Processing Technology, vol. 134, pp 352-362, **2003**.
15. S.M. Darwish and A. Al-Samhan, "Thermal stresses developed in weld-bonded joints", Proceedings of Advances in Materials and Processing Technologies Conf., U.K., pp 994-998., **2003**.
16. A. Al-Samhan and S.M. Darwish," Finite element modeling of weld-bonded joints" J. of Materials Processing Technology, vol. 142, pp 587-598, **2003**.
17. S.M. Darwish and A. Al-Samhan Peel and shear strength of spot welded and weld-bonded dissimilar thickness joints J. of Materials Processing Technology, vol. 147, pp 52-59, **2004**.
18. S.M. Darwish and A. Al-Samhan" Design rationale of weld-bonded joints" Int. J. Of Adhesion & Adhesives, U. K., **2003**.
19. S.M. Darwish and A. Al-Samhan," Strength prediction of weld-bonded joints", Int. J. Of Adhesion & Adhesives, Vol. 23,pp 23-28, **2003**.
20. S.M. Darwish, "Effect of tool bit insert-holder assembly on the quality of machined work pieces" J. of Materials Processing Technology, vol. 105, pp 233-236, **2000**.
21. S.M. Darwish, S. AL Habdan and A. AL Tamimi," A Knowledge-base for electronics soldering" J. of Materials Processing Technology, Vol. 97, pp1-9, **2000**.
22. S.M. Darwish, A. Ghanya "Critical assessment of weld-bonded technologies" J. of Materials Processing Technology, Vol. 105, pp221-229, **2000**.
23. S.M. Darwish," Machining of difficult-to-cut materials with bonded tools", Int. J. Of Adhesion & Adhesives, vol.20,pp 279-289, **2000**.
24. S.M. Darwish and A. Ghanya," Development of spot-welded low carbon steel damping sheets" Int. MDP Conference, vol.1 ,pp 477-488, Egypt, **2000**.
25. S.M. Darwish," The effect of tool material and cutting parameters on the machinability of the super- met 718 nickel-super alloy, Alexandria Engineering Journal, 2000.
26. S.M. Darwish , S.D. Al-Dekhial, "Statistical models for spot welding of commercial aluminium sheets", Int. J. of Machine Tools & Manufacture, Vol.39, pp 1589-1610, **1999**.

27. S.M. Darwish, S.D. Al-Dekhial "Micro-hardness of spot welded (B.S. 1050) commercial aluminium as correlated with welding variables and strength attributes" J. of Materials Processing Technology, Vol. 91, pp 43-51, **1999**.
28. S.M. Darwish, M.S. Soliman, and A. M. Al Fahead , " Manufacturing and characteristics of brass damping sheets" J. of Materials Processing Technology, Vol. 70, pp 66-71, **1998**.
29. S.M. Darwish , S.D. Al-Dekhial" The response surface approach to spot welding commercial aluminum sheets" Int. J of Materials and Manufacturing processes, vol. 12, pp 189-202, **1998**.
30. S.M. Darwish, A. AL Tamimi and S. AL-Habdan," A Knowledge base for metal welding process selection" Int. J. Mach. Tools Manufact. Vol.37, No.7,pp 1007-1023,**1997**.
31. S.M. Darwish, M.S. Soliman, and A. M. Al Fahead , " Characteristics and variables of spot welding and weld-bonding Bi-materials" J. of Materials and manufacturing processes, Vol.12, No.2, pp175- 186,**1997**.
32. S.M. Darwish," Automated general tolerances for dimensions and features without tolerance indications" J. of Materials Processing Technology, Vol. 68, pp251-256, **1997**.
33. S.M. Darwish, S. AL Habdan and A. AL Tamimi, "A knowledge base for soldering" PEDAC Conference, Egypt, pp 497-510, **1997**.
34. S.M. Darwish, "Correlation between spot weld quality and vibration behavior", Int. J. of Materials and Product Technology, vol.12, no.1, pp59-67, **1997**.
35. S.M. Darwish, A. M.AL Tamimi," The selection of the casting process using an expert system" Computers in Industry, vol.30, pp77-86, **1996**.
36. S.M. Darwish, "Effect of tool bit insert-holder assembly on dimensional accuracy and geometrical tolerances of machined workpieces" Int. J. Mach. Tools Manufact. Vol.35,No.6, pp 841-849, **1995**.
37. S.M. Darwish, A. Niazi , and A. Ghanya," Phase stability of duralumin machined with bonded and brazed carbide tools", Int. J. of Machine Tools & Manufacture, vol.32, No. 4, pp 35-38, **1992**.
38. S.M. Darwish," Prediction of thermo-mechanical stresses developed in aluminium holding furnaces", Int. PEDAC92 Conference, pp. 555-568, Egypt, **1992**.
39. S.M. Darwish," Practical loading conditions of bonded joints" ", Int. PEDAC92 Conference, pp., 293-306, Egypt, **1992**.
40. S.M. Darwish, M.E. Eltaib, M.M. Sallam" Computer aided allocation of fits & tolerances", Int. PEDAC92 Conference, pp., 801-812, Egypt, **1992**.
41. R. Davies and S.M. Darwish," Temperature distribution of bonded tools having atomized copper powder mixed with adhesive" ", Int. J. of Machine Tools & Manufacture, vol.31, No4, pp 617-623, **1991**.

42. S.M. Darwish, A. Niazi, A. Ghanya and M. E. Kassem, "Improving the electrical properties of structural epoxy resin adhesives", *Int. J. Adhesion & Adhesives*, vol. 11, No.1, **1991**.
43. S.M. Darwish, R. Al-Abbas and M.M.Sadek," Design rationale of industrial bonded, double containment bonded joints", *Int. J. Adhesion & Adhesives*, vol. 11, No.2, **1991**.
44. S.M. Darwish, "The finite element approach to model holding furnaces", *Int. J. Of Metals*, vol.43, pp. 36-38, **1991**.
45. S.M. Darwish, K.M. Azayem and M.M.Sadek, "Design philosophy of a bonded gear box", *Int. J. of Machine Tools & Manufacture*, vol.31, No4, pp 635-631, **1991**.
46. M.E. Eltaib, S.M. Darwish, M.M. Sallam," Computer aided design and manufacture of limit gauges", 3rd Int. Conference of Ain Shams University on PEDD, pp39-51, **1990**.
47. S. M. Darwish, A. Abed El-Mageed, M.R. Bayoumi, "Computer aided design of aluminium holding furnaces", ", 3rd Int. Conference of Ain Shams University on PEDD, pp.53-62,**1990**.
48. R. Kilik, R. Davies and S. M. Darwish," Thermal conductivity of adhesive filled with metal powders", *Int. J. Adhesion & Adhesives*, vol.9, No.4, pp., 219-223, **1989**.
49. S.M. Darwish, K.M. Azayem and M. M. Sadek, "A novel design approach for industrial bonded joints", 4th Int. Conference on CAPE, Edinburgh, pp.45-49, **1989**.
50. S. Darwish , R. Davies," Adhesive bonding of metal cutting tools" *Int. J. of Machine Tools & Manufacture*, vol.29, No.1, pp 141-152, **1989**.
51. S. Darwish , R. Davies, "Investigation of the heat flow through bonded and brazed metal cutting tools", *Int. J. of Machine Tools & Manufacture*, vol.29, No.2, pp 229-237, **1989**.
52. R. Al-Yassin, S.M. Darwish, M.M.Sadek," Computerized work part code system for implementation in flexible manufacturing systems, ASME Conf On Computers in industry, pp. 159-164, **1988**.