



**Mohammed Jasim Kadhim, PhD, Imperial College, London (DIC, London)**

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Prof. of Materials sci. and Eng., Dept. of Production Eng. and Metallurgy, Univ. of Technology, Iraq  
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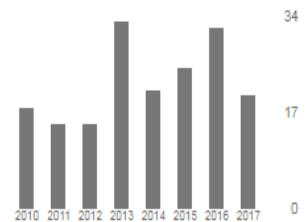
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TITLE	CITED BY	YEAR
<a href="#">Metal-ceramic functionally gradient material produced by laser processing</a> KM Jasim, RD Rawlings, DRF West Journal of materials science 28 (10), 2820-2826	103	1993
<a href="#">Wear in Al-Si alloys under dry sliding conditions</a> KM Jasim, ES Dwarakadasa Wear 119 (1), 119-130	95	1987
<a href="#">Characterization of plasma-sprayed layers of fully yttria-stabilized zirconia modified by laser sealing</a> KM Jasim, RD Rawlings, DRF West Surface and Coatings Technology 53 (1), 75-86	40	1992
<a href="#">Pulsed laser sealing of plasma-sprayed layers of 8 wt% yttria stabilized zirconia</a> KM Jasim, RD Rawlings, DRF West Journal of materials science 27 (14), 3903-3910	29	1992
<a href="#">Thermal barrier coatings produced by laser cladding</a> KM Jasim, RD Rawlings, DRF West Journal of materials science 25 (12), 4943-4948	27	1990
<a href="#">Pulsed laser processing of thermal barrier coatings</a> KM Jasim, RD Rawlings, DRF West Journal of materials science 26 (4), 909-916	26	1991
<a href="#">Actively brazed alumina to alumina joints using CuTi, CuZr and eutectic AgCuTi filler alloys</a> KM Jasim, FA Hashim, RH Yousif, RD Rawlings, AR Boccacini Ceramics International 36 (8), 2287-2295	23	2010
<a href="#">Stability of ZrO<sub>2</sub>-Y<sub>2</sub>O<sub>3</sub> t'-Phase Formed During Laser Sealing</a> DRF West, RD Rawlings, KM Jasim Materials Science and Technology 8, 83-91	21	1992
<a href="#">Laser sealing of plasma-sprayed calcia-stabilized zirconia</a> KM Jasmin, DRF West, WM Steen Journal of materials science letters 7 (12), 1307-1309	21	1988
<a href="#">Nature of subsurface damage in Al-22wt.% si alloys sliding dry on steel discs at high sliding speed</a>	21	1984

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### **Dr Mohammed Jasim Kadhim Al-Tameemi**

(PhD, DIC, MSc, PGHD, BSc (Eng))

**Dr Mohammed Jasim Kadhim**

**Department of Production Engineering and Metallurgy**

**University of Technology,**

**Baghdad,**

**Iraq.**

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### **Education and Qualifications:**

April 1987 – Dec. 1990	PhD in Materials Science and Engineering and <i>Laser Processing of Materials</i> , Department of Materials, Imperial College, London, UK
April 1987 – Dec. 1990	Diploma Imperial College (DIC), Laser Processing of Materials
Oct. 1976 - June. 1980	B.Sc. in <i>Production Engineering and Metallurgy</i> , University of Technology, Baghdad, Iraq
Jan. 1981-Jan. 1982	Post Graduate Higher Diploma (PGHD) in Metallurgical Engineering, University of Technology, Baghdad, Iraq

Jan. 1982-June 1983	MSc in Metallurgical Engineering, University of Technology, Baghdad, Iraq
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### **Positions and Awards:**

Dec. 1990-June 1992	Research fellowship, Department of Materials, Imperial College, London
Sep. 1991-June 1992	Research Assistant, Imperial College, London
Dec. 1992- present	Associate Prof. of Materials Science and Engineering, University of Technology, Baghdad, Iraq
March 1993-Sep. 1995	Manager of Laboratories, University of Technology, Department of Production Engineering and Metallurgy
Sep. 1995-Jan. 1998	Chairman of Metallurgical Division, University of Technology Baghdad, Iraq
Aug. 2001-Aug. 2003	Chairman of Metallurgical Division, University of Technology Baghdad, Iraq
Jan. 2012-	Chairman of Metallurgical Division, University of Technology Baghdad, Iraq
Oct. 2000- Oct. 2005	Training manager, Department of Production Engineering and Metallurgy, University of Technology, Baghdad, Iraq
Aug. 2000- Aug. 2002	Engineering Consultant Bureau, University of Technology, Baghdad
Sept. 2001-Oct. 2002	Transfer Technology Bureau, University of Technology, Baghdad, Iraq
Dec. 2000- Oct. 2001	Manufacturing and Production Bureau, University of Technology, Baghdad, Iraq
April 2002- Oct 2003	Industrial Consultant Bureau, University of Technology, Baghdad, Iraq
Dec. 2006-Dec. 2007	Research fellowship, University of Homs, Syria
Oct. 2008- Sep. 2009	Research fellowship, Boccaccini Group, Department of Materials, Imperial College, London
Oct. 2009- Oct. 2012	Chairman of Scientific Committee, University of Technology, Dept. of Production Engineering and Metallurgy, Baghdad, Iraq
Jan. 2012- Aug. 2017	Chairman of Metallurgical Division, University of Technology Baghdad, Iraq
Aug. 2017 till now	Manager of Nanotechnology and Advanced Materials Center, Univ. of Technology
More than 10 years	Member of College community

### **Resume of Current Position:**

The relationship between the nanomicrostructure, laser processing, mathematical modeling and behaviours of advanced ceramics and alloys has been the scope of my present research activities. These activities are aimed to address the problems in applying advanced processing techniques such as laser processing, electrophoretic deposition, compaction and sintering phenomena in powder technology, thermal plasma spraying, mechanism of failures and materials selection. Many advanced techniques such as X-ray diffraction, step-scanning X-ray diffraction, wave dispersive X-ray spectrometer, energy X-ray spectrometer, transmission electron microscopy, scanning electron microscopy, electron back-scattered diffraction and microprobe X-ray analysis have been thoroughly used to investigate the addressed activities. The mechanisms of laser processing of advanced thermal barrier coating systems and production of novel nanotechnology approach for advanced high temperatures application are the most keys research interest.

### **Teaching experience**

I was lecturing for the last 20 years on the materials science and engineering, production and industrial engineering courses. I designed many advanced special course for Materials engineering for a PhD level, namely advanced powder technology, philosophy of materials selection, surface engineering, advanced processing materials techniques and advanced materials technology. Since joining the University of Technology, I have held a variety of consultant posts inside the university and in industry. The most relevant teaching experience are:

**For BSc Production and Metallurgical Engineering**

- 1 Phase Transformations, 1992-1993.
- 2 Materials Selection, 1993- until now.
- 3 Selection of Materials and Heat Treatments, 1993-2005.
- 5 Powder Technology, 1993-2005.

**For MSc Courses for the following Engineering subjects**

- 1 Advanced Phase Transformations, 1993-1996.
- 2 Materials Technology, 1994-2005.
- 3 Manufacturing Engineering, 1997-1998.
- 4 Testing of Materials, 2001-2002.

**For PhD Courses for the following subjects**

- 1 Advanced Powder Technology, 1994-2005.
- 2 Surface Engineering, 1993-2005.
- 3 Dental Ceramics, 1998-2006.
- 5 Strength of Materials, 1998-2006.

**Professional Affiliations:**

American Ceramic Society (Acers), USA.

National Institute of Ceramic Engineering (NICE), USA.

Materials Research Society (MRS), USA.

American Metals, Materials and Minerals Society (TMS-AIME), USA.

British Composite Society (BSC), UK.

Institute of Metals (IoM), UK.

Member of Iraqi Engineers Union, Baghdad, Iraq, 1980-until now.

Member of First Conference of Manufacturing Ceramics and its Applications, Iraq. 2000.

Member of Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq. 2002.

Member of Third Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq. 2003.

**Achievements and Experiences:**

Many achievements were done. The Most Important are:

- 1- Development the first worldwide process of functionally graded coatings by laser processing
- 2- Published the first worldwide TTT Diagram for YPSZ.
- 3- Awarded of ORS (UK) for Three Years (1988-1990).

- 4- Formation the first worldwide Laser Operating Regime for processing of ceramics.
- 5- Published FIVE Covers of J. Materials Science and Materials Science Letters (UK). These are:  
J. Mat. Sci. Letts, Vol. 1, Dec., 1982.  
J. Mat. Sci. Letts., Vol. 7, Dec. 1988.  
J. Mat. Sci., Vol. 25, Dec. 1990.  
J. Mat. Sci., Vol. 26, Feb. 1991.  
J. Mat. Sci., Vol. 25, Apr. 1992.
- 6- Design and Manufacturing of many special engineering parts.
- 7- Design and Manufacturing many cutting tools.
- 8- Design and Manufacturing many forging dies
- 9- Design, Selection and Manufacturing of anti-spark materials.
- 10- Design instrument to produce Al powder.
- 11- Removal of heavy ingots from ESR moulds.
- 12- Development and Manufacturing of ceramic cutting tools.
- 13- Design and Manufacturing special carbide tools.
- 14- Design and Manufacturing heavy tools.
- 15- Development of engineering courses for Production and Metallurgical Engineering for BSc, PGHD, MSC and PhD studies.
- 16- Design and study the manufactured reinforced steel bars.
- 17- Design, Selection and Heat Treatment special tool for special applications.
- 18- Design the technology route for Surface nitriding treatments for special Steels and dies.
- 19- Manufacturing of special Al alloys for extruded parts.
- 20- Production of special fusible alloys.
- 21- Tested and Analysis of many welded joints.
- 22- Development and Analysis flux for arc welding.
- 23- Design and Manufacturing dies for Al extrusions.
- 24- Many Lectures for Continuous Education in Philosophy of Design, Surface Engineering, Production and System Analysis and Manufacturing Processes.
- 25- Chief Consultant to More Than 15 Industrial Iraqi Companies.

### **Publications and Supervisions :**

*More than 100 Publications and 50 MSc and PhD thesis*

### **Published and Submitted Papers**

- 1- Characterization of laser sealed coatings of yttria partially stabilized zirconia, Optics and Lasers in Engineering, 49(2011)785-792.

- 2- Actively brazed alumina to alumina joints using CuTi, CuZr and eutectic AgCuTi filler alloys, *Ceramics International* 36(2010)2287-2295.
- 3- Simulation of cold die compaction alumina powder, *Trends in Mechanical Engineering and Technology*, 1(2011)1-21.
- 4- The influence of laser specific energy on laser sealing of plasma sprayed yttria partially stabilized zirconia coating, *Optics and Lasers in Engineering*, 51(2013)159-166.
- 5- Microstructure and high temperature oxidation behaviour of aluminum alloyed cast iron, *Modern Applied Science*, 4(2010)130-135.
- 6- Dilution effect during laser cladding of inconel 617 with N-Al powders, *Modern Applied Science*, 5(2011)50-55.
- 7- The role of manganese on microstructure of high chromium white cast iron, *Modern Applied Science*, 5(2011)179-185.
- 8- Laser sealing of zirconia-yttria-alumina plasma sprayed coating, *J of King Saud University Engineering-Science*, 49(2013)
- 9- Some studies of wear of an Al-Si alloys under dry sliding conditions, *J. Wear International*, 82(1982)377-380.
- 10- Nature of subsurface damage in an Al-22% Si during dry sliding wear, *J. Materials Science Letters*, 1(1982)503-506.
- 11- Wear of Al-Si alloys under dry sliding conditions, *Transaction of Indian Institute of Metals*, 37(1984)581-589.
- 12- Nature of Subsurface damage in Al-22%Si alloys sliding on steels discs at high speeds, *J. Wear International*, 98(1984)183-197.
- 13- Wear in Al-Si alloys under dry sliding conditions, *J. Wear International*, 119(1987)110-130.
- 14- Laser Sealing of plasma sprayed calica stabilized zirconia, *J. Materials Science Letters*, 7(1988)1307-1309.
- 15- SEM studies of wear debris in Al-Si alloys, *J. Materials Science Letters*, 8(1989)1285-1287.
- 16- Stability of  $ZrO_2$ - $Y_2O_3$   $t'$  phase formed by laser sealing, *J. Materials Science and Technology*, 8(1992)83-91.
- 17- Microstructural changes associated with the laser processing of Al-SiC composite, *J. Materials Science Letters*, 11(1992)414-417.
- 18- Operating regime for laser surface engineering of ceramics, *J. Materials Science*, 27(1992)1937-1946.
- 19- Dry Sliding wear in binary Al-Si alloys at low bearing pressures, *J. Materials Science Letters*, 11(1992)421-423.
- 20- TEM observations of  $t'$  phase after laser sealing of YPSZ, *J. Materials Science Letters*, 12(1993)581-583.
- 21- Thermal barrier coating produced by laser cladding, *J. Materials Science*, 25(1990)4943-4948.
- 22- Effect of mechanical properties on the adhesive wear of metals, *J. Materials Science Letters*, 12(1993)1209-1211.
- 23- Effect of sliding speed on adhesive wear of binary Al-Si alloys, *J. Mat. Sci. Lett.*, 12(1992)650-653.
- 24- Pulsed laser processing of thermal barrier coatings, *J. Materials Science*, 26(1991)909-916.
- 25- Metal-ceramic functionally gradient materials produced by laser processing, *J. Materials Science*, 28(1993)2820-2826.
- 26- Characterization of plasma sprayed layers of fully YSZ modified by lasers, *Surface and Coating Technology*, 53(1992)75-86.
- 27- Laser cladding of inconel 617, 24<sup>th</sup> International Congress on Application of Lasers and Electr-Optics (ICALEO 2005), Florida, USA, October 31 – November 3, 2005, PP 640-647.
- 28- Phase transformations of rapidly solidified nickel based superalloy by laser, 24<sup>th</sup> International Congress on Application of Lasers and Electr-Optics (ICALEO 2005), Florida, USA, October 31 – November 3, 2005, PP 591-600.
- 29- Laser cladding with a Ni-Fe-Cr-Al alloys, *Proceeding of Materials Research Society (MRS), USA*, Vol.29(1989)139-143.
- 30- Laser surface sealing of plasma sprayed yttria stabilized zirconia ceramic, *Proceeding of ICALEO, USA*, 1988, 17-31.
- 31- Laser Surface cladding of 8wt% YSZ thermal barrier coatings, *Proceeding of Testing and Materials Society (TMS-AIME), USA*, 1989, 55-65.
- 32- Laser cladding of carbon steel with a ceramic metallic composite, *Proceeding of SPIE, France*, 1989, Vol. 1132, 237-245.
- 33- Laser sealing of plasma sprayed ceramic, *Proceeding of Laser in Industry, iitt, France*, 1990, 90-101.
- 34- Effect of plasma sprayed layer thickness and some laser parameters, *Proceeding of Surface Engineering, UK*, 1993, 50-63.

- 35- Pulsed laser sealing of plasma sprayed layers of 8wt% yttria stabilized zirconia, J. of Materials Science, 27(1992)3903-3910.
- 36- Pulsed laser melting of gray cast iron, Engineering and Technology J., 14(1995)40.
- 37- Effect of specific energy on laser surface melting of Ni-based alloys, Engineering and Technology J., 17(1995)1014-1019.
- 38- Laser treatment of surface layers produced by physical vapor deposition, Engineering and Technology J., 15(1996)29.
- 39- Effect of microstructure on dry wear of Al-Si alloys, Engineering and Technology J., 18(1999)10.
- 40- Studying of parameters affecting manufacturing of reaction bonded SiC, Engineering and Technology J., 19(2000)202-216.
- 41- Effect of carbon black on physical and mechanical properties of reaction bonded SiC parts, Engineering and Technology J., 19(2000)8-20.
- 42- Laser cladding of carbon steel, Engineering and Technology J., 17(1998)10-20.
- 43- Studying of laser treatment of metallic surface produced by plasma spraying, Engineering and Technology J., 19(2000)109-116.
- 44- Studying of some extrusion variables in corrosion of Al, Fourth Meeting of Corrosion in Industry, Baghdad, Iraq, 7-9 November 1999, P 94-108.
- 45- Strength and fracture toughness of high purity alumina, First Conference of Ceramic Applications, Baghdad, Iraq, 24<sup>th</sup> February 2000, P 333-345.
- 46- Laser surface melting of ceramic sprayed layers, First Conference of Ceramic Applications, Baghdad, Iraq, 24<sup>th</sup> February 2000, P 316-323.
- 47- Effect of TaC, NbC and TiC on mechanical properties of WC-Co cutting tool, First Conference of Ceramic Applications, Baghdad, Iraq, 24<sup>th</sup> February 2000, P 346-351.
- 48- Microstructure and phases of thermal barrier coatings of YSZ produced by plasma spraying, First Conference of Ceramic Applications, Baghdad, Iraq, 24<sup>th</sup> February 2000, P 308-315.
- 49- Manufacturing, physical and mechanical evaluation of heavy carbide core, First Conference of Ceramic Applications, Baghdad, Iraq, 24<sup>th</sup> February 2000, P 324-232.
- 50- Effect of primary properties of SiC powder on reaction bonded process, First Conference of Ceramic Applications, Baghdad, Iraq, 24<sup>th</sup> February 2000, P 44-55.
- 51- Relationship of bearing pressure and wear rate with subsurface damage of as-cast and modified Al-Si alloys, First Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 17-19 October 2000, P 1-8.
- 52- Effect of Ti on the mechanism of Si spheroidization during thermal homogenization of an Al-12% Si, Engineering and Technology J., 20(2001)266-275.
- 53- Laser sealing and thermal shock resistance of 6.5 wt% yttria partially stabilized zirconia plasma sprayed layers, Eng. and Tech., J., 27(2009)1038-1045.
- 54- Duplex composite materials produced by continuous laser, Al-Taqani Journal, 4(2008)11-18.
- 55- Structure of laser surface melting of plasma sprayed 6.5 wt% yttria partially stabilized zirconia, Al-Taqani Journal, 21(2008)42-48.
- 56- Effect of carbon percentage on adhesive wear of carbon steel, Al-Taqani Journal, 4(2005)1-9.
- 57- Effect of heat treatments on adhesive wear resistance of medium carbon steel, Engineering and Technology J., 23(2004)436-445.
- 58- Wear mechanisms of abrasive Al-Si alloys, Al-Taqani Journal, 19(2006)46-57.
- 59- Effect of spraying distance on properties of coated layer, Surface and Engineering, 23(2004)277-286.
- 60- Microstructural characterization of rapidly solidified laser clad layers manufactured by laser processing of inconel 617, Iraqi J. of Laser, Part A, 4(2005)12-18.
- 61- Interlaminar fracture toughness of some polymer blends reinforced by fibre class, Iraqi J. of Physics, 5(2008)7-14.
- 62- Foundary characteristics and corrosion behaviour of cupronickel alloys, J. of Mech. And Mat. Eng., 1(2005)12-25.
- 63- The effect of homogenization on microstructure features and corrosion behaviour of cast cupronickel alloys, Al-Kufa J., 8(2007)143-157.
- 64- The corrosion of cupronickel alloys in 3.5 wt% sodium chloride and ammonium nitrate solution, Al-Kufa J., 8(2007)132-148.
- 65- Study of coating processing produced by arc spraying, Engineering and Technology J., 24(2005)65-73.
- 66- Materials selection in conceptual design using weighting property method, Engineering and Technology J., 29(2011)82-95.
- 67- Effect of spheroidization treatment on dry wear of as-cast and modified Al-Si alloys, Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 2000.

- 68- Effect of Ti on the mechanism of spheroidization during thermal treatment of Al-12% Si, Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 2000.
- 69- Phases of Al-Si composite at solid and liquid sintering, Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 2000.
- 70- Mechanism of dry sliding wear in Al-Si alloys, Conference of Wear of Materials, Massachusetts, USA, 1995.
- 71- Microstructural-cooling rate relationship in laser sealing of ceramics, Incosurface, India, 1992.
- 72- Laser sealing of calcia stabilized zirconia, Indari Gandai Research Centre, 1992.
- 73- Cover of J. Materials Science Letters, Vol., 1 No 12, 1982.
- 74- Cover of J. Materials Science Letters, Vol., 7 No 12, 1988.
- 75- Cover of J. Materials Science, Vol., 25 No 12, 1990.
- 76- Cover of J. Materials Science, Vol., 26 No 2, 1991.
- 77- Cover of J. Materials Science, Vol., 27 No 4, 1992.
- 78- Laser cladding of alloys, Department of Mechanical and Electrical Engineering, University of Hums-Syria, 2007.
- 79- Development of functionally graded thermal barrier coating using nanotechnology, CARA, UK, submitted, June 2009.
- 80- Develop a nanotechnology functionally graded coatings for advanced thermal barrier coatings, CARA, UK, Submitted, June 2009.
- 81- Constitutional and properties of laser-sealed layers of yttria partially stabilized zirconia, SPIE Photonics West 2009, California, USA, 24-29 January 2009.
- 82- Microstructural studies associated with laser sealing of plasma sprayed calcia stabilized zirconia, The 5<sup>th</sup> International Congress on Laser Advanced Materials Processing, LAMP20, Kobe, Japan, June 29 – July 2, 2009.
- 83- Modification of 7.8 wt% YPSZ thermal barrier coating by high power CO<sub>2</sub> laser treatment, 12<sup>th</sup> NOLAMP Conference, Copenhagen, Denmark, 24<sup>th</sup> - 26<sup>th</sup> August, 2009.
- 84- Cracks formation during laser sealing of plasma sprayed ceramics, 28<sup>th</sup> International Congress on Application of Lasers and Electr-Optics (ICALEO 2009), Orlando, USA, November 2 – 5, 2009.
- 85- Characterization of laser cladding of ceramics, ASME International Manufacturing Science and Engineering Conference, West Lafayette, USA, October 4-7, 2009.
- 86- Modification of Al-Si alloys microstructures by in situ new rheocasting, Emerging Material Forming Technologies, Material Science and Technology 2009, USA.
- 87- High temperature properties of phenol formaldehyde-aluminium composites, European Congress and exhibition on Advanced Materials and Processes, Glasgow, UK, 7 – 10 September, 2009.
- 88- Concurrent engineering materials selection, European Congress and exhibition on Advanced Materials and Processes, Glasgow, UK, 7 – 10 September, 2009.
- 89- Electrophoretic deposition novel technique to modify functionally graded thermal barrier coating plasma sprayed yttria partially stabilized zirconia, Paper to be submitted to Ceramics International, 2009.
- 90- Effect of sliding speed on wear rate of Al-22%Si, J. of Inbar University, Inbar, Iraq, 2000.
- 91- Weibull modulus of gasses, J. of Inbar Universty, Inbar, Iraq, 2000.
- 92- Concentration of TiO<sub>2</sub> from the sand of Alamaj region, Engineering and Technology.

- 93- Acid leaching of TiO<sub>2</sub> concentrate, Engineering and Technology.
- 94- Effect of spherodization treatment on dry wear of as-cast and modified Al-Si alloys, Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 2000.
- 95- Effect of Ti on the mechanism of spherodization during thermal treatment of Al-12% Si, Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 2000.
- 96- Phases of Al-Si composite at solid and liquid sintering, Second Conference of Mechanical and Engineering Materials, Al-Najaf, Iraq, 2000.
- 97- Mechanism of dry sliding wear in Al-Si alloys, Conference of Wear of Materials, Massachusetts, USA, 1995.
- 98- Microstructural-cooling rate relationship in laser sealing of ceramics, Incosurface, India, 1992.
- 99- Laser sealing of calcia stabilized zirconia, Indari Gandai Research Centre, 1992.
- 100- Wear of Al-Si alloys, 5<sup>TH</sup> International of Tribology, Helsinki, Finland, 1989.
- 101- Constitution and properties of laser sealed of YPSZ, Society for Optical and Quantum Electronic, USA, 1992, Mclean.
- 102- Theoretical model for predication of laser sealing of advanced ceramic coating, Paper accepted in ICALEO 2005, USA (No ID156).

#### **Supervisor of the Following PhD thesis:-**

- 1- Effect of die design on extruded properties of Al, 2001.
- 2- Preparation and characterization of cast Al-matrix SiC particulate composites, 2000.
- 3- Design and characterization of advanced semi solid casting processes, 2003.
- 4- Study the variables effect on the production and properties of special alloy cast irons, 2004.
- 5- Manufacturing and characterization of advanced alumina ceramic zirconia fiber ceramics, 2003.
- 6- Laser processing of advanced ceramic coatings, 2003.
- 7- Liquid metal infiltration of porous powder technology to produce metal composites, 2003.
- 8- Investigation of interlaminar toughness of reinforced polymer blends, 2000.
- 9- Wear, oxidation and corrosion resistance of high-alloyed cast irons, 2007.
- 10- Role of alloying elements on the properties of alloyed cast irons, 2007.
- 11- The microstructure and corrosion resistance of cast cupronickel alloys for naval and no-naval applications, 2003.
- 12- Micro structural and bonding mechanisms of actively brazed advance ceramic/ceramic systems, 2003.
- 13- Phase transformations during rapid solidification of inconel 617, 2004.
- 14- Technical design of Iraqi jawless, 2007.
- 15- Development of an intelligent concurrent materials behaviour design (to be submitted 2006).
- 16- Theoretical and experimental study for optimization sintering parameters for ceramics, 2006.
- 17- The design and characterization of pure ceramic particles during compaction, 2006.
- 18- Development of new copper nanostructured and nanoceramic-Cu composites, 2011.



- 19- Mathematical modelling of laser melting of cast irons.
- 20- Electrophoretic deposition of nanoceramic composite coatings.
- 21- Optimizing of laser sealing of plasma sprayed zirconia-ceria-yttria thermal barrier coatings.
- 22- Design of electrophoretic deposition of functionally graded nanobiocomposite materials.
- 23- Characterization of laser sealing ternary zirconia-yttria alumina plasma sprayed ceramics.
- 24- Laser melting of tool steels.
- 25-

**Supervisor of the Following MSc thesis:-**

- 1- Pulsed laser processing of different plasma sprayed layers, 1994.
- 2- Study of variables on the manufacturing techniques of reaction bonded silicon carbides, 1996.
- 3- Effect of pulsed laser on surface treatments of low carbon steel, 1999.
- 4- Effect of manufacturing variables on strength and fracture toughness of ceramic materials, 1999.
- 5- Study of metallurgical properties and wear for Al-Sn alloys, 2000.
- 6- Studying of microstructure and wear of as cast and modified Al-Si alloys with Ti, 2000.
- 7- Effects of hardness on adhesive wear resistance of steels, 2001.
- 8- Study of phases produced during solid and liquid phase sintering of Al-SiC, 2001,
- 9- The effect of alumina addition on the properties and microstructure of zirconia-yttria systems, 2001.
- 10- Characteristic study of binary Al-alloys prepared by rheocasting process, 2001.
- 11- Study of using tungsten carbide in warhead, 2002.
- 12- Concentration and extraction of TiO<sub>2</sub> from Al-amaj sand, 2000.
- 13- A study into the properties of polymeric composites reinforced with aluminium particles, 2001.
- 14- Study of overlay coating for alloys, 2002.
- 15- Characterization study of composite materials Al-SiC prepared by rapid solidification, 2001.
- 16- Study of factors influenced the anodizing process, 2004.
- 17- Chemical vapour deposition of carbide cutting tools, 2003
- 18- Effect of Al oxidation resistance of high alloyed cast irons, 2005
- 19- Study the effect of Sb modification on metallurgical and mechanical properties of Al;-Si alloys, 2005.
- 20- Heat treatment of Cu-Ni-Cr casing alloys, 2006.
- 21- Characterization of thin film ceramics produced by nanotechnology technique, 2011.
- 22- Effect of heat treatment on friction stir processing of Al-Si alloys, 2012.
- 23- Corrosion resistance of austenitic stainless steels.
- 24- Recycling of aluminium-Cu scraps.
- 25-