

PERSONAL DETAILS

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Department of Metallurgical and Materials Engineering, Faculty of Engineering, Firat University, Elazig/Turkey Postcode: 23119



Name	: ISRAFIL	Surname	: KUCUK
Date of Birth	: 08.11.1981	Nationality	: TURKISH
Language	: Bilingual in English and Turkish		

ACADEMIC QUALIFICATIONS:

PhD in Mechanical & Biomaterials Engineering

University College London / Faculty of Engineering (28 February 2016)

PhD Thesis Title: Microfluidic Engineered Polymer Nanovehicles for Drug Delivery

Under my PhD, I conducted:

* The literature review,

Softwares for data analysis:

*ImageJ for size distribution analysis,

*Powerpoint, Origin Analysis and graphing package,

*WSxM for AFM results,

*OPUS for FTIR and UV spectroscopy using hardware from PerkinElmer,

*Olympus for optical microscope investigation,

*Phantom's Cine Viewer 2.6 version and Photron Fastcam Viewer for high speed camera image processing,

Equipments:

*Harvard extrusion pumps, Microfluidic devices, Health and safety cosh regulations for handling high pressure gas supply, desiccator, oven, UV Handling liquid nitrogen and freeze-dryer.

Materials characterization techniques:

*Sample preparation, utilization and raw data analysis for Atomic force microscope imaging,
*Low resolution optical imaging and high resolution scanning electron microscope imaging for polymers and ceramic nanovehicles,

*Transmission electron microscope for interior structure characterization of polymer and ceramic nanovehicles,

*FTIR analysis for chemical structure investigation,

*FIB imaging for cross-section investigation of polymer and ceramic nanovehicles.

MEng in Metallurgical and Materials Engineering

Marmara University/Natural and Science Institute (**25 January 2010**) (First class honours in UK equivalency)

MEng Project: Corrosion of Hard Ceramic Coatings (TiN, CrN) Deposited on Stainless Steel

BEng in Metallurgical and Materials Engineering

Yildiz Technical University/ Faculty of Chemistry-Metallurgical Engineering (**09 July 2004**) (First class honours in UK equivalency).

BEng Final Year Project: Ag (Silver) Based Tooth Filling Amalgams.

BEng Third Year Project: Investigation of the Boron Carbide Coatings deposited by Box Boron Coating Method

PROFESSIONAL WORK EXPERIENCES:

FIRAT University

05 November 2010 – present...

Faculty of Engineering
Department of Metallurgical and Materials Engineering
Research & Teaching Assistant

Responsibilities:

- * Managed Materials characterization lab.
- * Working one-to-one or with small groups of undergraduate students
- * Supporting pupils with English as a second language
- * Preparing the classroom for lessons
- * Tidying up and keeping the lab in good order

University College London

19 September 2014 – 31 August 2015

UCL Engineering
Integrated Undergraduate Program
Postgraduate Teaching Assistant

Responsibilities:

- * Organized and carried out lab demonstrations in Microfluidics
- * Assisting teaching staff with assessing examination answer scripts, providing solutions to undergraduate students in Mathematical Modelling and Analysis I
- * Working one-to-one or with small groups of undergraduate students

CUMHURIYET University

06 August 2009 – 02 November 2010

Department of Metallurgical and Materials Engineering
Postgraduate Teaching Assistant

Responsibilities:

- * Managed Metallography lab.
- * Supervising small groups of undergraduate students during the lab work
- * Carrying out administrative task
- * Undertaking limited administrative duties as requested by the Head of Department
- Supporting pupils with English as a second language

*Participating in the supervision of practical work, advising on skills, methods and techniques to assist the transfer of knowledge

Marmara University

Faculty of Engineering

05 May 2005 – 30 June 2009

Department of Metallurgical and Materials Engineering

Part-time Research Assistant

Responsibilities:

*Managed X-ray diffraction lab

*Participating in the assessment process, using a variety of methods and techniques and provide effective, timely and appropriate feedback to students to support their learning.

ENKA TEKNIK Company

15 August 2008 - 02 January 2009

Sousa – Zwetina (Libya)

Site Quality Control Engineer

Responsibilities:

*Documenting the Welding procedures and certificates

*Quality checks in site

*supervising and training the welders

*Carried out daily progress meeting with my superior, third party engineer and client.

*Lead the welding team while liaising with the manufacturing and electrical teams when working on a project

*Trained on working with hazardous materials (Polishing solutions, Oxygen and Argon gas)

DIZAYN Quality and Engineering Services Company 03 August 2004 - 14 August 2008

Engineering Department Coordinator

Responsibilities:

*Carried out NDT (Ultrasound Treatment, Radiography Inspection, Magnetic treatment, Liquid Treatment and Visual Inspection) post-welding on construction sites (Desalination plants, DAMs, Steel Plants, Natural / crude oil pipelines and tanks)

TRAINING WORKSHOPS attended:

- II. Technology, Quality and Fabrication Systems Congress, Sakarya Quality Association, June 2001

- Nanotechnology Camp, Petrol Office Company, July 2006

- Education for Protection from Industrial Radiography, TAEA (Turkey Atom Energy Association), July 2006

- Radiographic Examination, Level II (According to EN 473) – January 2009

- SEM Course – School and workshop on the Electron Microscopy of Ceramic Materials (Anadolu University) – 8-11 October 2009

- Modern Surface Analytical Techniques – ASEVA / IUSTA (Salamanca, Spain), 20-24 September 2010

- FIB SEM Training – London Center for Nanotechnology (London, UK), 26-28 February 2013

- AFM Training – Faculty of Pharmacy, UCL (London, UK), 15-19 September 2013

Additional training:

*PPMS Residential Course:

This intensive three day course consists of a combination of a small group classroom sessions and (non-strenuous) outdoor activities. It focuses on individual skill development through working in groups, teams and organizations. In this course we were given the opportunity to highlight personal areas of development that we could focus on while undertaking tasks in groups. I personally worked on time management, leadership skill, team-working and presentation skills.

PARTICIPATED PROJECTS:

- **Researcher**, “*Corrosion of Ceramic Hard Coatings*”, Project Nr: FEN-KPS-080805-0178, Research Department of Marmara University, (2005-2009).

ACADEMIC AWARDS & DISTINCTIONS:

- **PhD Study Scholarship** (All fees and a full maintenance stipend), Merit Scholarship Programme for High Technology (MSP), Islamic Development Bank (IDB), December 2011/continuing (3 years Programme)

- **Poster Prize** Israfil Kucuk won the "Interlab Award" for his poster presentation at the **10th Nanoscience & Nanotechnology International Conference** held in Istanbul 17-21st June 2014. Over 350 posters were presented.

PEER-REVIWING INVITATIONS FROM JOURNALS:

- **Polymers (IF 3.68)**, January 2016

- **Nanomaterials (IF 2.06)**, December 2015 (2 times)

- **International Journal of Nanomedicine (IF 4.383)**, December 2015

- **Nanotechnology, Science and Applications (IF n/a)**, October 2015

- **International Journal of Pharmaceutics (IF 3.656)**, July 2015 (3 times)

- **Breast Cancer: Targets and Therapy (IF n/a)**, June 2015

AUTHORED PAPERS:

- **Israfil Kucuk**, Zeeshan Ahmad, Susan Allen, Mohan Edirisinghe. (2016) “*Characteristics and Release Profile of Microfluidic Conceived Amoxicillin Encapsulated PLGA Nanostructures for Drug Delivery*” *Biomacromolecules*, in progress.

- Rasekh, M., K. Nazari, M. S. Arshad, **Israfil Kucuk**, R. Haj-Ahmad, A. Hussain, M. A. Morris et al. (2016) "*Polymeric based therapeutic delivery systems prepared using electrohydrodynamic processes.*" Current Pharmaceutical Design, published online: DOI: 10.2174/1381612822666160217141612.
- **Israfil Kucuk**. (2015) "*Polymer nanospheres formed by a microfluidic technique with Evans blue dye*" Polymers for Advanced Technologies, published online: DOI: 10.1002/pat.3641.
- R Haj-Ahmad, M Rasekh, K Nazari, Y Li, Y Fu, B Li, Q Zhang, Z Xia, H Liu, T Gu, G Wang, **Israfil Kucuk**, H Khan, M S Arshad, X Li, Z Ahmad. (2015) "*EHDA Spraying: A Multi-Material Nano-Engineering Route*" Current Pharmaceutical Design 21, 1-9.
- **Israfil Kucuk**, Mohan Edirisinghe. (2015) "*Changing the Size and Surface Roughness of Polymer Nanospheres Formed Using a Microfluidic Technique*" JOM 67 (4), 811-817.
- **Israfil Kucuk**, Cevat Sarioglu. (2015) "*Pitting Corrosion of TiN-Coated Stainless Steel in 3 % NaCl Solution*" Materiali in Tehnologije / Materials and Technology 49 (2), 183-192.
- **Israfil Kucuk**, Cevat Sarioglu. (2015) "*Corrosion of CrN-coated Stainless Steel in a NaCl Solution ($w = 3\%$)*" Materiali in Tehnologije / Materials and Technology 49 (1), 19-26.
- **Israfil Kucuk**, Mohan Edirisinghe. (2014) "*Microfluidic preparation of polymer nanospheres*" Journal of Nanoparticle Research 16 (2626), 1-9.
- **Israfil Kucuk**, Zeeshan Ahmad, Mohan Edirisinghe, Mine Orlu-Gul. (2014) "*Utilization of microfluidic V-junction device to prepare surface itraconazole adsorbed nanospheres*" International journal of pharmaceutics 472 (1), 339-346.
- **Israfil Küçük**, Şenol Avcı, Recep Artır. (2014) "*Silikon Bazlı Organik Polimer Polimetil-Siloksan (PMSQ)'ın Seramik Üretiminde Kullanımı*" AKU Journal of Science Engineering 14(3), 345-352.
- Mergen, Ayhan, Oğuz Özyoldaş, and **Israfil Küçük**. "*Production and Properties of In and Ir Doped $Bi_{1.5}Zn_{0.92}Nb_{1.5}O_{6.92}$ Pyrochlores.*" Journal of the European Ceramic Society 32.9 (2012): 2019-2023.
- Artır, Recep, Şenol Avcı, and **Israfil Küçük**. "*Effect of Mullite–Zircon Addition on Sintering and Mechanical Properties of Hydroxyapatite.*" Journal of Biomechanics 44 (2011): 10.

CONFERENCE CONTRIBUTIONS:

- **Israfil Kucuk** and Mohan Edirisinghe. "*Polymer nano-carriers for drug delivery prepared by microfluidic engineering.*" 5th Bionanomaterials Conference (Zing Conferences), Algarve, Portugal, 25-28 April 2015 (**Poster presentation**).
- **Israfil Kucuk**. "*Polymer nanospheres formed by a microfluidic technique with Evans blue dye.*" Organic Electronic Materials Technologies (OEMT 2015) Conference, Elazığ, Turkey, 25-28 March 2015 (**Oral presentation**).

- **Israfil Kucuk**, and Mohan Edirisinghe, “*Microfluidic preparation of polymer nanospheres using a microfluidic device*”, Mechanical Engineering PhD Students' Conference, London, UK, 18th July 2014 (**Oral and poster presentations**).
- **Israfil Kucuk** and Mohan Edirisinghe, “*Microfluidic Preparation of Polymer Nanospheres*”, 10th Nanoscience and Nanotechnology Conference, Yeditepe University, Turkey, June 17-21 2014 (**Poster presentation**).
- **Israfil Kucuk**, Zeeshan Ahmad, Eleanor Stride, Mohan Edirisinghe. “*Fabrication of nanocapsules from droplets using a microfluidic device.*” Mechanical Engineering PhD Students' Conference, London, UK, 14th June 2013 (**Oral presentation and poster**).
- **Israfil KÜÇÜK**, Hasan GÖKÇE, Tahsin BOYRAZ, M. Lütfi ÖVEÇOĞLU. “*Microstructural and Physical Characterization of Aluminium Titanate/Forsterite Ceramics*”, 15.th International Conference on Metallurgical Engineering, November 11-13 2010, Istanbul (Turkey) (**Poster presentation**).
- Hasan GÖKÇE, **Israfil KÜÇÜK**, Tahsin BOYRAZ, Duygu AĞAOĞULLARI, İsmail DUMAN, M.Lütfi ÖVEÇOĞLU, “*Characterization of Microstructural and Physical Properties of Y₂O₃ Reinforced Cordierite Based Ceramic Materials*”, 13.th International Materials Symposium (IMSP 2010), 13-15 October 2010, Denizli (Turkey) (**Oral presentation**).
- H.ADANIR, **Israfil KÜÇÜK**, F.G. YOST “*Advantages of Brazing in Joining of Ceramics*”, 1st Eurasia Ceramic Congress 2010, October 6-8 2010, Kütahya (Turkey) (**Poster presentation**).
- **Israfil KÜÇÜK**, Şenol AVCI, Recep ARTIR, “*Effect of Mullite-Zircon Addition on sintering and mechanical properties of Hydroxyapatite*”, Biomechanics 2010, September 23-25 2010, İzmir (Turkey) (**Oral presentation**).
- **Israfil KÜÇÜK**, Cevat SARIOĞLU, “*The Effect of Surface Treatments on Corrosion Behaviour of Hard Ceramic CrN Coating Deposited on 4034 Stainless Steel*”, Hard Ceramic coatings, September 20-24 2010, Salamanca (Spain) (**Oral presentation**).
- **Israfil KÜÇÜK**, Hasan GÖKÇE, Tahsin BOYRAZ, M. Lütfi ÖVEÇOĞLU, “*Influence of Thermal Shock Test on Thermal and Mechanical Behaviours of Aluminium Titanate / Forsterite Ceramics by P/M Method*”, International Conference on Ceramic Processing Science ICCPS-11, 29 Aug.- 1 Sept. 2010, Zürich (Switzerland) (**Oral presentation**).
- **Israfil KÜÇÜK**, Burcu ERTUĞ, Hasan GÖKÇE, Tahsin BOYRAZ, A. Okan ADDEMİR, M. Lütfi ÖVEÇOĞLU, “*The Characterization of The Mechanical and Thermal Properties of Hot-Pressed Hexagonal Boron Nitride-Titanium Diboride Composites*”, 3rd International Symposium on SiAlONs and Non-Oxides, June 1-4 2010, Cappadocia (Turkey) (**Oral presentation**).
- **Israfil KÜÇÜK**, Cevat SARIOĞLU, “*SEM Cross-section Observation of TiN and CrN Hard Ceramic Coatings Deposited on Stainless Steel Substrates*”, School and Workshop on the Electron Microscopy of Ceramic Materials, Oct. 08-13, 2009, Eskisehir (Turkey) (**Poster presentation**).

- **Israfil KÜÇÜK**, Cevat SARIOĞLU, “*Nano-layer Coating for Corrosion Resistance*”, International Conference NANO HARD 2006, May 28-31, 2006, Sozopol (Bulgaria) (**Oral presentation**).

MEMBERED ORGANIZATIONS:

- Metallurgical Engineering Chamber of Turkey
- Turkish Electron Microscopy Society
- European Electron Microscopy Society

COMPUTER SKILLS

- Microsoft Office (Word, Excel, PowerPoint, Outlook Express)
- AutoCAD 2007 (User)
- GAMRY Corrosion measurement system for corrosion potential, Polarization resistance, EIS and Potentio-dynamic behavior analysis

SOCIAL ACTIVITIES:

- 2005/2006 Spring Term – Volunteer English Teacher for Poor Students, Yakacık Society Center, Kartal/Istanbul, Turkey
- 2007/2008 Spring Term – Volunteer Mathematic Teacher for Poor Students, Yakacık Society Center, Kartal/Istanbul, Turkey.
- **2012/2014- Elected General Secretary of Islamic Development Bank Scholars Association (IDBSA-UK) in the UK.**

INTERESTS:

- Polymeric Nanoparticles, Drug Delivery, Microfluidics, Advanced Ceramics, Sintering, Recovering of Wastes, Materials Characterization, Corrosion, Thin film, Hard Ceramic Coatings, Nanotechnology, Welding Technologies, NDT.

HOBBIES & INTERESTS:

Most of my spare time in the evening or weekend is taken up with socializing with my close friends or doing activities that I have enjoy, such as playing football, travelling around, reading magazines and books, and table tennis.

REFERENCES:

Available on request