Ala' Fakhri (A.Z.) Eftaiha

Place & Date of Birth: Jerusalem, 1983
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علاء فخري "أحمد زكي" افتيحه

تاريخ الميلاد: ١٩٨٣ميلادية
الجنسية: الأردنية
الجامعة الهاشمية, الزرقاء, الأردن
ص.ب. ٣٣٠١١٧, الرمز البريدي ١٣١٣٣
رقم الهاتف: ٠٠٩٦٢٥٣٩٠٣٣٣٣ , فرعي ٤٥٣٠

Academic Credentials

PhD, Chemistry, (Sep.2009 – May.2013)
University of Saskatchewan, Saskatoon, Saskatchewan, Canada (***World Rank 201-300 according to Academic Ranking of World Universities*** (***ARWU, Shanghai ranking, 2013***)

- Supervisor: Prof. Dr. Matthew F. Paige
- **Title of dissertation:** Characterization, Control and Modeling of Phase Separation in Mixed Phospholipid-Perfluorinated Fatty Acid Monolayers

MSc, Chemistry, (Sep.2004 – Nov.2006)
Hashemite University, Zarqa, Jordan
Accumulated Average: 3.78/4.00, Excellent- 1st Honor Degree

- Supervisor: Prof. Dr. Musa I. El-Bargouthi, Co-supervisor: Dr. Adnan A. Badwan
- **Title of dissertation:** Application of Percolation Theory on Compacts Utilized in Pharmaceutical Dosage Forms

BSc, Chemistry, (Sep.2000 – Jun.2004)
Hashemite University, Zarqa, Jordan
Accumulated Average: 3.73/4.00, Excellent- 1st Honor Degree

Research Interests

- Carbon dioxide capturing using green sorbents under mild conditions.
- Understanding the nature of bulk hetero-junction thin film blends composed of molecular donors and acceptors, with the aim of obtaining high performance organic photovoltaic cells.
- Studying the assembly of mixed surfactant monolayers at both air-water and air-solid interfaces that have applications as exogenous pulmonary lung surfactant preparation.

Professional Experience

Assistant Professor, (Currently, since Sep.2014)
Department of Chemistry, The Hashemite University, Zarqa, Jordan

Visiting Scholar, (Aug.2016-Jan.2017)
The Jordanian Fulbright Visiting Scholar Awards to the United States.

- University of California Santa Barbara, Santa Barbara, California, United State of America (***World Rank 45 according to ARWU, 2017***)
- Supervisor: Prof. Dr. Thuc-Quyen Nguyen

Post-Doctoral Fellow, (Jun.2013 – May.2014)
Dalhousie Research in Energy, Advanced Materials and Sustainability (**DREAMS**)
- Dalhousie University, Halifax, Nova Scotia, Canada (***World Rank 201-300 according to ARWU, 2014***)
- Supervisors: Dr. Gregory Welch and Prof. Dr. Ian Hill

Graduate Teaching Assistant, (Sep.2009 – Apr.2012)
Department of Chemistry, University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Researcher, (Oct.2008 – Jun.2009)
King Abdullah Institute for Nanotechnology (KAIN), King Saud University, Riyadh, Saudi Arabia
Project Title: Development of novel self-assembling folate-conjugated chitosan derived nanomaterial's for controlled release and targeted delivery of hydrophobic bio-actives to colon cancer cells

Researcher, (Jul.2006 – Sep.2008)
Research and Development Department, Suwagh Company for Drug Delivery Systems, Subsidiary of the Jordanian Pharmaceutical Manufacturing Co., Naor, Jordan

Graduate Teaching Assistant, (Oct.2004 – Jun.2006)
Department of Chemistry, Hashemite University, Zarqa, Jordan

Analyst, (Jun.2004 – Aug.2004)
Quality Control Department, El-Hikma Pharmaceutical Company, Amman, Jordan

Trainee, (Jun.2003 – Aug.2003)
Research and Development Department, the Jordanian Pharmaceutical Manufacturing Co., Naor, Jordan

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Honors, Awards, Nominations & Grants

- Research Grant of ***157,500 JOD*** "*equivalent to $221,831US*" awarded by the Deanship of Scientific Research, The Hashemite University, Zarqa, Jordan. (July.2017)
- *Project Title: Exploiting Immiscibility of Hydrocarbons And Fluorocarbons to Pattern Interfaces*

- **The Jordanian Fulbright Visiting Scholar (Post-Doctoral) Award**, granted by the Jordanian American Commission for Educational Exchange (JACEE) (***$22,500 US,*** Aug.2016 - Jan.2017)

- Research Grant of ***83,366 JOD*** "*equivalent to $117,417 US*" awarded by the Deanship of Scientific Research, The Hashemite University, Zarqa, Jordan. (Nov.2015)
- *Project Title: Phase-Separation of Mixed Surfactant Films: The Interfacial Behavior of Dipalmitoylphosphatidyl Choline at Air-Water and Air-Solid Interfaces*

- Research Grant of ***6,000 JOD*** *"equivalent to $8,450 US"* awarded by the Deanship of Scientific Research, The Hashemite University, Zarqa, Jordan. (Nov.2014)
- *Project Title: Morphology Control and Optimization of Bulk Heterojunction Blends for Plastic Solar Cell Applications*

- **DREAMS Post-Doctoral Fellowship** (Dalhousie Research in Energy, Advanced Materials and Sustainability), funded by "**NSERC-CREATE**" program (Natural Sciences and Engineering

Research Council of Canada - Collaborative Research and Training Experience program) (***$39,396 Canadian,*** Jun.2013-May.2014)

- I have been **nominated** for **Taube Medal Award**, Chemistry Department, University of Saskatchewan, Saskatoon, Saskatchewan, Canada "It is awarded to a graduate student in the Department of Chemistry, who is judged to have made the most significant overall contribution to research and scholarly activity in honor of Henry Taube, a **Nobel Prize laureate** in Chemistry, 1983" (March.2014)

- **Gerhard Herzberg Thesis Acceleration Award for Scholastic Achievements in Chemistry**, Chemistry Department, University of Saskatchewan, Saskatoon, Saskatchewan, Canada "It is awarded to a senior Ph.D. student with an outstanding record of academic performance and research achievement" (***$14,088 Canadian,*** Sep.2012-Apr.2013)

- **Research and Teaching Fellowship**, Chemistry Department, University of Saskatchewan, Saskatoon, Saskatchewan, Canada (***$59,262 Canadian,*** Sep.2009-Aug.2012)

- **Honorable Mention - Graduate Student Poster Competition**, 94th Canadian Chemistry Conference and Exhibition, Montreal, Quebec, Canada (2011)
  Poster Title: Thermodynamics and Morphological Characterization of a Model Pulmonary Lung Surfactant System, by: A.F. Eftaiha, S. Brunet and M.F. Paige

- **Hisham Hijjawi Award for Applied Sciences - Energy and Industry Field**, Amman, Jordan (2007). Project Title: Novel Super disintegrating Agent Based on Chitosan-Silicon Dioxide, by: M.I. Barghouthi, I.S. Rashid, A.F. Eftaiha, M. Remawi and A.A. Badwan

- **Research and Teaching Fellowship**, Chemistry Department, Hashemite University, Jordan (***3,580 JOD*** *"equivalent to $5,042 US"*, Sep.2004-Jun.2006)

- **Academic Distinction Scholarship**, Hashemite University, Jordan (***324 JOD*** *"equivalent to $456 US"*, Sep.2002-Jun.2003)

Conference Presentations and Posters

1. Qaroush, A.K.; **Eftaiha, A. F.** and Assaf, K.I. The Birth of Green Sorbents for CO_2 Capturing: The Chemistry of Carbamates and Organic Ionic Alkylcarbonates. *Oral Presentation*, 15th Jordanian Chemical Conference, (5-6)-4-**2017**, Mafraq, Jordan.

2. **Eftaiha, A. F.**; Alsoubani, F.; Assaf, K.I. and Qaroush, A.K. Chitin Acetate/DMSO Binary Mixture as a Green Sorbent for CO_2 Capturing. *Oral Presentation*, 15th Jordanian Chemical Conference, (5-6)-4-**2017**, Mafraq, Jordan.

3. **Eftaiha, A. F.**; Alsoubani, F.; Assaf, K.I. and Qaroush, A.K. Supramolecular Chemisorption of Carbon Dioxide by Chitin Acetate Oligomer. *Poster*, 2016 Renewable Carbon Workshop "Mellichamp Academic Initiative in Sustainability", 21-9-**2016**, Santa Barbara, California, United State of America.

4. **Eftaiha, A.F.**; Non-fullerene, Small Molecular Acceptor for Solution Processed Bulk Heterojunction Solar Cells. *Oral Presentation*, 14th Jordanian Chemical Conference, 8-4-**2015**, Mafraq, Jordan.

5. Hendsbee, A.D.; Welch, G.C.; Sun, J.P.; Macaulay, C.M. and **A.F. Eftaiha**. Applications of π-conjugated small molecules in organic electronic devices. *Oral Presentation*, 97th Canadian Chemistry Conference and Exhibition, **Abstract#1071**, (1-5)-6-**2014**, Vancouver, British Columbia, Canada.

6. Paige, M.F. and **Eftaiha, A.F.** Phospholipids, peptides and perfluorocarbons in monolayers: microscopy, spectroscopy and simulations of phase-separation. *Oral Presentation*, 96th Canadian Chemistry Conference and Exhibition, **Abstract #1339**, (26-30)-5-**2013**, Quebec City, Quebec, Canada.

7. **Eftaiha, A.F.** and Paige, M.F. The Impact of Perfluorooctadecanoic Acid on the Phase Behavior of Dipalmitoylphosphatidylcholine at Air-Water & Air-Solid Interfaces. *Oral Presentation*, 95th Canadian Chemistry Conference and Exhibition, **Abstract #135**, (26-30)-5-**2012**, Calgary, Alberta, Canada.

8. Paige, M.F. and **Eftaiha, A.F.** Comparing Surfactant Film Structures at Air-Water & Air-Solid Interfaces: When Does Deposition Affect Morphology. *Oral Presentation*, 95th Canadian Chemistry Conference and Exhibition, **Abstract #1323**, (26-30)-5-**2012**, Calgary, Alberta, Canada.

9. **Eftaiha**, **A.F.**; Brunet, S.M. and Paige, M.F. Thermodynamics and Morphological Characterization of a Model Pulmonary Lung Surfactant System. *Poster*, 94th Canadian Chemistry Conference and Exhibition, **Abstract #2403**, (5-9)-6-**2011**, Montreal, Quebec, Canada.
    - **Honorable Mention - Graduate Student Poster Competition**

10. Paige; M.F. and **Eftaiha; A.F.** The Influence of Perfluorinated Surfactant on Model Pulmonary Lung Surfactant Mixtures. *Poster*, 10th Annual Chemical Biophysics Symposium, **Abstract P.13**, (8-10)-4-**2011**, Toronto, Ontario, Canada.

11. **Eftaiha, A.**; Rashid, I.; Remawi, M.; Qinna, N.; Al Shami, M. and Badwan, A Novel Extended Release Matrix System of Metronidazole Based on Chitosan and Xanthan gum. *Poster*, 26th Arab Pharmacist Association General Conference "The Role of the Pharmacist in the Quality Provision of Pharmaceutical Care", (10-12)-4-**2008**, Amman, Jordan.

12. Al Jbour, N.; **Eftaiha, A.;** Remawi, M. and Badwan, A. Oral Extended Release of Liquid Ibuprofen. *Poster*, 26th Arab Pharmacist Association General Conference "The Role of the Pharmacist in the Quality Provision of Pharmaceutical Care", (10-12)-4-**2008**, Amman, Jordan.

13. **Eftaiha, A.;** Remawi, M.; Barghouthi, M.; Rashid, I. and Badwan, A. The Application of Percolation Theory on Binary Mixtures of Chitosan and Xanthan Gum. *Poster*, Jordan International Pharmaceutical Conference "Toward New Advances in Pharmaceutical Sciences", Abstract P. 82, (15-17)-11-**2006**, Amman, Jordan.

14. **Eftaiha**, **A.;** Rashid, I.; Remawi, M.; Barghouthi; M. and Badwan; A. A Study Utilizing Percolation Theory: Mechanical Properties and Release Behavior of a Controlled Release System. *Oral*

Presentation, First Chemical Scientific Day (B.Sc. & M.Sc.), Abstract P. 15, 26-4-**2006**, Karak, Jordan.

15. **Eftaiha, A.;** Rashid, I.; Remawi, M.; Barghouthi; M. and Badwan, A. Application of Percolation Theory on Compacts Utilized in Pharmaceutical Dosage Forms. *Poster*, 6th Jordanian International Conference in Chemistry, Abstract P. PO7, 12-12-**2005**, Zarqa, Jordan.

Publications List: *- Total Citations: **597**, h-index: **8** "Scopus, **Oct. 2017**"*
*- Impact Point: **87.943** "Journal Citation Reports®, Impact Factor (JCR IF), Thomson Reuters"*

1. ***Eftaiha, A. F.**; Qaroush, A. Q.; Assaf, K. I; Alsoubani, F.; El-Barghouthi. M. Bis-Tris Propane in DMSO as a Wet Scrubbing Agent: Carbamic Acid as a Sequestered CO_2 Species. **New Journal of Chemistry. 2017**. DO1: **10.1039/C7NJ02130E**.*

- *Royal Society Chemistry, England, **2016** JCR IF: **3.269**.*

2. *Qaroush, A. Q.; Assaf, K. I; Bardaweel, S. K.; Al-Khateeb, A.; Alsoubani, F.; Al-Ramahi, E.; Masri, M; Brück, T; Troll, C.; Rieger, B.; **Eftaiha, A. F.** Chemisorption of CO2 by chitosan oligosaccharide/DMSO: organic carbamato–carbonato bond formation. **Green Chemistry. 2017**.* 19: 4305-4314. DO1: **10.1039/C7GC01830D**.

- *Royal Society Chemistry, England, **2016** JCR IF: **9.125**.*
- ***This paper is featured on the Front Cover Page*** (DOI: **10.1039/C7GC90094E**)

3. *Paige, M. F. and **Eftaiha, A. F.** Phase-separated surfactant monolayers: Exploiting immiscibility of fluorocarbons and hydrocarbons to pattern interfaces. **Advances in Colloid and Interface Science. 2017**.* 248: 129–146. DO1: ***10.1016/j.cis.2017.07.023***.

- *Elsevier Science BV, Netherlands, **2016** JCR IF: **7.223**.*

4. *Qaroush, A. Q.; Assaf, K. I; Al-Khateeb, A.; Alsoubani, F.; Nabih, E.; Troll, C.; Rieger, B.; **Eftaiha, A. F.** Pentaerythritol-Based Molecular Sorbent for CO_2 Capturing: A Highly Efficient Wet Scrubbing Agent. **Energy and Fuels, 2017**.* 31 (8): 8407-8414. DOI: **10.1021/acs.energyfuels.7b01125**.

- *American Chemical Society, United States, **2016** JCR IF: **3.091**.*

5. Assaf, K. I; Qaroush, A. Q.; **Eftaiha, A. F.** *New Insights in the Chemistry of Ionic Alkylorganic Carbonates: A Computational Study*. ***Physical Chemistry Chemical Physics,*** **2017**. 19: 15403-15411. DOI: **10.1039/C7CP02087B**.

- *Royal Society Chemistry, England, **2016** JCR IF: **4.123**.*

6. **Eftaiha, A. F.**; Wanasundara, S.N.; Paige, M. F.; Bowles, R.K. *Exploring the Impact of Tail Polarity on the Phase Behavior of Single Component and Mixed Lipid Monolayers Using a MARTINI Coarse-Grained Force Field*. ***The Journal of Physical Chemistry B,*** **2016**. 120 (31): 7641–7651. DOI: **10.1021/acs.jpcb.6b03970**.

- *American Chemical Society, United States, **2016** JCR IF: **3.177**.*

7. **Eftaiha, A. F.**; Alsoubani, F.; Assaf, K.I.; Troll, C.; Rieger, R.; Khaled, A.H; Qaroush, A.K. *An Investigation of Carbon Dioxide Capture by Chitin Acetate/DMSO Binary System*. ***Carbohydrate Polymers,*** **2016**. 152: 163-169, DOI: **10.1016/j.carbpol.2016.06.092**

- *Elsevier Science LTD, England, **2016** JCR IF: **4.811**.*

8. Juan, R.; Payne, A-J; Welch, G. C.; **Eftaiha A. F**. *Development of low band gap molecular donors with phthalimide terminal groups for use in solution processed organic solar cells.* ***Dyes and Pigments,*** **2016**. 132: 369-377, DOI: **10.1016/j.dyepig.2016.05.015**

- *Elsevier Science LTD, England, **2016** JCR IF: **3.473**.*

9. Namespetra, A.; Kitching, E.; **Eftaiha, A. F.**; Hill, I. G.; Welch, G. C. *Understanding the morphology of solution processed fullerene-free small molecule bulk heterojunction blends.* ***Physical Chemistry Chemical Physics,*** **2016**. 18: 12476-12485, DOI: **10.1039/C6CP01269H**

- *Royal Society Chemistry, England, **2016** JCR IF: **4.123**.*

10. Eftaiha, A. F.; Alsoubani, F.; Assaf, K.I.; Nau, W.N.; Troll, C.; Qaroush, A.K. *Chitin-Acetate/DMSO as a Supramolecular Green CO_2-Phile.* ***RSC Advances,*** **2016**. 6: 22090-22093, DOI: **10.1039/C6RA03022J** (Correction, DOI: **10.1039/C6RA90031C**)

- *Royal Society Chemistry, England, **2016** JCR IF: **3.108**.*

11. Eftaiha, A. F.; Hendsbee, A. D.; Sun, J.P.; Hill, I. G. *The influence of molecular geometry on photophysical properties and self-assembly of phthalimide end-capped thiophene-based organic molecules.* ***Materials Letters,*** **2015**. 157: 252-255, DOI: **10.1016/j.matlet.2015.05.136**

- *Elsevier Science BV, Netherlands, **2015** JCR IF: **2.437**.*

12. Eftaiha, A. F.; Tremblay, M.L.; Rainey, J. K.; Paige, M. F. *The effect of perfluorooctadecanoic acid on a model phosphatidylcholine–peptide pulmonary lung surfactant mixture*. ***Journal of Fluorine Chemistry,*** **2015**. 177: 55-61, DOI: **10.1016/j.jfluchem.2015.05.005**

- *Elsevier Science SA, Switzerland, **2015** JCR IF: **2.213**.*

13. Eftaiha, A. F.; Sun, J.P.; Hendsbee, A. D.; Macaulay, C.; Hill, I. G.; Welch, G. C. *High open circuit voltage organic solar cells based upon fullerene free bulk heterojunction active layers*. ***Canadian Journal of Chemistry,*** **2014**. 92 (10): 932-939, DOI: **10.1139/cjc-2014-0099**.

- *Canadian Science Publishing, NRC Research Press, Canada, **2014** JCR IF: **1.061**.*

14. Sun, J.P.; Hendsbee, A. D.; **Eftaiha, A. F.**; MacAulay, C.; Rutledge, L. R.; Welch, G. C.; Hill, I. G. *Phthalimide–thiophene-based conjugated organic small molecules with high electron mobility*. ***Journal of Materials Chemistry C,*** **2014**. 2 (14): 2612-2621, DOI: **10.1039/c3tc32497d.**

- *Royal Society Chemistry, England, **2014** JCR IF: **4.696**.*

15. Eftaiha, A. F.; Sun, J.P.; Hill, I. G.; Welch, G. C. *Recent advances of non-fullerene, small molecular acceptors for solution processed bulk heterojunction solar cells*. ***Journal of Materials Chemistry A,*** **2014**. 2 (5): 1201-1213, DOI: **10.1039/c3ta14236a**.

- *Royal Society Chemistry, England, **2014** JCR IF: **7.443**.*
- ***This paper is among the journal's 30 most download papers in 2014**.*

16. Eftaiha, A. F.; S. Brunet, M.K.; and M. F. Paige. A Comparison of Atomic Force Microscopy, Confocal Fluorescence Microscopy and Brewster Angle Microscopy for Characterizing Mixed Monolayer Surfactant Films. ***In Current Microscopy Contributions to Advances in Science and Technology***; A. Méndez-Vilas, Ed.; Formatex Research Center: Spain, **2012**; Vol. 2, pp 1438-1447. (**Book Chapter**)

- **URL: http://www.formatex.org/microscopy5/chapters2.html**

17. **Eftaiha, A. F.**; Brunet, S. M. K.; Paige, M. F. *Influence of film composition on the morphology, mechanical properties, and surfactant recovery of phase-separated phospholipid-perfluorinated fatty acid mixed monolayers*. ***Langmuir,*** **2012**. 28 (43): 15150– 15159, DOI: **10.1021/la3026655**.

- *American Chemical Society, United States, **2012** JCR IF: **4.187**.*

18. **Eftaiha, A. F.** and Paige, M. F. *Phase-separation of mixed surfactant monolayers: A comparison of film morphology at the solid-air and liquid-air interfaces*. ***Journal of Colloid and Interface Science,*** **2012**. 380 (1): 105-112, DOI: **10.1016/j.jcis.2012.05.006**.

- *Academic Press Incorporation Elsevier Science, United States, **2012** JCR IF: **3.172**.*

19. **Eftaiha, A. F.**; Brunet, S. M. K.; Paige, M. F. *Thermodynamic and structural characterization of a mixed perfluorocarbon–phospholipid ternary monolayer surfactant system*. ***Journal of Colloid and Interface Science,*** **2012**. 368 (1): 356–365, DOI: **10.1016/j.jcis.2011.10.012**.

- *Academic Press Incorporation Elsevier Science, United States, **2012** JCR IF: **3.172**.*

20. Assaf, S. M.; Al-Jbour, N. D.; **Eftaiha, A. F.**; Elsayed, A. M.; Al-Remawi, M. M.; Qinna, N. A.; Chowdhry, B.; Leharne, S.; Badwan, A. A. *Factors involved in formulation of oily delivery system for proteins based on PEG-8 caprylic/capric glycerides and polyglyceryl-6 dioleate in a mixture of oleic acid with chitosan*. ***Journal of Dispersion Science and Technology,*** **2011**. 32 (5):623–633, DOI: **10.1080/01932691003659775**.

- *Taylor & Francis Incorporation, United States, **2011** JCR IF: **0.560**.*

21. **Eftaiha, A. F.** and Paige, M. F. *The influence of salinity on surfactant miscibility in mixed dipalmitoylphosphatidylcholine - perfluorooctadecanoic acid monolayer films*. ***Journal of Colloid and Interface Science,*** **2011**. 353 (1): 210–219, DOI: **10.1016/j.jcis.2010.09.045**.

- *Academic Press Incorporation Elsevier Science, United States, **2011** JCR IF: **3.070**.*

22. Abou El-Nour, K. M. M.; **Eftaiha, A.F.**; Al-Warthan, A.; Ammar, R. A. A. *Synthesis and applications of silver nanoparticles*. ***Arabian Journal of Chemistry***, **2010**. 3 (3): 135–140, DOI: **10.1016/j.arabjc.2010.04.008**.

- *Elsevier Science BV, Netherlands, **2011** JCR IF: **1.367**.*
- ***This paper is the second most cited article in the journal since 2010, according Scopus**.*

23. **Eftaiha, A. F**.; Qinna, N.; Rashid, I. S.; Al Remawi, M. M.; Al Shami, M. R.; Arafat, T. A.; Badwan, A. A. *Bioadhesive controlled metronidazole release matrix based on chitosan and xanthan gum*. ***Marine Drugs,*** **2010**. 8 (5): 1716-1730, DOI: **10.3390/md8051716**.

- *Multidisciplinary Digital Publishing Institute (MDPI), Switzerland, **2010** JCR IF: **3.471**.*

24. **Eftaiha, A. F.**; El-Barghouthi, M. I.; Rashid, I. S.; Al-Remawi, M. M.; Saleh, A. I.; Badwan, A. A. *Compressibility and compactibility studies of chitosan, xanthan gum, and their mixtures*. ***Journal of Materials Science,*** **2009**. 44 (4): 1054–1062, DOI: **10.1007/s10853-008-3186-9**.

- *Springer, United States, **2009** JCR IF: **1.471**.*

25. Rashid, I.; Al-Remawi, M.; **Eftaiha, A.F.**; Badwan, A.A. *Chitin-silicon dioxide coprecipitate as a novel superdisintegrant*. **Journal of Pharmaceutical Sciences,** **2008**. 97 (11): 4955-4969, DOI: **10.1002/jps.21354**.

- *John Wiley & Sons Inc., United States, **2008** JCR IF: **2.996**.*

26. El-Barghouthi, M.; **Eftaiha, A.F.**; Rashid, I.; Al-Remawi, M.; Badwan, A. *A novel superdisintegrating agent made from physically modified chitosan with silicon dioxide*. **Drug *Development and Industrial Pharmacy,*** **2008**. 34 (4): 373-383, DOI: 10.1080/03639040701657792.

- *Informa Healthcare Incorporation, United States, **2008** JCR IF: **1.104**.*

Languages

- **Arabic:** Native language
- **English:** Very good in reading, writing, understanding and conversation

1. Proof of English Proficiency: IELTS (General Test), 6.5 out of 9 (Jan. **2012**), with the following subtotals:

Reading	Listening	Speaking	Writing
6/9	7.5/9	6.5/9	6.5/9

2. Advanced Spoken English Course (Oct. **2009** – Dec. **2009**), University of Saskatchewan Language Centre, Saskatoon, Saskatchewan, Canada

3. Proof of English Proficiency: TOEFL (IBT), 85 out of 120 (Feb. **2009**), with the following subtotals:

Reading	Listening	Speaking	Writing
21/30	23/30	19/30	22/30

References

- **Dr. Gregory C. Welch**
  Assistant Professor
  Department of Chemistry, University of Calgary
  546, Energy Environment Experiential Learning, Calgary, Alberta, Canada, T2N 1N4
  Tel: +1 (403) 210-7603, Email: gregory.welch@ucalgary.ca

- **Dr. Matthew F. Paige**
  Professor
  Department of Chemistry, University of Saskatchewan
  Rm. 165, 110 Science Place, Saskatoon, Saskatchewan, Canada, S7N 5C9
  Tel: +1 (306) 966-4665, Email: matthew.paige@usask.ca

- **Dr. Musa I. El-Barghouthi**
  Professor
  Chemistry Department, Hashemite University
  P.O. Box 330117, Zarqa, 13133 Jordan
  Tel: +962 (5) 3903333 ext. 4518, Email: musab@hu.edu.jo

- **Dr. Adnan A. Badwan**
  General Manager

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