

KARIM MOHAMMED HAFIZ ABDEL-HAY

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18-Sabongi Street- Saba Pasha Apt# 17
Alexandria, Egypt

Date of Birth: January 31, 1979

EDUCATION

Ph.D.Auburn University, Alabama, USA. Pharmaceutical Sciences (Medicinal Chemistry)

GPA 4.0 (May 2012)

Dissertation: "Mass Spectral, Infrared and Chromatographic Studies on Designer Drugs of the Piperazine Class"

Committee: C. Randall Clark (chair), Jack DeRuiter, Forrest Smith, Angela Calderon.

M. Pharm.Alexandria University, Alexandria, Egypt. Pharmaceutical Sciences (Pharmaceutical Analytical Chemistry)

GPA 4.0 (January 2005)

Thesis: "Stability Indicating Methods for the Determination of some Lipid Regulating Drugs"

Committee: Mohamed Korany (chair), Ismail Hewala.

B. Pharm.Alexandria University, Alexandria, Egypt. Pharmaceutical Sciences

GPA 3.6 (June 2000)

PROFESSIONAL AFFILIATIONS AND WORKING EXPERIENCE

1. Alexandria University, Faculty of Pharmacy, Alexandria, Egypt.

Assistant Professor, Department of Pharmaceutical Analytical Chemistry.

(December 2012 - ON)

2. Auburn University, Harrison School of Pharmacy, Alabama, USA.

Postdoctoral Fellow, Department of Drug Discovery and Development - Medicinal Chemistry Division. (April 2012 – April 2015)

3. Auburn University, Harrison School of Pharmacy, Alabama, USA.

Graduate Student, Pharmacal Sciences Department- Medicinal Chemistry Division.

(August 2008 – February 2012)

4. Alexandria University, Faculty of Pharmacy, Alexandria, Egypt.

Assistant Lecturer, Department of Pharmaceutical Analytical Chemistry.

(January 2005 to May 2008)

5. Alexandria University, Faculty of Pharmacy, Alexandria, Egypt.

Teaching Assistant, Department of Pharmaceutical Analytical Chemistry.

(September 2001 to December 2004)

6.Alexandria, Egypt. El-Bostan Pharmacy.
Retail Pharmacist. (September 2001 to December 2007)

HONORS AND AWARDS

1. Egyptian Government Scholarship for Doctoral Students August 2008
2. Outstanding Graduate Student Award, Pharmacal Sciences Dept., Auburn University. August 2011
3. Potential Non-Tenure Track Faculty Member Award, Auburn University.
January 2013

RESEARCH SCOPE AND EXPERIENCE

1. I have the appropriate background research experience and education to develop analytical methods for the differentiation of regioisomeric and isobaric compounds and designer drugs that are structurally related to some drugs of abuse of the amphetamine, piperazine, cannabinoid and bath salts classes. This is considered a part of an overall effort to provide for greater analytical specificity in the identification of individual drug species via evaluation of the most likely impostor molecules. Additionally, my research is designed to test and challenge the specificity of methods used in forensic drug sample evaluation and identification.
2. Organic synthesis of isomeric and isobaric compounds and designer drugs that are structurally related to some drugs of abuse of the amphetamine, piperazine, synthetic cannabinoid and bath salts classes.
3. Utilizing hyphenated chromatographic techniques for conducting forensic analytical studies on designer drugs of abuse and their related compounds in order to differentiate between the drug of abuse and its related isomers and/or isobaric compounds. These techniques include Gas Chromatography-Mass Spectrometry (GC-MS), Gas Chromatography- Ion Trap Mass Spectrometry (GC-ITMS), Gas Chromatography with Infra-Red Detection (GC-IRD) and High Resolution Mass Spectrometry (GC-TOF-MS).
4. Chemical derivatization of drugs of abuse and their isomers using many derivatizing reagents like perfluoroacid anhydrides to increase the sensitivity of detection and facilitate the differentiation and identification of these compounds.

5. Utilizing stable isotope labeling experiments using deuterium (D) and carbon 13 (C¹³) to provide a confirmation of the chemical structures of unique mass spectral fragment ions in the electron impact mass spectra of designer drugs and as an aid to account for the proposed mass spectral fragmentation mechanisms of those designer drugs and their related isomers.
6. Pharmaceutical analysis of drugs in their pure forms, pharmaceutical preparations and biological fluids using a variety of chromatographic, spectrophotometric and electrochemical analytical techniques including UV-VIS spectrophotometry, High Performance Thin Layer Chromatography (HPTLC), High Performance Liquid Chromatography (HPLC) and polarography.

TEACHING EXPERIENCE

1. Alexandria University, Faculty of Pharmacy, Alexandria, Egypt.
(December 2012 - ON)

Assistant Professor, Department of Pharmaceutical Analytical Chemistry

- Teaching Pharmaceutical Analytical Chemistry Courses to undergraduate students.
- Mentoring graduate students and supervising MSc and PhD research projects.

2. Alexandria University, Faculty of Pharmacy, Alexandria, Egypt.
(January 2005 to December 2012)

Assistant Lecturer, Department of Pharmaceutical Analytical Chemistry

- Preparing quizzes, practical exams, and assignments for undergraduate students.
- Revising the syllabus to meet accreditation standards.

3. Alexandria University, Faculty of Pharmacy, Alexandria, Egypt.
(September 2001 to December 2004)

Teaching Assistant, Department of Pharmaceutical Analytical Chemistry

- Teaching analytical chemistry practical sessions.
- Preparing quizzes, practical exams, and assignments for undergraduate students.

List of Courses Taught:

1. Introduction to Inorganic Chemistry (INORG 1): Alexandria University, Fall 2015. (First Year Undergraduate Clinical Pharmacy Program Students).
2. Instrumental Methods of Pharmaceutical Analysis (Analytical Chemistry 2): Alexandria University, Faculty of Pharmacy, Fall 2015. (Second Year Undergraduate Pharmacy Students).

LIST OF PUBLICATIONS

Journal Publications

1. "GC-MS, MS/MS and GC-IR Analysis of a Series of Methylenedioxyphenyl-Amino-Ketones: Precursors, Ring Regioisomers and Side-Chain Homologues of 3,4-Methylenedioxypropylamphetamine (MDPV)". YounisAbiedalla, Karim M.Abdel-Hay, Jack DeRuiter and C. Randall Clark, Journal of Chromatographic Science. Submitted for publication.
2. "GC-MS Differentiation of the Six Regioisomeric Dimethoxybenzoyl-1-pentylindoles: Isomeric Cannabinoid Substances". Karim M.Abdel-Hay, Jack DeRuiter, Forrest Smith, Amsha S. Alsegiani, Amber Thaxton and C. Randall Clark, European Journal of Pharmaceutical Sciences. Submitted for publication.
3. "Differentiation of Cyclic Tertiary Amine Cathinone Derivatives by Product Ion Electron Ionization Mass Spectrometry". YounisAbiedalla, Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, Rapid Communications in Mass Spectrometry. 30 (2016) 763-772.
4. "Selective Stability-Indicating Determination of Dimenhydrinate in Presence of Six of its Related Substances and Potential Impurities Using a Direct GC-MS Method". Tarek S. Belal, Karim M. Abdel-Hay and C. Randall Clark, Journal of Advanced Research. 7 (2016) 53-58.
5. "Mass Spectral and Chromatographic Studies on Some Halogenated phenyl-2-piperazinopropanones". Karim M. Abdel-Hay, Journal of Chromatographic Science. 53(7) (2015) 1066-1077.
6. "GC-MS Analysis of the Regioisomeric Methoxy- and Methyl-benzoyl-1-Pentylindoles: Isomeric Synthetic Cannabinoids". Karim M.Abdel-Hay, Jack DeRuiter, Forrest Smith, Tarek S. Belal and C. Randall Clark, Science and Justice. 55 (2015) 291-298.

7. "Mass Spectral Studies on 1-n-pentyl-3-(1-naphthoyl)-indole (JWH-018), three Deuterium Labeled Analogues and the Inverse Isomer 1-naphthoyl-3-n-pentylindole". Amber Thaxton, Tarek S. Belal, Forrest Smith, Jack DeRuiter, Karim M. Abdel-Hay and C. Randall Clark, *Rapid Communications in Mass Spectrometry*. 29 (2015) 871-877.
8. "GC-MS Studies on the Six Naphthoyl-Substituted 1-n-Pentyl-Indoles: JWH-018 and Five Regioisomeric Equivalents". Amber Thaxton, Tarek S. Belal, Forrest Smith, Jack DeRuiter, Karim M. Abdel-Hay and C. Randall Clark, *Forensic Science International*. 252 (2015) 107-113.
9. "GC-MS and IR Studies on the Six Ring Regioisomeric Dimethoxyphenylpiperazines (DOMePPs)". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Journal of Forensic Sciences*. 60 (2015) 285-294.
10. "Differentiation of the 1-(methylenedioxyphenyl)-2-piperazinopropanes (MDPPPs) and 1-(monomethoxyphenyl)-2-piperazinopropanones (OMePPPOs) By GC-IRD and GC-MS". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Forensic Science International*. 235 (2014) 40-51.
11. "Regioisomeric Bromodimethoxybenzylpiperazines Related to the Designer Substance 4-Bromo-2,5-dimethoxybenzylpiperazine: GC-MS and FTIR Analysis". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Forensic Science International*. 240 (2014) 126-136.
12. "GC-MS and IR Studies on the Six Ring Regioisomeric Dimethoxybenzoyl-N-methylpiperazines (DMBzMPs)". Karim M. Abdel-Hay, Cameron M Terrell, Jack DeRuiter and C. Randall Clark, *Forensic Science International*. 237C (2014) 53-61.
13. "Analytical Differentiation of 1-Alkyl-3-acylindoles and 1-Acyl-3-alkylindoles: Isomeric Synthetic Cannabinoids". Jack DeRuiter, Forrest T. Smith, Karim Abdel-Hay and C. Randall Clark, *Analytical Chemistry*. 86(8) (2014) 3801-3808.
14. "GC-MS Evaluation of Six Benzoyl-Substituted-1-Pentylindoles: Isomeric Synthetic Cannabinoids". Forrest T. Smith, Jack DeRuiter, Karim Abdel-Hay and C. Randall Clark, *TALANTA*. 129 (2014) 171-182.
15. "GC-MS and GC-IRD Studies on the Six Ring Regioisomeric Dimethoxybenzylpiperazines (DMBPs)". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Drug Testing and Analysis*. 5 (2013) 560-572.

16. "GC-MS and GC-IRD Studies on the Six Ring Regioisomeric Dimethoxybenzoylpiperazines (DMBzPs)". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Forensic Sci. Int.* 231 (2013) 54-60.
17. "Differentiation of trifluoromethylbenzylpiperazines (TFMBZPs) and trifluoromethylbenzoylpiperazines (TFMBOPs) by GC-MS". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Forensic Science International*. 233 (2013) 113-120.
18. "GC-MS Analysis of the Six Ring Regioisomeric Dimethoxybenzyl-N-methylpiperazines (DMBMPs)". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Rapid Communications in Mass Spectrometry*. 27 (2013) 2551-2558.
19. "Synthesis and GC-MS Analysis of a Series of Homologs and Regioisomers of 3,4-Methylenedioxypropylvalerone (MDPV)". Younis F. Hamad Abiedalla, Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Forensic Sci. Int.* 223 (2012) 189-197.
20. "Differentiation of Methylenedioxybenzylpiperazines and Ethoxybenzylpiperazines by GC-IRD and GC-MS". Karim M. Abdel-Hay, Tamer Awad, Jack DeRuiter and C. Randall Clark, *J. Chromatogr. Sci.* 50(7) (2012) 553-563.
21. "Differentiation of Methoxybenzoylpiperazines (OMeBzPs) and Methylenedioxybenzylpiperazines (MDBPs) by GC-IRD and GC-MS". Karim M. Abdel-Hay, Tamer Awad, Jack DeRuiter and C. Randall Clark, *Drug Testing and Analysis*. 4 (2012) 430-440.
22. "Differentiation of Methylbenzylpiperazines (MBPs) and Benzoylpiperazine (BNZP) using GC-MS and GC-IRD". Karim M. Abdel-Hay, Jack DeRuiter and C. Randall Clark, *Drug Testing and Analysis*. 4 (2012) 441-448.
23. "Differentiation of Methylenedioxybenzylpiperazines (MDBPs) and Methoxymethylbenzylpiperazines (MMBPs) by GC-IRD and GC-MS". Karim M. Abdel-Hay, Tamer Awad, Jack DeRuiter and C. Randall Clark, *Forensic Sci. Int.* 210 (2011) 122-128.
24. "Differentiation of Methylenedioxybenzylpiperazines (MDBP) by GC-IRD and GC-MS". Karim M. Abdel-Hay, Tamer Awad, Jack DeRuiter and C. Randall Clark, *Forensic Sci. Int.* 195 (2010) 78-85.
25. "Determination of Etofibrate, Fenofibrate and Atorvastatin in Pharmaceutical Preparations and Plasma Using Differential Pulse Polarographic and Square Wave Voltammetric Techniques". M.A. Korany, I.I. Hewala and K.M. Abdel-Hay, *JAOAC. Int.* 91(5) (2008) 1051-1058.
26. "Non-parametric Linear Regression of Discrete Fourier Transform Convolution Densitometric Peak Responses". M. A. Korany, I. I. Hewala and K. M. Abdel-Hay, *Journal of Pharmaceutical and Biomedical Analysis*. 40 (2006) 1048-1056.

Conference Publications

1. Mass Spectral and Chromatographic Studies on Substituted Cathinones: Bath Salt-type Aminoketone Designer Drugs. YounisAbiedalla, C. Randall Clark, Jack DeRuiter and Karim Abdel-Hay. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Atlanta, Georgia, USA March 6th – March 10th 2016. Abstract no. 470-4P (Poster presentation).
2. Analytical and Synthetic Studies on Substituted Cathinones: Bath Salt-type Aminoketone Designer Drugs. YounisAbiedalla, Karim Abdel-Hay, Jack DeRuiter and C. Randall Clark. The 250th American Chemical Society (ACS) National Meeting, Division of Analytical Chemistry, Boston, Massachusetts, USA August 16th – August 20th 2015. ANYL-126. (Poster presentation).
3. Selective Stability-Indicating Determination of Dimenhydrinate in Presence of Six of its Related Substances and Potential Impurities Using a Direct GC-MS Method. Tarek S. Belal, Karim Abdel-Hay and C. Randall Clark. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), New Orleans, Louisiana, USA March 8th – March 12th 2015. Abstract no. 230-2P (Poster presentation).
4. Analytical and Synthetic Studies on Substituted Cathinones: Bath Salt- Type Aminoketone Designer Drugs. C. Randall Clark, Jack DeRuiter, Karim Abdel-Hay and YounisAbiedalla. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), New Orleans, Louisiana, USA March 8th – March 12th 2015. Abstract no. 1890-1P (Poster presentation).
5. Analytical Studies on 1-n-pentyl-naphthoylindoles: Regioisomeric Compounds Related to the Synthetic Cannabinoids. C. Randall Clark, Forrest T. Smith, Jack DeRuiter, Karim Abdel-Hay, Tarek S. Belal and Amber Thaxton. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), New Orleans, Louisiana, USA March 8th – March 12th 2015. Abstract no. 1890-2P (Poster presentation).
6. Chromatographic and Mass Spectral Studies on Alkyl-Acylindoles: Regioisomeric Synthetic Cannabinoids. Clark, C. Randall, Abdel Hay Karim, DeRuiter Jack, Smith Forrest, BelalTarek, Thaxton Amber. Abstracts, 66th Southeast Regional Meeting of

- the American Chemical Society, Nashville, Tennessee, United States, October 16th – 19th 2014. Abstract no. SERMACS-800 (Oral presentation).
7. Analytical and Synthetic Studies on Substituted 1-n-Pentyl-3-Benzoylindoles: Isomeric Synthetic Cannabinoids. Karim M. Abdel-Hay, Jack DeRuiter, Forrest Smith, Tarek S. Belal and C. Randall Clark. Eastern Analytical Symposium & Exposition, Somerset, New Jersey, USA November 16th – November 19th 2014. (Poster Presentation).
 8. Forensic Chemistry of Substituted 1-Alkyl-3-Acylindoles: Isomeric Synthetic Cannabinoids. C. Randall Clark, Forrest T. Smith, Karim Abdel-Hay and Jack DeRuiter. The 248th American Chemical Society (ACS) National Meeting, Division of Analytical Chemistry, San Francisco, California, USA August 10th – August 14th 2014. ANYL-122. Paper ID: 23022 (Poster presentation).
 9. GC-MS, GC-TOF-MS and GC-IRD Methods for the Differentiation of Regioisomeric and Isobaric Designer Drugs of the Piperazine Class. Karim Abdel-Hay, Jack DeRuiter and C. Randall Clark. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Chicago, Illinois, USA March 2nd – March 6th 2014. Abstract no. 2270 - 1P (Poster presentation).
 10. Differentiation of Methylenedioxybenzylpiperazines (MDBPs) and Ethoxybenzylpiperazines (EBPs) by GC-IRD and GC-MS. Karim Abdel-Hay, Tamer Awad, Jack DeRuiter and C. Randall Clark. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Orlando, Florida, USA March 11th – March 18th 2012. Abstract no. 2120 - 11P (Poster presentation).
 11. Forensic Analysis of Regioisomeric Aminoketones Related to Methylenedioxypropylvalerone (MDPV). C. Randall Clark, Karim M. Abdel-Hay, Younis F. Abiedalla and Jack DeRuiter. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Orlando, Florida, USA March 11th – March 18th 2012. Abstract no. 2650 - 3 (Oral presentation).
 12. Differentiation of Methylenedioxybenzylpiperazines and Methoxymethylbenzylpiperazines by GC-IRD and GC-MS. Karim Abdel-Hay, Tamer Awad, Jack DeRuiter and C. Randall Clark. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Atlanta, Georgia, USA March 13th – March 18th 2011. Abstract no. 2140-16 (Poster presentation).
 13. Forensic Identification of Isomeric Substituted Phenethylamines and Related Drug Substances Using GC-MS and GC-IRD Methods. C. Randall Clark, Tamer Awad, Jack DeRuiter and Karim Abdel-Hay. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Atlanta, Georgia, USA March 13th – March 18th 2011. Abstract no. 570-2 (Oral presentation).

14. Comparison of GC-IRD and GC-MS Methods for the Identification of Isomeric Drug Substances: Piperazines and Phenethylamines. Tamer Awad, Karim Abdel-Hay, Jack DeRuiter and C. Randall Clark. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Orlando, Florida, USA February 28th – March 5th 2010. Abstract no. 2650-2 (Oral presentation).

PEER REVIEWING IN SCIENTIFIC JOURNALS

Peer reviewed 50+ scientific papers submitted to many international journals in the fields of analytical chemistry and medicinal chemistry. These journals include:

1. Journal of Chromatographic Science.
2. Journal of Liquid Chromatography and Related Technologies.
3. Journal of Arabian Chemistry.

GRANTS AND RESEARCH FUNDING

1. **Bath Salt-type Aminoketone Designer Drugs: Analytical and Synthetic Studies on Substituted Cathinones**, U.S. Department of Justice, Office of Justice Programs, National Institute of Justice, Award No. 2013-DN-BX-K022, \$344,325.00, January 1, 2014-June 30, 2015. Funded. (Role: Post-doctoral fellow and research scholar).
2. **Forensic Chemistry of Substituted 1-Alkyl-3-Acylindoles: Isomeric Synthetic Cannabinoids**, U.S. Department of Justice, Office of Justice Programs, National Institute of Justice, Award No. 2012-DN-BX-K026, \$865,784.00, January 1, 2013-December 31, 2015. Funded. (Role: Post-doctoral fellow and research scholar).
3. **Ion Trap Mass Spectrometry for the Identification of Isomeric Designer Drugs**, Auburn University Internal Grants Program, \$96,000.00, March 1, 2013-February 2014, Funded. (Role: Post-doctoral fellow and research scholar).
4. **Analytical and Synthetic Studies on Designer Drugs of the Piperazine Class**, U.S. Department of Justice, Office of Justice Programs, National Institute of Justice, Award No. 2011-DN-BX-K530, \$484,819.00, January 1, 2012-December 31, 2013. Funded. (Role: Post-doctoral fellow and research scholar).

LIST OF MENTORED GRADUATE STUDENTS AND SUPERVISED THESES AND DISSERTATIONS

1. Younis F. Hamad Abiedalla

PhD, Auburn University, Alabama, USA. Pharmaceutical Sciences
(Medicinal Chemistry) (Projected Defense Date: December 2017)

Dissertation Title: "Bath Salt-type Aminoketone Designer Drugs: Analytical and Synthetic Studies on Substituted Cathinones"

2. Younis F. Hamad Abiedalla

Masters of Science, Auburn University, Alabama, USA. Pharmaceutical Sciences
(Medicinal Chemistry) (August 2012)

Thesis Title: "Mass Spectral, Infrared and Chromatographic Studies on Homologs and Regioisomers of 3,4-Methylenedioxypropylamphetamine (MDPV)"

PRESENTATIONS AND INVITED LECTURES

1. Workshop on Gas Chromatography – Mass Spectrometry and its applications. Faculty of Agriculture, Alexandria University, Alexandria, Egypt. February 3rd, 2016. "Gas Chromatography – Mass Spectrometry: A Unique Tool for Analyzing Designer Drugs in Crime Labs".
2. Pharmacal Sciences Department Seminar, Auburn University, Alabama, USA. February 7th, 2012. "Mass Spectral, Infrared and Chromatographic Studies on Designer Drugs of the Piperazine Class".
3. Pharmacal Sciences Department Seminar, Auburn University, Alabama, USA. March 29th, 2011. "Analytical and Synthetic Studies on Designer Drugs of the Piperaine Class".
4. Pharmacal Sciences Department Seminar, Auburn University, Alabama, USA. July 1st, 2010. "Synthetic and Pharmacological Studies on Some Novel Histamine H3 Receptor Agonists".
5. Pharmacal Sciences Department Seminar, Auburn University, Alabama, USA. November 10th, 2009. "Analytical and Synthetic Studies on Drugs of Abuse of the Piperaine Class".

6. Pharmaceutical Analytical Chemistry Department Seminar, Alexandria University, Alexandria, Egypt. January 18th, 2005. "Stability Indicating Methods for the Determination of some Lipid Regulating Agents".

PROFESSIONAL TRAINING

1. E-Learning workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, October 2015.
2. International publishing of scientific research workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, June 2015.
3. Student examination and evaluation techniques workshop , Faculty and Leadership Development center (FLDC), Alexandria, Egypt, June 2015.
4. Scientific reference management workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, November 2012.
5. "Recent Trends in GC-MS" workshop organized by Agilent Technologies. Atlanta, GA, USA. (May 2009).
6. Curriculum design workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, April 2006.
7. Credit hours system workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, April 2006.
8. University code of ethics workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, May 2006.
9. Thinking skills workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, May 2005.
10. Communication skills workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, May 2005.
11. Effective teaching workshop, Faculty and Leadership Development center (FLDC), Alexandria, Egypt, April 2005.
12. "HPLC Training and Workshop" organized by the Department of Pharmaceutical Analytical Chemistry-University of Alexandria-Egypt.(May 2003).
13. Training in the factories and laboratories of Julphar-Pharmaceuticals-Ras Al-Khaima-U.A.E. (Summer 2000).
14. Training in Mortada Pharmacy, Alexandria, Egypt (Summer 1999).

LANGUAGES

Arabic : Native Language

English: Fluent

COMPUTER SKILLS AND EXTRACURRICULAR ACTIVITIES

1. Member of the committee of community service and protection of the environment, Faculty of Pharmacy, Alexandria University (August 2015 – ON).
2. Holder of the International Computer Driving License (ICDL) certificate.
3. Member of the Egyptian Pharmaceutical Syndicate.
4. Member of the Egyptian Pharmaceutical Association.
5. President of the Egyptian Student Association at Auburn University, Alabama, USA. (January 2009-December 2010)
6. Passed the International Computer-Based TOEFL test(CBT) with score of 270 and the internet based test (iBT) with a score of 105.
7. Passed the GRE General test (Quantitative = 740, verbal = 380 and analytical writing = 4).
8. Sports: soccer, basketball, tennis, squash, running.

REFERENCES

Dr. C. Randall Clark, Professor of Pharmacal Sciences
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Department of Pharmaceutical Analytical Chemistry
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Dr. Jack DeRuiter, Professor of Pharmacal Sciences
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Dr. Forrest T Smith, Associate Professor of Pharmacal Sciences
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Auburn University
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Phone: +1334-844-8324
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Dr. Angela Calderon, Associate Professor of Pharmacal Sciences
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