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**Dr. Nada Farouk Ahmed Atta**

**NADA FAROUK AHMED ATTA, Associate PROFESSOR OF CHEMISTRY**

Vita revised September 14, 2010

Birthplace: Cairo, Egypt

Graduate Faculty  
Department of Chemistry  
University of Cairo

**EDUCATION**

- B.Sc. (Chemistry), University of Cairo, 1980.
- M.Sc. (Chemistry), University of Cairo, 1985.
- M.Sc. (Chemistry), University of Cincinnati, 1991.
- Ph.D. (Chemistry), University of Cincinnati, 1994.

**EXPERIENCE**

- Research Assistant, Department of Chemistry, University of Cairo, 1980 - 84.
- Lecturer Assistant, Department of Chemistry, University of Cairo, 1984 - 86.
- Research Assistant, Department of Chemistry, University of Cincinnati, 1987 - 1994.
- Teaching Assistant, Department of Chemistry, University of Cincinnati, 1987 - 1994.
- Postdoctoral Research Associate, University of Cincinnati, 1994.
- Assistant Professor, University of Cairo, 1994 - 2005.
- Associate Professor, University of Cairo, 2006 - present.
- Worked as a **Research Associate** to develop new methods for the analysis and detection of neurotransmitters in blood and urine samples, American Micro Products, Inc. Cincinnati, Ohio 45213, USA, 1990 - 1992.
- Employed as **Associate Professor of Chemistry**. Work responsibilities include teaching assignments, conducting research, and supervising graduate students in their research leading to PhD and MSc Degrees, Department of Chemistry, Faculty of Science, University of Cairo, 1994- present.
- Employed as **Instructor of Chemistry** for Second Year Chemistry lecture. Teaching duties include: (1) **Instructing** in lecture, three credit hours/quarter, (2) **Advising** students, (3) **Supervising** lecture teaching assistants during recitations, (4) **Implementing** quizzes and exams. University College, University of Cincinnati, Cincinnati, Ohio 45221, USA, June – September 1994.
- Worked as a **Teaching Assistant** in Senior Year Chemistry Instrumental Laboratory Program. Duties included the **teaching of advanced laboratory instrumentation, problem-solving, development skills, and safety awareness**. Also employed by the Evening College as teaching assistant for the same class, Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 4522, USA, 1987 - 1994.
- Worked as a **Teaching Assistant** in First Year Chemistry Program. Duties included **teaching of freshman laboratory, problem-solving, development skill, and safety awareness**, Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 4522, USA, 1987 - 1994.
- Worked as **Research Assistant** in the separation and detection of neurotransmitters using

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**high performance liquid chromatography (HPLC). On line analysis of biologically important molecules using flow injection analysis (FIA).** Development of new generation of **ion selective electrodes (ISE)**, Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 4522, USA, 1987 - 1994.

**HONORS**

- University of Cairo **first class** graduation award for the best achievement in chemistry, 1980.
- Graduate **Fellowship**, University of Cincinnati, 1987.
- Supervised MSc thesis that was awarded the **best thesis** in the faculty of Science (2008/09).
- Awarded the prize of **Excellence in Research** in the area of Interdisciplinary and Technological Science by Cairo University, 2010.

**ACTIVITIES**

- **Member**, Undergraduate Committee for Student Affairs, Department of Chemistry, Faculty of Science, University of Cairo, 2004 - present.
- **Coordinator** to the Committee for Student Activities, Faculty of Science, University of Cairo, 2006 – present.
- **Coordinator** of the Foreign Affairs Relations for the 4<sup>th</sup> and 5<sup>th</sup> International Conference of the University of Cairo, 2008, 2009.
- **Co-Organizer**: Session on “Nanotechnology and Advanced Materials” in the 3<sup>rd</sup> International Conference of the University of Cairo, 2007.
- **Organizer**: Session on “Research Funds” in the 4<sup>th</sup> International Conference of the University of Cairo, 2008.
- **Organizer**: Session on “Nanotechnology for the New Millennium” in the 5<sup>th</sup> International Conference of the University of Cairo, 2009.
- **Graduate Advisor** for MS and PhD students, Faculty of Science, University of Cairo 2002 – present.
- **Member** in the “Social Activity Committee”, of the Department of Chemistry, 2010.
- **Member** in the “Committee of Environment and Community Services”, of the Department of Chemistry, 2010.
- **Head of Committee** of “Student Activities, Academic Advising, and Graduates,” of the Quality Assurance Unit of the Faculty of Science, 2009-present.

**EDITING AND REVIEWING ACTIVITIES**

- **Reviewer**: Applied Polymer Science, European Polymer Journal, Electrochimica Acta, Talanta, Biosensors & Bioelectronics, Sensors & Actuators B, Chemical.

**PROFESSIONAL SOCIETIES**

- American Chemical Society.

### **RESEARCH INTERESTS**

My research interests are in the areas of applications of **Conducting Polymers** as **Electrochemical Sensors** for the determination of Organic and Biological Molecules in High Performance Liquid Chromatography & Flow Injection Analysis, Ion Selective Electrodes based on Conducting Polymers, Corrosion and Passivity. Other areas of interest are: new and advanced materials with emphasis on **Nano-structured Materials**, imprinted sol-gel materials, **Molecular Recognition**, nano-particles modified surfaces for **Catalysis** and sensors applications.

### **GRANTS**

- Conducting Polymers/Metal Hybrid Nano-structures, University of Cairo, 2004, 50,000 EGP.
- Nano-structured Materials for Energy Production, University of Cairo, 2009, 200,000 EGP.

### **TECHNIQUES**

HPLC, FIA, UV-VIS, FT-IR, and Electrochemical Methods.

### **MEETINGS**

FACSS Meetings: 1989, 1991

Pittsburgh Conferences: 1989, 1990, 1991, 1992, 1993, 1994, 1996, 1997, 1998, 1999, 2008.

ISE Meetings: 1993, 1994, 1995, 1996

ACS Meetings: 1993, 1994, 1996

Biosensors International Meetings: 1990, 1994

2<sup>nd</sup> Symposium on Materials Science and Engineering, UAEU, Al Ain, UAE, 1998.

International Conference of the University of Cairo: 2007, 2008, 2009.

### **LIST OF COURSES TAUGHT**

- University of Cincinnati, Cincinnati, Ohio, USA, 1989-1994:
  - 1- General Chemistry I, II & III.
  - 2- General Chemistry Laboratory.
  - 3- Technical Chemistry.
  - 4- Organic Chemistry I.
  - 5- Organic Chemistry II.
- University of Cairo, Cairo, Egypt, 1994-1996, 2002-present:
  - 1- **Electrochemistry (Ionics & Electrodeics) (1) 212.**
  - 2- **Electrochemistry (2) 215.**
  - 3- **General Chemistry (1) chem. 101.**

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- 4- **General Chemistry (2) chem. 102.**
- 5- **Physical Chemistry** (1<sup>st</sup> year students).
- 6- Physical Chemistry Laboratory (4<sup>th</sup> year students).
- 7- Analytical/Physical Chemistry Laboratory (2<sup>nd</sup> year students).
- 8- General Chemistry Laboratory (1<sup>st</sup> year students).

**SPECIAL SKILLS**

- Knowledge of variety of computer applications including special modeling software.
- Language fluency: Arabic, English.
- High interpersonal communication skills.
- Team work spirit and leadership capability.
- Writing and oral professional reports presentation skills.
- Participated in a variety of professional and informal seminars and presentation that includes, and not limited to: technical, teaching, sale, consultation, leadership.

**REFERENCES**

- Available upon request from all previous working places.

**CONFERENCE PAPERS**

**الأبحاث المنشورة من خلال المؤتمرات**

- 1- Synthesis, Spectral Properties of some Novel Oligo-5-Membered Heteroarylenes and Oligomeric thiophene derived Crown Ethers, Arthur T. Hubbard, Bruce E. Kahn, Nada F. Atta, A. Galal, Harry B. Mark, Jr., Rashad S. Omar, and Hans Zimmer, GBCH-Meeting, BONN, Germany, Sept., 24-28, **(1989)**.
- 2- Electrochemistry and Detection of Organic and Biological Molecules at Conducting Polymer Modified Electrodes, Nada F. Atta, A. Galal, A. Ersin Karagozler, George C. Russell, Hans Zimmer, and Harry B. Mark, Jr. The first World Congress on Biosensors, Singapore 2-4 May **(1990)**.
- 3- Electrochemical Studies of Some Organic and Biological Molecules at Conducting Polymer Electrodes, Nada F. Atta, H. B. Mark, Jr., A. Galal, and H. Zimmer. Presented in the 201st National Meeting of the ACS, April 14-19, Atlanta, GA, **(1991)**.
- 4- Electrochemical Analysis of Some Organic and Biological Molecules at Conducting Polymer Electrodes. A Comparative Study, with Nada F. Atta, A. Galal, H. Zimmer, and H. B. Mark, Jr., Presented at the FACSS/Pacific Conference 27th Western Regional ACS Meeting, Anaheim, California, October 6-11, **(1991)**.
- 5- Simultaneous Determination of Catecholamines Levels By HPLC with Electrochemical Detection using Conducting Polymer Electrodes, Nada F. Atta, A. Galal, H. Zimmer, H. B. Mark, Jr., and G. A. Paroz. Presented at the Pittsburgh Conference, New Orleans, Louisiana, **(1992)**.
- 6- Electrochemical Detection of some Biological Compounds at Conducting Polymer Electrodes, Nada F. Atta, A. Galal, H. B. Mark, Jr., and H. Zimmer. Presented at the International Society of Electrochemistry Meeting, Berlin, Germany, **(1993)**.
- 7- Electropolymerized Films for the Construction of Ion-Selective electrodes, Nada F. Atta, A. Galal, H. Zimmer and H. B. Mark, Jr. Presented at the International Society of Electrochemistry Meeting, Berlin, Germany, **(1993)**.
- 8- Conducting Polymer Ferrocene-Modified Electrochemical Sensor for the Determination of Organic and Biological Compounds, Nada F. Atta, A. Galal, S. A. Darwish and A. M. A. Ismail, Presented in the Pittsburgh Conference, Chicago, IL **(1996)**.
- 9- Stainless Steel Conducting Polymer Modified Electrodes. I. Electrochemical and Structural Characterization, Nada F. Atta, S. A. Darwish, A. Galal, H. B. Mark, Jr., P. L. Bishop and N. A. Abdel Ghani, Presented in the Pittsburgh Conference, Chicago, IL **(1996)**.

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- 10- Conducting Polymer-Based Electrochemical Sensors, with Nada F. Atta and Harry B. Mark, Jr., Presented in the ACS National Meeting, Florida, **(1996)**.
- 11- Electrochemical Synthesis and Properties of Conducting Polymeric Films Under Ultrasonic Conditions, with Nada F. Atta, Presented in the Pittsburgh Conference, Atlanta, GA **(1997)**.
- 12- Conducting Polymer Ion Selective Electrode – II- Conducting Polymer Sulfate Electrode, with Nada F. Atta, H. B. Mark, Jr., and Paul L. Bishop, Presented in the Pittsburgh Conference, Atlanta, GA **(1997)**.
- 13- Color Removal and “other” contaminants of different dyes using electrochemistry at regular and polymer electrodes. A Spectroelectrochemical Approach, A. Galal, N. F. Atta, M. J. Kupferle, P. L. Bishop and H. B. Mark, Jr., Presented in the Pittsburgh Conference, New Orleans, LA **(1998)**.
- 14- Electrochemical Characterization of Conducting Polymers, A. Galal, N. F. Atta, Presented at the 2<sup>nd</sup> Symposium on Materials Science and Engineering, Al Ain, UAE, **(1998)**.
- 15- Corrosion Inhibition of Stainless Steel in Acid Medium with Heteroarylenes, A. Galal, N. F. Atta, Presented at the 2<sup>nd</sup> Symposium on Materials Science and Engineering, Al Ain, UAE, **(1998)**.
- 16- Monomer Structural and Preparative Effects on the Properties of Conducting Polymers - An Electrochemical Study, with N. F. Atta, and H. B. Mark, Jr., Presented in the Pittsburgh Conference, Orlando, FL., **(1999)**.
- 17- Improvement of electrochemical determination of some drugs at surface modified electrodes, Sayed E. Khalil, Nada F. Atta, Ahmed Galal, Presented in the Pittsburgh Conference, New Orleans, LA., **(2008)**.
- 18- Electrochemical Sensing at Conducting Polymer Films Modified with Platinum/Palladium Submicro-particles, Nada F. Atta, Maher F. El-Kady, Ahmed Galal, Presented in the Pittsburgh Conference, New Orleans, LA., **(2008)**.
- 19- New Future Prospective of Energy and its Reflection, 4<sup>th</sup> International Conference on Research and its Application, Cairo University, Cairo, **(2008)**.

**PUBLICATIONS**

**الأبحاث المنشورة في المجلات العلمية العالمية**

**1- الأبحاث المستخلصة من درجة الماجستير:**

- 1- A Study of the Structure of 4-Arylazo Derivatives of 2-Phenyl-5-Oxazolone, A. S. Shawali, A. O. Abdelhamid, Nada F. Atta, *Heterocycles*, **19**(12), 2331-38, (1982).
- 2- Transmission of Substituent Effects via 1,2,4-Triazole Ring Residue. *Ind. J. Chem.*, **29A**, 1012-16 (1990).

**الأبحاث المستخلصة من درجة الدكتوراه:**

- 3- Voltammetric Studies of the Oxidation of Reduced Nicotinamide Adenine Dinucleotide at a Conducting Polymer-Modified Electrode, Nada F. Atta, A. Galal, Ali E. Karagozler, Hans Zimmer and Harry B. Mark, Jr., *J. Chem. Soc., Chem. Commun.*, **19**, 1347-1349, (1990).
- 4- Electrochemistry and Detection of Organic and Biological Molecules at Conducting Polymer Modified Electrodes, Nada F. Atta, A. Galal, Ersin A. Karagozler, Hans Zimmer and Harry B. Mark, Jr., *Biosensors & Bioelectronics*, **6**, 333-341, (1991).
- 5- Electrochemistry and Detection of Some Organic and Biological Molecules at Conducting Polymer Electrodes. II. Effect of Nature of Polymer Electrode and Substrate on Electrochemical Behavior and Detection of Some Neurotransmitters, A. Galal, Nada F. Atta, J. F. Rubinson, H. Zimmer and H. B. Mark, Jr., *Analytical Letters*, **26**(7), 1361-1381, (1993).
- 6- Characterization and Investigation of Electrocatalytical Properties of Poly(p-phenylene) Modified Electrodes, J. F. Rubinson, S. Neff, H. B. Mark, Jr., A. Galal, and Nada F. Atta., *J. Electroanalytical Chemistry*, **384**, 19-23, (1995).
- 7- The Electrochemistry of Neurotransmitters at Conducting Organic Polymer Electrodes: Electrocatalysis and Analytical Applications, H. B. Mark, Jr., Nada F. Atta, Y. L. Ma, K. L. Petticrew, H. Zimmer, Y. Shi, S. K. Lunsford, J. F. Rubinson, and A. Galal, *Bioelectrochemistry and Bioenergetics*, **38**, 229-245 (1995).

**الأبحاث المنشورة بعد درجة الدكتوراه:**

- 8- Electrochemistry and Detection of Some Organic and Biological Molecules at Conducting Polymer Electrodes. III. Evidence of the Electrocatalytic Effect of the Heteroatom of the Poly(heteroarylene) at the Electrode/Electrolyte Interface. Nada F. Atta, I. Marawi, K. L. Peticrew, H. Zimmer, H. B. Mark, Jr. and A. Galal. *J. Electroanal. Chem.*, **408**, 47-52 (1996).
- 9- Analytical Applications of Organic Conducting Polymer Electrodes, N. F. Atta, G.C. Russell, Z. Wang, et al., *Tur. J. Chem.*, **21**(1), 21-29 (1997).
- 10- Electrochemistry and Characterization of Conducting Polymer Electrodes Containing Ferrocene Moieties. A. Galal, Nada F. Atta, S. A. Darwish and A. Abdallah, *Bull. Chem. Soc. Jpn.*, **70**(8), 1769 (1997).
- 11- Sensors Based on Organic Conducting Polymer-Electrode, Ahmed Galal, Nada F. Atta and Harry B. Mark, Jr., ACS Symposium Series 690, "Polymers in Sensors, Theory and Practice," N. Akmal and A. Usmani, eds., Chapter XVIII, pp. 210-231 (1998).
- 12- Conducting Polymer Ion Selective Electrode. III- Hydrogen Sulphide Conducting Polymer Selective Electrode. Ahmed Galal, Nada F. Atta, T. Yu, Paul L. Bishop, and Harry B. Mark, Jr., *Talanta*, **47**, 987, (1998).
- 13- Synergistic Effects in the FIA Determination of Catechol in the Presence of Excess Ascorbic Acid by Series Dual Band Amperometric Detection, H. Zhang, S.K. Lunsford, O. Ceylan, A.I. Khaskelis, S. Hausner, J.F. Rubinson, G.C. Russell, A. Galal, N. Atta, and G.P. Kreishman, *Analytica Chimica Acta* **385**, 281-285 (1999).
- 14- Effect of Some Thiophene Derivatives on the Electrochemical Behavior of ASISI 316 Austenitic Steel in Acidic Solutions Containing Chloride Ions: I. Molecular Structure and Inhibition Efficiency Relationship, Ahmed Galal, N.F. Atta, M.H.S. Al-Hassan, *Materials Chemistry and Physics*, **89**, 38-48, (2005).
- 15- Effect of Some Thiophene Derivatives on the Electrochemical Behavior of ASISI 316 Austenitic Steel in Acidic Solutions Containing Chloride Ions: II. Effect of Temperature and Surface Studies, Ahmed Galal, N.F. Atta, M.H.S. Al-Hassan, *Materials Chemistry and Physics*, **89**, 28-37, (2005).
- 16- Electrochemical synthesis, characterization and some properties of a polymer derived from thioflavin S. Nada F. Atta, *Eur. Poly. J.*, **41**, 3018-3025, (2005).



الأبحاث المنشورة بعد درجة أستاذ مساعد:

- 17- Electrodeposited metals at conducting polymer electrodes. I- Effect of particle size and film thickness on electrochemical response, Nada F. Atta, A. Galal, F. Khalifa, *Appl. Surf. Sci.*, **253**, 4273-4282, (2007).
- 18- Effect of surfactants on the voltammetric response of an antihypertensive drug, Nada F. Atta, Soher A. Darwish, Sayed S. Khalil, A. Galal, *Talanta*, **72**, 1438-1445, (2007).
- 19- Electrodeposited metals at conducting polymer electrodes. II- Study of the oxidation of methanol at poly(3-methylthiophene) modified with Pt-Pd co-catalyst, Ahmed Galal, Nada F. Atta, Soher A. Darwish, Shima M. Ali, *Topics in Catalysis*, **47**, 73-83, (2008).
- 20- Palladium nanoclusters-coated poly(furan) as a novel sensor for catecholamine neurotransmitters and paracetamol, Nada F. Atta, Maher F. El-Kady, A. Galal, *Sensors and Actuators B: Chemical*, **141**, 566-574, (2009).
- 21- Poly(3-methylthiophene)/palladium sub-micro-modified sensor electrode. Part II: Voltammetric and EIS studies, and analysis of catecholamine neurotransmitters, ascorbic acid and acetaminophen, Nada F. Atta, Maher F. El-Kady, *Talanta*, **79**, 639-647, (2009).
- 22- Smart electrochemical sensor for some neurotransmitters using imprinted sol-gel films, Nada F. Atta, Ali M. Abdel-Mageed, *Talanta*, **80**, 511-518, (2009).
- 23- Novel poly(3-methylthiophene)/Pd nanoparticles sensor: Synthesis, characterization and its application to the simultaneous analysis of dopamine and ascorbic acid in biological fluid, Nada F. Atta, Maher F. El-Kady, *Sens. Actuators, B*, **141**, 566-574, (2009).
- 24- Computational investigation and synthesis of a sol-gel imprinted material for sensing application of some biologically active molecules, Nada F. Atta, Maher M. Hamed, Ali M. Abdel-Mageed, *Anal. Chim. Act.*, **667**, 63-70 (2010).
- 25- Simultaneous Determination of Catecholamines, Uric Acid and Ascorbic Acid at Physiological Levels using Poly(N-methylpyrrole)/Pd-nanoclusters Sensor, Nada F. Atta, Maher F. El-Kady, Ahmed Galal, *Anal Biochem.*, **400**, 78-88 (2010).
- 26- Carbon Paste Gold Nanoparticles Sensor for the Selective Determination of Dopamine in Buffered Solutions, Nada F. Atta, Ahmed Galal, Fekria M. Abu-Attia, Shereen M. Azab, *J. Electrochem. Soc.*, **157**(9), F116-F123 (2010).

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- 27- Poly(Poly(3,4-ethylene-dioxythiophene) electrode for the selective determination of dopamine in presence of sodium dodecyl sulfate, Nada F. Atta, Ahmed Galal, Rasha A. Ahmed, *Bioelectrochemistry*, **80**, 132-141 (2011).
- 28- Characterization and electrochemical investigations of micellar/drug interactions, Nada F. Atta, Ahmed Galal, Fekria M. Abu-Attia, Shereen M. Azab, in press, *Electrochim. Acta*, *in press, Accepted manuscript*, doi:10.1016/j.electacta.2010.11.034.
- 29- Direct and simple electrochemical determination of morphine at PEDOT modified Pt electrode, Nada F. Atta, Ahmed Galal, Rasha A. Ahmed, *Electroanalysis*, accepted, (2010).
- 30- Electrocatalytic evolution of hydrogen on a novel SrPdO<sub>3</sub> perovskite electrode, A. Galal, Nada F. Atta, Soher A. Darwish, Ahmed Abdel Fatah, Shimaa M. Ali, *J. Power Sources*, **195**, 3806-3809 (2010).
- 31- Synthesis, structure and catalytic activity of nano-structured Sr-Ru-O type perovskite for hydrogen production, A. Galal, Soher A. Darwish, Nada F. Atta, Shimaa M. Ali, Ahmed A. Abd El Fatah, *Appl. Catal.:A*, **378**, 151-159 (2010).