Curriculum Vita

Dr. Amro K. F. Dyab, BSc, MSc,(Egypt) PhD (Hull, UK)

Assistant Professor in Physical Chemistry,
Chemistry Department,
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PERSONAL INFORMATION

- Marital status: Married
- Nationality: Egyptian
- D.O.B: 01/10/1972
- Place of Birth: Bany Mazar, El-Minia, Egypt.

RESEARCH INTERESTS

- Colloidal nanotechnology
- Nanoparticles stabilised simple and multiple emulsions
- Contact angle of nanoparticles and nanostructures
- Emulsion polymerisation
- Encapsulation and microcapsules
- Non-aqueous solid-stabilised emulsions and foams
- Anisotropic (Janus) polymer microparticles
- Hybrid inorganic-organic materials
- WETSEM technology

My excellent experiences in laboratory based research provided a great platform for teamwork, as well as using my own initiative. A keen attention to detail and strong interpersonal and IT skills were vital for working in a university environment, as the communication of ideas and results through collaboration with colleagues at conferences, meetings and emails were a constant part of expanding my research.

ACADEMIC QUALIFICATIONS

Bany Mazar High School, Egypt. **1987 – 1990**

BSc. (Very Good) Chemistry
Faculty of Science, Minia University, Egypt ***1990 - 1994***

M.Sc. in Chemistry ***Faculty of Science, Minia University, Egypt*** ***1996 – 2000***

Title "*Physico-Chemical Studies on Egyptian Clays*". The main focus of my MSc thesis is related to the study of Electrokinetic Potential (z-potential) of different types of Egyptian clays and the effect of addition of metal cations or surfactants on their physico-chemical properties. The adsorption of metal cations or surfactants on clays was studied using novel ion- selective electrodes. Several techniques used in this research including elemental and gravimetric analysis and zeta potentials using laser and video systems.

PhD in (Physical Chemistry) ***Surfactant & Colloid Group, Chemistry Department, University of Hull, Hull, United Kingdom,*** *http://www.hull.ac.uk/scg* , 2000 - 2004

Title "Nanoparticles as Emulsion Stabilisers and their Behaviour at Liquid-Liquid Interfaces" Supervised by Prof. Paul. D.I. Fletcher and Prof. Bernard P. Binks (Hull University). My PhD research project concerned the use of solid nanoparticles as emulsion stabilisers and the investigation of their behaviours at liquid-liquid interfaces. Properties and characteristics of novel multiple emulsions of the type w/o/w and o/w/o were studied in detail. A wide range of techniques including Laser diffraction, Ellipsometry, ICP-MS, Microscopy, (contact angle, surface and Interfacial tensions using drop shape analysis technique) and Conductivity has been used.

PROFESSIONAL WORK EXPERIENCE

1994-2000 Faculty of Science, Minia University, Egypt

Demonstrator at chemistry Department

Demonstrating and laboratory teaching of full time undergraduate students in years 1-4 in experimental physical and analytical chemistry.

2000 – 2004 Faculty of Science, Minia University, Egypt

Assistant Lecturer in Chemistry Department

2005 – 2012 Faculty of Science, Minia University, Egypt

Lecturer in Physical Chemistry at Chemistry Department

2012 – Present Faculty of Science, Minia University, Egypt

Assistant Professor in Physical Chemistry at Chemistry Department

2006-2008 Surfactant & Colloid Group, Chemistry Department, University of Hull, Hull, United Kingdom.

Post-Doctoral Research Assistant (EPSRC UK project)

Project title" Novel Devices for Light Control Based on Suspended Semiconductor Nanocrystals and Nanostructures" with Vesselin N. Paunov (Chemistry Department, Hull University, UK) and K.T. Lai (PDRA), Igor Itskevich, Sergey Rybchenko (Engineering Department, Hull University). http://scg-hull.theory-sfb569.org/staff/dr-vesko-paunov/661-2/

Secondment Work:

2010-2011- Assistant Professor, preparatory year deanship, King Faisal University, Saudi Arabia.

2011-2013 Assistant Professor, Chemistry Department, College Of Science, King Saud University, Saudi Arabia.

ACADEMIC TEACHING EXPERIENCE

- Teaching the following courses to undergraduate (Science, Pharmacy and Education) students (**since 2004**-present):

  General Physical chemistry, Electrochemistry, Colloid chemistry, Applied Physical chemistry, Chemical equilibrium, Chemical thermodynamics, Phase rule, Photochemsitry and Emulsion science.

- Laboratory supervision for undergraduate students in different faculties listed above.
- Supervision for MSc students working in Colloidal nanotechnology.
- 2 years (**2006-2008**) involving in Tutorials and Laboratory teaching in Physical Chemistry for 1st and 2nd year undergraduate chemistry students, Hull University, UK.

PEER-REVIEWED JOURNAL ARTICLES

1- **"Electrokitetic properties of clay minerals in the presence of cationic and anionic surfactants"**, Fouad Taha, A.A.. Abdel- Gaber, M.B. Saleh and A.K.F Dyab, Bull. Fac. Sci., Assiut Univ., 29 (1- B) ISSN 1110-0958, p-p. 7-23 (2000).

2- **"Ellipsometric study of monodisperse silica particles at an oil-water interface"**, B.P. Binks, J.H. Clint, A.K.F. Dyab, P.D.I. Fletcher, M Kirkland and C.P. Whitby, *Langmuir*, 19, 8888 (2003).

3- **"Novel Emulsions of Ionic Liquids Stabilised Solely by Silica Nanoparticles "**, B.P. Binks, A.K.F. Dyab and P.D.I. Fletcher, *Chem. Commun.*, 2540 (2003). "One of the top accessed articles October 2003".

4- **"Fabrication of magnetically-functionalized lens- and donut- shaped microparticles by a surface-formation technique"**, Hartmut A. Wege, Amro K. F. Dyab, Orlin D. Velev, Vesselin N. Paunov, *Phys. Chem. Chem. Phys.*, 2007, (48):6300.

5- **"Contact angles in relation to emulsions stabilised solely by silica nanoparticles including systems containing room temperature ionic liquids"**, Bernard P. Binks, Amro K. F. Dyab, Paul D. I. Fletcher, *Phys. Chem. Chem. Phys.*, 2007, (48):6391.

6- **"Fabrication of novel anisotropic magnetic microparticles"**, Amro K. F. Dyab, Mustafa Ozmen , Mustafa Ersoz and Vesselin N. Paunov, *J. Mater. Chem.*, 19 (2009) 3475-3481.

7- **"Topical emulsions stabilized by silica nanoparticles: in vitro release and anti-inflammatory studies of flurbiprofen and diclofenac sodium"**, Sarhan, H , Ibrahim, MA; Amin, MA, and Dyab, AKF, *Bulletin of Pharmaceutical Sciences*, 31, 2008, 155-167.

8- **"Strained arrays of colloidal nanoparticles: conductance and magnetoresistance enhancement"** Sergey I Rybchenko Amro K .F. Dyab, Stephanie K Haywood, Igor E Itskevich and Vesselin N Paunov, (2009) *Nanotechnology*, 20 425607. Highlighted in Nanotechweb site: http://nanotechweb.org/cws/article/lab/40868

9- **"Emulsion polymerization of styrene using Pickering emulsification system"** Dyab A.K.F.; H. Essawy; A. I. A. Abd El-Mageed and F. Taha. *Egypt. J. of Appl. Sci.*, 25 (11) **(2010)**.

10- **"Particle stabilised emulsions studied by WETSEM technique"**, Amro K.F. Dyab and Vesselin N. Paunov, *Soft Matter*, 2010, 6, 2613-2615.

11-**"Encapsulation of living cells into sporopollenin microcapsules"**, Mohammed A. Hamad, Amro K.F. Dyab, Simeon D. Stoyanov and Vesselin N. Paunov, *J. Mater. Chem.*, 2011, 21, 18018-18023.

12- **"Fabrication of core/shell hybrid organic-inorganic polymer microspheres via Pickering emulsion polymerization using laponite nanoparticles"** Amro K.F. Dyab, Hamad A. Al-Lohedan, Hisham A. Essawy, Ahmed I.A. Abd El-Mageed and Fouad Taha, *Journal of Saudi Chemical Society*, in press, doi:10.1016/j.jscs.2011.12.008, 2012.

13- **"Destabilisation of Pickering emulsions using pH"**, Amro K. F. Dyab, *Colloids and Surfaces A.*, **402** (2012), 2-12.

14- **"Macroporous Polymer Beads and Monoliths from Pickering Simple, Double, and Triple Emulsions"**, Amro K. F. Dyab, *Macromolecular Chemistry and Physics*, **213 (17)**, 2012, 1815-1832. http://onlinelibrary.wiley.com/doi/10.1002/macp.201200172/abstract

15- **"Microscopic Studies on The Corrosion Resistance of Reinforced Carbon Steel"**, G. A. El-Mahdy, Ayman M Atta, M. M. Hegazy, M. M. Eissa, A. M. Fathy, F. M. Sayed, A.K.F. Dyab and Hamad Al-Lohedan, *Int. J. Electrochem. Sci.*, 7 (2012) 8597 – 8611.http://www.electrochemsci.org/list12.htm

16- **"Surface Activity of Novel Polymerizable Anionic Polyoxyethylene 4-nonyl -2-prpylene-Phenyl Ether Ammonium Sulfate Succinate Surfactants"**, Ayman M. Atta, Amro K.F. Dyab Hamad A. Allohedan, *Journal of Dispersion Science and Technology,*, (2012). http://www.tandfonline.com/doi/full/10.1080/01932691.2012.739942

17- **"Micellization and Adsorption Behaviors of New Reactive Polymerizable Surfactants Based on Modified Nonyl Phenol Ethoxylates"**, Ayman M. Atta, Amro K. F. Dyab, Hamad A. Allohedan, *Journal of Surfactants and detergents,* in press, 2012.

http://link.springer.com/article/10.1007/s11743-012-1413-5

18- **"Synergetic effect of reactive surfactants and clay particles on stabilisation of non-aqueous oil-in-oil (o/o) emulsions"**, Amro K.F. Dyab, Ahmed M. Tawfeek and Hamad A. AL-Lohedan, Accepted, 2013, *Journal of Dispersion Science and Technology.*

PATANTS

1- Series of related Patents covering different geographic regions exemplified by US Patent application publication *US2003/0175317A1*, **"Multiple Emulsions"**, H. Barthel, B.P. Binks, A.K.F. Dyab and P.D.I. Fletcher, Sept 18, 2003. Also published as *DE10211313A1, EP1350556A1, JP2003311144AA and PL359056A1.* See more details at: http://worldwide.espacenet.com/

REFEREED CONFERENCE CONTRIBUTIONS

1- **"Multiple emulsions stabilised solely by nanoparticles"**, B.P. Binks, A.K.F. Dyab and P.D.I. Fletcher, *Proc. 3rd World Congress on Emulsions*, Lyon, Sept. (2002), CME, Paris, France, pages 1-10.

2- **"Fabrication of novel magnetic Janus particles"**, Dyab, A.K.F., Paunov, V.N., *Mater. Res. Soc. Symp. Proc.*, 1135 (2009) CC02-08.

CONFERENCE AND WORKSHOP CONTRIBUTIONS

1- **"Fabrication of Novel Magnetic Janus Microparticles"**, **Amro K. F. Dyab** and Vesselin N. Paunov, in the 82nd ACS Colloid & Surface science symposium **June 15-18, 2008**, North Carolina State University, Raleigh, USA. http://acs.confex.com/acs/csss08/techprogram/P53043.HTM

2- **"Novel Silica Stabilized Multiple Emulsions: Release and Polymerization Study"**. **Amro K. F. Dyab**, Vesselin N. Paunov, B.P. Binks and P.D.I Fletcher, 13th IACIS International Conference on Surface and Colloid Science and the 83rd ACS Colloid & Surface Science Symposium, **June 14–19, 2009**, Alfred Lerner Hall, Columbia University, New York, USA.

http://acswebcontent.acs.org/colloid/index.html

3-**"Simple and multiple emulsions stabilized solely by nanoparticles"**, Bernard P. Binks, **Amro K.F. Dyab** and Paul D.I. Fletcher, Particles 2002, 20-23 April **2002**, Medical/Biochemical Diagnostic, Pharmaceutical, and Drug Delivery Applications of Particle Technology Rosen Centre Hotel, Orlando, Florida, USA.

4-**"Preparation and Release Kinetics of Novel Solid-Stabilised Multiple Emulsions"** Bernard P. Binks, **Amro K.F. Dyab** and Paul D.I. Fletcher, 76th ACS Colloid & Surface Science Symposium, June 23-26,**2002**, University of Michigan, USA.

5- **"Ionic Liquid Emulsions Stabilised Solely by Nanoparticles"**, B.P.Binks, **A.K.F. Dyab** and P.D.I. FLETCHER, 79th ACS Colloid and Surface Science Symposium, June 12-15, **2005**, organized by: ACS Division of Colloid and Surface Chemistry, hosted by: Clarkson University and Center for Advanced Materials Processing (CAMP), Potsdam, NY, USA.

6- **"Fabrication of Novel Magnetic Janus Microparticles"**, **Amro K. F. Dyab** and Vesselin N. Paunov, in Materials Research Society, Fall Meeting, Boston MA, USA, December 1-5, **2008**.

7-**"Fabrication of anisotropic microparticles and microcapsules"**, V.N. PAUNOV, **A. DYAB**, B. HOLT, H. WEGE, O. CAYRE, G. MACKENZIE, F. MELDRUM, S. STOYANOV, O.D. VELEV, in the 22nd Conference of the European Colloid and Interface Society, August 31 - September 5, **2008** Cracow, Poland.

8- Poster titled **"Particle-stabilized multiple emulsions"**, **Amro K.F. Dyab**, at Polymers and surfactants in Colloidal Systems, Imperial College, London, UK 9-11 July **2002**.

9-Oral presentation **"Multiple emulsions stabilized solely by nanoparticles"**, at the University of Hull, Department of Chemistry, 21st May 2003, UK.

10- Oral presentation **"Magnetically polarised colloidal particles"**, at the University of Hull, Department of Chemistry, SURFACTANT AND COLLOID GROUP WOKSHOP, 20th September 2007, UK.

REFERENCES

1- Prof. Tharwat F. Tadros, Emeritus Editor of Colloids and Surfaces A: Physicochemical and Engineering Aspects, 89 Nash Grove Lane, Wokingham, Berkshire RG40 4HE, United Kingdom.E-mail: tharwat@tadros.fsnet.co.uk

2- Dr. Vesselin N. Paunov, Reader in Physical Chemistry and Head of Chemistry teaching, University of Hull, Hull, HU6 7RX, United Kingdom. E-mail: V.N.Paunov@hull.ac.uk

3- Prof. Paul D.I. Fletcher, Professor of Physical Chemistry and ex-Head of Chemistry Department, University of Hull, Hull, HU6 7RX, United Kingdom. E-mail: P.D.Fletcher@hull.ac.uk

4- Prof. Bernard P. Binks, Professor of Physical Chemistry, Chemistry Department, University of Hull, Hull, HU6 7RX, United Kingdom. E-mail: B.P.Binks@hull.ac.uk

5- Prof. Fouad Taha., Professor of Physical Chemistry, Chemistry Department, Minia University 61591, Minia, Egypt.

ACTIVITIES

Reading of journals/books in chemistry and any subject related texts. I enjoy playing football, table tennis and billiards.

Awards Received PhD Governmental Full Scholarship (4 years), September 2000.

PROFESSIONAL MEMBERSHIPS

- Associate Member of Professional Scientific Syndicate in Egypt
- RSC e-membership

LANGUAGES AND IT SKILLS

Arabic (native), English (Fluent) (TOEFL: 550, computer based test),German (level II, at Assiut University, Egypt). ICDL (international computer driving license) certificate (Word, Excel, PowerPoint, Access, IT, Windows, Internet), from UNISCO June 2005.