

**Curriculum Vitae of**  
**Mohamed Ismail Bassyouni**  
**Department of Chemical and Materials Engineering**  
**King Abdulaziz University (KAU-Rabigh)**  
**Saudi Arabia**



### PERSONNEL DATA

Birth day: 1/12/1975  
 Marital status: *Married*  
 Phone: (+966) (0)59 789 0121  
 Nationality: *Egyptian*  
 Email: [migb2000@hotmail.com](mailto:migb2000@hotmail.com)

### EDUCATION

- **Apr. 2008, Ph.D. in Chemical Engineering,** *[Cairo, Egypt]*  
 A part of Ph.D. experimental work was carried out at *[TU- Clausthal, Germany]*

- **Thesis work:** Polymer composites.

*Thesis Supervisors: Prof.Dr.Eng.Mohamed Shahier & Prof.Dr.Sayed Sherif  
 Prof.Dr.Eng.Fatma Hanafy*

- **April. 2003, Master Science in Chemical (Environmental) Engineering,** *[Hamburg, Germany]*  
*[Technische Universität Hamburg-Harburg]*

- **Thesis work:** Monitoring, Modeling and Simulation of copper element through a wastewater treatment plant and its environmental impact assessment. (Grade: *very good (92%)*)

*Thesis Supervisors: Prof.Dr.Rar.Nat. Ulrich Förstner & Prof.Dr.Eng. Jobst Hapke*

- **Aug. 1999, Bachelor of Science in Chemical Engineering** *[Tenth of Ramadan City, Egypt]*  
*[Higher Technological Institute]*

- **Bachelor Project:** Production of Acrylic acid. The items covered during this investigation work were:

- Methods of preparation,
- Mass balance,
- Energy balance,
- Plant lay out,
- Site location,
- Cost estimation

*(Grade: Distinction with honor)*

*Project Supervisors: Prof.Dr.Eng. M.Shaheer & Ass.Prof. Maher Gamal*

## ANALYTICAL EXPERIENCE

Active- passive corrosion, Differential Scanning Calorimetry (DSC), Thermogravimetric Analysis (TGA), optical microscopy, SEM analysis, Mechanical Testing (Tension, compression), Charpy V-notch tests, water analysis (Biochemical oxygen demand (BOD), Chemical oxygen demand (COD), Chlorine in water and total hardness).

## PROFESSIONAL EXPERIENCE

- **Sep.2010-Present**

-**Assis. Prof. :** *Chemical and Materials Engineering Department*  
[King Abdulaziz University]

**Topics covered:**

- Curriculum development to meet Accreditation Board for Science & Technology “ABET” accreditation.
- Heat Transfer
- MATLAB
- Materials Science
- Introduction to Chemical Engineering
- Thermodynamics

- **Apr. 2008 – July 2010**

- **Assis. Prof.:** *Department of Materials Science and Engineering*  
[German University in Cairo, Egypt]

- **Topics covered:**

- Polymer Processing
- Thermodynamics
- Introduction to Materials Engineering
- Destructive and Nondestructive tests
- Microstructure and properties of materials engineering

- **Assis. Prof. :** *Department of Chemical Engineering*  
[Higher Technological Institute, Egypt]

- **Topics covered:**

- Corrosion Engineering
- Water and wastewater treatment
- Materials Technology
- Material analysis and applications
- Materials selection in design and manufacturing
- Chemistry laboratory
- Plant design
- Materials Selection

- **Sep. 2005 – March 2008**

*-Lecturer: Department of Materials Engineering  
[German University in Cairo, Egypt]*

- **Topics covered:**

- Corrosion Engineering
- Materials science
- Materials analysis and applications
- Materials selection in design and manufacturing

- **Sep. 1999 – March 2008**

*-Teaching Assistant & lecturer: Department of Chemical Engineering,  
[Higher Technological Institute, Egypt]*

- **Topics covered:**

- Wastewater treatment (Wastewater Characteristics, Grit chamber, Primary sedimentation, Biological reactor, Nitrification and De-Nitrification, and Digester)
- Corrosion (Thermodynamic-Nernst equation, Forms of corrosion and rate of corrosion)
- Heat transfer (Conduction, convection and Radiation heat transfer in addition to Design of heat exchanger)
- Chemical Add. Des. (using Matlab program)
- Plant Design (mass balance, energy balance and cost estimation)
- Unit Operation
- Thermodynamics
- Polymers Engineering

## COMMITTEES

- |   |                             |
|---|-----------------------------|
| 1- Member of Faculty Council                    | [King Abdulaziz University] |
| 2- Member of Tri-Committee                      | [King Abdulaziz University] |
| 3- Member of Scholarship Committee              | [King Abdulaziz University] |
| 4- Member of Research and Development Committee | [King Abdulaziz University] |
| 5- Head of Training Committee                   | [King Abdulaziz University] |
| 6- Member of laboratories committee             | [King Abdulaziz University] |

## TRAINER AND WORKSHOP ORGANIZER

- **Feb. 2009 (Two weeks) Trainer** in one of GTZ/Germany, programs for Ph.D. and master degree holders  
**Program:** Safety Engineering Study including HAZOP study
- **May 2007 (One week) Trainer** for Bachelor degree holders in Petrobel Co.  
**Program:** Methods of Corrosion control
- **3<sup>rd</sup> to 5<sup>th</sup> of December 2007**, Workshop Organizer on “Materials Behavior, Qualification and Characterization” at German University in Cairo

## PROFESSIONAL AFFILIATIONS

- **Aug.-Sep. 2008**
  - **Project:** Polymer composites (PP-Natural fibers)  
*Department of Polymer Materials and Plastics Engineering*  
*[Tech. Univ. Clausthal, Germany]*

**Project work; Tasks Done:**

- Surface preparation of natural fibers (Flax and Rice straw)
- Investigation of mechanical and physical properties of PP-Natural fibers composites
- Scanning electron microscopy analysis

- **Aug.-Sep. 2007**
  - **Project:** *Polyurethane composites (PU-Natural fibers)*  
*Department of Polymer Materials and Plastics Engineering*  
*[Tech. Univ. Clausthal, Germany]*

**Project work; Tasks Done:**

- Surface preparation of natural fibers (Rice husk)
- Investigation of mechanical and physical properties of PU-Natural fibers composites
- Scanning electron microscopy analysis

- **Jan-Jun. 2002**  
Wastewater treatment plant Pinneberg *[Hamburg, Germany]*

**Internship and Project work; Tasks Done:**

- Studying the main sources of Copper element.
- Modeling and simulation of the Copper element during the different processes

-Wastewater treatment plant facilities in Hetlingen, Germany

- **July - Oct. 2001** [Hamburger wastewater treatment plant] [*Hamburg, Germany*]  
**Internship;** Tasks Done:
  - Practical knowledge in all the wastewater treatment plants units.
  - Complete Implementation for a new aeration concept in the aeration tanks.
  
- **Jun. - Sep. 1998** [Institute of polymer research] [*Dresden, Germany*]  
**Research Assistant;** Research areas:
  - Synthesis of composite materials (Polyester-glass fibers) and (Epoxy-carbon)
  - Mechanical measurements of the composite materials
  
- **May - Aug. 1997** [EPICO for Pharmaceutical] [*10<sup>th</sup> of Ramadan City, Egypt*]  
**Internship;** Duties included:
  - Water and Wastewater Treatment.
  - Boiler and Evaporator
  
- **May-Aug.1996** [El Mohtada for Oils and Soap Processing] [*Cairo, Egypt*]  
**Internship;** Duties included:
  - Participating in all the logging and recovery tasks including soap production and edible oil treatment

## COMPUTER SKILSS

- 1-Windows 7, office 2010 (Word, Excel and Power point)
- 2-Matlab
- 3-Cambridge Engineering Selector CES Edupack (for materials selection and processing)
- 4-Hysys/Aspen (Chemical engineering applications)

## PRESENTATIONS

- 1- *May, 2013*, Summer Training: Duties and responsibilities, King Abdulaziz University
- 2- *June, 2011*, Summer Training: Duties and responsibilities, King Abdulaziz University
- 3- *May, 2010*, Nano-Materials Geramn University in Cairo
- 4- *Dec. 2006*, Describe and design of wastewater treatment facilities presentation, Department of Chemical engineering, Higher Technological Institute –Egypt
- 5- *Sep.2005*, Workshop on Materials Testing German University in Cairo
- 6- *Jan. 2005*, Corrosion control, Sheraton branch- Egypt

- 7- **Jan. 2003**, Zero emission conference, Technical University Hamburg Harubrg – Germany

## FUNDED PROJECTS

- 1- Principle investigator: Fabrication, Ablation, Thermal, and Mechanical investigation of Ablative composites for ultrahigh temperature applications, 2013- present.
- 2- Principle investigator: Composite materials for wind turbine blades (KACST)., 2012- Present
- 3- Co-Investigator: Synthesis and characterization of novel nano polymeric composite materials for dielectric insulation applications (KAU). 2012 -Presnt
- 4- Principle Investigator: Experimental and computational hydrodynamic studies of a circulating fluidized bed (KAU). 2012- Present
- 5- Principle Investigator: Effect of coupling agents on interfacial adhesion force in polypropylene/sisal bio-composites.2012- Present

## AWARDS/ACTIVITIES

- 1- Selected by the *German University in Cairo* as one of the best 15 lecturers in the university for a business trip in Jul. 2006 (Munich – Germany).
- 2- Three months internship in the Institute of Polymer Researching (Dresden, Germany), this award was given by the German Academic Exchange Service (DAAD).
- 3- Annual honor students prize board (1994 – 1999) from the HTI.
- 8- Deans' list for 5 years: Higher Technological Institute (1994 – 1999).

## Training programs

- 1- **Feb. 2012:** CES EduPack Introductory and Advanced Courses, Engineering Department, **Cambridge University, UK**
- 2- **July 2012:** Aspen Hysys: Process Modeling, **Reading, UK**
- 3- **July 2012** Aspen Hysys: Advanced Process Modeling Topics, **Reading, UK**
- 4- **2012,** Time Management, King Abdulaziz University, **KSA**

5- **2012**, Creative Teaching, King Abdulaziz University, **KSA**

6- **2012**, Quality Standards and Academic Accreditation, King Abdulaziz University, **KSA**

## ASSOCIATIONS

- Egyptian Engineering Association
- Society of Plastic Engineering (SPE)

## REVIEWER

- |                                  |                                    |
|----------------------------------|------------------------------------|
| 1- Journal of applied polymers   | 3 - Journal of composite materials |
| 2- Polymer Engineering & science | 4 - Journal Yanbu                  |

## ACADEMIC ACHIEVEMENTS

### Students Supervised Record

Degree	Field	Start -End	University
Ph.D.	Chemical/Materials Eng.	2013-Present	UTM / Malaysia
Ph.D.	Materials composite	2012- Present	Glasgow University /UK
M. Sc.	Electrospinning Nano-fibers	2009 -2011	German University in Cairo
M.Sc.	Materials Bio-Composites	2011-Present	Cairo University
M.Sc.	Materials Bio-Composites	2011- Present	Cairo University
Bachelor of science in Engineering	Design of Wastewater Treatment plant	2004- 2005	Higher Tech. Inst.
Bachelor of science in Engineering	Production of sulfuric Acid	2004-2005	Higher Tech. Inst.
Bachelor of science in Engineering	Production of Polyvinyl Chloride	2005-2006	Higher Tech. Inst.
Bachelor of science in Engineering	Production of Naphthalene	2006-2007	Higher Tech. Inst.
Bachelor of science in Engineering	Polyurethane biocomposites	2008- 2009	German University in Cairo

Bachelor of science in Engineering	Grain refinement of Al alloys	2008-2009	German University in Cairo
Bachelor of science in Engineering	Evaluation of metal alloys for wind turbine blades	2009-2010	German University in Cairo
Project	Materials Selection for wind blade	2011	King Abdullah University (KAUST)
Project	Bio-Materials	2011	King Abdullah University (KAUST)
Project	Cambridge Eng. Sel. (CES) in Materials selection for Wind turbine Blade	2011	King Abdulaziz University (KAU)

## PUBILICATIONS

1. Youssef Mobarak, ***M. Bassyouni*** and M. Almutawa, Materials Selection, Synthesis and Dielectric Properties of PVC Nano-composites, Journal Advances in Materials Science and Engineering, Accepted 21 May 2013, **In press**
2. ***M. Bassyouni*** and Saud. A. Gutub, Materials Selection strategy and surface treatment of polymer composites for wind turbine blades fabrication, Polymer & Polymer composites journal, 2013 **Accepted**
3. ***M. Bassyouni***, S. Gutub and Shereen M.S Abdel-hamid. Dissolved solids adsorption of freshwater using synthesized bio-foam composite, Life Sci J 2013;10(2):464-471.  
<http://www.lsj-marsland.com/uploadfiles/AB14b720130511084836/B001207-lsj-part20130511.pdf>
4. S. M. Abdel-hamid, ***M. Bassyouni***, and H. K. Abdel-Aal Thermodynamic analysis on the role of hydrogen sulfide for non catalytic partial oxidation (NCPO) of sour natural gas, British Journal of Engineering and Technology, Vol. 1, No. 4, pp 18-26, January 2013.  
[http://www.bjet.baar.org.uk/uploads/jan%20issue/bjet-1135-2013-thermodynamic\\_analysis\\_on\\_the\\_role\\_of\\_hydrogen.pdf](http://www.bjet.baar.org.uk/uploads/jan%20issue/bjet-1135-2013-thermodynamic_analysis_on_the_role_of_hydrogen.pdf)
5. Hussein Abdel-Aal, K. M. Zohdy, Maha Abdelkreem, S.M.-S. Abdel-Hamid, ***M. Bassyouni***, A Novel Application in Green Chemical Processing Using Reject

Brines and Carbon Dioxide as Raw Materials, Engineering, 2013, 5, pp. 154-156  
<http://www.scirp.org/journal/eng>

6. M. Sh. Zoromba, **M. Bassyouni** and A. Dahshan, Preparation and Mechano-Optical properties of UV-Curable Transparent Polyurethane Elastomer Nanocomposites, Journal Nanotechnology in Engineering and Medicine, February 2012, Vol. 3 / 011008-1.
7. **M. Bassyouni**, F. H. Akhtar, Hussain A. and A. Umer. Biodiesel Production and Investigations on the Performance of Diesel Engine Using Jatropha Oil. Asian Transactions on Engineering, 2012 (ATE ISSN: 2221-4267) Volume 02 Issue 03.  
<http://www.asian-transactions.org/Journals/Vol02Issue03/ATE/ATE-70222035.pdf>
8. **M. Bassyouni** , S. Gutub, Shereen M.-S. Abdel-Hamid. Using CES-Edu in Chemical and Materials Engineering. 4<sup>th</sup> International Materials Education Symposium 12-13<sup>th</sup> April 2012 at the University of **Cambridge**, UK.
9. **M. Bassyouni** , Sayed A., Sherif , M.A., Sadek and F.H., Ashour, Synthesis and characterization of Polyurethane – treated waste milled light bulbs composites, Composites Part B: Engineering, Volume 43, Issue 3, April 2012, PP1439–1444  
<http://yuanleijlsd.myipcn.org/science/article/pii/S1359836811003489>.
10. **M. Bassyouni**, I. Taha, Shereen M.-S. Abdel-hamid and L. Steuernagel “Physico-Mechanical Properties of Chemically Treated Polypropylene Rice Straw bio-Composites”. Journal of Reinforced Plastics and Composites, March 2012 31: 303-312, 2012 doi: 10.1177/0731684411436024.  
<http://jrp.sagepub.com/content/31/5/303.abstract>
11. **M. Bassyouni** and Shereen M.S Abdel-hamid. “Synthesis and Physico-Mechanical Characterization of Reinforced Microcellular Polyurethane-Sisal Biocomposites”. 33 *Australasian Polymer Symposium*, in Hobart, Tasmania , Australia from 12-15 February 2012.
12. **M. Bassyouni**, S. A. Gutub and U. Javaid. “Study the influence of Silane coupling agent on the physico-mechanical properties of polymer composites for wind turbine blades fabrication”. 9th International Bhurban Conference on Applied Science and Technology, Islamabad Pakistan, 2012
13. Mohamed I.Y. EL Rafiea, Anke kilingera and **M. Bassyouni**. A Step Toward Controlling the Conditions and Production of New Polymeric-Electrospun Reinforced Microcellular Polyurethane Nanofiber Composites 12– 16 December 2010. “4<sup>th</sup> International Conference on 'Modern Trend of Physics Research' Egypt.

14. Hussein Abdel-Aal, **M. Bassyouni**, Shereen M.-S. Abdel-Hamid and Maha Abdelkreem, May-2010. Resources of Fossil and Non-Fossil Hydrogen in the Middle East Can Make Fuel Cells an Attractive Choice for Transportation: A Survey Study, ISBN: 978-3-89336-653-8, and ISSN: 1866-1793, *18<sup>th</sup> World Hydrogen Energy Conference 2010, Essen, Germany*.  
<http://juwel.fz-juelich.de:8080/dspace/handle/2128/4050>.
15. Sayed A.Sherif, M.A.Sadek, F.H.Ashour, **M. Bassyouni**, 2009. Effects of surface treatment of ground rice husk on the polyurethane based on castor oil. *Polymer & Polymer composites*, 17 (8), pp 467-471.  
<http://www.polymerjournals.com/default.asp?Page=111&JournalType=ppc&JournalIssue=ppc17-8&JIP=>
16. **M. Bassyouni**, Taha I., Shereen M.-S. Abdel-hamid and Steuernagel L, March 2009. Effect of Maleic Anhydride Grafted Polypropylene on the Behaviour of Rice Straw Polypropylene Composites. *11<sup>th</sup> International Mining, Petroleum and Metallurgical Engineering Conference & Exhibition*.
17. Sayed A.Sherif, M.A.Sadek, F.H.Ashour, **M. Bassyouni**, 2007. Investigation of the properties of waste milled glass-filled castor oil based polyurethanes system. *9<sup>th</sup> Arab International Conference on Polymer Science and Technology*,
18. Sayed A.Sherif, M.A.Sadek, F.H.Ashour, **M. Bassyouni**, 2007. Studies on the effect of the temperature, NCO/OH ratio and filler contents on the gel time of the castor oil based polyurethane elastomer". *9<sup>th</sup> Arab International Conference on Polymer Science and Technology*.
19. Maha Abdel-Kreem, **M. Bassyouni**, Shereen M.-S. Abdel-hamid & Hussein Abdel-Aal, 2009. The Role of GTL Technology as an Option to Exploit Natural Gas Resources. *the Open fuel cells Journal*, The Open Fuel Cells Journal, 2009, 2, 5-10 (<http://www.bentham.org/open/tofcj/openaccess2.htm>).
20. Hussein Abdel-Aal, **M. Bassyouni**, Shereen M.-S. Abdel-hamid and Maher Soliman, 26-28/2009. On the Non Catalytic Partial Oxidation of Sour Natural Gas (NCPO): Thermodynamic Analysis on the Role of Hydrogen Sulfide *World Hydrogen Technologies Convention-, New delhi, India*.
21. Hussein Abdel-Aal, **M. Bassyouni** and Shereen M.-S. Abdel-hamid, March 2009. Co-production of Hydrogen and Sulfuric Acid from Sour Natural Gas: a Novel Approach. *11<sup>th</sup> International Mining, Petroleum and Metallurgical Engineering conference & Exhibition*.
22. H.K. Abdel-Aal. M. Sadik, **M. Bassyouni** and M. Shalabi, 2005. A new approach to utilize Hydrogen as a safe fuel". *Journal of Hydrogen Energy*, Volume 30, Issues 13-14.  
<http://www.sciencedirect.com/science/article/pii/S0360319905002521>

23. **M. Bassyouni**, 2003 “Monitoring, Modeling and Simulation of copper element through the wastewater treatment plant and its environmental impact assessment”, Master Thesis, TU-Hamburg-Harburg, Germany.