

YASSER GABER

Ph.D. Biotechnology

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I am a researcher who has a passion to study, analyse and discover new things. My research is focused on protein engineering and enzymes as catalysts. I have interest in teaching microbiology and biotechnology via interactive learning techniques. I am interested in following the metrics of international ranking of universities and the factors influencing them. I like to travel much and connect with researchers and academics all over the world that led to a LinkedIn network of more than 900 members.

Education

- May 2012 Doctor of philosophy (Ph.D.) in Biotechnology, Lund University, Sweden
- March 2007 M.Sc. Microbiology, Faculty of Pharmacy, Cairo University, Egypt.
- May 1999 B.Sc. Pharmaceutical Sciences, *Excellent with Honour*, Cairo University.

Appointments

- 2012 - present Lecturer, Department of Microbiology, Beni-Suef University ¹
- 2007 – 2012 Assistant lecturer, Department of Microbiology, Beni-Suef University
- 2001 – 2007 Demonstrator, Department of Microbiology, Beni-Suef University

Positions

- December 2015 - Member of Industry Development Council, Academy of Scientific Research and Technology, Egypt.
- September 2015 – Director of the International Ranking Office, Beni-Suef University.
- December 2014 – September 2015, Vice-director of QAAC - Quality Assurance and Accreditation Center- for University ranking issues, Beni-Suef University.
- October 2014 – December 2014, Director assistant for Training and Conferences Unit, Beni-Suef University
- Beni-Suef university strategic planning committee member

Projects, scholarships and awards:

- May 2017, I won The **University Encouragement Award**, Beni-Suef University, Sixth Science Day, Beni-Suef University, Beni-Suef.
- December 2014, PI of one-million EGP funded project from Academy of Scientific Research and Technology, Ministry of Scientific Research, Egypt
- December 2013, Short Term Postdoctoral fellowship from The Egyptian ministry of Higher Education
- May 2010-June 2012, a scholarship from European Union, Erasmus Mundus FFEEBB-programme.
- April 2008- April 2010, a two-year scholarship from The Egyptian Ministry of Higher Education.

H-Index:

- Scopus-based H-index: 6, Scopus citations: 140 (September 2017)

¹ <http://www.bsu.edu.eg/profres.aspx?profid=309>

Conferences and workshops:

- I presented several posters and gave oral talks, and actively participated in different conferences, workshops and events in South Africa, Japan, Sweden, Egypt, Germany, Italy, Belgium and The Netherlands (see Appendix)

Publications list:

1. **Gaber, Y.**, and Ismail M., (2017) Cross-linked Enzyme Aggregates of Pig Liver Esterase Evaluated in Kinetic Resolution of Racemic Clopidogrel. *Biotechnology*, 16, 123-129
2. **Gaber, Y.**, (2016) In-silico smart library design to engineer a xylose-tolerant hexokinase variant. *African J. Biotechnol.* 15(21), 910-916.
3. **Gaber, Y.**, Mekasha S., Vaaje-Kolstad G., Vincent GH Eijsink V.G.H., Fraaije M.W., (2016) Characterization of a Chitinase from the Cellulolytic Actinomycete *Thermobifida fusca*. *Bioch. et Bioph. Acta (BBA)-Proteins and Proteomics* 1864, 1253–1259 (IF 3.016).
4. Sayed, M., **Gaber, Y.**, Bornadel, A., and Pyo S., (2016) Multi-steps Green Process for Synthesis of Six-Membered Functional Cyclic Carbonate from Trimethylolpropane by Lipase Catalyzed Methacrylation and Carbonation, and Thermal Cyclization. *Biotechnol. Prog.* 32, 83-88 (IF 2.167).
5. **Gaber, Y.**, Ismail M., Bisagni S., Takwa M., and Hatti-Kaul R., (2015) Rational mutagenesis of pig liver esterase (PLE-1) to resolve racemic clopidogrel. *J. Mol. Catal. B. Enzym.* 122, 156-162. (IF 2.189)
6. Ferrari A., **Gaber, Y.**, Fraaije, M.W., (2014). Fast, sensitive, and easy colorimetric assay for chitinase and cellulase activity detection. *Biotechnol. Biofuels* 7:37, (IF, 6.444)
7. **Gaber, Y.**, Åkerman, C.O., M., Hatti-Kaul, R., (2014) Environmentally evaluated HPLC-ELSD method to monitor enzymatic synthesis of a non-ionic surfactant. *Chem. Cent. J.* 8:33 (IF, 2.552)
8. **Gaber, Y.**, Ali Amin, M., Hatti-Kaul, R., (2014) An investigation of enzymatic kinetic resolution of racemic clopidogrel. *Asian J. Microbio., Biotechnol. and Environmental Sci.* 16(2), 247-251.
9. Åkerman, C.O., **Gaber, Y.**, Ghani, N.A., Lämsä, M., Hatti-Kaul, R., (2011) Clean synthesis of biolubricants for low temperature applications using heterogeneous catalysts. *J. Mol. Catal. B: Enzym.* 72, 263-269. (IF, 2.189)
10. **Gaber, Y.**, Törnvall, U., Kumar, M.A., Ali Amin, M., Hatti-Kaul, R., (2011) HPLC-EAT (Environmental Assessment Tool): A tool for profiling safety, health and environmental impacts of liquid chromatography methods. *Green Chem.* 13, 2021-2025.² (IF, 8.506)
11. Tran, T.T., Hashim, S.O., **Gaber, Y.**, Mamo, G., Mattiasson, B., & Hatti-Kaul, R. (2011). Thermostable alkaline phytase from *Bacillus sp.* MD2: Effect of divalent metals on activity and stability. *J. Inorg. Biochem.* 105(7), 1000-1007. (IF, 3.205)
12. Tran, T.T., Mamo, G., Buxo, L., Le, N.N., **Gaber, Y.**, Mattiasson, B., Hatti-Kaul, R., (2011) Site-directed mutagenesis of an alkaline phytase: Influencing specificity, activity and stability in acidic milieu. *Enzyme Microb. Technol.* 49, 177-182. (IF, 2.624)
13. **Gaber, Y.**, Törnvall, U., Orellana-Coca, C., Amin, M.A., & Hatti-Kaul, R. (2010). Enzymatic synthesis of N-alkanoyl-N-methylglucamide surfactants: solvent-free production and environmental assessment. *Green Chem.*, 12(10), 1817-1825. (IF, 8.506)

Software developed:

- I designed, developed, and published free tool, HPLC-EAT, for green chemistry applications³

Provisional Patent:

- R. Hatti-Kaul, M. Takwa, **Y. Gaber** and Mohamed Ismail, US Provisional Patent Application, June 2013, Appl. No. 61838377

Teaching Experience: (see attached table of courses I am teaching)

² Selected as a hot article in Green Chemistry Journal blog, June 2011, <http://blogs.rsc.org/gc/2011/06/>

- May 2017: Teaching a two-days workshop entitled Structural Bioinformatics – Beni-Suef University
- 2014-present: Involved in teaching and developing NEW curricula such as Proteomics Biotechnology, Basic Microbiology, cell biology, parasitology and others

Scientific societies membership

- The Netherlands Society for Biochemistry and Molecular Biology (NVBMB), Since 2012
- European Federation of Biotechnology

Courses, training, methodologies and computer skills:

- I attended several courses and training organized by the following universities: Lund, Uppsala, Linnaeus, Groningen, Cairo and Beni-Suef. Courses, methodologies and computer skills are listed in an appendix at the end of this CV.

Activities:

- Editor, Cogent Biology Journal, Taylor & Francis Online Publisher³
- Editor reviewer for Frontiers Bioengineering and Biotechnology⁴
- Reviewer for other journals (Biotechnology Reports, Elsevier; Beni-Seuf journal of applied sciences, Elsevier)
- 2008 – 2012, Attendance of Nobel Prize laureate lectures held in Lund University

Scientific social networks:

- ResearchGate and LinkedIn Identifier name: *Yasser Gaber*⁵

Academic Experience:

- November 2012-Present, visiting Researcher then Post-doctoral fellow, Groningen University, The Netherlands. I did enzymology and molecular biology research in the group of Professor Marco Fraaije.
- May 2010 – May 2012, Ph.D. student, Biotechnology Department, Lund University, Sweden
I worked in a project aiming to develop an enzymatic process for resolution of racemic clopidogrel.
- April 2008 – May 2010, Guest researcher, Biotechnology Department, Lund University, Sweden
During this period I worked in projects aiming to develop lipase-catalyzed processes for synthesis of specialty chemicals. January 2001- April 2008, Teaching assistant, faculty of pharmacy, Beni-Suef University, Egypt
I conducted a clinical microbiology research including isolation and identification of bacterial and yeast microorganisms, and performed antimicrobial susceptibility studies.

References:

- Prof. Tarif Shawky Farag
Former Beni-Suef university vice-president for scientific research and postgraduate studies affairs
Email: tarifag58@bsu.edu.eg, Tarifag58@yahoo.com
- Prof. Dr. Rajni Hatti-Kaul
Head of Department of Biotechnology, Lund University, Sweden
Phone: +46-46-2224840, E-mail: Rajni.Hatti-Kaul@biotek.lu.se

³ <http://cogentoa.tandfonline.com/page/aboutJournal?journalCode=oabi20>

⁴ http://www.frontiersin.org/Process_and_Industrial_Biotechnology/editorialboard

⁵ https://www.researchgate.net/profile/Yasser_Gaber2/

Appendix

Administration activities

1. Taking major part in organization of the first department conference “Biotechnology for the Emerging Economies” held in Beni-Suef, 7th of April 2015, <http://microbsu.webs.com/bsu-be2015>
2. Member the committee supervising the Beni-Suef University Research City project (October 2014 – present)
3. Participation in Beni-Suef university Research Plan 2015-2020
http://www.bsu.edu.eg/Content.aspx?section_id=462&cat_id=1
4. Member of Beni-Suef university committee for missions affair
5. Member of Beni-Suef university committee for University Buildings Coding Project

Conferences and workshops:

1. Oral talk entitled “characterization of a chitinase from *Thermobifida fusca*” in the international conference Science and Science Management for Sustainable Development, organized by Alexander von Humboldt and JSPS, National Research Center, 24-26 October, Cairo, **Egypt**
2. Biovision2016, Bibliotheca Alexandrina, 12-14 April, Alexandria, **Egypt**.
3. Participation in the 7th HOPE meeting with Nobel Laureates, sponsored by JSPS, Tokyo, **Japan**, March, 2015. <http://www.jsps.go.jp/english/e-hope/>
4. Participation in Africa Universities Summit sponsored by THE TIMES Higher education and Johannesburg University, 30-31 July, **South Africa**. <http://www.cvent.com/events/the-africa-universities-summit/event-summary-e374eaf1963746bba072de79456ab02d.aspx>
5. Horizon 2020, Science with and for society, Brussels, **Belgium**, May, 2014
<http://www.b2match.eu/science-society-2014/participants/191>
6. November 2013, poster presentation and attendance of a mini-symposium
<http://www.biocatalysis.nl/Program.html> , Delft University, Delft, **The Netherlands**
7. September 2013, Industrial Biotechnology: meeting the challenges,
http://www.kilu.lu.se/industrial_biotechnology_2013/program/, Lund, **Sweden**. Two-posters presentation.
8. September 2013, 21st Annual GBB Symposium, Groningen, **The Netherlands**. (Poster presentation) <http://www.rug.nl/research/gbb/education/generalcourses/gbbsymposium/>
9. May 2012, Clean water through Bio- and Nano-technology Conference,
<http://www.kilu.lu.se/bionano2012>, Lund, **Sweden**.
10. April 2012, Catalyzing Bio-Economy - Biocatalysts for Industrial Biotechnology, Annual meeting of DECHEMA-VAAM-Section Biotransformations, Frankfurt am Main, **Germany**.
Poster presentation: Enzymatic asymmetric hydrolysis of racemic clopidogrel.
11. October 2011, Biotrans2011 conference, Sicilia, **Italy**. Poster presentation: Enzyme catalyzed kinetic resolution of racemic clopidogrel.

12. September 2011, 11th Swedish Bioinformatics Workshop (SBW2011), Lund, **Sweden**. **Oral talk** and poster presentation: Molecular modeling as a rational design tool of an esterase, <http://cbbp.thep.lu.se/sbw2011/abstalks.html>.
13. November 2010, First Swedish-Egyptian Biotechnology Workshop, Cairo, **Egypt**. **Oral talk**: Enzymatic synthesis of biosurfactants.
14. November 2010, Industrial Biotechnology-A platform for sustainable growth in Sweden, Lund, **Sweden**. Poster Presentation: Enzymatic synthesis of N-alkanoyl-N-methylglucamide surfactants: solvent-free production and environmental assessment. <http://www.greenchem.lu.se/seminars/>

Teaching Activities: I participated in teaching the following courses (2014 – present)

| Course | Faculty | University | Contribution |
|--|---|---------------------------|--------------|
| 1. Basic Microbiology and Immunology | Pharmacy | Beni-Suef | Major |
| 2. Parasitology | Pharmacy | Beni-Suef | Moderate |
| 3. Cell biology | Pharmacy | Beni-Suef | Moderate |
| 4. Public Health | Pharmacy | Beni-Suef | Moderate |
| 5. Medical Microbiology | Pharmacy | Beni-Suef | Moderate |
| 6. Infectious disease – PharmD program | Pharmacy | Beni-Suef | Minor |
| 7. Advanced techniques in microbiological research – post graduate program | Pharmacy | Beni-Suef | Major |
| 8. Biotechnology – Postgraduate program | Pharmacy | Beni-Suef | Major |
| 9. Pharmaceutical Microbiology | Pharmacy | Beni-Suef | Moderate |
| 10. Proteomics | Postgraduate Studies for Advanced Sciences (PSAS) | Beni-Suef | Major |
| 11. Proteomics and Enzymology | Postgraduate Studies for Advanced Sciences (PSAS) | Beni-Suef | Major |
| 12. Biotechnology | Pharmacy | Beni-Suef | Major |
| 13. Basic Microbiology and Immunology | Pharmacy | Nahda – Beni-Suef | Major |
| 14. Parasitology | Pharmacy | Nahda – Beni-Suef | Major |
| 15. Basic Microbiology and Immunology | Pharmacy | Fayoum University, Fayoum | Major |

Courses and Training attended:

- I. October 2013, **The Netherlands**
Protein Engineering of cytochrome P450s, I gave an oral presentation (3 credits, Prof. Dick Janssen, Groningen Univ.)
- II. April 2008 – May 2012, **Sweden**:
 1. Bacteria as Protein Factories
(3 credits, Assoc. Prof. Claes von Wachenfeldt, Biology Dept. Lund Univ.)
 2. Methods in Molecular Biology
(15 credits, Assoc. Prof. Nora Asumees, Biology Dept. Lund Univ.)
 3. Bioprocess Technology
(7.5 credits, Prof. Olla Holst, Biotechnology Dept., Lund Univ.)
 4. Biochemical Reaction Engineering
(7.5 credits, Prof. Gunnar Liden, Chemical Engineering Dept. Lund Univ.)
 5. Enzyme Technology
(7.5 credits, Prof. Patrick Adlercreutz, Biotechnology Dept. Lund Univ.)
 6. Green chemistry and Biotechnology
(7.5 credits, Prof. Eva Nordberg Karlsson, Biotechnology Dept. Lund Univ.)
 7. Structural Bioinformatics
(15 credits, Prof. Salam Al-karadaghi, Center of Molecular Protein Science, Lund Univ.)

8. Environmental Issues and Hazards in the Chemical Research Laboratory
(2 credits, Prof. Ulf Henrik, Organic Chemistry Dept. Lund Univ.)
9. Pharmaceutical Bioinformatics
(7.5 credits, Dr. Maris Lapins, Pharmaceutical Biosciences, Uppsala Univ.)
10. English for Research Writing
(8 credits, Dr. Rowena.Jansson, Linnaeus Univ.)
11. Research Ethics for Chemists
(2 credits, Prof. Jonas Josefsson, Philosophy Institution, Lund Univ.)
12. Introductory Workshop for New PhD Students at LTH
(2 credits, Dr. Anders Ahlberg, Lund Univ.)
13. Scientific Information Management
(3 credits, Alexandra Forsberg, Lund Univ.)

Total credits (ECTS)⁶: 92.5, coordinators of the courses are indicated between the brackets

- III. 2001-2012, Beni-Suef, Egypt:
Faculty Development Leadership Program (FDLP) courses held in Beni-Suef University for promoting skills in: Leadership, Scientific Research, Effective Teaching and Effective Communication
- IV. 2000-2001, Pre-Master courses, Cairo University, **Egypt**
Advanced courses in Statistics, Microbiology, Immunology, and Genetics

Methodologies:

- Bioinformatics tools for protein engineering such as homology modeling, molecular dynamic simulations, and ligand-receptor docking
- Molecular biology techniques: PCR, ligation, transformation, DNA extraction and sequencing
- Background about **Isothermal Titration Calorimetry**, Supercritical carbon dioxide, fermentation processes, LC-MS, Protein purification and characterization

Computer skills: softwares and databases

- 3DM-information system (Paid protein engineering database)
I worked on 3DM database systems of alpha-beta hydrolases and Glycoside transferases
- YASARA Structure Package (Molecular Modeling software)
- Online databases: Expassy Bioinformatic Resource Portal, UniProt, NCBI and others

⁶ European Credit Transfer and Accumulation System (ECTS) is a standard for comparing the study attainment and performance of students of higher education across the European Union and other collaborating European countries.