

1.2 Linguistic : English (fluent), German (fluent), Arabic (fluent)

1.3 Computer skill: Work with basic computer programs (MS Office, Word, Excell, Power Point, etc...). Many statistical analysis and graphic programs such as Origin, SPSS, Sigmaplot, etc...

1.2-Work Experience:

Current position(s):

Professor (April 2009 – present)
Bioprocess Engineering Department
Faculty of Chemical Engineering and Energy
Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor, Malaysia

Acting Director (Feb. 2018 – present)
Institute of Bioproducts Development (IBD)
Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor, Malaysia

Previous positions:

Assistant Director for Innovation and Products Development (April 2009 – Feb. 2018)
Institute of Bioproducts Development (IBD)
Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor, Malaysia

Visiting Associate Professor (April 2008 – March 2009)
Faculty of Chemical and Natural Resources Engineering
Chemical Engineering Pilot Plant (CEPP)
Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor, Malaysia

Assistant Director of Mubarak City for Research Institutes Affairs (August, 2007-April, 2008)
Professor (2009- present)
Bioprocess development Dept.
Mubarak City for Scientific Research
Genetic Engineering and Biotechnology Research Inst.
New Burg Al-Arab, 21934 Alexandria, Egypt.

Researcher Assistant/Researcher/Assistant/Associate Professor/Professor (1989- 2008)
Bioprocess development Dept.
City of Scientific Research and Technology Applications
(Previously known as Mubarak City for Scientific Research)
Genetic Engineering and Biotechnology Research Inst.
New Burg Al-Arab, 21934 Alexandria, Egypt.

Ph.D. student (1995-1998)
Biochemical Engineering Dept.,

The National Research Center for Biotechnology (GBF), 38124-Braunschweig
Germany

Researcher assistant (1989-1994)
Natural and Microbial products Dept.
National Research Center, Dokki, Cairo, Egypt.

Professional/Industrial Position Held

Researcher specialist/ Production specialist at Fermentation Plant (1990-1991)
El-Nasr Pharm. Chem. Co. Abou-Zabal, Cairo, Egypt.
(Establish new industrial platform for antibiotic production from laboratory scale up to 10,000 L stirred tank bioreactor).

Visiting Professor for the following Universities:

- Ohio State University, USA (2013/2014/2015/2016/2017)
- Lund University, Sweden. (2013/2015)
- Hamburg-Harburg University, Germany (2015)
- Leibniz Institute of Plant Biochemistry (2013)
- Queensland University of Technology, Australia (2014)
- King Saud University, Saudi Arabia (2013/2014/2015)
- Qassem University, Saudi Arabia. (2013)
- Xian University, China (2013)
- Shizuoka University, Japan (honor guest Professor) (2015/2016/2017)

Post-Doc. Positions

Post-doc. In Cell Culture Department
The National Research Center for Biotechnology (GBF), 38124-Braunschweig
Germany
From Sept. 2002 – Nov. 2002
(Transient transfection of HEK-293 cell line and growth adaptation in serum free medium)

Post-doc. In Chemical Engineering Dept.
Chemical Engineering, Dept., The Ohio State University,
Columbus, 43210 OH, USA
From Apr. 2001 – Oct. 2001
(Bioprocess Optimization for monoclonal antibody production in different scales)

3. Industrial Consultation and Board Member in International companies:

Biotechnology consultant (March. 2000-Present)
United Scientific Co. (New Brunswick/Eppendorf agent and Technology transfer activity)
Biotechnology facility design, training program organizer, troubleshooting for
Biotechnology Equipment, Bioprocess designer, technology transfer and technology
development. (For companies and research organizations in the middle east).
Cairo, Egypt.

Biotechnology consultant (March. 2000- present)

Biogro International Co.

Consultant for bioprocess design and optimization for production of biological control agents, project management, technical assessment and technology transfer.

Cairo, Egypt

Management Board Member and Bio-Business consultant (March. 2010- March 2016).

All Cosmos Industries Sdn. Bhd. (Pasir Gudang, Johor, Malaysia).

For Technology Platform design, R&D, and International Business Development.

www.allcosmos.com

Advisory Board Member and Biobusiness consultant (November 2014-Present)

Free The Seed Sdn. Bhd. (Penang, Malaysia).

To develop RD platform and managing the intellectual capital plan.

Bio-Business consultant (April. 2008 – 2010)

For RTD, Technology Transfer and International Business Development

BioNova Co. (Athens, Greece).

Scientific Advisory Board Member (July 2010- July 2011)

For R&D and future International Business Development.

Return2Green Sdn. Bhd. (Penang, Malaysia)

Bio-Business Consultant (July 2011 – June 2012)

For Technology Platform Design and International Business Development

BioAlpha Sdn. Bhd. (Kuala Lumpur, Selangor, Malaysia)

www.bioa.net

Scientific board member and Biobusiness consultant (Feb. 2008 – Feb. 2009)

NewSummit Biopharma Group

Shanghai, China

www.newsummitbio.com

Research Management Positions:

1. Assistant Director for Institute of Bioproducts Development (IBD) for Research and Innovation. (March 2011 – present), Coordinate Research groups activities (30 researchers), put short-, mid-, longterm plan for research programs. Cooperation and networking with local, regional, and international research organizations. Set up goals/objectives in for of measurable KPI for each department. Annual assessment for researchers.

2. Coordinator for industrial cooperation program for R&D and industrial manufacturing of bioactive metabolites with different Malaysian and International companies, Institute of Bioproducts Development (IBD), Universiti Teknologi Malaysia, Malaysia. (March 2011-present). Set-up biotechnology incubator platform for local and international industries.

3. Member in Top management committee, Institute of Bioproduct Development, Universiti Teknologi Malaysia, Malaysia. (March 2011 – Present)

4. Head of Microbial Bioprocessing facility platform at IBD (A complete platform from cell banking up to large scale production in 1500 L bioreactor with complete downstream facility). (June 2008 – present)

5. Assistant Director for Research Institutes Affairs at City of Scientific Research and Technology Applications, Alexandria, Egypt (Oct. 2007 until April 2008). Management of Research Activities in the frame of national research policy of Egypt. Coordinate institutional framework for interdisciplinary research between different institutes. Review the research programs and support research activities using internal and external funds.

4. Head of the biotechnological pilot plant of genetic engineering and biotechnology research institute, City for Scientific Research, Alexandria, Egypt (2002-2008). This pilot plant with complete up stream fermentation facilities up to 300L bioreactor and different types of downstream equipments. Put strategic plan for operation and maintenance of the unit. Cooperation with industrial partners local/international for development of prototype products and bioprocess industrialization.

5. Head of the Biosafety committee of City of Scientific Research and Technology Applications (March 2005 until April. 2008). Implement governmental policy for Biosafety. Organizing proper training programs for all personnel for biosafety. Put strategy for biowaste management and implement this strategy within the organization.

4. Academic degrees

4.1. Dr. rer. Nat. Industrial Biotechnology

„Optimization of production and excretion of recombinant Glucose oxidase in *Aspergillus niger* „

Summary of work:

The thesis was focused on the development of industrial platform for GOx production using recombinant *A. niger*. Bioprocess platform was developed based on microbiological and biochemical engineering parameters to cultivate the fungal cells in high cell density and to scale up the process to semi-industrial scale. The thesis includes also the development of a new model (morpho-physiological model) for fungal cell cultivation to maximize the recombinant protein production and increasing enzyme excretion.

Note: More information and the whole text of this work can be found under the following link:

<http://www.biblio.tu-bs.de/ediss/data/19980514a/19980514a.html>

4.2. M.Sc. Microbiology

" Microbiological and biochemical studies on the production of rifamycins "

Summary of work:

The thesis was focused on the production of rifamycins using free cell fermentation and repeated batch production using immobilized cells. In addition to natural polymers used for cell entrapment such as alginate gelatin and agar, inorganic support such as glass wool had been successfully used for cell immobilization.

4.3. M.Sc. Technology Management (Part I) July 2009- Dec. 2010

Business studies for 5 semesters for the following topics in master level:

1. Organizational Development
2. Marketing Management
3. Corporate Financial Management
4. Operation and Technology Management
5. Development and Economics
6. Human Resource Management
7. Supply Chain Management

4.3. M.Sc. Technology Management (Part II). –

“ Studies on factors affecting business performance of biotechnology companies”

Summary of work:

The study was designed to develop a new on-line assessment research instrument to measure non-financial business performance of biotechnology companies. The research instrument was developed using mixed research approach (a combination between Delphi method and close ended questionnaire). Based on this study, a new non-financial business performance indexes (n-FBPI) were developed for online assessment for biotechnology companies. This research instrument is now available online under: www.biotechhorizon.com

5. RESEARCH/WORK EXPERIENCE

1- Industrial Biotechnology

1. Production of biomass, primary and secondary metabolites using microbial cells (biocontrol agents, bacterial and non-bacterial probiotics, amino acids, organic acids, antibiotics, polysaccharides, immunomodulators).
2. High cell density cultivation for production of biological control agents, enzymes using recombinant *E. coli*, *P. pastoris*, *A. niger* cell factories.
3. Production of bioactive compounds using immobilized cell system.
4. Morpho-physiological models for microbial growth to enhance bioactive metabolites production using fungal/actinomycetes cells.
5. Mushroom cell cultivation in submerged culture system for discovery and production of bioactive/immunomodulators for human and animal use.
6. Bioprocess Engineering and industrial biotechnology platform design (Integrated approach).
7. cGMP facility (Design and regulations)
8. Production of biotherapeutics using mammalian and human cells.

9. Cultivation of stem cell for tissue engineering.

2- Knowledge Based Economy/Management

1. Biotechnology Product Business Development /Marketing
2. Capital structure in knowledge based economy industries
3. Intellectual capital and capital structure in Biotechnology industries
4. Management models of Private and Corporate Universities
5. Leadership and succession planning in High Education and Research Organizations.
6. Dynamic organizational structure to increase organization performance.
7. Human Capital Development in knowledge based economy industries as part of intellectual capital model.

6-Projects:

6.1 Rifamycins Production by *Amycolatopsis mediterranei*. (team member)

(A Joint Project with the Egyptian Academy of Science)

From Nov. 1991 To Mar.1995

6.2 Production of Oxytetracycline from molasses using *Streptomyces rimosus* (team member).

(A Joint project with the Egyptian Sugar and Distillation Co.)

From Nov. 1991 To Mar. 1995

6.3 Lignin decomposition using thermophilic microorganisms (team member)

(Egyptian - American project)

From Apr. 1994 To Mar. 1995

6.4 Xanthan production from wastes of food industries (team member)

(Egyptian - American project)

From Jan. 1993 To Oct. 1993

6.5 Erythromycin production using some sugar industry by-products (team member)

(A Joint project with the Egyptian Sugar and Distillation Co.)

From June. 1998 To Jan. 2001

6.6 Production of thermostable B-galactosidase by recombinant strain of *Escherichia coli*.(team member)

(National Strategy of genetic engineering and biotechnology fund)

(Member in research team)

From Jan. 1999 To 2003

6.7 Isolation and characterization of bone marrow derived mesenchymal stem cells:

Potential medical applications. (Co PI)

From 2002 To 2004

- 6.8. Production of monoclonal antibodies (Muromonab Anti CD3) for kidney transplant. (National Strategy of genetic engineering and biotechnology fund) (100,000 LE) (Principle investigator).
From 2004 To Present
- 6.9. Production of anticancer compounds from mushroom (Cooperative project Egypt-China). Co. PI
From 2004 To March 2008
- 6.10. Production of Phytase and Chitinase from Agricultural Wastes in Stirred Tank Bioreactor and Spouted Bed Bioreactor. (Cooperative project with Ohio State University, US). (60,000 US\$) (Principle Investigator).
From Feb. 2006 to March 2008
- 6.11. Production of anticancer compounds from plant cell. Part III. Cultivation of plant cells in photo-bioreactor. (team member)
From April 2005 to April. 2008
- 6.12. Industrialization of recombinant protein production (TMOF) by *Pichia pastoris* in high cell density culture for Dengue control (Industrial Project. EntoGenex Sdn Bhd., Malaysia) (Project PI) (152,084 RM)
From Nov. 2008 to Oct. 2009
- 6.13. Bioprocess development and scaling up for the production of nitrogen fixing bacteria (co-investment Industrial project between CEPP, UTM and AllCosmos Sdn Bhd., Malaysia) (Project PI) (450,000 RM)
From Sept. 2009 to Aug. 2013
- 6.14. Cell banking and optimization of medium composition for *Ganoderma lucidum*. (Industrial project between IBD, UTM and BioScience Sdn. Bhd. Malaysia), (Project PI) (15,000 RM)
From Mar. 2010 to Dec. 2010
- 6.15. Isolation and cultivation of mycorrhiza in pilot scale for biofertilizer applications. (Industrial project Allcosmos Sdn. Bhd. Malaysia), (Project PI) (15,000 RM)
From Sept. 2010 to Aug. 2011.
- 6.16. Bioprocess Development for High Cell Density Cultivation and Scaling up for *Hendersonia* sp.: a biocontrol agent for fungal oil palm disease. (Industrial project Allcosmos Sdn. Bhd. Malaysia),

(Project PI) (45,000 RM)
From October 2011 to Aug. 2012.

6.17. Efficient bio sorption of chromium and selenium by probiotic yeast using *Saccharomyces boulardii* to produce chromium yeast and selenium- yeast for human consumption.
(Research Project GUP fund)
Project Co-PI (100,000 RM)
From April. 2011 to March 2013

6.18. Establishing microbial platform for biofertilizer application (Phase I)
(Industrial Project, Allcosmos Sdn. Bhd., Malaysia)
(Project PI) (270,000 RM)
From May 2011 – Apr. 2014.

6.19 Efficient polysaccharide production by *Pleurotus ostreatus*
(UTM RU-Research Grant)
(Project PI) (40,000 RM)
From April 2011 – Sept. 2012.

6.19 Bioprocess optimization for efficient polysaccharide production by *Lactobacillus kefiranofaciens* in semi-industrial scale.
(UTM RU-Research Grant)
(Project PI) (20,000 RM)
From Sept. 2012 – August 2013

6.20 Isolation, identification and growth kinetic studies of effective microbial consortium for waste water treatment
(Industrial Project for Indah Water Sdn. Bhd., Malaysia)
(Project PI) (176,000 RM)
From Sept. 2012 – Feb. 2014

6.21 Bioprocess Optimization and scaling up studies for *Hendersonia* sp.a biocontrol agent
for fungal oil palm disease.
(Industrial Project for AllCosmos Industries Sdn. Bhd., Malaysia)
Project PI (100,000 RM)
From Sept. 2012 – March 2013

6.22. High cell density cultivation of *Bacillus firmus* for biocontrol of nematodes in black pepper plants (*Piper nigrum*).
(Industrial Project for AllCosmos Industries Sdn. Bhd., Malaysia).
Project PI (30,000 RM)
From July 2013 – Jan 2014

- 6.23. Development of cultivation strategy for high cell density cultivation of *Bacillus subtilis*: A biocontrol agent for fungal pathogens in black pepper plants (*Piper nigrum*) (Industrial Project for AllCosmos Industries Sdn. Bhd., Malaysia).
Project PI (28,000 RM)
From July 2013 – Jan 2014
- 6.24. Bioprocess Development for semi-industrial production of *Bacillus thuringiensis*: a biocontrol agent against for agriculture application (Industrial Project for Harita Go Green, Sdn. Bhd.)
Project PI, (110,000 RM)
From Oct. 2014 – Sep. 2015.
- 6.25. Establishing microbial platform for biofertilizer application (Phase II) (Industrial Project, Allcosmos Sdn. Bhd., Malaysia)
Project PI, (270,000 RM)
From Jan. 2015 – Dec. 2017.
- 6.26. Scaling up studies on microbial strain for agricultural application (Industrial Project, Arif Effective Sdn. Bhd., Malaysia)
Project PI, 381,000 RM
From April. 2016 – March. 2019.
- 6.27. Scaling up microbial fermentation for high cell mass and spore forming of *Bacillus thuringiensis*: a biocontrol agent for agriculture applications. (Industrial Project for Harita Go Green, Sdn. Bhd.)
Project PI, (138,000 RM)
From Jan. 2016 – Dec. 2016.
- 6.28. High cell density cultivation of microbial probiotics for animal feed application. (Industrial Project with SBG Feed, Sdn. Bhd.)
Project PI, (60,000 RM)
From Jan. 2017 – Dec. 2017
- 6.29. Bioprocess optimization for novel probiotic *Bacillus* strain for human and animal food supplements. (Industrial Project for Harita Go Green, Sdn. Bhd.)
Project PI, (140,000 RM)
From Jan. 2017 – Dec. 2017
- 6.30. Development of new cultivation strategy for high cell mass of *Lactobacillus ruteri* in semi-industrial scale. (HiCOE project, governmental grant).
Project PI, (240,000 RM)
From Jan. 2017 – Dec. 2018.
- 6.31. Production of Cellulases and xylanases enzymes from *Trichoderma* sp. for industrial applications. (Co-funded Project between UTM and Harita Go Green Sdn. Bhd.)

Project PI, (50,000 RM)
From Aug. 2017 – Jul. 2018.

6.32. Production of standardized *Melastoma malabathricum* and *Annona muricata* whole extract.

(HiCOE project, governmental grant)
Project Co-PI (147,950 RM)
From Jan. 2017 – Dec. 2018.

7- Reference Persons:

a. Academic Reference

1- Prof. Dr. Shang-Tian Yang,
Director, Ohio Bioprocess Research Consortium
Professor, Chemical Engineering in Food Science, Cell culture and Tissue Engineering
The Ohio State University.
140 West 19th. Avenue, Columbus, Ohio 43210, USA
Tel.: (614)292-6611, Fax: (614)292-3769
E-mail: yang.15@osu.edu

2-Prof. Dr. Rajni Hatti-Kaul
Head of Biotechnology Department
Centre for Chemistry and Chemical Engineering
Lund University
Getingevägen 60
Lund, PO Box 124 SE-221 00 Lund,
Sweden.
Tel: 0046462224840. Fax: 0046462224713
E-mail: Rajni.Hatti-Kaul@biotek.lu.se

3- Prof. Dr. Enoch Park
Research Institute of Green Science and Technology, Shizuoka University.
836 Ohya, Suruga-ku, Shizuoka 422-8529, Japan
Tel: 0081-54-238-4887, Fax: 0081-54-238-4887.
Email: park.enoch@shizuoka.ac.jp

4- Prof. Dr. An-Ping Zeng
Dean of Institute of Bioprocess and Biosystem Engineering
Technische Universität Hamburg-Harburg
Denickestr. 15
D-21071 Hamburg, Germany
Tel: +49 (0) 4042878 – 4183, Fax: +49 (0) 40 42878-2909
Email: aze@tuhh.de

B- Industrial Reference

1. Dato Dr. Tony Peng
 CEO, Allcosmos Bio-tech Holding Corporation
 CEO, Allcosmos Industries Sdn. Bhd.
 PLO 539, Jalan Keluli, Pasir Gudang Industrial Estate,
 81700 Pasir Gudang, Johor, Malaysia
 Tel: +607-252 3788, +60197780495
 Fax: +607-251 2588
 Email: tonypeng@allcosmos.com

2. Mr. Joel William
 Snr. Business Development Manager (Life Science, APAC)
 M+W Group, M+W Singapore Pte. Ltd.
 16 International Business Park,
 #2-00, Singapore 609929.
 Tel: +65 6725 9500
 Email: joel.william@mwgroup.net

3. Mr. Salah Abdel Fattah
 CEO Biogro International
 24 Dr. El Sobky St., Dokki, Cairo, Egypt
 Tel: +2 0233367880, +2 01144449939
 Fax: +2 0237613211
 Email: cleobio@link.net

8- Membership in International Organizations and Scientific Societies

- 8.1 World Academy of Art and Science (WAAS), Minnesota (USA)
 Junior fellow Jan. 1997- Dec. 2001
- 8.2 Microencapsulation Research Group *MRG* (France) since 1996
- 8.3 Society of Applied Bacteriology *SAB* (England) since 1996
- 8.4 American Society of Microbiology *ASM* (USA) since 1996
- 8.5 Society of Actinomycetes *SAJ* (Japan) since 1996
- 8.6 Society of Industrial Microbiology *SIM* (USA) since 1996
- 8.7 Anaerobic Society of the Americas *ASA* (USA) since 1997
- 8.8 Egyptian Society for Biotechnology (Egypt) since 2002
- 8.9. American Institute of Chemical Engineering *AIChE* (USA) since 2012

9. SERVICES

(a) Membership of Institutional, National, or International Scientific Advisory Board.

1. Member in Malaysian National Panel for Research/Development/Commercialization (Ministry of Higher Education, Malaysia). From Jan. 2015 to Dec. 2015.
2. Director of A15 section (Food), American Institute of Chemical Engineering (AIChE), USA, Elected on Dec. 2015 (Jan. 2016 – Dec. 2017).
3. Member in University Professor Board for PhD evaluation and examination.

- (Dec. 2015 – Present), University Teknologi Malaysia, UTM, Malaysia.
4. Member of Management Board of Institute of Bioproduct Development (Jan. 2011- Present). IBD-UTM, Malaysia
 5. Scientific Advisory Board Member, Return 2 Green Industries Sdn. Bhd. (July 2010 – July 2011). Penang, Malaysia
 6. Management and Advisory board member, Allcosmos Industries Sdn. Bhd. (March 2010 – Present). Johor Bahru, Malaysia
 7. Scientific Advisory Board Member, Free the Seed Sdn. Bhd., Penang, Malaysia (Nov. 2014 – Present).
 8. International Scientific Advisory Board Member. NewSummit Biopharma Group. Shanghai, China. (Feb. 2008 – Feb. 2009).

(b) Membership of Conference Committees

1. Chairman for session Process Development for Sustainable Food and Biochemical Production (Oral Presentation Session). American Institute of Chemical Engineering (AIChE 2016), San Francisco, CA, USA (13-18 Nov., 2016).
2. Co-Chairman for 6th. International Conference of Biotechnology for Wellness Industries. (6th. ICBWI), Melaka Malaysia. (16-17 August, 2016).
3. Co-Chair for Session: Bio-Presepcting in Biological Agents for Sustainable Agriculture. 5th. International Conference: Plant, Pathogen, and People. Chalanges in plant pathology to benefit humankind. New Delhi, India. (23-27 February, 2016)
4. Co-Chairman for Session Advances in Food and Bioprocess Engineering (Oral Presentation Session). American Institute of Chemical Engineering (AIChE 2015), Salt Lake City, Utah, USA (8-13 Nov., 2015).
5. Chariman for Session Advances in Food and Bioprocess Engineering (Poster Presentation Session). American Institute of Chemical Engineering (AIChE 2015), Salt Lake City, Utah, USA (8-13 Nov., 2015).
6. Member in Scientific Advisory Board Committee. International Research Initiative Conference (IRIC). Contonments, Accra, Ghana, (10-11 Nov., 2015).
7. Member of Scientific Board Committee. The 17th. International Conference on Process Engineering and Advances Materials. Venice, Italy (13-14 April., 2015).
8. Member of Scientific Board Committee. The 17th. International Conference on Industrial Biotechnology and Bioenergy. Venice, Italy. (30-31 Dec., 2015).
9. Chariman for Session Biotechnology in Middle East and Arabic Countries (Oral Session). American Institute of Chemical Engineering (AIChE 2014), San Francisco, California, USA (16-21 Nov., 2014).
10. Co-Chairman of the 5th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (21-22 June, 2014).
11. Scientific Committee, National Research Initiatives Conference (NaRIC), Accra, Ghana, 8-10 July, 2014.
12. Advisory Committee, Afro-Asian Congress on Microbes for Human&Environmental Health. (MICRO-BIOTECH 2014), 29 Sept., 1 Oct., New Delhi, India.

13. Member of Advisory Scientific Board Committee of the 4th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (20-21, Jun., 2012).
14. Member of Advisory Scientific Board Committee of the 3rd. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (8-9 Oct., 2010).
15. Member of Advisory Scientific Board Committee of the 2nd. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (23-26 Jul., 2009).
16. Member of Advisory Scientific Board Committee of the 1st. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (5-6, Aug., 2008).
17. International Committee. 15th. International Conference on Management Engineering, Dubai, UAE (2-3 Dec., 2013).

Service as Reviewer

Journals

Biotechnology and Bioengineering, Biotechnology Progress, Process Biochemistry, Bioprocess and Biosystem Engineering, Applied Microbiology and Biotechnology, Biochemical Engineering Journal, Bioresource Technology, Biotechnology, Journal of Microbiology and Antimicrobial PLOS 1 Trends in Biotechnology Biotechnology and Bioprocess Engineering Ecotoxicology and Environmental Safety Journal of Herbal Medicine, Carbohydrate Polymers Bioactive Carbohydrates and Dietary Fibre, Biocatalysis and agriculture Biotechnology, Extermophiles, Journal of Gastric Disorders, And Many Others

Books:

Reviewer for Book Proposals (John Wileys and Sons Publisher, USA).

Membership of Journal Editorial Boards.

1. International Journal of Biotechnology for Wellness Industries (Editor-In-Chief) Since 2012. www.lifescienceglobal.com/journals/international-journal-of-biotechnology-for-wellness-industries
2. Biosciences Biotechnology Research Asia (Editor-In-Chief) Since 2016. www.biotech-asia.org
3. Journal of Scientific and Industrial Research (Editorial Board Member) Since 2014
4. Journal of Indian Phytopathology (Editorial Board Member) Since 2016
5. Journal of Advanced Scientific Research (Editorial Board Member) Since 2013
6. Journal of Agriculture Research and Innovation. (Editorial Board Member) Since 2014
7. International Journal of Drug Discover and Medical Research (Editorial Board Member) Since 2012
8. Journal of Oxidative Medicine and Cellular Longevity (Guest Editor 2015) for special issue entitled: Medicinal Plants in Therapy: Antioxidant Activities.

- Membership in NGO`s of social activities

11.1 The Mentally Retarded Development Association, (Cairo, Egypt). Member of the BOD (Board of directors) and responsible for 3 different rehabilitation centers of mentally retarded children.

11.2 Member in Salasyl Al-khier organization. (Cairo, Egypt) A social organization for helping mentally retarded people, hospitals, Orphans and homeless children.

10- Prizes/Awards

- 12.1. Distinguish Research Prize for 2001-2002 in Mubarak City for Scientific Research and Technology Applications.
- 12.2. Best Student Award Prize for M.Sc. Technology Management 2012. (Uinversiti Teknologi Malaysia).
- 12.3. IBD Research Award 2011 (IBD, UTM, Malaysia)
- 12.4. University Research Award 2012 (UTM, Malaysia).
- 12.5. Anugerah Khidmat Cemerlang IBD 2012
- 12.6. Anugerah Penyelidikan Terbaik 2012 “Efficient Polysaccharide Production by *Pleurotus ostreatus* in submerged culture”
- 12.7. Anugerah Kerja Berkumpulan Terbaik 2012 “Establishment a platform for GMAC requirements to evaluate IBD facilities compliance in dealing with genetically modified organisms”
- 12.8. Gold Award , Bioinnovation Award 2012, Biomalaysia, 2012
- 12.9. Silver Award, 23rd. International Invention, Innovation and Technology Exhibition (ITEX), 2012
- 12.10. Bronze Award, 14th. International Art and Technology Exhibition (INATEX), 2012.
- 12.11. Gold Award, Bioinnovation Award 2013, BioMalaysia, 2013.
- 12.12. Excellence Award for the best collaborative laboratory with industry: Bioprocessing (BioEconomy Malaysia), 2015.
- 12.13. Best service award for Faculty of Chemical Engineering and Energy (UTM), 2017
- 12.14. Best Service award for International linkages and international program for Institute of Bioproduct Development (IBD-UTM), 2017
- 12.15. Excellence award for the best collaborative laboratory with industry: Bioprocessing. (BioEconomy Malaysia), 2017.

Publications:

<u>Type of Publication</u>	<u>Number of Publication</u>
Articls in Internation Refereed Journals	120
Conference Papers	
Books	3
Book Chapters	22
Patents	2
Others	
(publications in Arabic Language)	3
(Publicationin German language)	1
 <u>Citation Sources</u>	 <u>Number of Citations</u>
SCOPUS	736 (H-index=15)

Google Scholar
SCOPUS Author ID: [6602993477](https://scopus.com/authors/details/6602993477)
ORCID ID: orcid.org/0000-0002-9712-2033
Google Scholar:
<https://scholar.google.com/citations?user=MW4mqiQAAAAJ&hl=en>

1513 (H-index=21)

11- List of Publications

11.1. Patents

1. El Enshasy, H. (2006) New method for mushroom cell cultivation and peptidoglycan production in bioreactors. Egyptian Patent No. 24637. (Dated 7/6/2006).
2. El Enshasy, H and Ibrahim, A. (2006). Industrial unit for mushroom cell cultivation in submerged culture mixed by air under sterile condition for production of pharmaceutically important compounds in semi-industrial scale. Egyptian Patent No. 24730 (Dated (14/6/2006).

11.2. Books:

1. New Trends in Large-Scale Mammalian Cell Culture: Cell Adaptation; 2012, (Elshereef, A.; El-Enshasy, H.; Abdeen, S. Eds). LAP Lambert Academic Publishing. Germany ISBN: 978-3659159367
2. Bioprocessing Technologies in Integrated Biorefinery for Production of Biofuels, Biochemicals, and Biopolymers from Biomass. 2013 (Yang S-T, El Enshasy HA, Thongchul N, Eds.), John Wiley&Sons, USA. ISBN 0470541954, 9780470541951.
<http://onlinelibrary.wiley.com/book/10.1002/9781118642047>
3. The potential Benefits of Nanotechnology-based Pharmaceutical Formulations ; 2015 (Elmarzugi NA and El-Enshasy HA, Eds.). UTM Press, <http://www.penerbit.utm.my/>, ISBN 978-983-52-1006-8.

11.3. Book Chapters

- 1- El-Enshasy, H.A.; Farid, M.A. and El-Diwany, A.I. (1996). Oxytetracycline production by free and immobilized cells of *Streptomyces rimosus* in batch and repeated batch cultures. *In Progress in Biotechnology Vol. 11 „Immobilized cells: Basics and Applications“* pp. 437-443. (Eds. Wijffels, R.H.; Buitelaar, R.M.; Bucke, C. and Tramper, J.). Elsevier Science B.V.
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113. El Baz A, El Enshasy H, Shetia YM, Mahrous H, Othman NZ, Yousef AE (2017). Probiotic assessment and semi-industrial scale production of a new yeast, *Cryptococcus* sp. YMHS, isolated from the red sea. Probiotics and Antimicrobial Proteins (accepted). <https://doi.org/10.1007/s12602-017-9291-9>
114. Ariffin SJ, Yahayu M, El Enshasy H, Abd Malek R, Abd Aziz A, Hashim NM, Zakaria ZA. (2017). Optimization of pyroligneous acid production from palm kernel shell and its potential antibacterial and antibiofilm activities. Indian Journal of Experimental Biology 55, 427-435.
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118. Kandiyil S, Abdul Malek R, Aziz R, El Enshasy HA (2018). Development of an industrially feasible medium for enhanced production of extremely thermophilic

recombinant endo- 1,4- β -xylanase by *Escherichia coli*. Journal of Scientific & Industrial Research. 77, 41-49.

119. Hanapi SZ, Abdelgalil SA, Hatti-Kaul R, Aziz R, El Enshasy HA (2018). Isolation of a new efficient dye decolorization white rot fungus *Cerrena* sp. WICC F39. Journal of Scientific and Industrial Research, (In Press)

120. Hanapi SZ, Abdelgalil SA, Hatti-Kaul R, Aziz R, El Enshasy HA (2018). Isolation of a new efficient dye decolorizing white rot fungus *Cerrena* sp. WICC F39. Journal of Scientific and Industrial Research (In Press)

(b) Membership of Conference Committees

1. Co-Chairman of the 6th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (16-17 June, 2016).
2. Co-Chairman for Session Advances in Food and Bioprocess Engineering (Oral Presentation Session). American Institute of Chemical Engineering (AIChE 2015), Salt Lake City, Utah, USA (8-13 Nov., 2015).
3. Chariman for Session Advances in Food and Bioprocess Engineering (Poster Presentation Session). American Institute of Chemical Engineering (AIChE 2015), Salt Lake City, Utah, USA (8-13 Nov., 2015).
4. Member in Scientific Advisory Board Committee. International Research Initiative Conference (IRIC). Cononments, Accra, Ghana, (10-11 Nov., 2015).
5. Member of Scientific Board Committee. The 17th. International Conference on Process Engineering and Advances Materials. Venice, Italy (13-14 April., 2015).
6. Member of Scientific Board Committee. The 17th. International Conference on Industrial Biotechnology and Bioenergy. Venice, Italy. (30-31 Dec., 2015).
7. Chariman for Session Biotechnology in Middle East and Arabic Countries (Oral Session). American Institute of Chemical Engineering (AIChE 2014), San Francisco, California, USA (16-21 Nov., 2014).
8. Co-Chairman of the 5th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (21-22 June, 2014).
9. Scientific Committee, National Research Initiatives Conference (NaRIC), Accra, Ghana, 8-10 July, 2014.
10. Advisory Committee, Afro-Asian Congress on Microbes for Human&Environmental Health. (MICRO-BIOTECH 2014), 29 Sept., 1 Oct., New Delhi, India.
11. Member of Advisory Scientific Board Committee of the 4th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (20-21, Jun., 2012).
12. Member of Advisory Scientific Board Committee of the 3rd. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (8-9 Oct., 2010).
13. Member of Advisory Scientific Board Committee of the 2nd. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (23-26 Jul., 2009).

14. Member of Advisory Scientific Board Committee of the 1st. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (5-6, Aug., 2008).
15. International Committee. 15th. International Conference on Management Engineering, Dubai, UAE (2-3 Dec., 2013).

11.5. Lectures

1- El-Enshasy, H.A, *Kinetic of natamycin production and degradation under different glucose concentrations in batch and fed-batch cultures*. The 11th. International Symposium on the Biology of Actinomycetes. Oct. 24-28, 1999, Crete, Greece.

2- El-Enshasy, H. A. *Studies on the kinetic of streptomycin production and degradation by Streptomyces griseus during the scaling up from shake flask to bioreactor*. Role of Biochemistry in Environment and Agriculture. Feb. 6-8, 2001, Cairo, Egypt.

3- El-Enshasy, H.A. *Prediction of Bottle Neck(s) for Technology Transfer of Antibiotic Production from Laboratory Scale to Pilot Plant: Case of Study-Natamycin*. Assiut University 3rd. Pharmaceutical Sciences Conference. March 5-6, 2002. Assiut, Egypt. (Invited speaker)

4- El-Enshasy, H.A. *Mammalian Cell Technology: The Biofactory of the future human therapeutics in pharmaceutical industries*. The 1st. International congress pharmaceutical & drug industries division, National Research Centre, March 24-26. 2003, Cairo. Egypt. (Invited speaker)

5- El-Enshasy, H.A. *Kinetic of cell growth and amino acid metabolism of Human Embryonic Kidney HEK-293 cells grown in serum free medium at different EDTA concentrations*. The 1st. International congress pharmaceutical & drug industries division, National Research Centre, March 24-26.2003, Cairo. Egypt. (Invited speaker)

6-El-Enshasy, H.A. *Eukaryotic cell factories: Mammalian and Insect cells. New Era of Biotechnology in Pharmaceutical Industries*. 22nd. September, 2003, Mubarak City for Scientific Research, New Burg Al Arab, Alexandria, Egypt. (Invited speaker)

7- El-Enshasy, H.A. *Glucose oxidase from bench to market*. US-Egypt Workshop on Genetic Engineering and Genomics, Mubarak City for Scientific Research. 5-8 December, 2003, Alexandria, Egypt. (Invited speaker)

8- El-Enshasy, H.A. *Shear stress: The most important barrier for scaling up of mammalian cells cultivation from laboratory T-flask to large scale bioreactors*. The 1st. International Conference on Green&Advanced Engineering Technologies. National Research Centre, 3-6 January, 2004. Cairo, Egypt.

9- El-Enshasy, H.A. *Human and Animal cells: The new biofactories of the future drugs in pharmaceutical industries*. The 4th. International Pharmaceutical Science Conference. March 6-7, 2004, Assiut, Egypt. (Invited speaker)

10- El-Enshasy, H.A. *Overproduction of Gluconic Acid by Combined Use of Genetic Engineering and Bioprocess Development Technologies*. The 1st. International Conference of Genetic Engineering and Biotechnology division. March 15-17, 2004, Cairo, Egypt. (Invited speaker)

11- El Enshasy, H.A. *Human and Animal Cells: The New Biofactories of the Future Drugs in Pharmaceutical Industries*. The 3rd. Symposium on Scientific Research and Technology Development, Outlook in the Arab World, 11-14 April., 2004, Ryadh, Saudi Arabia. (Invited Speaker)

11- El-Enshasy, H.A. *The Use of Antibiotics in Immobilized Form: A Controlled Drug Delivery System to Minimize the Risk of Drug Misuse/Misdose in Developing Countries*. The World Conference on Magic Bullets. Celebrating Paul Ehrlich's 150th. Birthday. September 9-11, 2004. Nürnberg, Germany. (Invited speaker).

12- El Enshasy, H.A. *Biotechnology and Biobusiness of Probiotics: From slant to powder. The Egyptian-German Nutrition Workshop. Probiotics for Health Promotion (Present Status and Future Prospectives)*. May 14-16, 2005. Giza, Egypt. (Invited Speaker).

13- El Enshasy, H.A. *Anticancer activity of polysaccharides produced by Pleurotus ostreatus in submerged culture*. Genetics and Cellular Biology of Basidiomycetes VI. 3-6 June, 2005. Pamplona, Spain

14- El Enshasy, H.A. *New Biofactories in Pharmaceutical industries using non-microbial cells. Biotechnology the language of future in biomedical field*. 28 June-6 July, 2005. Cairo. Egypt (Invited speaker).

15- El Enshasy, H.A. *Biotechnology Development in Egypt: Bio-Academia and Bio-Industry*. International Greek Forum for Biotechnology, (IGBF2), July 1-3, 2005, Athens, Greece. (Invited speaker).

16- El Enshasy, H.A. *Bioactive Compounds from Mushroom: From Farm to Pharma*. July, 21st. Universiti Teknologi Malaysia (UTM), CEPP, Skundai, Johor, Malaysia. (Invited speaker)

17- El Enshasy, H.A. *Biopharmaceuticals Global Business Growth, Market Segments and Innovative Products*. July 24th. Universiti Teknologi Malaysia (UTM), City Campua, Kuala Lumpur, Malaysia. (Invited Speaker)

18- El Enshasy, H.A. *The importance of local science park as Biobusiness partner for dynamic technology transfer and industrialization of innovative bioproducts in Egypt*.

International Greek Forum for Biotechnology, (IGBF3). Oct. 4-7, 2006, Athens, Greece. (Invited speaker).

19- El Enshasy, H.A. *The role of Mubarak City for Scientific Research in Technology Transfer, Implementation and Development in Biopharmaceutical Business*. International Greek Forum for Biotechnology (IGBF4). Feb. 2-3, 2008. Athens, Greece (Invited Speaker).

20- El Enshasy, H.A. *Industrial Bioprocessing for Metabolites Production*. 1st. International Conference on Biotechnology for the Wellness Industry (1st. ICBWI), August 5-6, 2008. Kuala Lumpur, Malaysia (Invited Speaker).

21- El Enshasy, H.A. *cGMP standard for cell culture and tissue engineering*. TEMSA (Teissue Engineering Society Malaysia) Seminar "From Fundamental to Clinical". June 17th. 2009. Kuala Lumpur, Malaysia (Invited Speaker)

22- El Enshasy, H.A. *Bioprocess development using biofactory-based and bioprocess based platforms*. 2nd. International Conference on Biotechnology for the Wellness Industry (2nd. ICBWI) July 23-26, 2009. Kuala Lumpur, Malaysia (Invited Speaker)

23- El Enshasy, H.A. *Bioprocess development for large scale production of anticancer exopolysaccharide by Pleurotus ostreatus in submerged culture*. International Conference on Chemical and Bioprocess Engineering (ICCBPE) August 12-14, 2009. Kota Kinabalu, Malaysia.

24- El Enshasy, H.A.: *Development of Bioprocess Platforms for Industrialization of Biotechnology products*. Invited speaker. Biotechnology Research Centre, Tripoli-Libya. 1-6 December, 2009, Tripoli, Libya. (Invited Speaker)

25- El Enshasy, H.A. *Industrial Platform Design for Probiotic Production using Different Biofactories*. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia (Invited Speaker)

26- El Enshasy, H.A. *Institutional and business support framework for industrial development in biotechnology sector: an example for NTBFs*. United Nations Economic Commission for Africa meeting-Committee on Development Information Science and Technology (CODIST-II), May 2-5, 2011. Addis Ababa, Ethiopia (Plenary Lecture session, invited speaker).

27- El Enshasy, H.A. *Role of Education system on promoting the new technology based firms (n-TBF) and overall country's knowledge based economy*. 11th. GOPIO International Convention 2012. Education Conference, April. 21-22, 2012. Faculty of Arts&Science University Malaya, Kuala Lumpur, Malaysia (Invited Speaker)

28- El Enshasy, H.A. *Role of IBD in the growth of biotechnology industries as one of the main drivers of knowledge based economy in Malaysia*. The 3rd. Scientific Meeting of the

Chair of Advanced Proteomics & Cytomic Research (CAPCER). May 11-17, 2012. Faculty of Science, King Saud University, Riyadh, Saudi Arabia (Invited Speaker)

29- El Enshasy, H.A. *Integrated bioprocess platform design for Pleuran production: an immunomodulator/anticancer polysaccharide produced by Pleurotus ostreatus*. The 3rd. Scientific Meeting of the Chair of Advanced Proteomics & Cytomic Research (CAPCER). May 11-17, 2012. Faculty of Science, King Saud University, Riyadh, Saudi Arabia (Invited Speaker)

30- El Enshasy, H.A. *Development of non-financial business performance indicator (n-FBPI) for biotechnology companies*. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia (Invited Speaker)

31- El Enshasy, H.A. *Recent advances in bioprocess development for mass production of medicinal polysaccharides and beneficial microbes for health and agriculture industries in Malaysia*. AIChE Annual Meeting, Oct. 28th. – Nov. 2nd. , 2012 , Pittsburgh, PA, USA. (Invited Speaker)

32- El Enshasy, H.A. *Industrial platform design for large scale production of probiotic yeast*. AIChE Annual Meeting, Oct. 28th. – Nov. 2nd. , Pittsburgh, PA, USA. (Invited Speaker)

33- El Enshasy, H.A. *Integrated Industrial Bioprocess: From Platform Design to Economic Assessment*. 1st. International Winter School on Industrial Biotechnology, 2-6 Dec., 2012. Cairo, Egypt. (Invited Speaker)

34- El Enshasy, H.A. *Measurement and Control Systems in Bioprocess Industries (on-line; off-line and in-line systems)*. 1st. International Winter School on Industrial Biotechnology, 2-6 Dec. 2012, Cairo, Egypt. (Invited Speaker)

35- El Enshasy, H.A. *Development of Biopesticides: From Laboratory to Commercialization*. 5th. International Symposium for the Development of Integrated Pest Management for Sustainable Agriculture in Asia and Africa, 18-20 Dec. 2012, Kota Kinabalu, Sabah, Malaysia. (Invited Speaker).

36. El Enshasy, H.. *Biocatalysis in BioEconomy: From research design to platform design*. International BioEconomy Conference. 6-7 June, 2013, Halle, Germany. (Invited Speaker).

37. El Enshasy, H. *Industrial platform design for large scale production of pleuran: An immunomodulator/anticancer polysaccharide from Pleurotus ostreatus*. AIChE Annual Meeting, 3-8 November 2013 , San Francisco, CA, USA. (Invited Speaker).

38. El Enshasy, H. *Cassava: A Potential Feedstock for Biorefinery Industries in Tropical and Subtropical Regions*. 7th. Annual Berkeley Bioeconomy Conference. “Biofuel as Part of

a Sustainable Strategy". 26-27 March 2014, Berkeley, San Francisco, CA, USA (Invited Speaker).

39. El Enshasy, H. *Development of Techno-Industrial Platform for Dengue Control*. 2nd International Conference on Dengue Fever Situation and its Control. 20-21 September 2014, Universiti Teknologi Malaysia, Johor Bahru, Malaysia (Invited Speaker).

40. El Enshasy, H. *Industrial Platform Design for Fungal Phytase Production in Semi-Industrial Scale*. AIChE Annual Meeting, 16-21 November 2014, Atlanta, GA, USA. (Invited Speaker).

41. El Enshasy, H. *Bioprocess Technology Service at IBD: The Proper Techno-Industrial Platform Catalyst for Biotechnology Business*. Technology Transfer Showcase. Nov. 14th, 2015. UTM, Johor Bahru, Malaysia (Invited Speaker)

42. El Enshasy, H. *Techno-industrial Platform for Immunomodulator/Anticancer Compounds Production Using Medicinal Mushrooms*. 24 March, 2015. Shizouka University, Shizouka, Japan (Invited Speaker)

42. El Enshasy, H. *Biotechnological Application as Clean and Biofriendly Approach in Water Treatment Plant*. Water Malaysia 2015, 22-24 April 2015, Kuala Lumpur, Malaysia (Invited Speaker)

43- El Enshasy, H.A.. *Human and Animal Cells: The Biofactories for the Production of Innovative Drugs*. The 5th. Scientific Meeting of the Chair of Bioproduct Development. 4th. May, 2015. Faculty of Science, King Saud University, Riyadh, Saudi Arabia (Invited Speaker)

44- El Enshasy, HA. *Bioprocess Design for Mushroom Polysaccharides Production of Anticancer/Immunomodulating Activities in Industrial Scale*. ACHEMA 2015, 14-19 June, 2015, Frankfurt, Germany (Invited Speaker).

45. El Enshasy HA. *Industrial platform desing for large scale production of probiotics microorganisms*. 23rd. June, 2015, Lund University, Lund, Sweden (Invited speaker/visiting Professor).

46. El Enshasy HA. *Industrial production of microbial phytase: A key component of animal feed*. 25th. June, 2015, Hamburg-Harburg University, Hamburg, Germany (Invited speaker/visiting professor)

47. El Enshasy HA. *Biotechnology solutions for Good Soil Sustainability Practice (GSSP)*. International Year fof Soil Seminar. 14 Sept., 2015. UTM, Johor Bahru, Malaysia (Invited Speaker).

48. El Enshasy, H. *Design of Techno-industrial platform as pro-active recruitment approach for biotechnology/bioprocess engineering post-graduate students*". AIChE Annual Meeting, 8-13 November 2015, Salt Lake City, UT, USA. (Invited Speaker).
49. El Enshasy, H. *Bioprocess Platform Design for Large scale production of selenium-free and selenium rich yeast for nutraceutical and pharmaceutical applications*. AIChE Annual Meeting, 8-13 November 2015, Salt Lake City, UT, USA. (Invited Speaker).
50. El Enshasy, H. *Bioprocess Platform Design for Kefiran Production in Semi-Industrial Scale*. AIChE Annual Meeting, 8-13 November 2015, Salt Lake City, UT, USA. (Invited Speaker).
51. El Enshasy, H. *Establishing strong cooperative framework in education, science, technology, and knowledge based product development: A new era for cooperation between Shizuoka University and Universiti Teknologi Malaysia*. Shizuoka University International Symposium 2015 by inter-academia Asia and headquarters for promotion of interdisciplinary domain research. 1 December, 2015. Shizuoka University (Invited Speaker)
52. El Enshasy, H. *Techno-industrial platform design for the production of fungal-based biological control agent for the development of smart fertilizers: From lab. to market*. 5th. International Conference: Plant, Pathogen, and People. Challenges in plant pathology to benefit humankind. 23-27 February, New Delhi, India. (Invited Lead speaker).
53. El Enshasy, HA. *Integrated platform design for large scale production of immunomodulators using mushroom biofactory*. International Conference on Nutraceuticals and Functional Foods. 7-9 July 2016. Kalamata, Greece (Invited First Keynote Speaker)
54. El Enshasy, HA. *Role of Research Organization in Business Development of Biotechnology Industries*. International Conference of Biotechnology for Wellness Industries (6th. ICBWI), 16-17 August, 2016. Kuala Lumpur, Malaysia (Invited Plenary Speaker).
55. El Enshasy, HA, *Critical Role of Universities and Research Organizations in the Industrial RD&I Cycle and Sustainable Growth of Biotechnology Business*. Johor International BioEconomy Conference (JIBC 2016), 24-25 October, 2016. Johor Bahru, Malaysia (Invited Plenary Speaker).
56. El Enshasy HA, *Bioprocess Development for Pleuran Production By Pleurotus Ostreatus Using Submerged Cultivation System in SemiIndustrial Scale*. AIChE2016 Annual Meeting, 13-18 November 2016, San Francisco, CA, USA. (Invited Speaker).
57. El Enshasy HA, *Development of Complete Industrial Process for Kefiran Production: An Important Polysaccharide for Food and Pharmaceutical Industries*. International workshop on advanced Nanovision science/advanced green science. 27 February 2017, Shizuoka, Japan (Invited Keynote Speaker)

58. El Enshasy HA, *Bioprocess Industrialization Platform for Microbial Biocontrol Agents: From Strain Isolation to Large Scale Production*. 5th. Asian Plant Growth Promoting Rhizobacteria International Conference for Sustainable Agriculture. 16-19 July 2017, Bogor, Indonesia (Invited Speaker).

59- El Enshasy HA, *Future career for Postgraduate Biotechnology Students: Are you Prepared for?*. 1st. International Postgraduate Symposium in Biotechnology. 21-22 August, Johor Bahru, Malaysia (Plenary Speaker).

59. El Enshasy HA, *Development of Bioprocess Platform for Cordycepin Production by Cordyceps militaris*. AIChE2017 Annual Meeting, 26 Oct.-3 Nov. 2017, Minneapolis, MN, USA (Keynote Speaker).

11.6. Posters/abstracts

1-Hellmuth, K., El-Enshasy, H., Rinas, U., Joon-Ki Jung and Ruttkowski, E. (1994) Comparison of glucose oxidase production and secretion by wild type and recombinant *Aspergillus niger*. In the 7th. International Congress of Bacteriology and Applied Microbiology, July 3-8, 1994, Prague, Czech Republic.

2-El-Enshasy, H.A.; Farid, M.A. and El-Diwany, A.I. (1995). Oxytetracycline production by free and immobilized cells of *Streptomyces rimosus* in batch and repeated batch cultures. In the international symposium Immobilized cells: Basics and Applications, Nov. 26-29, Noordwijkerhout, The Netherlands.

3-Farid, M.A.; El-Batal, A.I.; El-Diwany, A.I. and El-Enshasy, H.A. (1995) Immobilization of *Corynebacterium glutamicum* on glass wool for glutamic acid production. In the international symposium Immobilized cells: Basics and Applications, Nov. 26-29, Noordwijkerhout, The Netherlands.

4-El-Enshasy, H.; Hellmuth, K. and Rinas, U. (1996) Effect of medium composition on cell growth and extracellular production of glucose oxidase by recombinant *Aspergillus niger*. In the 3rd. European conference on fungal genetics. March 27-30, 1996, Münster, Germany.

5-El-Enshasy, H.; Hellmuth, K.; Deckwer, W.D. and Rinas, U. (1997). Improvement of glucose oxidase production by recombinant *Aspergillus niger* using non-glucose carbon sources. In 15. DECHEMA-Jahrestagung der Biotechnologen, March 4-6, 1997, Münster.

6-El-Enshasy, H.; Hellmuth, K.; Rinas, U. and Deckwer, W.D. (1997). Overproduction of glucose oxidase in high cell density culture of a recombinant *Aspergillus niger*. In the 97th. ASM General Meeting, May 4-8, 1997, Miami, Florida, USA.

7-El-Enshasy, H. and Rinas, U. (1997). Improvement of glucose oxidase production by recombinant *Aspergillus niger* using mixed substrate (xylose/xylan) system. In the 8th. European Congress on Biotechnology, August 17-21, Budapest, Hungary.

- 8- El-Diwany, A.; Farid, M. and El-Enshasy, H. (1999). Effect of natural inorganic complex material (vermiculite) on the production of oxytetracycline by *Streptomyces rimosus*. 9th. International Congress of Bacteriology and Applied Microbiology. Aug. 16-20, Sydney, Australia.
- 9- El-Diwany, A.; El-Enshasy, H.; El-Sayed, E. and El-sheich, O. (2000). Denitrification of industrial wastes by free and immobilized bacteria. In the 5th. International Symposium on Environmental Biotechnology. July 9-13, Kyoto, Japan.
- 10- Farid, M.A.; El-Enshasy, H.A.; El-Diwanay, A.I. and Noor El-Deen, A.M. (2000). Alcohol production from starch by mixed cultures of *Aspergillus awamori* and immobilized *Saccharomyces cerevisiae* at different agitation speeds. The world Congress in Biotechnology, The 11th. International Biotechnology Symposium and Exhibition. In Biotechnology 2000, Berlin .(3-8 Sept. 2000), vol. 4, 275.
- 11- Beshay, U. and El-Enshasy, H. (2001). Kinetic of α -amylase production by *Bacillus amyloliquefaciens* under different cultivation conditions. Role of Biochemistry in Environment and Agriculture. Feb. 6-8, 2001, Cairo, Egypt.
- 12- Mohamed, N.A., El-Enshasy, H., El-Gamal, S., Farid, M. and El-Diwany, A. (2001). Improvement of erythromycin production by *Saccharopolyspora erythraea* through cultivation medium optimization. Role of Biochemistry in Environment and Agriculture. Feb. 6-8, 2001, Cairo, Egypt.
- 13- El-Enshasy, H.A. and Yang, S.T. (2002). Effect of shear stress and shear protectant chemicals on the kinetic of hybridoma cell growth. Biotechnology and sustainable development. March 16-20, Alexandria, Egypt.
- 14- El-Enshasy, H.A. (2002). Kinetic of oxytetracycline production by immobilized *Streptomyces rimosus* in κ -Carrageenan. Biotechnology and sustainable development. March 16-20, Alexandria, Egypt.
- 15- El-Enshasy, H.A.; El-Shahid, K.Y. and Mohamed, H.M. (2002). Kinetic of Streptomycin production and degradation during batch cultivation of *Streptomyces griseus* in shake flask and bioreactor. 150th. Annual meeting of Society of General Microbiology. April 8-12, 2002. Warwick, UK.
- 16- El-Enshasy, H.A.; Esmail, T.A. and El-Demellawy, M.A. (2002). Kinetic of growth of bone marrow derived stem cells under different osmotic stress. The 5th. International meeting of the Tissue Engineering Society International. December, 8-10 Kobe, Japan.
- 17- Ahmed I. El-Diwany; Mohaed, A. Farid; Nagwa, M. Atwa; Zenat, K. Mohammed and Hesham A. El-Enshasy. (2003). Continuous production of Bacitracin by immobilized cells of *Bacillus licheniformis* in air-lift bioreactor. The 1st. International congress pharmaceutical & drug industries division, National Research Centre, March 24-26. Cairo. Egypt.

18- Einfluss der Pelletmorphologie von *Aspergillus niger* auf Stoffumsatz und Produktbildung. Horn, H.; Cordes, C.; Hille, A.; Kelly, S.; Grimm, L.; Hengstler, J.; Emmler, M.; Hempel, D.C.; El-Enshasy, H. and Rinas, U. (2003). DECHEMA/GVC, Jahrestagung 2003, 16-18 Sept. Mannheim, Germany.

19- El-Enshasy, H. and Yang, S.T. (2003). Kinetics of cell growth and monoclonal antibodies production by hybridoma cells under different shear stress with and without shear protecting agents. The 11th. European Conference of Biotechnology (ECB11). August 24-29. Basel, Switzerland.

20- El-Enshasy, H. and Wagner, R. (2003). Kinetic of cell growth and amino acid metabolism of Human Embryonic Kidney HEK-293 cells grown in serum free medium at different EDTA concentrations. The 11th. European Conference of Biotechnology (ECB11). August 24-29. Basel, Switzerland.

21- El-Enshasy, H.A. Development of New Cultivation Strategy to Improve the Production of Natamycin and to Minimize the Risk of Antibiotic Degradation During Submerged Cultivation of *Streptomyces natalensis*. The World Conference on Magic Bullets. Celebrating Paul Ehrlich's 150th. Birthday. September 9-11, 2004. Nürnberg, Germany.

22- El Enshasy, H. (2005). Bioprocess development for the production of α -amylase by *Bacillus amyloliquefaciens* in batch and fed-batch cultures. In Biothailand 2005. The 3rd. conference on starch technology, Bangkok, Thailand.

23- EL-Ensahty, H., Elsayed A., El-Demellawy, M., El Shereef, A. (2008). Successive Sequential adaptation of HeLa S3 Cells to Serum Free Medium. 1st. International Conference on Biotechnology for the Wellness Industry (1st. ICBWI), August 5-6, Kuala Lumpur, Malaysia.

24- Abdel-Fattah, Y.; El Enshasy, H.; Soliman, N. and El Gendi, H. (2008). Bioprocess development for the production of alkaline protease by *Bacillus pseudofirmus* MN6 through statistical experimental designs. International Conference of the International Union of Microbiological Societies (IUMS). 5-9 August, Istanbul, Turkey.

25- Mohy Eldin, M.S.; El Enshasy, H.A.; El Sayed, M.; El Sayed, S.; Haroun, B. and Hassan. E.A. (2009) Covalent immobilization of penicillin G acylase onto chemically activated surface of PVC membranes for 6-APA production from penicillin hydrolysis process. I-optimization of surface modification and its characterization. International conference for enhancing scientific research: innovation&development. 5-7 March, Tanta, Egypt.

26- Awad, M.H.; El-Shahed, K.Y.I. and El Enshasy, H.A. (2009). Enhancement of clavulanic acid production by *Streptomyces* sp. NRC-35 using different additives. 2nd. International Conference on Biotechnology for the Wellness Industry (2nd. ICBWI), July 23-26, Kuala Lumpur, Malaysia.

- 27- El Enshasy, H.A.; Awad, M.H.; Othman, Z.; Shahabuddin, N.A.; Joharry, S.F.; Sulaiman, H.O.S.; Brandt, A.; Sarmidi, M.R. and Abdul Aziz, R. (2009). Bioprocess development of *Bacillus thuringiensis* var. *israelensis* mass production for mosquitocide control. 2nd. International Conference on Biotechnology for the Wellness Industry (2nd. ICBWI), July 23-26, Kuala Lumpur, Malaysia.
- 28- Abd Malek, R.; Hamdan, S.; El Enshasy, H.A.; Othman, Z.; Sarmidi, M.R. and Aziz, R.A. (2009). Optimization of growth medium and controlled pH strategy in bioreactor for high cell density cultivation of probiotic *Lactobacillus salivarius* isolated from mother's milk. 2nd. International Conference on Biotechnology for the Wellness Industry (2nd. ICBWI), July 23-26, Kuala Lumpur, Malaysia.
- 29- Zjeh, K.Z.; El Enshasy, H., Othman, N.Z.; Ismail, N.S.; Sarmidi, M.R. and Aziz, R.A. Efficient exopolysaccharide production by *Ganoderma lucidum* in submerged culture. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.
- 30- Wai Chang, H.; Chee, O.H.; Othman, N.Z.; El Enshasy, H.A.; Wan Mustapha, W.A.; Sarmidi, M.R. and Aziz, R.A. Optimization of a fermentation process for high cell mass production of *Bacillus thuringiensis* subsp. *israelensis* (BTI). 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.
- 31- Wai Chang, H.; Chee, O.H.; Othman, N.Z.; El Enshasy, H.A.; Wan Mustapha, W.A.; Sarmidi, M.R. and Aziz, R.A. Optimization of *Rhizobium trifolii* high cell mass production in semi-industrial scale. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.
- 32- Then, C.; Kar Wai, O.; Othman, N.Z.; El Enshasy, H.A.; Wan Mustapha, W.A.; Sarmidi, M.R. and Aziz, R.A. High cell mass production of *Azotobacter vinelandii* for biofertilizer application. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.
- 33- Chan, Y.S.; El Enshasy, H.; Othman, N.Z.; Abd Malek, R. And Sarmidi, M.R. Bioprocess optimization and functionality characterization of *Lactobacillus plantarum*. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.
- 34- Abou-Shleib, H.; Omar, H.; El Demellawy, M.; El Sayed, E.; Shahin, H. And El Enshasy, H. Efficient monoclonal antibody production (Anti-CD3) by hybridoma cells in basket spinner using free and immobilized cell systems. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.
- 35- Chin, T.S.; El Enshasy, H.A.; Abd Malek, R.; Othman, N.Z.; Ramli, S.; Sarmidi, M.R. and Aziz, R.A. Cell mass production of biotherapeutic yeast *Saccharomyces boulardii* in

batch and in fed-batch cultivation system. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.

36- Guat, T.C.; El Enshasy, H.A.; Othman, N.Z.; Wan Mustapha, W.A.; Jalal, Y.; El Marzuki, N.; Sarmidi, M.R. and Aziz, R.A. Optimization of medium composition and biochemical engineering parameters for high cell mass production of nitrogen fixing bacteria *Sinorhizobium meliloti* in pilot scale level. 3rd. International Conference on Biotechnology for the Wellness Industry (3rd. ICBWI) October 8-9, 2010. Kuala Lumpur, Malaysia.

37- Abd Malek, R.; Hamdan, S.; El Enshasy, H.A.; Othman, Z.; Sarmidi, M.R. and Aziz, R.A. (2009). Functional characterization of probiotic *Lactobacillus salivarius* as starter use for functional food. 11th. Asian Food Conference. 21-23 October, Dar Al Salam, Brunei.

38- Abd Malek, R.; El Enshasy, H.A.; Awad, H.M.; Othman, N.Z. and Aziz, R. (2011). Efficient spore production by *Bacillus thuringiensis* var *israelensis* in semi-industrial scale using different cultivation strategies. International Congress of the Malaysian Society for Microbiology. 8-11 December, Penang, Malaysia. (ISBN 978-983-99873-1-7).

39- Awad, H.M.; Malek, M.K.; El Enshasy, H.A.; Malek, R.A.; Sarmidi, M.R. and Abdul Aziz, R. (2011). Optimization of *Bifidobacterium longum* production process for probiotic applications. International postgraduate conference on Biotechnology. 15-18 Dec., Terengganu, Malaysia.

40- Rahaeifard, M.; Then, C.; Wan Mustapha, W.A.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R.A. and El Enshasy, H.A. (2012). Isolation and cell mass production of *Trichoderma harzianum* a new biocontrol agent against oil palm pathogen *Ganoderma boninense*. International Conference on Biotechnology, Nanotechnology and its applications (ICBNA 2012). 17-18 March., Bangkok, Thailand.

41- Maftoun, P.; Malek, R.A.; Sarmidi, R.; Aziz, R. and El Enshasy, H. (2012). Change in biopellet morphology during submerged cultivation of *Pleurotus ostreatus* in shake flask. International Conference on Biotechnology, Nanotechnology and its applications (ICBNA 2012). 17-18 March., Bangkok, Thailand.

42- Maftoun, P.; Malek, R.; Sarmidi, M.R.; Aziz, R.A. and El Enshasy, H. (2012). Effect of aeration rate on the kinetics of cell growth and exopolysaccharide production by *Pleurotus ostreatus* in semi-industrial scale. Plenary Scientific Research Centre Conference (PSRC), 24-25 March, 2012, Dubai, UAE.

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44. Sheikh, S.I, Ngadiran, S., Aman Nor, N.F.; Musa, N.F. and El Enshasy, H.A. Development of bio-repellent using citronella vinegar and triglycerides from commercial

application. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

45. Malek, R.A.; Jalal, Y.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. Probiotic isolated from breast milk: semi-industrial production of *Lactobacillus salivarius* WICC B08 and functional characterization as infant formula. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

46. Sueb, M.S.; Malek, R.A.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. Industrial platform design for yeast probiotic: Batch and fed-batch cultivation of *Kluyveromyces lactis* in high cell density culture (HCDC). The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

47. Rahaefard, M.; Wan Mustapha, W.A.; Peng, T.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. Isolation and optimization of biomass production of *Trichoderma harzianum*: A biological control agent against the oil palm pathogen *Ganoderma boninense*. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

48. Dailin, D.J.; Malek, R.A.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. Bioprocess optimization for efficient polysaccharide production by *Lactobacillus kefiranofaciens* in semi industrial scale. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

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51. Awad, H.M.; Malek, K.M.; El Enshasy, H.A.; Malek, R.A.; Sarmidi, M.R. and Aziz, R. Optimization of cell mass production of the probiotic strain *Bifidobacterium longum* in shake flask and in stirred tank bioreactor. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

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Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

53. Othman, N.Z.; Sarmidi, M.R.; Aziz, R.; Tran, T.T.; Hatikaul, R. and El Enshasy, H.A. Study on the effect of medium optimization on the distribution of extracellular and intracellular thermostable phytase expression by *E. coli* BL21(DE3) when using lactose as inducer through response surface methodology. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

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57. Raheaifard, M.; Othman, N.Z.; Abd Malek, R.; then, C.; Peng, T.; Chang H'ng, W.; Wan Mustapha, W.A.; Jalal, Y.; Surendran, S.; Sarmidi, M.R.; Aziz, R.; El Enshasy, H.A. Statistical medium Optimization for high biomass production of *Trichoderma harzianum*: a potential biocontrol agent for ganoderma oil palm disease. AIChE Annual Meeting, Nov. 3rd. – Nov. 8th. 2013 , San Francisco, CA, USA.

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60. Elmarzughi, N.A.; Eid, A.M.; El Enshasy, H.A. Development of Avocado oil nanoemulsion hydrogel using sucrose ester stearate. 3rd. International Conference on Biotechnology Engineering (ICBioE 2013).

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64. Nor Zalina Othman, Hamiza Suhaimi, Roslinda Abd Malek, Solleh Ramli, Ramlan Aziz, Mona A. Esawy, Hesham A. El Enshasy. (2015). The effects of different bioprocessing parameters on pectinase production by *Aspergillus niger* from organe peel waste. AIChE Annual Meeting, Nov. 8th – Nov. 13th. 2015 , Salt Lake City, UT, USA.
65. Nor Zalina Othman, Khairedza Rahmi, Solleh Ramli, Roslinda Abd Malek, Ramlan Aziz, Mona A. Esawy, Hesham A. El Enshasy (2015). Optimization of growth medium and bioprocessing conditions in pilot scale stirred tank bioreactors for production of levan by *Bacillus subtilis*. AIChE Annual Meeting, Nov. 8th – Nov. 13th. 2015 , Salt Lake City, UT, USA.
66. Elsayed A. Elsayed; Mohamed Farid, Mohamed Wadaan, Hesham A. El Enshasy (2015). Effect of different feeding strategies of glucose and short chain carboxylic acids on the production of natamycin by *Streptomyces natalensis*. AIChE Annual Meeting, Nov. 8th – Nov. 13th. 2015 , Salt Lake City, UT, USA.
67. Nor Zalina Othman, Roslinda Abd Malek, Solleh Ramli, Rajni Hatti-Kaul, Mohamed Roji Sarmidi, Hesham A. El Enshasy (2015). Fed-batch cultivation for induction strategy when induced with lactose to increase production of thermostable phytase in semi-industrial scale 16-L bioreactor by *E. coli* BL21(DE3). AIChE Annual Meeting, Nov. 8th – Nov. 13th. 2015 , Salt Lake City, UT, USA.
68. Nor Zalina Othman, Mohd Shafiq Mohd Sueb, Rolinda Abd Malek, Solleh Ramli, Ramlan Aziz, Mohamad Roji Sarmidi, Hesham A. El Enshasy (2015). Effect of aeration rate on the groth kinetics and lactate production of *Kluyveromyces lactis* in the pilot-scale bioreactor. AIChE Annual Meeting, Nov. 8th – Nov. 13th. 2015 , Salt Lake City, UT, USA.
69. Nor Zalina Othman, Amir fuhaira Ishak, Roslinda Abd Malek, Solleh Ramli, Ramlan Aziz, Hesham A. El Enshasy (2015). Statistical optimization of critical components for high

cell mass production of *Saccharomyces boulardii*. A potential probiotic yeast. AIChE Annual Meeting, Nov. 8th – Nov. 13th. 2015 , Salt Lake City, UT, USA.

70. Nor Zalina Othman, Solleh Ramli, Roslinda Abd Malek, Thi Thuy Tran, Rajni Hatti-Kaul, Mohamed Roji Sarmidi, Hesham A. El Enshasy. (2015). Influence of additives in the post-induction phase on the distribution of phytase expression by *E. coli* BL21(DE3) when induced with lactose. AIChE Annual Meeting, Nov. 8th – Nov. 13th 2015 , Salt Lake City, UT, USA.

71. Ishak AF, Abd Malek R, Ramli S, Othman NZ, Ong ML, Aziz R, El Enshasy H (2016). Bioprocess optimization for cell mass production of yeast: *Saccharomyces boulardii*. International Symposium toward the future of advances research in Shizuoka University, 21st. Feb. 2016, Shizuoka University, Japan

72. Nor Zalina Othman, Roslinda Abd Malek, Solleh Ramli, Thi Thury Tran, Mohamad Roji Sarmidi, Rajni Hatti-Kaul and Hesham El Enshasy (2016). Bioprocess strategies to optimize the most stable phytase production by *Escherichia coli* B12(DE3) when induced with lactose. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA

73. Nor Zalina Othman, Roslinda Abd Malek, Solleh Ramli, Hesham Ali El Enshasy, Mohamad Roji Sarmidi. Encapsulation of *Lactobacillus bulgaricus* in carbohydrate-protein-coconut oil mixtures provides protection during spray drying survival, in simulated gastrointestinal conditions and storage. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA

74. Nor Zalina Othman, Roslinda Abd Malek, Solleh Ramli, Mohamad Roji Sarmidi, Hesham Ali El-Enshasy, Ramlan Aziz, Nurul Asmida Md Nawawi. Symbiotic effect of probiotic bacteria isolated from mother's milk and different types of prebiotic for short chain fatty acids production. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA

75. Siti Zulaiha Hanapi, Norhafizah Mohamad, Roslinda Abd Malek, Sasidharan Verlayutham, Mohamad Saat, Lim Pek Boon, Alijah Mohd Aris, Nor Zalina Othman, Hesham Ali El-Enshasy. Optimization of growth medium and fed-batch cultivation using different feeding strategies for production of *Acinetobacter* sp.: A biological phosphorus removal. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA.

76. Siti Zulaiha Hanapi, Rajni Hatti-Kaul, Ramlan Aziz, Roslinda Abd Malek, Hesham Ali El-Enshasy. Insights into ligninolytic production by native white rot fungi in Malaysia and its potential in industrial applications. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA

77. Roslinda Abd Malek, Muhammad Khairuddin Malek, Nor Zalina Othman, Solleh Ramli, Ramlan Aziz, Hesham El Enshasy. Optimization of production medium for high cell mass production and the functional characteristics study of *Bifidobacterium longum* WICC B34. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA

78. Abd Malek R, Sukumaran S, Othamn NZ, Ramli S, Peng T, Aziz R, El Enshasy H. (2016). Bioprocess optimization for high biomass production of *Bacillus firmus*. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA
79. Abd Malek R, Ramli S, Rmali N, Othman NZ, Aziz R, Leng OM, El Enshasy (2016). Effect of dissolved oxygen on the cell growth and spore production of *Bacillus thuringiensis* in semi-industrial scale bioreactor. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA
80. Siti Zulaiha Hanapi, Rajni Hatti-Kaul, Ramlan Aziz, Nor Zalina Othman, Hesham Ali El-Enshasy. Screening for lignolytic enzyme production by white rot fungi from Malaysia using different media. AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA
81. Al-Aamri K, Pareek A, El Enshasy H. (2016). Ethanol production on date syrup using yeast: Process optimization study for pilot scale production. . AIChE Annual Meeting Nov. 13th. – Nov. 18th. 2016; San Francisco, CA, USA
82. Abdul Hamid, KR, Abd Malek R, Othman NZ, Salamaa BM, Gamala AA, Ramli S, Aziz R, Esawy M, El Enshasy H (2016). Bioprocess development for levan production by *Bacillus subtilis* M. 33rd. Malaysian Symposium for Microbiology (MSM2016), Dec. 14th.- Dec. 17th., 2016. Melaka, Malaysia.
83. Hanapi SZ, Hatti Kaul R, Aziz R, El Enshasy H (2017). Bioprocess optimization for extracellular lignolytic enzymes production from *Cerrena sp.* WICC F39. International Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan. International Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan.
84. Abd Malek R, Rahman T, Shariman T, Ware I, Othman NZ, Aziz R, Yang ST, El Enshasy HA (2017). Medium optimization for polymalic acid (PMA) production by *Aureobasidium pullulan*. International Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan.
85. Rashid WA, Ramli S, Abd Malek R, Othman NZ, Kndiyil SK, Hatti-Kaul R, El Enshasy H. (2017). Bioprocess optimization for enzyme production by recombinant *Escherichia coli* containing xylanase encoding gene from *Bacillus halodurans*. International Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan.
86. Ramli NB, Malek RA, Ramli S, Othman NZ, Leng OM, El Enshasy HA (2017). Bioprocess development for spore production by *Bacillus* Bioprocess development for spore production by *Bacillus thuringiensis* in sermi-industrial scale bioreactor. International

Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan.

87. Mat Sarip SH, Abd Aziz A, El Enshasy H, Yaakob H (2017). Formulation of a stable efficient nanoemulsion of lauric acid. International Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan.

88. Othman NZ, Musa N, Ramli S, Tran TT, Hatti-Kaul R, El Enshasy HA, Sarmidi MR. (2017). Enhanced production of phytase by recombinant *Escherichia coli* BL21(DE3) induced with lactose using different strategies. 1st. International Postgraduate Symposium in Biotechnology (IPSB2017). Aug 21st.- Aug 22nd. Johor Bahru, Malaysia.

89. Heidarrezaei M, El Enshasy H. (2017). Optimization of medium composition for high cell mass production of *Lactobacillus reuteri* WICC B90. 1st. International Postgraduate Symposium in Biotechnology (IPSB2017). Aug 21st.- Aug 22nd. Johor Bahru, Malaysia.

90. Ramli NB, Malek RA, Ramli S, Leng OM, El Enshasy HA (2017). Bioprocess development for cell mass and spore production by *Bacillus thuringiensis* in pilot scale bioreactor using different cultivation strategies. 1st. International Postgraduate Symposium in Biotechnology (IPSB2017). Aug 21st.- Aug 22nd. Johor Bahru, Malaysia.

91. Ishak AF, Malek RA, Ramli S, El Enshasy HA (2017). Bioprocess production of Se enriched *Saccharomyces boulardii* in semi-industrial scale. . 1st. International Postgraduate Symposium in Biotechnology (IPSB2017). Aug 21st.- Aug 22nd. Johor Bahru, Malaysia.

92. Hanapi SZ, Abdelgalil SA, Hatti-Kaul R, El Enshasy H. (2017). Enhanced production of ligninolytic enzymes from newly isolated strain *Cerrena sp.* . 1st. International Postgraduate Symposium in Biotechnology (IPSB2017). Aug 21st.- Aug 22nd. Johor Bahru, Malaysia.

93. Mustafa SM, Chua LS, Malek RA, El Enshasy HA (2017). Growth kinetics of *Lactobacillus casei* in the fermentation of pomegranate juice. . 1st. International Postgraduate Symposium in Biotechnology (IPSB2017). Aug 21st.- Aug 22nd. Johor Bahru, Malaysia.

94. Abd Malek R, Ramli S, El Enshasy H. Optimization of growth medium and functionality characterization of new potential probiotic *Lactobacillus salivarius* isolated from human milk. AIChE Annula Meeting Oct. 29th. – Nov. 2nd. 2017, Minneapolis, MN, USA.

95. Farisi M, Pareek A, Khan TA, El Enshasy H. (2017). Growth kinetics and viability studies of common probiotic bacteria on date syrup. AIChE Annula Meeting Oct. 29th. – Nov. 2nd. 2017, Minneapolis, MN, USA.

96. Pareek A, El Enshasy H, Al Alwai M, Al Daeiri MKS, Faiyadha AM, Al Amri ZKM. (2017). Anaerobic digestion of kitchen waste for biogas production. AIChE Annula Meeting Oct. 29th. – Nov. 2nd. 2017, Minneapolis, MN, USA.

University Service

1. Assistant Director for Institute of Bioproducts Development (IBD) for Research and Innovation. (March 2011 – present), Coordinate Research groups activities (25 researchers), put short-, mid-, longterm plan for research programs. Cooperation and networking with local, regional, and international research organizations. Set up goals/objectives in for of measurable KPI for each department. Annual assessment for researchers.

2.Coordinator for industrial cooperation program for R&D and industrial manufacturing of bioactive metabolites with different Malaysian and International companies, Institute of Bioproducts Development (IBD), Universiti Teknologi Malaysia, Malaysia. (March 2011-present). Set-up biotechnology incubator platform with local and international industries.

1. Member in Top management committee, Institute of Bioproduct Development, Universiti Teknologi Malaysia, Malaysia. (March 2011 – Present)

2. Head of Bioprocessing facility platform at IBD (A complete platform from cell banking up to large scale production in 1500 L bioreactor with complete downstream facility). (June 2008 – present)

3. Assistant Director for Research Institutes Affairs at City of Scientific Research and Technology Applications, Alexandria, Egypt (Oct. 2007 until April 2008). Mangement of Research Activities in the frame of national research Policay of Egypt. Coordinate institutional framework for interdisciplinary research between different institutes. Review the research programs and support research activities using internal and external funds.

4. Head of the biotechnological pilot plant of genetic engineering and biotechnology research institute, City for Scientific Research, Alexandria, Egypt. This pilot plant with complete up stream fermentation facilities up to 300L bioreactor and different types of downstream equipments (2002-2008). Put strategic plan for operation and maintenance of the unit. Cooperation with industrial partners local/international for development of prototype products and bioprocess industrialization.

5. Head of the Biosafety committee of City of Scientific Research and Technology Applications (March 2005 until April. 2008). Implement governmental policy for Biosafety. Organizing proper training programs for all personel for biosafety. Put strategy for biowaste management and implement this strategy within the organization.

14.1. Teaching experience at Universities:

1- Immobilized cell technology: Basics and Applications.
(2000-2001)

Special course for M.Sc. students (course designer and coordinator)
Microbiology Dept., **Faculty of Pharmacy, Alexandria University**

- 2- Industrial genetic
(2002-2004)
Course for Ph.D. students (course designer and coordinator)
Microbiology Department, **Faculty of Pharmacy, Al-Azhar University**
- 3- Facilities and Infrastructure in Bioprocess Engineering
(2009-Present)
Course for M.Sc. students (course designer and coordinator)
Bioprocess Engineering Dept., Faculty of Chemical and Natural Resources
Engineering, **University Technology Malaysia (UTM), Johor, Malaysia.**
- 4- Project Management and Regulation in Biotechnology
(2009-2011)
Course for M.Sc. students.
Bioprocess Engineering Dept., Faculty of Chemical and Natural Resources
Engineering, **University Technology Malaysia (UTM), Johor, Malaysia.**
- 5- cGMP for bioprocess engineering (herbal and microbial platforms).
(2011- Present)
Course for M.Sc. students.
Bioprocess Engineering Dept., Faculty of Chemical and Natural Resources
Engineering, **University Technology Malaysia (UTM), Johor, Malaysia.**
- 6- Hazard and Operability study (HAZOP) for chemical and biochemical industries.
(2011-Present)
Course for M.Sc. Students
Bioprocess Engineering Dept., Faculty of Chemical and Natural Resources
Engineering, **University Technology Malaysia (UTM), Johor, Malaysia.**
- 7- Commercialization strategy for herbal products. (2011-Present)
Course for M.Sc. students.
Bioprocess Engineering Dept., Faculty of Chemical and Natural Resources
Engineering, **University Technology Malaysia (UTM), Johor, Malaysia.**
- 8- Microbiology: Basics and Applications (2012-Present)
Course for M.Sc. students
Bioprocess Engineering Dept., Faculty of Chemical and Natural Resources
Engineering, **University Technology Malaysia (UTM), Johor, Malaysia.**
- 9- Safety in Chemical Industries (2016)
Course for M.Sc. Students
Bioprocess Engineering Dept., Faculty of Chemical Engineering and Energy,
University Technology Malaysia (UTM), Johor, Malaysia.
- 10- Industrial Microbiology (2016-Present)
Undergraduate Course (B.Sc. Engineering)

Bioprocess Engineering Dept., Faculty of Chemical Engineering and Energy,
University Technology Malaysia (UTM), Johor, Malaysia.

12. Technical courses organization and training:

- 1- Theoretical course (Bioprocess Development I)
Mubarak City for Scientific Research and Technology Applications
Dec. 1998
- 2- Theoretical and practical course (Bioprocess Development I) in the frame of complete design and installation of microbial cell fermentation platform (Fermentation Research Centre, Al-Azhar University).
Feb-Apr. 2002. with complete follow up training for 6 months.
- 3- Personnel training and installation of Biotechnological Pilot Plant (20 L - 80 L microbial bioreactors) and 15 L Mammalian cells Bioreactor. National Research Centre, NRC, Cairo, Egypt. (Jan. 2004 / August 2004) with follows up training.
- 4- Installation and design of recombinant protein production platform with complete personnel training and installation of microbial cell fermentation facility (semi-pilot scale), VACSERA, Cairo, Egypt. (July 2006 / December 2006).
- 5- Professional training courses (cGMP facility for the production of biopharmaceuticals). Conducted 3 times per year (2008 – present), UTM, Johor Bahru/Kuala Lumpur, Malaysia
- 6- Summer courses (Bioprocess Engineering and Biofactories: Processes, Facility Design and Regulations). (2010 – 2017) UTM Skudai Campus, Johor.
- 7- Installation and design of cGMP recombinant protein production platform with complete personnel training and installation of microbial cell fermentation facility (semi-pilot scale), Mansoura University, Mansoura, Egypt. Consultation for Eppendorf Co. agent in Egypt (5-20 December 2010).
- 8- Platform design, training, and installation for complete mammalian cell production platform for veterinary vaccine production using mammalian cells. Complete upstream and downstream process design according to cGMP. Consultation for Eppendorf Co. agent in Egypt (2015-2017).

13. Supervision

<u>Level</u>	<u>Number of Trainees</u>
Postdoctoral Fellows	2
PhD Students	10 (finished)

Master Students	5 (submitted/in progress) 30 (finished) 4 (submitted/in progress)
Undergraduate Students (final year project/practical/summer student)	More than 30

13.1. Ph.D. Thesis

- 1- Optimization of β -glucanase production by free and immobilized cells
(Dr. Sawsan Abdel Ghani, Faculty of Science, Cairo University)
- 2- Production of Erythromycin by *Saccharopolyspora erythrea* by using different production techniques. (Dr. Naiira Ahmed Mohamed, Faculty of Science, Cairo University)
- 3- Physiological and biochemical studies for clavulanic acid production
(Dr. Hassan Mohamed Mohamed, Faculty of Agriculture, Cairo University)
- 4- Production of Vitamin B₁₂ by methanol utilizing strain *Rubrobacter motiliticus*.
(Dr. Tamer El Kelani, Faculty of Science, Al Azhar University)
- 5- Studies on the stability of phytase gene (PhyA) in *Escherichia coli* with high stability and high level gene expression during scaling up study in the bioreactor.
(Ms. Nor Zalina bt. Othman, Faculty of Chemical Engineering, Universiti Teknologi Malaysia)
- 6- Development of industrial process for large scale production of kefir. (Mr. Mohamed Daniel, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).
- 7- Efficient large scale production of thermostable xylanase using recombinant *Escherichia coli*.
(Mr. Subeesh Kunhi Kandiyil, Faculty of Chemical Engineering, Universiti Teknologi Malaysia)
- 8- Scaling up of simultaneous saccharification and fermentation of microwave alkali pretreated empty fruit bunch for lactic acid production.
(Ms. Nursia Binti Hassan)- Faculty of Chemical Engineering, Universiti Teknologi Malaysia)
- 9- Development of new approach for novel antibiotic discovery from extreme environment.
(Mr. Ali Zineddine Boumehira, University of Science and Technology, Houari Boumedine, Algeria).
- 10- Bioprocess design for efficient immunomodulator polysaccharide production by the medicinal mushroom *Cordyceps* in semi-industrial scale. (Mr. Mohamed Soltani, Faculty of Chemical Engineering, Universiti Teknologi Malaysia)-

- 11- Bioprocess development for efficient lignin degrading enzyme production for industrial applications. (Ms. Zulaiha Hanabi), Faculty of Chemical Engineering, Universiti Teknologi Malaysia)- in progress.
- 12- Development of industrial platform for the *Lactobacillus reuteri*: A probiotic against *Helicobacter* infection. (Ms. Mahshid Heidarrezaei, Faculty of Chemical Engineering, Universiti Teknologi Malaysia), in progress.
- 13- Development of improved process of high sporulation and high cell density cultivation of *Bacillus thuringiensis*.(Mr. Yousry Al Azaly, Ain Shams university), in progress
- 14- Bioprocess optimization for high biomass production of probiotic strain *Lactobacillus reuteri*. (Mr. Shanmuga Kumar, Faculty of Chemical and Energy Engineering, Universiti Teknologi Malaysia), in progress
- 15- Bioprocess design for semi-industrial scale production of polymaleic acid using the yeast strain *Aurobasidium*. (Ms. Roslinda Malik, Faculty of Chemical and Energy Engineering, Universit Teknologi Malaysia).

13.2. M.Sc. Thesis

- 1- Biochemical and microbiological studies on the production of natamycin using *Streptomyces natalensis* (Internal supervisor in NRC).
(Dr. El Sayed Ahmed El Sayed, Faculty of Science, Cairo University, Egypt).
- 2- Production of alcohol using mixed immobilized culture system
(Mrs. Azza M. Noor El deen, Faculty of Science, Cairo University, Egypt).
- 3- Optimization of rifamycin production by *Amycolatopsis mediterranei* in free and immobilized form (Mrs. Rabab Abu El Magd, Faculty of Pharmacy, Alexandria University, Egypt).
- 4- Studies on rifamycins production by *Amycolatopsis mediterranei*
(Mr. Ehab Ammar, Faculty of Science, Monufia University, Egypt).
- 5- Production of streptomycin by *Streptomyces hygroscopicus* (Dr. Hassan M. Mohammed, Faculty of Agriculture, Cairo University, Egypt).
- 6- Optimization of the production process of cyclosporine A
(Mrs. Rania abou Zahra, Faculty of Pharmacy, Alexandria University, Egypt).
- 7- Alcohol production by thermophilic yeast strain of *Saccharomyces cerevisiae*
(Mr. Ahmed Azazi, Faculty of Science, Al Azhar University, Egypt).

8- Optimization of penicillin acylase production by *Escherichia coli* and enzyme immobilization in different carrier (Mr. Mohamed El Sayed, Faculty of Science, Al Azhar University, Egypt).

9- Kinetics of cell growth of HeLa-3 cells and its adaptation to serum free medium (Mr. Abdalla Adel, Faculty of Science, Mansoura University, Egypt).

10- Optimization of monoclonal antibody (Anti CD-3) production using hybridoma cells adapted to serum free medium
(Mrs. Hasnaa Rabei, Faculty of Pharmacy, Alexandria University, Egypt).

11- Optimization of growth media and functionality characterization of probiotic *Lactobacillus salivarius*.
(Ms. Roslinda bt Abd Malek, Faculty of Bioscience, Universiti Teknologi Malaysia, Malaysia).

12- Maximize Kefiran production by *Lactobacillus kefiranofaceins* through medium optimization and production parameter optimization
(Mr. Mohamed Daniel, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

13- Semi-industrial production of *Cinnorhizobial* cell mass for biofertilizer application
(Mrs. Teoh Kat, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia)

14- Production of probiotic yeast *Saccharomyces boulardii* and its application for the treatment of microbial and non-microbial diseases
(Mrs. Doaa Rashid, Faculty of Science, Alexandria University, Egypt).

15- Optimization of cultivation medium and cultivation conditions for high cell density cultivation of *Azotobacter vinelandii*.
(Mr. Charles Then, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

16- Optimization for the production of kefiran using *Lactobacillus kefiranofaceins* in a bioreactor. (Mr. Daniel Joe Dailin, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

17- Efficient exopolysaccharide production by *Pleurotus ostreatus* in submerged culture.
(Ms. Parisa Maftoun, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia)

18- Efficient cultivation of *Kluyveromyces lactis* in high cell density culture in fed-batch cultivation system.

(Mr. Mohd. Sahfiq B. Mohd Sueb, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia)

19- High cell density cultivation of *Rhizobium trifolii* for biofertilizer application.

(Mr. H'ng Wei Chang, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia)

20- Bioprocess optimization of cell mass production of *Trichoderma* for agriculture application.

(Ms. Mastroeh Rahaeifard, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

21- Medium optimization for high erythromycin production by *Saccharopolyspora erythraea* using response surface methodology.

(Mr. Mohamed Ali Mohamed, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

22- High cell density cultivation of *Hendersonia* sp. for the application of biological control of oil palm disease.

(Muhammad Danial bin Azman, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

23- Optimziation of probiotic bacteria *Bifidobacterium longum* for high yield biomass production for probiotic application

(Mr. Muhammad Khairuddin bin Malek, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia)

24- Optimization of pleuran production by *Pleurotus ostreatus* using different cultivation strategies.

(Mr. Mohd Hemi Johari Masri, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia)

25- Optimization of cultivation medium for levan production using *Bacillus subtilis* in semi-industrial scale.

(Ms. Khairedza Rahmi binti A. Hamid, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

27- Studies on the effects of different bioprocess parameters on pectinase production by *Aspergillus niger*.

(Ms. Noorhamizah binti Suhaimi, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

28- Production of selenium enriched *Saccharomyces boulardii* in pilot scale bioreactor.

(Mr. Amir Fuhaira B. Ishak, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

29- Bioprocess optimization for high biomass production of *Bacillus firmus*. (Mr. Surendran Sukumaran, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

30- Optimization of medium and cultivation conditions for D-lactic acid production using cassava starch. (Mr. Ramzi ata Abd Alsaheb, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).

31- Bioprocess development for high cell mass production and crystal formation of *Bacillus thuringiensis* in semi industrial scale. (Ms. Naqquyu Baz , Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Malaysia).