Curriculum Vitae

Name : Prof. Dr. rer. Nat. Hesham Ali El-Enshasy
Marital status : Married with two children
Date of birth : 08. 08. 1968
Nationality : Egyptian
Current Residency: Malaysia

Current Positions:

1- Professor at Bioprocess Engineering Department
School of Chemical and Energy Engineering
Faculty of Engineering
Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor, Malaysia

2- Director
Institute of Bioproducts Development
Universiti Teknologi Malaysia (UTM)
81310 Skudai, Johor, Malaysia
Office: 00607-5531573 Mobile: 006-0111-7739884
E-mail: henshasy@ibd.utm.my / hesham@utm.my
enshasy@gmail.com
website: https://www.utm.my/ibd/

Linkedin: https://www.linkedin.com/in/hesham-el-enshasy-70bb873/

1- Qualifications:

1.1 Education-Academic studies :

1.1.1. Ph.D. Industrial Biotechnology Apr. 1995 - Apr. 1998
(Dr. rer. nat. with very good)
Faculty of Biotechnology,
Technische Universität Carolo-Wilhelmina
TU Braunschweig, Germany

1.1.2 M.Sc. Microbiology Sept. 1990 - Dec. 1994
Faculty of Science
Ain-Sham Univ., Cairo, Egypt

1.1.3 M.Sc. Technology Management July 2009- Mar. 2012
Faculty of Management and Human Resource Development.
Universiti Technologi Malaysia, UTM, Johor, Malaysia.

1.1.5. B.Sc. Microbiology-Chemistry Sep. 1985 - May 1989
(Very good with honor degree)
Faculty of Science,
Ain-Sham Univ., Cairo, Egypt

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):

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

Professor (April 2009 – present)
Bioprocess Engineering Department
Faculty of Chemical Engineering and Energy
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.

Industrial Experience (work in Industry)
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, 2018)
- 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) (2015/2016/2017/2019)

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., The Ohio State University,
Columbus, 43210 OH, USA
From Apr. 2001 – Oct. 2001
(Bioprocess Optimization for monoclonal antibody production in different scales)

3. Board Membership in Universities, Research Organizations and Industries

3.1. Board Membership in Universities and in International Research Organization

1. Board Member of Sustainable Agriculture Association, Hong Kong. 1 July 2019 – Present
2. Board Member of Center of Research and Applied Studies on Climate Change and Sustainable Development (C^3 SD-NRC), Cairo, Egypt. 28 Oct. 2019- Present.
3. Advisory Board Member of Bioprocess Platform of Technology Innovatin Agency (TIA), Durban, South Africa. 17 Jan. 2020 – Present.
4. Member of Board of Trustees, Al-Fanar University, Alexandria, Egypt. 28. Nov. 2018- Present.
5. Member of Research and Innovation Management Committee, Universiti Teknologi Malaysia. Feb. 2018- Present.

3.2. Board Memberhip and Consultation 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 Snd. Bhd. (Pasir Gudang, Johor, Malaysia).
For Technology Platform design, R&D, and International Business Development.
www.allcosmos.com

Advisory Board Member and Biobusiness consultant (Oct. 2014-Sep. 2015)
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 (June 2010- June 2012)

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- Director for Institute of Bioproduct Development (Feb. 2018 – Present). Mangement of the overall activities of institute. Setup a new strategy for financial sustainability and internationalization plant for the institute. Increase the research performance and sustainable industrial cooperation with local and international companies through join laboratory and long term research and product development program. (total staff number of staff 70). Redesign and restructure units to achieve the new targe of the institute (financial sustainability, high research performance, and internationalization plan). Head of Safety and Quality Management of Institue of Bioproduct Development (Feb. 2018 – Present).

2. Assistant Director for Institute of Bioproducts Development (IBD) for Research and Innovation. (March 2011 – January 2018), 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.

3. 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 Malasyia, Malaysia. (March 2011-present). Set-up biotechnology incubator platform for local and international industries.

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. Member in Top management committee, Institute of Bioproduct Development, Universiti Teknologi Malaysia, Malaysia. (March 2011 – February 2018). Head of to mamangement committee since February 2018

6. 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.

7. 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.

8. 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.

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 theis 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 funcal 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 semsters 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, enzyms 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 sysem 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 Oxytetracyline 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 β-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 lucidium*.
(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 2011to 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 kefiranofacients* 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 biocontrolagent 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 Gereen, 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 Gereen, 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 sermi-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 *Trcihoderma* sp. for industrial applications.
(Co-funded Project between UTM and Harita Go Green Snd. 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.

6.33. Investigation of chemical composition and bioactivities of non-fermented fermented soybean peptides.

Industrial Project for Master Natural Herbal Sdn. Bhd.)
Project PI (53,250 RM)
From Feb. 2018 – Mar. 2019.

6.34. Cultivation and freeze drying of *Spirulina platensis* and *Haematococcus pulviales*.
Industrial project for Dreamfore Sdn. Bhd.
Project Co-PI (58,490 RM)
Duration May 2018 – Jul. 2019.

6.35. Bioprocess Industrialization platform for microbial cell production for wellness industries.
Industrial project for All Cosmos Industries Sdn. Bhd.
Project PI (360,000 RM)
Duration: Jan. 2018 – Dec 2020.

6.36. Production of high biomass and polyhydroxyalkanoate (PHA) of *Ralstonia eutropha*. Medium and bioprocess optimization.
Industrial project of Free the Seed Sdn. Bhd.
Project PI (30,000 RM)
Duration: Nov. 2018 – Oct. 2019.

6.37 Isolation, identification, and production of inoculum for Agarwood (Gaharu) resin production.
Industrial Project for Harita Go Green Sdn. Bhd.
Project PI (50,000 RM)
Duration Nov. 2018 – Oct. 2019

6.38 Bioprocess optimization and scaling up studies on microbial strains cultivation.
Industrial Project for Arif Effective Sdn. Bhd.
Project PI (264,000 RM)
Duration Apr. 2019 – Mar. 2021

6.39 Isolation, identification and biomass production of rhizosphere microbes and rice microbiota in semi-industrial scale
Industrial Project with Global Agro Innovation Limited (Hong Kong)
Project PI (10,000 USD)
Duration Jul. 2019- Jun. 2020

6.40 Novel herbal-based formulation for the development of ergonomic patch for transdermal delivery using nonobiotechnology approach.
Industrial Project CLM Research & Development Sdn. Bhd.
Project PI (88,868 RM)
Duration Jul. 2019 – Jun. 2020

6.41. Platform technology for development of microbial based feed for the production of insect larvae.

Industrial Project with Nutrient Technology Sdn. Bhd.
Project PI (360,000 RM)
Duration Sep 2019 – Aug 2022.

6.42. Scaling up bioprocess strategy for cultivation of aerobic bacteria for enhancement of plant growth and nutritional value. (Phase I).
Industrial Project with Arif Effective Sdn. Bhd.
Project PI (210,000 RM)
Duration. 1 Feb 2020 – 30 Jan 2021

6.43. Scaling up bioprocess strategy for cultivation of aerobic bacteria for enhancement of plant growth and nutritional value. (Phase II).
Industrial Project with Allcosmos Industries Sdn. Bhd.
Project PI (210,000 RM)
Duration. 1 July 2020 – 30 June 2021

6.44. Development of Probiotic Based Product for Poultry Feed Application.
Industrial Project with Global Agro Innovation Limited (Hong Kong)
Project PI (10,000 RM)
Duration: 1 June 2020 – 31 May 2021

6.45 Plant bioactive compounds identification
Industrial Project with ESE Woods Sdn. Bhd.
Project PI (16,000 RM)
Duration: 1 July 2020 – 30 Oct. 2020

6.46. Isolation, Identification and high cell mass and spore production of isolated strain *Bacillus amyloliquefaciens* H201 for agriculture, aquaculture and animal health industries.
Hatake Global Sdn. Bhd.
Project PI (35,250 RM)
Duration 1 Mar 2020 – 28 Feb 2021

4.47. A Proprietary Bio-Fermentation process to obtain biochemical 1,3-Propanediol (Pdo), using crude glycerine as raw material, where Pdo is mainly used to make polytrimethylene terephthalate (Ptt) polyester as clothing material in textile industry
HG Biochemical Sdn. Bhd.
Project PI (660,000 RM)
Duration: 1 Feb. 2020 – 31 Jan 2021

4.48 Bioprocess industrialization for phosphate solubilizing bacteria.
Incentive matching grant (UTM)
Project PI (20, 000 RM)
Duration 1 Jul. 2020 – 30 Jun 2021

4.49 Bioprocess industrialization for *Rhizobium* sp. bacteria for wellness industries.

Incentive matching grant (UTM)
Project PI (20,000 RM)
Duration 1 Jul – 30 Jun 2021

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
Getingevagen 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).
9. Executive board member. Centre of excellence for Research and Applied Studies on Climate Change and Sustainable Development (C3 SD-NRC). (October 2019 – Present).

(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 One, 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, BMC Biotechnology, BMC Microbiology, Frontiers in Microbiology, and Many Other journals.

Books:

Reviewer for Book Proposals (John Wileys and Sons Publisher, USA). CRC Press (USA). Springer Verlag (Germany).

Editor/Editorial Board member for Book Series and Journals.

1. **Book Series:**
   Series Editor for Industrial Biotechnology Book Series, CRC Press, USA.
   https://www.routledge.com/Industrial-Biotechnology/book-series/CRCINDBIO
2. **Scientific Journals**
   2.1 International Journal of Biotechnology for Wellness Industries (Editor-In-Chief) 2012-2018. www.lifescienceglobal.com/journals/international-journal-of-biotechnology-for-wellness-industries
   2.2. Biosciences Biotechnology Research Asia (Editor-In-Chief) Since 2016. www.biotech-asia.org
   2.3. Journal of Scientific and Industrial Research (Editorial Board Member) Since 2014
   2.4. Journal of Indian Phytopathology (Editorial Board Member) Since 2016

2.5. Journal of Advanced Scientific Research (Editorial Board Member) Since 2013
2.6.Journal of Agriculture Research and Innovation. (Editorial Board Member) Since 2014
2.7.International Journal of Drug Discover and Medical Research
(Editorial Board Member) Since 2012
2.8.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. Service Award Anugerah Khidmat Cemerlang IBD 2012
12.6. Excellent Research Award. Anugerah Penyelidikan Terbaik 2012 "Efficient Polysaccharide Production by *Pleurotus ostreatus* in submerged culture"
12.7. Best Service award. 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.
12.15. Best cooperation Award with industry (UTM), 2019 (the highest award in UTM for cooperation with industry)
12.16. Publication Award (UTM), 2019.
12.17. Publication Award (UTM), 2020.

Publications:

Type of Publication	Number of Publication
Articls in Internation Refereed Journals	202
Conference Papers	
Books	4
Book Chapters	33
Patents	2
Trade Secrets	4
Others	
(publications in Arabic Language)	3
(Publicationin German Language)	1
Speaker in International Conferences	75
Abstracts/posters in international conferences	127

Citation Sources	Number of Citations
SCOPUS	1307 (H-index=19)
Google Scholar	2814 (H-index=28)

SCOPUS Author ID: 6602993477
ORCID ID: orcid.org/0000-0002-9712-2033
Google Scholar:
https://scholar.google.com/citations?user=MW4mqiQAAAAJ&hl=en

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.

4. Probiotics, the Natural Microbiota in Living Organisms. Fundamentals and Applications. 2021. (El-Enshasy, HA, Yang S-T. Eds.). CRC Press. Taylor & Francis Group. USA. (In Press). ISBN 9781138493605
https://www.routledge.com/Probiotics-the-Natural-Microbiota-in-Living-Organisms-Fundamentals-and/Enshasy-Yang/p/book/9781138493605

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.

2- Daba, A.; El-Demellawy, M. and El-Enshasy, H. (2005). Anticancer Activity of Polysaccharides Produced by *Pleurotus ostreatus* in Submerged Culture. *In* Genetic and Cellular Biology of Basidiomycetes. (Pisabarro, A.G. and Ramírez, L. Eds.). Universidad Pública de Navarra, Pamplona, Spain. Pp.43-55

3- El Enshasy, H. (2007). Filamentous Fungal Cultures-Process Characteristics, Products, and Applications. *In* Bioprocessing for value-added products from renewable resources. (S.T. Yang, Ed.). pp. 225-261. Elsevier Press (ISBN-10: 0-444-52114-3).
http://www.elsevier.com/wps/find/bookdescription.cws_home/707941/description#description

4- El-Enshasy, H.; El Baz, A. and Ammar, E. (2007). Simultaneous production and decomposition of different rifamycins during *Amycolatopsis mediterranei* growth in shake flask and in stirred tank bioreactor. *In* Communicating Current Research and Educational Topics and Trends in Applied Microbiology Vol. I, pp 315-321. Formatex Research Centre: Badajoz, Spain.

5- El Enshasy, H. (2010). Immunomodulators. *In.* The Mycota (2nd. Edition). Vol.X. (Hofrichter, M. Ed.) Springer Verlag. pp. 165-194.
http://www.springerlink.com/content/g7227107853l4804/

6- El Marzugi, N. El Enshasy H., Abd Malek R., Othman Z., Sarmidi M. R., and Abdel Aziz R. (2010). Optimization of cell mass production of the probiotic strain *Lactococcus lactis* in batch and fed-batch culture in pilot scale levels. *In.* Current Research, Technology and Education Topics in Applied Microbiology and Microbial Biotechnology. Vol. 2

(Médez-Vilas, A. Ed.). Formatex Research Centre, Badajoz, Spain. Pp. 873-879. ISBN 978-84-614-6195-0

7- Roslinda Abd Malek, Sallehhuddin bin Hamdan, Hesham A. El Enshasy, Nor Zalina Othman, Noor Azwani Zainol, Mohamad R. Sarmidi, Ramlan, A. Aziz. (2010). Production of *Lactobacillus salivarius*, a new probiotic strain isolated from human breast milk, in semi-industrial scale and studies on its functional characterization. *In.* Current Research, Technology and Education Topics in Applied Microbiology and Microbial Biotechnology. Vol. 2. (Médez-Vilas, A. Ed.). Formatex Research Centre, Badajoz, Spain. Pp 1196-1204. ISBN 978-84-614-6195-0

8- El Enshasy, H.A., Maftoun, P. and, Abd Malek, R. (2012). Pleuran: Immunomodulotor Polysaccharide from Pleurotus ostreatus, Structure, Production and Application *In.* Mushrooms: Types, Properties and Nutrition (Andres, S. and Baumann, N. Ed.). Nova publisher, NY, USA). ISBN: 978-1-61470 130-9. pp 153-172.
https://www.novapublishers.com/catalog/product_info.php?products_id=26333

9- Hesham El Enshasy, Nor Zalina Othman, Ashraf El Baz. (2012). High cell density cultivation of microbial cells: efficient high cell mass production strategy for biotherapeutic yeast *Saccharomyces boulardii*. *In.* Biotechnology development in agriculture, industry and health. (Vol. 1 Current industrial application&Future trends). Zainul Akmar Zakaria, Wan Azlinda Ahmad, and Zainoha Zakaria (Eds.). UTM Press. Pp 199-218. ISBN- 978-983-52-0900-0.

10- Nor Zalina Othman, Hesham El Enshasy, Mohamad Roji Sarmidi, Rajni Hatti-Kaul (2012). Phytase and its Biosynthesis. *In.* Biotechnology development in agriculture, industry and health. (Vol. 1 Current industrial application&Future trends). Zainul Akmar Zakaria, Wan Azlinda Ahmad, and Zainoha Zakaria (Eds.). UTM Press. Pp 249-272. ISBN- 978-983-52-0900-0.

11- Roslinda Abd Malek, Wahida Abd Rashid, Subeesh Kunhi Kandiyil, Ramlan Aziz, Hesham A. El Enshash, Rajni-Hatti-Kaul. (2012). Production of recombinant xylanase using *Escherichia coli* and its industrial application. *In.* Biotechnology development in agriculture, industry and health. (Vol. 1 Current industrial application&Future trends). Zainul Akmar Zakaria, Wan Azlinda Ahmad, and Zainoha Zakaria (Eds.). UTM Press. Pp 273-308. ISBN-978-983-52-0900-0.

12- El Enshasy, H; Abdel Fattah, Y. and Othman, N.Z (2013). "Amylases" *In:* Bioprocessing Technologes in Integrated Biorefinery from Production of Biofuels, Biochemicals, and Biopolymers from Biomass. (Yang S-T, El Enshasy HA, Thongchul N, Eds), John Wiley&Sons, USA. pp 111-130.
ISBN 0470541954, 9780470541951
http://onlinelibrary.wiley.com/doi/10.1002/9781118642047.ch7/summary

13- El Enshasy, H. (2014). "Measurement and Control of Cultivation Parameters During Mammalian Cell Cultivation and Their Impact on Bioprocess Performance" *In.* Industrial

Biotechnology in Non-aligned and Other Developing Countries: Current Status and Future Prospects. (Esterhuizen-Londt, M. and Badr, A. Eds.), Daya Publishers, Delhi, pp. 55-64 (ISBN 978-93-5124-309-0).

14- Elmarzugi NA, Eid AM, El-Enshasy HA, Aziz R (2015) Nanoemulsion, *In* The potential Benefits of Nanotechnology-based Pharmaceutical Formulations (El Marzugi NA and El Enshasy HA). UTM Press. http://www.penerbit.utm.my/, ISBN 978-983-52-1006-8. pp 01-42, Johor, Malaysia.

15- El Enshsay HA, Abdel Hamid M, Abd Malek R, Elmarzugi N, Sarmidi MR (2016). "Microbial metabolites in cosmetic industries " *In:* The Hand Book of Microbial Bioresources. (Gupta VK, Sharma GD, Touhy MG, Gaur R, Eds.), CABI, Oxfordshire, UK (ISBN 9781780645216)

16- El Enshasy HA, Othman NR, Elsayed EA, Sarmidi MR, Wadaan MA, Aziz R (2016). "Functional Enzymes for Animal Feed Applications" *In:* The Hand Book of Microbial Bioresources. (Gupta VK, Sharma GD, Touhy MG, Gaur R, Eds.), CABI, Oxfordshire, UK (ISBN 9781780645216)

17- El Enshasy HA, Azman D, Peng T, Aziz R, Othman NZ, Malek RA (2016). "Recent Development of Biological Control Agents for Oil Palm Diseases: From Strain Isolation to Product Development. *In* Perspectives of Plant Pathology in Genomic Era (Chowdoppa P, Sharma P, Singh D, Misra AK Eds.). Today&Tomorrow Printers and Publications. New Delhi, India pp. 415-448. ISBN 81-7019-526-4 (India), ISBN 1-55528-382-9 (USA).

18- El Enshasy, H.A., Kandiyil SK, Malek R, Othman NZ. (2016). "Microbial Xylanases: Sources, Types, and Their Applications. *In.* Microbial Enzymes in Bioconversions of Biomass (Gupta VK Ed.). Springer International Publishing Switzerland. Pp 151-213. ISBN 978-3-319-43677-7 (print), ISBN 978-3-319-43679-1 (online). DOI https://doi.org/10.1007/978-3-319-43679-1_7

19- El Enshasy H, Abdel Hamed M, Boumehira A (2017). "Palm oil: Process, characterization, and applications. *In.* Edible oils: Extraction, processing, and application (Chemat S Ed.) CRC Press, Taylor & Francis Group. Boca Roton, FL, USA. Pp 127-154. ISBN 978-1-488-752091. https://doi.org/10.1201/9781315152493

20- El Enshasy HA, Hanapi SZ, Abdelgalil SA, Malek RA, Pareek A (2017). Mycoremediation, Decolorization potential of fungal lignolytic enzymes. (Prasad R Ed.) Mycoremediation and Environmental Sustainability. Fungal Biology. Springer. Pp 69-104. (Print) ISBN. 978-3-319-68956-2, (Online) ISBN 978-3-319-68957-9. DOI: https://doi.org/10.1007/978-3-319-68957-9_5

21- Perez, MF, Isas AS, Aladdin A, El Enshasy H, Dib JR (2018). Killer yeasts as biocontrol agents of postharvest fungal diseases in lemons. *In* Sustainable Technologies for the Management of Agricultural Wastes. (Zakaria Z. Ed.). Applied Environmental Science and Engineering for a Sustainable Future. Springer, Singapore. ISBN 978-981-10-5061-9

(Print), ISBN 978-981-10-5062-6 (Online): DOI: http://doi.org/10.1007/978-981-10-5062-6_7.

22- Aladdin A, Dib JR, Abd Malek R, El Enshasy H (2018). Killer yeast, a novel biological control of soilborne diseases for good agriculture practice. *In* Sustainable Technologies for the Management of Agricultural Wastes. (Zakaria Z. Ed.). Applied Environmental Science and Engineering for a Sustainable Future. Springer, Singapore. ISBN 978-981-10-5061-9 (Print), ISBN 978-981-10-5062-6 (Online): DOI: http://doi.org/10.1007/978-981-10-5062-6_6

23- El Enshasy HA, El Marzugi NA, Elsayed WA, Ling OM, Abd Malek R, Kepli AN, Othman NZ, Samli S (2018). Medical and cosmetic applications of fungal nanotechnology: Production, characterization, and bioactivity. *In* Fungal Nanobionics: Principles and Applications. (Prasad R, Kumar V, Kumar M, Wang S Eds.). Springer, Singapore. ISBN 978-981-10-8665-6 (Print), ISBN 978-981-10-8666-3 (Online): pp. 211-232. https://doi.org/10.1007/978-981-10-8666-3_2

24- El Enshasy HA, Hanapi SZ, Abd Malek R, Abdelgalil SA, Leng OM (2019). Endophytic fungi: the desired biostimulants for essential oil production. *In* Endophytic Fungi. Pp. 211-232. (Singh BP, Chahakchuank L, Passari AK Eds.). Springer Verlag. ISBN 978-3-030-03588-4 (Print), ISBN 978-3-030-03589-1 (Online) https://doi.org/10.1007/978-3-030-03589-1_10

25- Soltani M, Abd Malek R, Elmarzugi N, Mahmoodaily MF, Uy D, Leng OM, El Enshasy HA (2019). Cordycepin: A biotherapeutic molecule from medicinal mushroom. *In.* Biology of Macrofungi (Singh BP, Chhakchhauk L, Passari AK Eds.) Springer Verlag. Pp. 319-349. ISBN 978-3-030-02621-9 (Print). ISBN 978-3-030-02622-6 (Online). https://doi.org/10.1007/978-3-030-02622-6_16

26- Dailin DJ, Hanapi SZ, Elsayed EA, Sukmawati D, Ean Azleee NI, Eyamalay J, Siwapiragam V, El Enshasy H. (2019). Fungal Phytases: Biotechnological applications in food and feed industries. *In* Recent advancement in white biotechnology through fungi. Vol. 2. Perspective for value added product and environments. (Yadav A., Ed.), Springer Verlag pp 65-99. ISBN 978-3-030-14846-1

27- El Enshasy HA, Agouillal F, Mat Z, Abd Malek R, Hanapi SZ, Leng OM, Dailin DJ, Sukmawati D. (2019). *Pleurotus ostreatus*: a biofactory for lignin degradation enzymes of diverse industrial applications. *In* Recent advancement in white biotechnology through fungi. Vol. 3. Perspective for sustainable environment (Yadav A., Ed.), Springer Verlag pp. 101-152. ISBN 978-3-030-25505-3 (Hardcopy), 978-3-030-25506-0 (E-Book) https://doi.org/10.1007/978-3-030-25506-0_5

28. El Enshasy HA, Joel D, Singh DP, Abd Malek R, Elsayed EA, Hanapi SZ, Kumar K. (2019). Mushrooms: New Biofactories for nanomaterial production of different industrial

and medical applications. *In* Microbial Nanobionic: Vol. 1 State of Art (Prasad R., Ed.). Springer Verlag pp. 87-126. https://doi.org/10.1007/978-3-030-16383-9_4
Hardcopy ISBN 978-3-030-16382-2. (Hardcopy), 978-3-030-16383-9 (E Book).

29. Boumehira AZ, Hacéne, El Enshasy (2019). Rubromycins: a class of tolemerase inhibitor antibiotics produced by *Streptomyces* spp. *In* New and future development in microbial biotechnology and bioeningeering. Microbial secondary metabolites biochemistry and applications. (Gupta VK, and Pandey A Eds.), Elsevier Press Hardcopy ISBN 978-0-444-63504-4. DOI: http://doi.org/10.1016/B978-0-444-63504-4.00011-6.

30. Zope VP, El Enshasy H, Sayyed RZ (2019). Plant growth promoting rhizobacteria: An overview in agricultural perspectives. *In* Plant Growth Promoting Rhizobaceria for Sustainable Stress Management-Vol.2. Rhizobacteria in Biotic Stress Management (Sayyed R, Tabassum B. Eds.) Sprigner Verlag, pp. 345-361. https://doi.org/10.1007/978-981-13-6986-5_13 Hardcopy. ISBN. 978-981-13-6985-8

31. Kenawy A, Dailin DJ, Abdel Khaleek A, Abdul Malek R, Ambehabati KK, Sayyed R, Zakaria KHN, El Enshasy H (2019). Biosynthesis of antibiotics by PGPR and its role in biocontrol of plant diseases. *In* Plant Growth Promoting Rhizobaceria for Sustainable Stress Management-Vol. 2. Rhizobacteria in Biotic Stress Management (Sayyed R, Tabassum B. Eds.). Sprigner Verlag, pp. 1-35. https://doi.org/10.1007/978-981-13-6986-5_1
Hardcopy. ISBN. 978-981-13-6985-8

32. El Enshasy H, Dailin DJ, Abd Malek R, Nordin NZ, Keat HC, Eyahmalay J, Ramchuran S, Ghong JNC, Ramdas VM, Lalloo R (2020). Biocement: A novel approach in restoration of construction materials. In. Yadav A., Rastegari A, Gupta V, Yadav N (eds.) Microbial Biotechnology Approach to Monuments of Cultural Heritage. Springer Singapore. pp. 177-198. https://doi.org/10.1007/978-981-15-3401-0_10. Hardcopy. ISBN: 978-981-15-3400-3

33. El Enshasy HA, Ambehabati KK, El Baz AF, Ramchuran S, Sayyed RZ, Amalin D, Dailin DJ, Hanapi SZ (2020). *Trichoderma*: Biocontrol agents for promoting plant growth and soil health. In. Yadav A, Mishra S, Kour D, Yadav N, Kumar A (Eds.). Agriculturally Important Fungi for Sustainable Agriculture. Vol. 2. Functional Annotation for Crop Protection. Fungal Biology Series. Springer, Cham. Pp. 239-259. https://doi.org/10.1007/978-3-030-48474-3_8 Hardcopy. ISBN: 978-3-030-48473-6, Online ISBN: 978-3-030-48474-3.

11.4. Papers

1- Farid, M.A.; El-Diwany, A.I. and El-Enshasy, H.A. (1994). Production of oxytetracycline and rifamycins B and SV with cells immobilized on glass wool. Acta Biotechnol. **14**, 67-74.

2- Farid, M.A.; El-Diwany, A.I. and El-Enshasy, H.A. (1994). Production of oxytetracycline by immobilized *Streptomyces rimosus* cells in calcium alginate gels. Acta Biotechnol. **14**, 303-309.

3- Farid, M.A.; El-Diwany, A.I.; Daniel, E.N. and El-Enshasy, H.A. (1995). Production of oxytetracycline and lysine using mixed-culture fermentation. Chemie Mikrobiologie Technologie der Lebensmittel. **17**, 139-144.

4- Farid, M.A.; Abu-Shady, M.R.; El-Diwany, A.I. and El-Enshasy, H.A. (1995). Production of rifamycins B and SV by free and immobilized cells of *Amycolatopsis mediterranei*. Acta Biotechnol. **15**, 241-248.

5- Abu-Shady, M.R.; Farid, M.A.; El-Diwany, A.I. and El-Enshasy, H.A. (1995). Studies on rifamycins production by *Amycolatopsis mediterranei* cells immobilized on glass wool. J. Basic Microbiol. **35,** 279-284.

6- Farid, M.A.; El-Batal, A.I; El-Diwany, A.I. and El-Enshasy, H.A. (1996). Optimization of glutamic acid production with immobilized cells of *Corynebacterium glutamicum*. Adv. Food Sci. **18**, 34-38.

7- Farid, M.A.; El-Diwany, A.I. and El-Enshasy, H.A. (1996). Selection and Characterization of high producing rifamycins colony from *Amycolatopsis mediterranei.* Acta Pharm. Turcica. **38,** 91-100.

8- El-Enshasy, H.; Hellmuth, K and Rinas, U. (1999). Fungal morphology in submerged cultures and its relation to glucose oxidase excretion by recombinant *Aspergillus niger*. Appl. Biochem. Biotechnol. **81,** 1-11.

9- Farid, M.; El-Enshasy, H.; El-Diwany, A. and El-Sayed. A. (2000) Optimization of the cultivation medium for natamycin production by *Streptomyces natalensis.* J. Basic Microbiol. **40,** 157-166.

10- El-Enshasy, H. and Beshay, U. (2000) Production of Erythromycin by immobilized cells of *Saccharopolyspora erythreae* . The world Congress in Biotechnology, The 11th. International Biotechnology Symposium and Exhibition. *In* Biotechnology 2000, Berlin. (3-8 Sept. 2000), vol. 4, 308-311.

11- El-Enshasy, H.; Farid, M. and El-Sayed, A. (2000) Influence of inoculum type and cultivation conditions on natamycin production by *Streptomyces natalensis*. J. Basic Microbiol. **40,** 389-398.

12- El-Enshasy, H., Hellmuth, K. and Rinas, U. (2001) *GpdA*-promoter controlled production of glucose oxidase by recombinant *Aspergillus niger* using non-glucose carbon sources. Appl. Biochem. Biotechnol. **90,** 1-10.

13- Farid, M.A.; El-Enshasy, H.A; and Noor El-Deen, A.M. (2002). Alcohol Production from Starch by Mixed Cultures of *Aspergillus awamori* and Immobilized *Saccharomyces cerevisiae*. J. Basic Microbiol. **42,** 162-171.

14- Beshay, U. and El-Enshasy, H. (2002). Production of α-amylase by *Bacillus amyloliquefaciens* during batch cultivation in shake flask and stirred tank bioreactor. Deutsche Lebensmittel-Rundschau. **98,** 5-9.

15- El-Enshasy, H.; El-Diwany, A. and Farid, M. (2002). Effect of Natural Inorganic Complex Material (Vermiculite) on the Production of Oxytetracycline by *Streptomyces rimosus*. Acta Pharm. Turcica. **45,** 55-60.

16- El-Enshasy, H. (2002). Kinetic of oxytetracycline production by *Streptomyces rimosus* immobilized in κ-Carrageenan gel beads. Egypian J. of Biotechnol. **12,** 346-360.

17- El-Enshasy, H. (2003). Production of Gluconic acid by free and immobilized cells of recombinant *Aspergillus niger* in batch and repeated batch cultures. Deutsche Lebensmittel Rundschau. **99,** 409-415.

18- El-Enshasy, H.A.; El-Shahid, K.Y. and Mohamed, H.M. (2003). Kinetic of streptomycin production and degradation during batch cultivation of *Streptomyces griseus* in shake flask and bioreactor. New Egyptian J. Microbiol. **4,** 22-35.

19- Beshay, U.; El-Enshasy, H.; Ismail, I.M.K.; Moawad, H.; Abdel Ghany, S. (2003). Glucanase production from genetically modified recombinant *Escherichia coli*: Effect of growth substrates and development of a culture medium in shake flasks and stirred tank bioreactor. Process Biochem. **39,** 307-313.

20- El-Enshasy, H.A.; Beshay, U I.; El-Diwany, A.I.; Omar, H.M.; El-Kholy, A.E.; El-Najar, R.(2003) Improvement of rifamycins production by *Amycolatopsis mediterranei* in batch and Fed-batch cultures. Acta Microbiol. Polonica **51,** 301-313.

21- El-Enshasy, H.; Rinas, U., Kleine, J. and Deckwer, W-D. (2004). Morpho-physiological characterization of fungal growth for bioprocess improvement and as scaling up parameter for the production of glucose oxidase in recombinant *Aspergillus niger*. In The 1st. International Conference on Green&Advanced Engineering Technologies. pp93-105.

22- El Enshasy, H.A. (2004). Human and Animal Cells: The New Biofactories of the Future Drugs in Pharmaceutical Industries. In The 3rd. Symposium on Scientific Research and Technology Development Outlook in the Arab World, Riyadh, Saudi Arabia, 11-14 April, 2004. Paper No. F3-326,

23-Rinas, U., El-Enshasy, H., Emmler, M., Hille, A., Hempel, D.C. and Horn, H. (2005) Model-based prediction of substrate conversion and protein synthesis and excretion in recombinant *Aspergillus niger* biopellets. Chem. Eng. Sci. **60,** 2729-2739.

24. El-Demellawy, M.A.; Esmail, T.A. and El-Enshasy, H.A. (2005). Kinetic of growth of bone marrow derived stem cells under different osmotic stress. Egyptian J. Biomed. Sci. **17,** 330-340.

25- Shetaia, Y.M; El Baz, A.F and El Enshasy, H.A. (2005). Production of yeast killer toxin by *Trichosporon jirovecii* in industrial medium. African J. Mycology. and Biotechnol. **13,** 73-89.

26- El Enshasy, H.; Kleine, J. and Rinas, U. (2006). Agitation effects on morphology and protein productive fractions of filamentous and pelleted growth forms of recombinant *Aspergillus niger.* Process Biochem. **41,** 2103-2112.

27- El Enshasy, H. (2006). Optimization of gluconic acid production by recombinant *Aspergillus niger* carrying multiple copies of glucose oxidase gene in batch and fed-batch cultures. Deutsche Lebensmittel Rundschau. **102,** 1-6.

28- El Enshasy, H.; El Adawy, H.; Yang, S.T. (2007). Effects of different osmotic pressure of the cultivation media on hybridoma cell growth, and monoclonal antibodies production kinetics in batch culture. J. Biotechnol. **6,** 202-209.

29- El-Enshasy, H.A.; Beshay, U I.; El-Diwany, A.I.; Omar, H.M.; El-Kholy, A.E.; El-Najar, R. (2007). Rifamycins Production by *Amycolatopsis mediterranei* in Batch and Repeated Batch Cultures using Immobilized Cells in Alginate and Modified Alginate Beads. J. Applied Science **7,** 1781-1789.

30- El Enshasy, H. (2007). Bioprocess development for the production of α-amylase by *Bacillus amyloliquefaciens* in batch and fed-batch cultures. J. Microbiological Research. **7,** 560-568.

31- El-Enshasy, H.A.; Abul-Hamd, A.; El Sehrawi, M.; Sidkey, N. and Azazzy, A. (2007). Improvement of cell mass production of thermotolerant yeast *Saccharomyces cerevisiae* using sugar cane molasses based medium in stirred tank bioreactor in batch and fed-batch cultures. Deutsche Lebensmittel Rundschau **103,** 273-278.

32- Abdel-Fattah, Y.R.; El Enshasy, H.; Anwar, M.; Omar, H., Abou El magd, E.; Abou Zahra, R. (2007). Application of factorial experimental designs for optimization of Cyclosporin A production by *Tolypocladium inflatum* in submerged culture. J. Microbiol. Biotechnol. **17,** 1930-1936.

33- El Enshasy, H.; Abdel Fattah, Y.; Atta, A.; Anwar, M.; Omar, H.; Abou El magd, S. Abou Zahra, R. (2008). Kinetics of cell growth and cyclosporine A production by *Tolypocladium inflatum* during process scaling up from shake flask to bioreactor. J. Microbiol. Biotechnol. **18,** 128-134.

34- El-Enshasy, H.A.; Mohamed, N.A.; Farid, M.A and El-Diwany, A.I. (2008). Improvement of erythromycin production by *Saccharopolyspora erythraea* in molasses based medium through cultivation medium optimization. Bioresource Technology **99,** 4263-4268.

35- El-Enshasy, H.; Al laboudy, S.; Abdel-Aal, S.S.; Bakery M. Haroun, B.M. and El Kelani, T.A. (2008). Production of Vitamin B_{12} by Methanol Utilizing Bacteria *Rubrobacter motiliticus* nov. var. *gelatinoliquificicans* In Shake Flask and Bioreactor Cultures Under Different Cultivation Conditions. Deutsche Lebensmittel Rundschau **104,** 384-388.

36- El Enshasy, H.A. and El Shereef, A.A. (2008). Optimization of high cell density cultivation of (Probiotic/Biotherapeutic) yeast *Saccharomyces boulardii* adapted to dryness stress. Deutsche Lebensmittel Rundschau. **104,** 389-394.

37- El Enshasy, H. , Abuoul-Enein, A., Helmy, S. and El Azaly, Y. (2008). Optimization of The Industrial Production of Alkaline Protease By *Bacillus licheniformis* In Different Production Scales. Australian J. of Basic and Applied Sciences. **2,** 583-593.

38- El-Ensahsy, H.; Elsayed A.; EL Demellawy, M.; Abdeen; A.; Abdeen, S. and EL Shereef, A. (2009). Serum Concentration Effects on the Kinetics and Metabolism of HeLa-S3 Cell Growth and Cell Adaptability for Successful Proliferation in Serum Free Medium. World Applied Sciences Journal. **6,** 608-615.

39- Abdel Fattah, Y.R.; H.A. El-Enshasy, N.A. Soliman, and H. El-Gendi. (2009). Bioprocess Development for the production of alkaline protease by *Bacillus psudoformus* Mn6 through statistical experimental designs. J. Microbiol. Biotechnol. **19,** 378-386.

40- El-Enshasy, H., Mohy El Din, M.S., El Sayed, M., El Sayed, S., Haroun, B. and Hassan, E. (2009). Optimization and scaling up of penicillin acylase production process by *Escherichia coli*. World Applied Sciences Journal. **6,** 1348-1358.

41- Othman, N.Z.; El Enshasy, H.A.; Abdel Malek, R.; Sarmidi, M.R. and Aziz, R.A. (2009). Kinetics of cell growth and functional characterization of probiotic strains *Lactobacillus delbrueckii* and *Lactobacillus paracasei* isolated from breast milk. Deutsche Lebensmittel Rundschau. **105,** 444-450.

42- Sarmidi, M.R.; El Enshasy, H.A. and Abdul Hamid, M. (2009). Oil Palm: The rich mine for pharma, food, feed and fuel industries. American-Euroasian J. Agric. Environm. Sci. **5,** 767-776.

43- El Enshasy, H.; Daba, A.; El Demellawy, M.; Ibrahim, A.; El Sayed, S. and El Badry, I. (2010). Bioprocess development for large scale production of anticancer exo-polysaccharide by *Pleurotus ostreatus* in submerged culture. Journal of Applied Sciences **10,** 2523-2529.

44- El Enshasy, H.; Then, C.; Othman, N.Z.; Al Homosany, H.; Sabry, M.; Sarmidi, M.R. and Aziz, R.A. (2011). Enhanced xanthan production process in shake flasks and pilot scale bioreactors using industrial semi-defined medium. African J. Biotechnology. **10,** 1029-1038.

45- Abdeen, S.H.; Abdeen, A.M.; El Enshasy, H.A. and El Shereef, A. A. (2011). HeLa-S3 cell growth and conditions in serum free medium and adaptability for proliferation in suspension culture. Journal of Biological Sciences. **11,** 124-134.

46- Beshay, U.; El Enshasy, H.; Ismail, I.M.K; Moawad, H. and Abd-El-Ghany, S. (2011). Beta-glucanase productivity improvement via cell immobilization of recombinant *Escherichai coli* cells in different matrices. Polish J. Microbiol. **60,** 133-138.

47- Mohy Eldin M.S.; El Enshasy, H.A and Hassan, M.E. (2012). 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.". Journal of Applied Polymer Science. **124,** E27-E36.

48- Awad, H.M.; Diaz, R.; Malek, R.A.; Othman, Z.; Aziz, R.A. and El Enshasy, H. (2012). Efficient production process for food grade acetic acid by *Acetobacter aceti* in shake flask and in bioreactor cultures. Electronic J. Chemistry. **9,** 2275-2286.

49- Esawy, M.; Mansour S.; Ahmed E.; Naziha, M. and El Enshasy, H. (2012). Characterization of extracellular dextranase from novel halophilic *Bacillus subtilis* NRC-B233b a mutagenic honey isolate under solid state fermentation. Electronic J. Chemistry. **9,** 1494-1510.

50- Mohy Eldin M.S.; El Enshasy, H.A and Hassan, M.E. (2012). Covalent Immobilization of Penicillin G Acylase onto Amine Functionalized PVC Membranes for 6-APA Production from Penicillin Hydrolysis Process. II. Enzyme Immobilization and Characterization. Journal of Applied Polymer Science. **125,** 3820-3828.

51- Sarmidi, MR. and El Enshasy H.A. (2012). Biotechnology for Wellness Industry: Concepts and Biofactories. International Journal of Biotechnology for Wellness Industries. **1,** 3-28.

52- Then, C.; Othman, Z.; Wan Mustapha WA.; Sarmidi, MR.; Aziz, R. and El Enshasy, H.A. (2012). Production of alginate by *Azotobacter vinelandii* in semi-industrial scale using batch and fed-batch cultivation systems. Journal of Advanced Scientific Research. **3,** 45-50.

53- El Enshasy, H. (2012). Industrial platform design for large scale production of probiotic yeast. Paper No. 531c. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

54- Maftoun, P.; Masri, M.H.J.; Malek, R.A.; Ismail, N.S.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R.A. and El Enshasy, H.A. (2012). Overproduction of pleuran: An immunomodulator exopolysaccharide produced in submerged culture of *Pleurotus ostreatus* in stirred tank bioreactor. Paper No. 593k. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

55- Azman, M.D.; Malek, R.A.; Othman, N.Z.; Peng, T.; Idris, A.; Then, C.; Chang, H.W.; Sukumaran, S.; Wan Mustapha, W.A.; Ramli, S.; Sarmidi, M.R.; Aziz, R. And El Enshasy, H. A. (2012). Semi-industrial scale production of biocontrol fungus: *Hendersonia* sp., A

potential agent against *Ganoderma* oil palm disease. Paper No. 593I. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

56- Malek, R.A.; Ishak, A.F.; El Sayed, S.; El Badry, I.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R.A. and El Enshasy, H.A. (2012). Semi-industrial production of probiotic/biotherapeutic yeast *Saccharomyces boulardii* in high cell density culture using different cultivation strategies. Paper No. 594d. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

57- Othman, N.Z.; Ramli, S.; Masri, J.H.; Sarmidi, M.R.; Aziz, R.; Tran, T.T.; Hatti-Kaul, R. And El Enshasy, H.A. (2012). Effect of pH and aeration on plasmid stability and phytase expression in *Escherichia coli* BL21(DE3) during batch cultivations in semi-industrial scale bioreactor. Paper No. 593a. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

58- Then, C.; Othman, N.Z.; Malek, R.A.; Peng, T.; Chang, H.W.; Sukumaran, S.; Wan Mustapha, W.A.; Ramli, S.; Saat, M.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. (2012). High cell density cultivation of *Azotobacter vinelandii* in pilot scale stirred tank bioreactors for biofertilizer applications. Paper No. 593m. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

59-Othman, N.Z.; Chan, Y.S.; Malek, R.A.; Ramli, S.; Ismail, N.S.; Sarmidi, M.R.; Aziz, R. And El Enshasy, H.A. (2012). Bioprocess optimization for cell mass production and functional characterization of *Lactobacillus plantarum.* Paper No. 594e. 12 AIChE, Annual meeting, Pittsburgh, USA. ISBN: 978-0-8169-1073-1

60- Awad, H.M.; El-Shahed, K.Y.I.; Aziz, R.A.; Sarmidi, M.R. and El Enshasy, H.A. (2012). Antibiotics as microbial secondary metabolites: Production and application. Jurnal Tekologi. **59,** 101-111.

61- Esawy, M.A.; Amer, H.; Gamal-Eldeen, A.M.; El Enshasy, H.A.; Helmy, W.A.; Abo-Zeid, M.A.M.; Malek, R.; Ahmed, E.F.; Awad, G.E.A. (2013). Scaling up, characterization of levan and its inhibitory role in carcinogenesis initiation stage. Carbohydrate Polymers. **95,** 578-587.

62- Elmarzugi, N.; El Enshasy, H.A.; Elsayed, E.A.; Table, A.; Keleb, E.; Naji, S.; Elrmithi, O.; Othman, N.Z. (2013). Production of α-amylase using new strain of *Bacillus polymyxa* isolated from sweet potato. IOSR Journal of Pharmacy and Biological Sciences. **5,** March-April, pp. 73-79.

63- Elmarzugi, N.A.; Keleb, E.; Mohamed, A.T.; El Enshasy, H.A.; Hamza, A.M.; Dlim, M.M.; Layla, A.A.; Salama, M. (2013). Face powder problems perception survey. International Journal of Pharmaceutical Science Invention. **2,** 9-18.

64. Eid, A.M.; Elmarzugi, N.A.; El Enshasy, H.A. (2013). A review on the phytopharmacological effect of *Swietenia macrophylla.* International Journal of Pharmacy and Pharmaceutical Sciences. **5,** 47-53.

65. Maftoun, P.; Malek, R.; Abbas, M.; Aziz, R.; El Enshasy, H. (2013). Bioprocess for semi-industrial production of immunomodulator polysaccharide Pleuran by *Pleurotus ostreatus* in submerged culture. Journal of Scientific and Industrial Research. **72,** 655-662.

66. Eid, A.M.; Elmarzugi, N.A.; El Enshasy, H.A.; Arafat, O.M. (2013). A novel *Swietenia macrophylla* oil self-nanoemulsifying system: Development and evaluation. International Journal of Pharmacy and Pharmaceutical Sciences. **5,** 6339-6344.

67. Elsayed, E.A.; Farid, M.; El Enshasy, H. A. (2013). Improvement in natamycin production by *Streptomyces natalensis* with the addition of short-chain carboxylic acids. Process Biochemistry. **48,** 1831-1838.

68. El Enshasy, H.; Hatti-Kaul, R. (2013). Mushroom Immunomodulators: unique molecules with unlimited applications. Trends in Biotechnology **31,** 668-677.

69. Eid, A.M.; Elmarzugi, N.A.; El Enshasy, H.A. (2013). Preparation and evaluation of olive oil nanoemulsion using sucrose monoester. International Journal of Pharmacy and Pharmaceutical Sciences. **5,** 434-440.

70. Soltani, M.; Kamyab, H.; El Enshasy, H.A. (2013). Molecular weight (Mw) and Monosaccharide composition (MC): Two major factors affecting the therapeutic action of polysaccharides extracted from *Cordyceps sinensis*. Journal of Pure and Applied Microbiology. **7,** 1601-1613.

71. Elmarzugi, N.A.; Keleb, E.I.; Mohamed, A.T.; Salama, M.; Abdul Hamid, M.; Wan Sulaiman, W.R.; Hamza, A.M.; El Enshasy, H.A. (2013). Preformulation studies on *Lactuca sativa* as nutraceutical granules. Jurnal Teknologi. **64,** 35-43.

72. El Enshasy, H.; Elsayed, E.A.; Aziz, R.; Wadaan, M.A. (2013). Mushrooms and Truffles: Historical Biofactories for Complementary Medicine in Africa and in the Middle East. Evidence-Based Complementary and Alternative Medicine (eCAM) **vol. 2013,** Article ID 620451, 10 pages.

73. Hun C.H; Mohd Sueb M.S; Abd Malek; Othman Z.; Elsayed E.A.; Ramili, S.; Elmarzugi N.A.; Sarmidi M.R.; Aziz R.; El Enshasy H.A. (2013). Bioprocess Development for High Cell Mass Production of the Probiotic Yeast-*Kluyveromyces lactis.* IOSR Journal of Pharmacy and Biological Sciences. **8,** 49-59.

74. Eid, A.M.; Elmarzugi, N.A.; El Enshasy, H.A. (2013). Development of avocado oil nanoemulsion hydrogel using sucrose ester stearate. Journal of Applied Pharmaceutical Science. **3,** 145-147.

75. Omar, H.; Elsayed, A.E.; Kenawy, A.; Wadaan, M.A.; El Enshasy, H.A. (2014). Effect of cultivation scale and shear stress on cell growth and oxytetracycline production by *Streptomyces rimosus* in semi-defined medium. Journal of Pure and Applied Microbiology. **8,** 121-128.

76. Elmarzugi, N.A.; El Enshasy, H.A.; Abdul Hamid, M.; Hasham, R.; Aziz, A.; Elsayed, E.A.; Othman, N.Z.; Salama, M. (2014). α-Amylase economic and application value. World Journal of Pharmaceutical Research. **3,** 4890-4906.

77. Mansey, M.S.; Ghareeb, K.A.; Moghazy, A.N.; Tawfick, M.M.; Fouda, M.M.; El Marzugi, N.A.; Othman, N.Z.; El Enshasy, H.A. (2014). Glucose concentration affects recombinant interferon α-2b production in *Escherichia coli* using thermo-induction system. Journal of Applied Pharmaceutical Science. **4** (5), 1-5.

78. Eid, A.M.; El Enshasy, H.A.; Aziz, R.; Elmarzugi, N.A. (2014). Preparation, characterization and anti-inflammatory activity of *Swietenia macrophylla* nanoemulgel. Nanomedicine & Nanotechnology. **5**(2), 190.

79. Eid, A.M.; El Enshasy, H.A.; Aziz, R.; Elmarzugi, N.A. (2014). The preparation and evaluation of self-Nanoemulsifying system containing *Sweietenia* oil and an examination of anti-inflammatory effects. International J of Nanomedicine. **9**, 4685-4695.

80. Elsayed, E.A.; Othman, N.Z.; Malek, R.; Awad, H.M.; Wu, K.; Aziz, R.; Wadaan, M.; El Enshasy, H. (2014). Bioprocess Development for High Cell Mass and Endospore Production by *Bacillus thuringiensis* var *israelensis* in Semi-Industrial Scale. Journal of Pure and Applied Microbiology. **8**(4): 2773-2783.

81. Othman, N.Z.; Elsayed, E.A.; Malek, R.A.; Ramli, S.; Masri, H.J.; Sarmidi, M.R.; Aziz, R.; Wadaan, M.A.; El Enshasy, H.A. (2014). Aeration Rate Effect on the Growth Kinetics, Phytase Production and Plasmid Stability of Recombinant *Escherichia coli* BL21(DE3). Journal of Pure and Applied Microbiology. **8**(4): 2721-2728.

82. Elsayed, E.A.; Othman, N.Z.; Malek, R.; Tang, T.; El Enshasy, H.A. (2014). Improvement of cell mass production of *Lactobacillus delbrueckii sp bulgaricus* WICC-B-02: A newly isolated probiotic strain from mother's milk. Journal of Applied Pharmaceutical Science. **4**(11), 8-14.

83. Abulayha, A.; Bredan, A.; El Enshasy, H.; Daniels, I. (2014). Rituximab: modes of action, remaining dispute and future perspective. Future Oncology. **10**(15), 2481-2492.

84. Awad, H.M.; El Enshasy, H.A.; Hanapi, S.Z.; Hamed, E.R.; Rosidi, B. (2014). A new chitinase-producer strain *Streptomyces glauciniger* WICC-A03: isolation and identification as a biocontrol agent for plants phytopathogenic fungi. Natural Product Research Vol. **28**(24):2273-7.

85. Elsayed, E.A.; El Enshasy, H.A.; Al Wadaan, M.A.' Aziz, R. (2014). Mushrooms: A potential natural source of anti-inflammatory compounds for medical applications. Mediators of Inflammation vol. 2014, Article ID 805841, 15 pages, 2014. doi:10.1155/2014/805841.

86. Soltani M, Al-Ali M, Othman NZ, Malik R, Elmarzugi N, Aziz R, El Enshasy H. (2015). Medium composition effects on growth kinetics of *Cordyceps militaris* cells using agar plate method. IOSR Journal of Pharmacy and Biological Sciences, **10**, 79-82.

87. Awad, H.M.; Abd Malek R, Othman NZ, Elmarzugi, N, Leng OM, Ramli S, Aziz R, El Enshasy H. (2015). Bioprocess development for enhanced spore production in shake flask and pilot scale bioreactors of *Bacillus thuringiensis* var. *israelensis* in submerged culture. IOSR Journal of Pharmacy and Biological Sciences, **10**, 103-108.

88. Dailin, DJ, Elsayed EA, Othman NZ, Abd Malek R, Ramli S, Sarmidi MR, Aziz R, Wadaan MA, El Enshasy HA. (2015). Development of cultivation medium for high yield kefiran production by *Lactobacillus kefiranofaciens.* International Journal of Pharmacy and Pharmaceutical Sciences. **7**, 159-163.

89. Chin TS, Othman NZ, Abd Malek R, Elmarzugi N, Leng OM, Ramli S, Musa NF, Aziz R, El Enshasy H (2015). Bioprocess optimization for biomass production of probiotics yeast *Saccharomyces boulardii* in semi-industrial scale. Journal of Chemical and Pharmaceutical Research. **7**, 122-132.

90. Elsayed EA, Omar HGM, El Enshasy H (2015). Enhanced production of rifamycins B and SV by medium supplementation with vermiculite. Journal of Chemical and Pharmaceutical Research. **7**, 1089-1094.

91. Elsayed AE, Omar HG, El Enshasy HA. (2015). Development of fed-batch cultivation strategy for efficient oxytetracycline production by *Streptomyces rimosus* at semi-industrial scale. Brazilian Archieves of Biology and Technology. **58**(5), 676-685.

92. Maftoun P, Johari H, Soltani M, Abd Malik R, Othman NZ, El Enshasy HA. (2015). Biodiversity and nutritional values of *Pleurotus* spp. International Journal of Biotechnology for Wellness Industries. 4, 67-83.

93. Abdel Saheb RA, Aladdin A, Othman NZ, Abd Malek R, Leng OM, Aziz R, El Enshasy HA (2015). Lactic acid applications in pharmaceutical and cosmeceutical industries: A critical review. Journal of Chemical and Pharmaceutical Research. **7**(10), 729-735.

94. Abd Alsaheb RA, Aladdin A, Othman NZ, Abd Malek R, Leng OM, Aziz R, El Enshasy HA (2015). Recent applications of polylactic acid in pharmaceutical and medical industries: A critical review. Journal of Chemical and Pharmaceutical Research. **7**(12), 51-

95. Dailin DJ, Elsaeyed EA, Othman NZ, Malek R, Phin HS, Aziz R, Wadaan M, El Enshasy HA. (2016). Bioprocess development for kefiran production by *Lactobacillus*

kefiranofacients in semi-industrial scale bioreactor. Saudi Journal of Biological Sciences **23** (4), 495-502. doi:10.1016/j.sjbs.2015.06.003

96. Then C, Wai OK, Elsayed EA, Wan Mustapha WA, Othman NZ, Aziz R, Wadaan M, El Enshasy HA (2016). Comparison between classical and statistical medium optimization approaches for high cell mass production of *Azotobacter vinelandii*. Journal of Scientific and Industrial Research **75**, 231-238.

97. El Enshasy H, Malek K, Abd Malek R, Othman NZ, Elsayed EA, Wadaan M. (2016). Anaerobic probiotics: They microbes for human health. Advances in Biochemical Engineering/Biotechnology (accepted). DOI: 10.1007/10_2015_5008

98. Mustafa SM, Chua LS, El Enshasy HA, Abd Majid FA, Abd Malek R. (2016). A critical review on fruit juices probiotication: Pomegranate. Current Nutrition Food Science 12, 4-11.

99. Elsayed A. Elsayed; Mahmoud Sharaf El deen; Hesham A. El Enshasy (2016). *In vitro* assessment of anticancer properties of *Moringa peregrina* essential seed oil on different cell lines. Pakistan Journal of Zoology. **48**(3), 853-859.

100. Suhaimi N, Ramli S, Abd Malek R, Aziz R, Othman NZ, Leng OM, Esawy M, Gamal A, El Enshasy H. (2016). Optimization of pectinase production by *Aspergillus niger* using orange pectin based medium. Journal of Chemical and Pharmaceutical Research. 8(2), 259-268.

101. Malek K, Norazan M, Ramaness P, Othman NZ, Malek R, Aziz R, Aladdin A, El Enshasy H. (2016). Cysteine proteases from *Carica papaya*: An important enzyme group of many industrial applications. IOSR Journal of Pharmacy and Biological Sciences. **11**(2), 11-16.

102. Malek K, Norazan M, Parasuraman R, Othman NZ, Malek R, Aziz R, Aladdin A, El Enshasy H. (2016). Production of cysteine protreases by recombinant microorganisms: A critical review. IOSR Journal of Pharmacy and Biological Sciences. **11**(2), 35-40.

103. Boumehira A, El Enshasy HA, Hacene H, Elsayed EA, Aziz R, Park EY (2016). Recent Progress on the Development of Antibiotics from the Genus Micromonospora. Biotechnology and Bioprocess Engineering. **21**, 199-223.

104. Elsayed EA, Omar HG, Abdel Galil S, El Enshasy HA (2016). Optimization of fed-batch cultivation for extracellular α-amylase production by *Bacillus amyloliquefaciens* in submerged culture. Journal of Scientific and Industrial Research. **75**, 480-486.

105. Boumehira A, Abd Malek R, Othman NZ, Ware I, Ramli S, Malek K, Hacene H, El Enshasy H (2016). Bioprocess development for β- and γ-rubromycin production: A Human Telomerase Inhibitors, by *Streptomyces* sp. ADR1. Journal of Scientific and Industrial Research **75**, 609-614.

106. Abd Alsaheb RA, Othman NZ, Abd Malek R, Leng OM, Aziz R, El Enshasy HA (2016). Polyglutamic acid application in pharmaceutical and biomedical industries. Der Pharmacia Lettre. **8**, 217-225.

107. Elsayed EA, Othman NZ, El Enshasy HA. (2016). Bioprocess optimization of Xanthan production by *Xanthomonas campestris* using semi-defined medium in batch and fed-batch culture. Der Pharmacia Lettre. **8** (19), 288-296.

108. Elsayed EA, Farooq M, Dailin D, El Enshasy HA, Othman NZ, Malek R, Daniel E, Wadaan M. (2017). *In vitro* and *in vivo* biological screening of kefiran polysaccharide produced by *Lactobacillus kefiranofaciens.* Biomedical Research. **28** (2), 594-600.

109. Aladdin A, Abd Alsaheb RA, Pareek A, Othman NZ, Abd Malek R, El Enshasy HA (2017). Biotechnological aspects and pharmaceutical applications of bacterials stas. Der Pharmacia Lettre. **9**(2), 9-20.

110. Agouillal F, Taher ZM, Moghrani H, Nasrallah N, El Enshasy HA (2017). A review of genetic taxonomy, biomolecules chemistry and bioactivities of *Citrus hystrix DC.* Bioscience Biotechnology Research Asia. **14**(1), 285-305.
http://doi.org/13005/bbra/2446

111. Masri HJ, Maftoun P, Abd Malek R, Boumehira AZ, Pareek A, Hanapi SZ, Ling OM, El Enshasy HA (2017). The edible mushroom *Pleurotus* spp.: II. Medicinal values. International Journal of Biotechnology for Wellness Industries **6**(1): 1-11.

112. Soltani M, Abd Malek R, Ware I, Ramli S, Elsayed EA, Aziz R, El-Enshasy HA (2017). Optimization of cordycepin extraction from *Cordyceps militaris* fermentation broth. Journal of Scientific & Industrial Research **76**: 355-361.

113. 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.

114. Maftoun P, Abd Malek R, Masry HJ, Agouillal F, Pareek A, Hanapi SZ, El Enshasy HA (2017). Effect of additives on *Pleurotus ostreatus* growth on agar medium. ISOR Journal of Pharmacy and Biological Sciences **12** (3), 106-110.

115. El Enshasy H, Elsayed EA (2017). Kinetics of cell growth and invertase production by the biotherapeutic yeast, *Saccharomyces boulardii.* Journal of Scientific & Industrial Research **76**, 477-484.

116. Hun LT, Wangrangsimakul S, Wani WA, Yong EL, Adnan A, Tijih ET, Ching LC, Yin OS, Aziz A, El Enshasy HA, Aziz R. (2017). Thermal inactivation kinetics of peroxidase

and polyphenol oxidase in long bean (*Vigna sesquipedalis*) and the changes in their activities during storage. Chiang Mai J. of Science **44**(3), 881-890.

117. El Baz A, El Enshasy H, Shetia YM, Mahrous H, Othman NZ, Yousef AE (2018). Probiotic assessment and semi-industrial scale production of a new yeast, *Cryptococcus* sp. YMHS, isolated from the red sea. Probiotics and Antimicrobial Proteins **10**, 77-88. https://doi.org/10.1007/s12602-017-9291-9

118. Kandiyil S, Abdul Malek R, Aziz R, El Enshasy HA (2018). Development of an industrially feasible medium for enhanced production of exteremely thermophilic recombinant endo- 1,4-β-xylanase by *Escherichia coli*. Jouranl 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, 77, 399-404.

120. Agouillal F, Moghrani H, Nasrallah N, Hanapi Z, Mat Taher Z, El Enshasy HA (2018). Coupling ultrasound with enzyme-assisted extraction of essential oil from Algerian *Artemisia herba-alba* Asso. Journal of Scientific and Industrial Research. **77**, 465-471.

121. Abdul Hamid KR, Elsayed EA, El Enshasy HA, Esawy M, Abd Malek R (2018). Bioprocess optimization for levan production by *Bacillus subtilis* B58. Journal of Scientific and Industrial Research. **77**, 386-393.

122. Hatti-Kaul R, Chen L, Dishisha T, El Enshasy H (2018). Lactic acid bacteria: from starter culture to producers of chemicals. FEMS Microbiology Letters. **365,** Issue 20, October 2018, fny213,. https://doi.org/10.1093/femsle/fny213

123. El-Deeb N, El-Adawi H, Sharaf M, El Enshasy HA (2018). Targeting pro-inflammatory cytokines and chemokinase as potential novel strategy in adjuvant development for anti-HCV therapy. Journal of Scientific and Industrial Research. **77,** 510-515.

124. Selvamani S, El-Enshasy HA, Dailin DJ, Abd Malek R, Hanapi SZ, Ambehabati KK, Sukmawati D, Leng OM, Moloi N (2018). Antioxidant compounds of the edible mushroom *Pleurotus ostreatus*. International Journal of Biotechnology for Wellness Industries **7**, 1-14 https://doi.org/10.6000/1927-3037.2018.07.01

125. El Sayed EA, El Enshasy HA (2018). Effect of different aeration rates and feeding strategies on cell growth and invertase production kinetics by *Saccharomyces boulardii*. Journal of Scientific and Industrial Research. **77**, 575-582.

126. El Enshasy HA, El Sayed EA, Suhaimi N, Abd Malek R, Esawy M (2018). Bioprocess optimization for pectinase production using *Aspergillus niger* in submerged cultivation system. BMC Biotechnology. **18**:71.
https://doi.org/10.1186/s12896-018-0481-7

127. Abdelgalil SA, Attia AM, Reyed RM, Soliman NA, El Enshasy H (2018). Application of experimental design for optimization the production of *Alcaligenes faecalis* NYSO laccase. Journal of Scientific and Applied Research **77**, 713-722.

128. Dailin DJ, Abd Manas NH, Wan Azlee NI, Eyamalay J, Yahaya SA, Abd Malek R, Siwapiragam V, Sukmawati D, El Enshasy HA (2018) Current and future applications of phytases in poultry industry: A critical review Journal of Advances in VetBio Science and Techniques. **3**(3), 65-74.
http://doi.org/10.31797/vetbio.455687

129. Esawy M, Ragab T, Elsehemy E, Farag M, Malek R, Salama B, Abd El baser M, El Enshasy H, Gamal-eldeen A (2019). Scaling up of levan yield in *Bacillus subtilis* M and cytotoxicity study on levan and its derivatives. Journal of Bioscience and Bioengineering. **127**, 655-662.
https://doi.org/10.1016/j.jbiosc.2018.09.008

130. Boumehira AZ, Arous O, Elsayed EA, Hacene H, Yezli N, Sukmawati D, El Enshasy HA (2019). Application of attenuated total reflection/Fourier transform infrared spectroscopy in the screening of strains producing bioactive molecules: A metabolomics approach. Journal of Scientific and Applied Research **78**, 301-307.

131. Prateeksha Gangwar, Singh BR, Guta VK, Deeba F, Bajpai R, Pandey V, Naqvi AH, Upreti DK, Gathergood N, Jiang Y, El Enshasy HA, Hashem A, Abd Allah EF, Singh, BN (2019), Ultra small bio-nanoclusters of silver triggers apoptotic cell death in fluconazole-resistant *Candida albicans* via Ras signaling. Biomolecules. 2019, **9**, 47.
https://doi.org/10.3390/biom9020047

132. Kunhi Kandiyil S, Abd Malek R, Hatti-Kaul R, Ho CK, El Enshasy HA (2019). A Novel Approach in lactose based induction for enhanced production of 1-4-Beta xylanase Using recombinant *Escherichia coli*. Journal of Scientific and Industrial Research **78**, 287-294.

133. Mustafa SM, Chua LS, El Enshasy HA, Abd Majid FA, Hanapi SZ, Malik RA (2019). Effect of temperature and pH on the probiotification of *Punica granatum* juice using *Lactobacillus* species. Journal of Food Biochemistry. http://doi.org/10.1111/jfbc.12805

134. Singh V, Haque S, Kumari V, El Enshasy H, Mishra BM, Somvanshi P, Tripathi CKM (2019). Isolation, purification, and characterization of heparinase from *Streptomyces variabilis* MTCC 12266. Scientific Report. 2019; **9**: 6482. doi:10.1038/s41598-019-42740-7

135. Sukumaran S, Dailin DJ, Malek RA, Peng T, Hanapi SZ, El Enshasy H (2019). Production of hgh cell mass of *Bacillus firmus* using statistical medium optimization. Journal of Scientific and Applied Research **78**, 358-363.

136. Elsayed EA, Al-Sahli F, Barakat IA, El Enshsy HA, Wadaan MA (2019). Assessment of *in vitro* antimicrobial and anti-breast cancer activities of extracts isolated from desert truffles in Saudi Arabia. Journal of Scientific and Applied Research **78,** 419-425.

137. Elsayed EA, Alsahli FD, Barakat IA, El Enshasy HA, Wadaan MA (2019). Cytotoxic activities of different solvent extracts of *Tirmania nivea* and *Terfazia claveryi* against HepG2 and L929 cells. Journal of Scientific and Applied Research **78,** 454-457.

138. Nurjayadi M, Dewi FK, Kartika IR, Hassan U, Setianingsih I, Asiah N, Wiguna DA, Marcell A, Puspasari F, Sulfianti A, Agustini K, Wardoyo WM, El Enshasy HA (2019). Development of antibody anti FimC-*Salmonella typhi* as a detection kit model of typhoid diseases by antigen capture approach. Biocatalysis and Agriculture Biotechnol.**19,** 101157. https://doi.org/10.1016/j.bcab.2019.101157

139. Zarani M. Taher, Farid Agouillal, Lim JR, Aina Q. Marof, Daniel Joe Dailin, Muktiningsih Nurjayadi, Ezzaty N.M Razif, Sara E. Gomaa, Hesham El Enshasy. (2019). Anticancer Molecules from *Catharanthus roseus.* Indonesian Journal of Pharmacy. **30,** 147-156.

140. Sayyed RZ, Sonia Seifi, PR Patel, Shaikh SS, Jadhav HP, Hesham El Enshasy (2019). Siderophore production in groundnut rhizosphere isolate, *Achromobacter* sp. RZS2 influenced by physicochemical factors and metal ions. Environmental Sustainability **2**, 117-124. https://doi.org/10.1007/s42398-019-00070-4 .

141. Sayyed RZ, Wani SJ, Alyousef AA, Alqasim A, Syed A, El Enshasy HA (2019). Purification and kinetics of the PHB depolymerase of *Microbacterium paraoxydans* RZS6 isolated from duping yard. Plos One **14**(6) e0212324 https://doi.org/10.1371/journal.pone.0212324

142. Elsayed, EA, Daniel EN, El Enshasy HA (2019). Production of β-galactosidase in shake-flask andn stirred tank bioreactor cultivations by a newly isolated *Bacillus licheniformis* strain. Biocatalysis and Agriculture Biotechnol. **20,** 101231 https://doi.org/10.1016/j.bcab.2019.101231

- 143. Low LZMI, Dailin DJ, Abd Malek R, Wan Azelee NI, Abd Manas NH, Keat HC, Sukmawati D, El Enshasy H (2019). Pullulan, a biopolymer with potential application in pharmaceutical and cosmeceutical: A review. Bioscience Research **16**(3):2604-2616

144. Dailin DJ, Low ZMIL, Kumar K, Abd Malek R, Natasya KH, Ho CK, Sukmawati D, El Enshasy H. (2019). Agro-industrial waste: A potetnail feedstock for pullulan production. Bioscience Biotechnology Research Asia, **16**:229-250.

145. Mustafa, SM, Chua LS, El Enshasy HA (2019). Effects of agitation speed and kinetic studies on probiotication of pomegranate juice with *Lactobacillus casei*. Molecules **24**(13), 2357; https://doi.org/10.3390/molecules24132357

146. Dellanerra D, Risandi A, Sunari A, Sukmawati D, Nida Al Husna S, El Enshasy HA (2019). Screening and characterization of amylolytic mold originated from ghost crab (*Ocypode sp.*) in Cidaon, Ujung Kulon National Park, Indonesia. AIP Conference Proceeding 2120, 070008 (2019): http://doi.org/10.1063/1.5115725

147. Elsayed EA, Farid MA, El Enshasy HA (2019). Kinetics of natamycin production and degradation by *Streptomyces natalensis* in shake flasks and 7.5 L stirred tank bioreactor under batch and fed-batch conditions. BMC Biotechnology (2019) 19:46 https://doi.org/10.1186/s12896-019-0546-2 .

148. Abdul Wahab MKH, El Enshasy H, Abu Bakar FD, Abdul Murad AM, Jahim JM, Illias RM (2019). Improvement of cross-linking and stability on cross-linked enzyme aggregate (CLEA)-xylanase by protein surface engineering. Process Biochemistry. **86,** 40-49. https://doi.org/10.1016/j.procbio.2019.07.017

149. El Deeb N, El Adawi HI, Abd El-wahab, AEA, Haddad A, El Enshasy H, Davis K, He Y-W (2019). Modulation of NKG2D, KIR2DL and cytokine production by *Pleurotus ostreatus* glucan enhances natural killer cell cytotoxicity toward cancer cells. Frontiers in Cell and Developmental Biology **7,** 165. https://doi.org/10.3389/fcell.2019.00165

150. Kepli AN, Dailin DJ, Malek RA, Elsayed EA, Leng OM El Enshasy HA. (2019). Medium optimization using response surface methodology for high cell mass production of *Lactobacillus acidophilus.* Journal of Scientific and Industrial Research **78,** 608-614.

151. Ambreen, Haque S, Singh V, Katiyar D, Khan MTA, Tripathi V, El Enshasy H, Pasupuleti M. Mishra BN (2019). Biotransformation of newly synthesized coumarin derivatives by *Candida albicans* as potential antibacterial, antioxidant, and cytotoxic agents. Process Biochemistry **87,** 138-144. https://doi.org/10.1016/j.procbio.2019.08.024

152. Gomaa SE, Yahayu M, Nurjayadi M, Dailin DJ, El Enshasy H. (2019). Antimicrobial Compounds from *Catharanthus roseus.*-A Review. International Journal of Scientific & Technology Research **8,** 113-121.

153. Abd Alsaheb RA, Elsayed EA, Musa NF, Abd Malek R, El Enshasy HA. (2019). Production of D-lactic acid from cassava starch by *Lactobacillus delbruekii* in the semi industrial scale 16-L bioreactor. International Journal of Scientific & Technology Research. **8,** 2517-2522.

154. Dailin DJ, Abdul Manas NH, Wan Azelee NI, Selvamani S, El Enshasy H (2019). Review on probiotic potential in human health, aquaculture, and animal feed. International Journal of Scientific & Technology Research. **8,** 798-803.

155. Prabha R, Singh DP, Gupta S, Gupta V, El Enshasy H, Verma M (2019). Rhizosphere metagenomics of *Paspalum scrobiculatum* L. (Kodo millet) reveals rhizobiome multifunctionalities. Microorganisms **2019**, *7*(12), 608; https://doi.org/10.3390/microorganisms7120608

156. Mohamad MF, Dailin DJ, Gomaa SE, Nurjayadi M, El Enshasy (2019). Natural colorant for food: A healthy alternative. International Journal of Scientific & Technology Research. **8,** 3161-3166.

157. Sukmawati D, Larasati RP, Kurniati TH, Arman Z, El Enshasy HA (2019). Molds isolated from chicken feed as potential amylase resources. International Journal of Scientific & Technology Research. **8,** 188-196.

158. Risandi A, Fuady R, Sukmawati D, Husna SNA, Nurjayadi M, El Enshasy HA, Ridawati (2019). Isolation and screening of amylolytic yeast from *Paphiopedilum* sp., originating from bedugul botanical garden, Bali, Indonesia. IOP Publishing, Journal of Physics: Conference Series **1402** (2019) 033060. doi:10.1088/1742-6596/1402/3/033060

159. Sukmawati D, Arman Z, Sondana GA, Nabilah Nov F, Hasanah R, Nur Afifah Z, Balqis M, El Enshasy H, Nida Al Husna S, Rahayu S, Tri Handayani K, Puspitaningrum R (2019). Potential amylase-producing yeast isolated from indogenous fermented beverages originating from Bali, Indonesia. IOP Publishing, Journal of Physics: Conference Series **1402** (2019) 055021. doi:10.1088/1742-6596/1402/5/055021

160. Sukmawati D, Sunari A, Akbari TS, Ardhiani AZ, Nur Afifah Z, Dellanerra D, Muktiningsih, El Enshasy H (2019). Isolation and selection of fungi amylolytic and cellulolytic originated from *Rhododendron* sp. flower. AASEC (accepted).

161. Elshereef AA, El Enshasy H, Abdeen S, Scheper T (2019). Accelerate adherent animal cell growing in serum-free medium suspension culture. Journal of Biotechnology **305,** S23. http://doi.org/10.1016/j.jbiotec.2019.05.090

162. Hamidon NH, Zaidal DNA, El Enshasy HA (2019). Stabilization of multilayer emulsion as influenced by sweet potato pectin concentration, pH and salt. Journal of Scientific and Industrial Research **78,** 775-781.

163. Ataya FS, Foudad D, Huntoul H, Alqarni S, Abuelgassim AO, El Enshasy H (2020). Cloning and molecular study of *Aspergillus niger* uric acid oxidase in *Escherichia coli*. Journal of Scientific and Industrial Research **78,** 890-895.

164. Sharma N, Singh V, Pandey AK, Mishra BN, Kulsoom M, Dasqupta N, Khan S, El Enshasy HA, Haque S (2019). Preparation and evaluation of ZnO NP-ampicillin/sulbactam nanoantibiotic: Optimization of formulation variables using RSM coupled GA method and antibacterial activities. Biomolecules 2019, **9,** 764; doi:10.3390/biom9120764

165. Elsayed EA, Alsahli FD, Amr AE, El Enshasy HA, Wadaan MA (2019). *In vitro* Anti-proliferative poliferative potentials of *Phaeangium lefebvrei* desert truffle towards MCT-7, HepG2 and L929 cell lines. Journal of Scientific and Industrial Research. **78,** 858-862.

166. Rao A, Haque S, El Enshasy HA, Singh V, Mishra BN (2019). RSM–GA Based Optimization of Bacterial PHA Production and In Silico Modulation of Citrate Synthase for Enhancing PHA Production. Biomolecules 2019, 9, 872; http://doi:10.3390/biom9120872

167. Wan Azelee NI, Ramli ANM, Abdul Manas NH, Salamun N, Che Man R, El Enshasy H (2019). Glycerol in food, cosmetics, and pharmaceutical industries: Basics and new applications. International Journal of Scientific & Technology Research. **8,** 553-558.

168. Abd Alsaheb RA, Abdullah JK, Dailin DJ, Abd Malek R, El Enshasy H (2020). Bioprocess and medium optimization for glutamic acid production using submerged fermentation in shake flask and bioreactor. International Journal of Scientific & Technology Research. **9,** 6787-6791.

169. Elsayed EA, Farooq M, Sharaf-Eldin MA, El Enshasy HA, Wadaan M. (2020). Evaluation of developmental toxicity and anti-agiogenic potential of essential oils from *Moringa peregrina* seeds in zebrafish (*Danio rerio*) model. South African Journal of Botany **129,** 229-237. https://doi.org/10.1016/j.sajb.2019.07.022

170. Fazeli-Nasab B, Sayyed R, Farsi M, Ansari S, El Enshasy H (2020). Genetic assessment of the internal transcribed spacer region (ITS1.2) in *Mangifera indica* L. landraces. Physiology and Molecular Biology of Plants **26,** 107-117. https://doi.org/10.1007/s12298-019-00732-x

171. Sayyed RZ, Sonal Wani PD, Helal Al-Harthi, Asad Syed, El Enshasy H (2020). Production, purification and evaluation of biodegrading potential of PHB depolymerase of *Stenotrophomonas* sp. RZS 7. Plos One E 15(1): e0220095. https://doi.org/10.1371/journal.pone.0220095

172. Elsayed EA, Moussa SA, El Enshasy HA, Wadaan MA (2020). Anticancer potentials of zinc oxide nanoparticles against liver and breast cancer cell lines. Journal of Scientific and Indstrial Research, **79,** 56-59.

173. Ambehabati KK, Hanapi SZ, El Baz AF, Sayyed RZ, Dailin DJ, El Enshasy HA (2020). Isolation and identification studies on potential xylanase producing strain *Trichoderma sp.* WICC F46 isolated from tropical soil. Journal of Scientific and Industrial Research, **79,** 153-159.

174. Selvamani S, Dailin DJ, Rostom M, Malek RA, Gupta VK, El Enshasy HA (2020). Optimizing medium conponents to enhance high cell mass production of biotherapeutic strain *Lactobacillus reuteri* DSM 20016 by statistical method. Journal of Scientific and Industrial Research (accepted).

175. Eyahmalay J, Elsayed EA, Dailin DJ, Ramli S, Sayyed RZ, El Enshasy HA (2020). Statistical optimization approaches for high cell mass production of *Lactobacillus casei*. Journal of Scientific and Industrial Research **79** 216-221.

176. Sukmawati D, Hanin Andrianto M, Arman Z, Ratnaningtyas NI, Al Husna SN, El Enshasy H, Dailin D, Atta A. (2020). Antagonistic activity of phylloplane yeasts from *Moringa oleifera* Lam. leaves against *Aspergillus flavus* UNJCC F-30 from chicken feed. Indian Phytopathology **73,** 79-88. https://doi.org/10.1007/s42360-020-00194-2

177. Mustafa SM, Chua LS, El Enshasy HA, Abd Majid FA, Hanapi SZ (2020). Kinetic profile and anti-diabetic potential of fermented *Punica granatum* juice using *Lactobacillus casei*. Process Biochemistry **92,** 224-231. https://doi.org/10.1016/j.procbio.2020.01.014

178. Nordin NZ, Rashidi AR, Dailin DJ, Abd Malek R, Wan Azelee NI, Abd Mana NH, Selvamani S, Abd Daidel DN, Abd Alsaheb RA, Sukmawati D, El Enshasy HA (2020). Xanthan biopolymer in pharmaceutical and cosmeceutical applications: Critical review, Bioscience Research. **17,** 205-220.

179. Rostom M, Hassan ERE, Gaber MS, El Enshasy H (2020). Treatment of Egyptian wastepaper using flotation technique for recovery of filllers and minerals. International Journal of Scientific & Technology Research **9,** 3077-3083.

180. Thomas D, Gangwane A, Sayyed RZ, El Enshasy HA, Zaidal DNA (2020). UV induced mutagenesis elevates the production of laccase in *Enterobacter cloacae*. Journal of Scientific and Industrial Research **79,** 442-448.

181. Ramzi AA, Zjeh KZ, Malek RA, Abdullah JK, El Baz A, El Deeb N, Dailin D, Hanapi SZ, Sukmawati D, El Enshasy H (2020). Bioprocess optimization for exopolysaccharides production by *Ganoderma lucidum* in semi-industrial scale. Recent Patent in Food, Nutrition, and Agriculture (accepted). doi: 10.2174/2212798411666200316153148. (SCOPUS)

182. Rashid WBAB, Abd Malek R, Wadaan MA, Elsayed EA, El Enshasy HA (2020). Medium optimization for xylanase production by recombinant *Escherichia coli* B24. Journal of Scientific and Industrial Research **79,** 473-478.

183. Yusof AH, Dailin DJ, Low LZ, Zaidel DNA, El Enshasy H (2020). Potential application of pineapple waste as a fermentation substrate in yeast production. Journal of Scientific & Technology Research. **9**, 1941-1946.

184. Amr AE, Elsayed EA, Al-Omar MA, El-Enshasy HA (2020). Investigation of growth inhibitory effects of cyclo (Nα-pyrido)-bis-[(L-valinyl)-L-ornthenyl acid hydrazide] on various cancer cells as well as *in vitro* VEGFR-2 kinase inhibition. Journal of Scientific and Industrial Research **79,** 328-332.

185. Sukmawati D, Shabrina A, Indrayanti R, Kurniati TH, Nurjayadi M, Hidayat I, Al Husna SN, Ratnaningtyas NI, El Enshasy H, Dailin DJ, Hesham AL (2020). Antifungal mechanism of *Rhodotorula mucilaginosa* and *Aureobasidium* sp. nov. isolated from *Cerbera manghas* L. against the growth of destructive molds in post-harvested apples. Recent Patent in Food, Nutrition, and Agriculture (Accepted)

http://doi.org/10.2174/2212798411666200423101159

186. Kato T, Azegami J, Yokomori A, Dohra H, El Enshasy H, Park EY (2020). Genomic analysis of a riboflavin-overproducing *Ashbya gossypii* mutant isolated by disparity mutagenesis. BMC Genomics **21,** 319. https://doi.org/10.1186/s12864-020-6709-7

187. Belfarhi L, Bouhenna MM, Bouafir Y, Boumehira AZ, Nebbak A, Ziani BEC, Bachari K, Dailin DJ, El Enshasy H (2020). Therapeutic herbal tea: Medicinal protperties and toxicology- A review. Bioscience Research **17,** 793-814.

188. Bhamare HM, Sayyed RZ, Marraiki N, Elgorban AM, Sayed A, El Enshasy HA, Dailin DJ (2020). Tree bark scrape fungus: A potential source of laccase for application in bioremediation of non-textile dyes. PLOS One E 15(6): e0229968. https://doi.org/10.1371/journal.pone.0229968

189. Sukmawati D, Sunari A, Akbari TS, Ardhiani AZ, Afifah ZN, Dellanerra D, Nurjayadi M, Enshasy HE (2020). Isolation and selection of fungi amylolytic and cellulolytic originated from *Rhododendron* sp. flower. AIP Conference Proceeding 2242, 050023; http://doi.org/10.1063/5.0007799

190. Saxena B, Rani A, Sayyed R. Z., El Enshasy H. A. (2020). Analysis of nutrients, heavy metals and microbial content in organic and non-organic agriculture fields of Bareilly region-Western Uttar Pradesh, India. Bioscience Biotechnology Research Asia. **17,** 399-406.

191. El Enshasy, H. (2020). COVID-19: A Non-Living Particle Which Could Reshape Human Life. Bioscience Biotechnology Research Asia. **17,** 205-207. http://dx.doi.org/10.13005/bbra/2824

192. Amr AE, Elsayed EA, Al-Omar MA, El-Enshasy HA (2020). Anti-VEGFR-2 kinase effects of cyclo(N-dinicotinoyl)-bis-[(L-valinyl)-L-lysine] and its anticancer activities against different cancer cell lines. Journal of Scientific and Industrial Research. **79,** 413-417.

193. Ilyas N, Mazhar R, Yasmin H, Khan W, Iqbal S, El Enshasy H, Dailin D. (2020). Rhizobacteria isolated from saline soil induce systemic tolerance in what (*Triticum aestivum* L.). against salinity stress. Agronomy. 2020, **10,** 989. http://doi.org/10.3390/agronomy10070989

194. Key SWC, Dailin DJ, Selvamani S, Abd Malek R, Sukmawati D, El Enshasy HA (2020). Pullulan production in submerged cultivation: A review. Journal of Critical Reviews. (accepted).

195. Sukmawati D, Arman Z, Hasanah R, Balqis M, Setiawan A, Tafrijiyyah F, Sari R, Supiyani A, Prihantini NB, Husna SNA, El Enshasy H, Dailin DJ (2020). Application of yeasts isolated from fermented cocoa beans fro biocontrol of pathogenic mold in chocolate fruit. Journal of Physics: Conference Series (SCOPUS)- (accepted)

196. Sukmawati D, Sondana GA, Fikriyyah NN, Nur Afifah Z, Firhandini A, Khumaiya U, Komsiatun DA, Asmara YT, Supiyani A, Puspitaningrum R, Ridawati, Prihantini NB, Al Husna SN, El Enshsy H, Hanapi SZ, Dailin DJ, Surono (2020). Cellulase-producing yeast isolated from fermented cocoa beans as biocontrol for pathogenic mold chocolate fruit collected from Sentul, Jawa Barat, Indonesia. Journal of Physics: Conference Series (SCOPUS)- (accepted)

197. Wan Azelee NI, El Enshasy H, Dailin DJ, Abdul Manas NH, Abd Malek R, Mokhtar MA, Salamun N (2020). Antimicrobial disinfectants and sanitizers: An effective tool for breaking circle of pandemic disease. Asian Journal of Agriculture and Biology **8,** 348-367. http://doi.org.10.35495/ajab.2020.06.355

198. Key SWC, Dailin DJ, Izwan Low LZM, Abd Malek R, El Enshasy HA, Sukmawati D. (2020). Screening of factors influencing pulluan production by *Aureobasidium melanogenum* DSM 2404 using factorial design. Journal of Critical Reviews (accepted).

199. Srivastava S, Dashora K, Ameta KL, Singh NP, El Enshasy H, Pagano MC, Hesham AE, Sharma GD, Sharma M, Bhargava A (2020). Cysteine-rich antimicrobial peptides from plants: the future of antimicrobial therapy". Phytotherapy Research. (accepted).

200. Jabborova D, Wirth S, Kannepalli A, Narimanov A, Desouky S, Davranov K, Sayyed RZ, El Enshasy H, Abd Malek R, Syed A, Bahkali AH (2020). Co-inoculation of rhizobacteria and biochar application improves growth and nutrient in soybean and enriches soil nutrients and enzymes. Agronomy **10,** 1142. http://doi.10.3390/agronomy10081142

201. Gomaa SE, Friedersdorf M, El Enshasy HA, Abou-Donia MB. (2020). *In vitro* comparative study for anti-proliferative activity of some plant extracts, Fam. Apiaceae, on human cervical (HeLa) cancer cell line. Indonesian Journal of Pharmacy. **31,** 108-115.

202. Jadhav HP, Sayyed RZ, Shaikh SS, Bhamre HM, Sunita K, El Enshasy HA (2020). Statistically designed bioprocess for enhanced production of alkaline protease in *Bacillus cereus* HP_RZ17. Journal of Scientific and Industrial Research. **79,** 491-498.

(b) Membership of Conference Committees

1. Co-Chairman of Division 15A (Food) under Division 15 (Food and Pharma). AIChE 2018 Annual Meeting, AIChE2018 Annual Meeting 28 Oct.- 2 Nov., 2018. Pittsburgh, PA, USA.
2. Chairman of Division 15A (Food) under Division 15 (Food and Pharma). AIChE2017 Annual Meeting, 26 Oct.-3 Nov. 2017, Minneapolis, MN, USA
3. Chairman of Division 15A (Food) under Division 15 (Food and Pharma). AIChE2016 Annual Meeting, 13-18 November 2016, San Francisco, CA, USA.
4. Co-Chairman of the 6th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (16-17 June, 2016).
5. 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).

6. 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).
7. Member in Scientific Advisory Board Committee. International Research Initiative Conference (IRIC). Contonments, Accra, Ghana, (10-11 Nov., 2015).
8. Member of Scientific Board Committee. The 17th. International Conference on Process Engineering and Advances Materials. Venice, Italy (13-14 April., 2015).
9. Member of Scientific Board Committee. The 17th. International Conference on Industrial Biotechnology and Bioenergy. Venice, Italy. (30-31 Dec., 2015).
10. 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).
11. Co-Chairman of the 5th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (21-22 June, 2014).
12. Scientific Committee, National Research Initiatives Conference (NaRIC), Accra, Ghana, 8-10 July, 2014.
13. Advisory Committee, Afro-Asian Congress on Microbes for Human&Environmental Health. (MICRO-BIOTECH 2014), 29 Sept., 1 Oct., New Delhi, India.
14. Member of Advisory Scientific Board Committee of the 4th. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (20-21, Jun., 2012).
15. Member of Advisory Scientific Board Committee of the 3rd.. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (8-9 Oct., 2010).
16. Member of Advisory Scientific Board Committee of the 2nd.. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (23-26 Jul., 2009).
17. Member of Advisory Scientific Board Committee of the 1st.. International Conference of Biotechnology for Wellness Industries (ICBWI). Kuala Lumpur, Malaysia (5-6, Aug., 2008).
18. 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 divistion. 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 exo-polysaccharide 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 Enshsay, 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 (Inved 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. Chalanges 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 (Invited 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).

60. El Enshasy HA, *"Bioprocess Platform Design for Kefiran Production: From Tibet to Tablet*. ACHEMA 2018. 10-15 June, 2018, Frankfurt, Germany (Invited Speaker).

61. El Enshasy HA, *"Bioprocess Platform Design for Industrial Production of Probiotic Yeasts: From Slant to Powder".* The 5th. Asia-Pacific Probiotics Workshop 2018 and the International Conference on Probiotics and Food Sustainability 2018 (ICPFS2018). 23-24 Sep. 2018 Johor Bahru, Johor, Malaysia (Guest Speaker).

62. El Enshasy HA, *"Marine Microbial Biofactories for the Production of Probiotics and Bioactive Compounds: from Strain Isolation to Complete Industrial Platform Design".* The 2nd. International Conference on Integrated Coastal Management and Marine Biotechnology. 23-24 Oct. 2018 Bogor, Indonesia. (Invited Keynote Speaker)

63. El Enshasy HA. *"Bioprocess Platform Design for High Cell Density Cultivation for Probiotic Yeast Production in Semi-Industrial Scale".* AIChE2018 Annual Meeting 28 Oct.-2 Nov., 2018. Pittsburgh, PA, USA.

64. El Enshasy HA "Bioprocess Platform Design for Lignocellulosic enzymes production in Biorefinery". The 4th. International BioRefine Workshop. 13-14 Dec., 2018. Chulalongkorn University, Bangkok, Thailand (Inivited Keynote Speaker)

65. El Enshasy HA. Bioprocess for biorefinery enzymes production in semi-industrial scale: From soil isolate to bulk powder. The 6th. International Biotechnology Symposium 10-11 July, 2019. Kota Kinabalu, Malaysia (Invited plenary speaker)

66. El Enshsy HA.Biorefinery and Green Chemistry. BioAfrica 2019, 26-28 August, 2019, Durban, South Africa (Invited keynote speaker, Panel member).

67. El Enshasy, HA. Biofactories for production of high value products using biomass as feedstocks. Revolutionizaing the next generation facility in speciality chemicals: Trends, development, and best practive. Exyte Exchange Seminar, 19 Sep. 2019, Johor Bahru, Malaysia (Invited Keynote speaker, Panel member).

68. El Enshasy, HA. Management of research institute: Research performance and financial sustainability. Second International Seminar in Management of Research. 23. Sep., 2019. UTM, Johor Bahru, Malaysia (Invited Keynote Speaker, Panel Member)

69. El Enshasy, HA. Development of Techno-Industrial Platform for Biotechnology Based Products: from Cell Bank to Large Scale production. The 14th. Conference of Applied Microbiology "Microbiology and Sustainable Development". 18-22 Nov., 2019, Cairo, Egypt (Invited Plenary Speaker).

70. El Enshasy, HA. Techno-Industrial Platform Development for Probiotics: From Slant to Bulk Powder. The 3rd. International Food Science, Probiotics, Nutrition & Microbiome Conference. 28-29 Nov., 2019 Kuala Lumpur, Malaysia. (Invited Keynote Speaker)

71. El Enshasy, HA. Bioprocess Platform Design for Large Scale Production of Bioactive Molecules from Mushrooms. The 3rd. International Conference on functional Materials and Chemical Engineering. 15-17 Dec. 2019, Chulalongkorn University, Bangkok, Thailand (Invited Keynote Speaker).

72. El Enshasy HA. The Impact of COVID-19 on Socio-Economy, and Food Security: Challenges and Opportunities. Recent Trends in Applied Sciences: Challenges &

Opportunities due to COVID-19 (Two days International Webinar). 17-18 June 2020, Mohammad Ali Jauhar University, Rampur, India. (Guest Speaker).

73. El Enshasy, HA. The Impact of COVID-19 and Climate Change on Food Security in 2020 and Beyond. In. Climate Change-Risks and Impact on Vulnerable Communities Post COVID-19. 8 July 2020, National Research Center, Dokki, Cairo, Egypt (Keynote Speaker).

74. El Enshasy HA. Techno-Industrial Platform Development for Production of Probiotics: From Cell Bank to Bulk Powder. The 2nd. Science and Mathematics International Conference (SMIC) 2020, 8-9 August, Jakarta, Indonesia (Plenary Speaker).

75. El Enshasy HA. Mushroom Platform Technology: From Farm to Pharma. JAMS Join Academic Microbiology Seminar (Minima Maxima Suit), 13 August, Kuala Lumpur, Malaysia.

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*. 9 th. 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-Ensahsy, 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 thuringeiensis* var. *israelensis* mass production for mosquetocide 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. Abd Malek R, Hamdan S, El Enshasy HA, Othman N, Mohamad R, Sarmidi R (2009). Probiotic characterization of *L. salivarius* isolated from mother milk for acid and bile tolerance. 11th. ASEAN Food Conference 2009. Oct. 21-23, Bandar Seri Baegawan. Brunei Darussalam.

29- Zjeh, K.Z.; El Enshasy, H., Othman, N.Z.; Ismail, N.S.; Sarmidi, M.R. and Aziz, R.A. Efficient exopolysaccharide production by *Ganoderman 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 Marzugi, 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.; 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 *Trichoderman harzianum* a new biocontrol agent against oil palm pathogen *Ganoderman boninese*. 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 expolysaccharide production by *Pleurotus ostreatus* in semi-industrial scale. Plenary Scientific Research Centre Conference (PSRC), 24-25 March, 2012, Dubai, UAE.

43- Maftoun, P,; Malek, R.; Sarmidi, M.R.; Aziz, R.A. and El Enshasy, H. A. (2012). Production of immunomodulator exopolysaccharide in semi-industrial scale by *Pleurotus*

ostreatus. Plenary Scientific Research Centre Conference (PSRC), 24-25 March, 2012, Dubai, UAE.

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.

49. Awad, H.M.; El Enshasy, H.A.; Hanapi, S.Z.; Sheikh Ali, S.I.; Rosidi, B.; Sarmidi, M.R. and Aziz, R. Isolation an didentification of new chitinase producer strain *Streptomyces glauciniger* WICC A03: An effective biocontrol agent against plant phytopathogenic fungi. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

50. Masri, M.H.J.; Maftoun, P.; Malek, R.A.; Othman, N.Z.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. Effect of C:N ratio on the kinetics of cell growth and pleuran production by *Pleurotus ostreatus.* The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

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.

52. Azman, M.D.; Malek, R.A.; Othman, N.Z.; Peng, T.; Idris, A.; Then, C.; Chang, H.W.; Sukumaran, S.; Wan Mustapha, W.A.; Ramli, S.; Sarmidi, M.R.; Aziz, R. and El Enshasy, H.A. Optimization of bioreactor cultivation process for mass production of *Hendersonia* sp.: A novel strain applied for biological control of oil palm disease. The 4th. International 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 themostable 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.

54. Subeesh, K.K.; Sandeep, S.; Othman, N.Z. and El Enshasy, H.A. Development of an efficient expression system for therapeutic PA-1 lectin production in *Escherichia coli*. The 4th. International Conference on Biotechnology for the Wellness Industry (4th. ICBWI) June 20-21, 2012. Kuala Lumpur, Malaysia.

55. El Sayed, E.A.; Abou-Shleib, H.; Omar, H.; El Demellawy, M.; Shahin, H.; Wadaan, M.A.; El Enshasy, H.A. Production of monoclonal antibody, Anti-CD3 by Hybridoma cell cultivated in basket spinner under free and immobilized conditions. European Society for Animal Cell Technology (23rd. ESACT). June 22-26, 2013. Lille, France.

56. Chang H'ng, W.; Then, C.; Othman, N.Z.; Malek, R.; Sukumaran, S.; Peng, T.; Wan Mustapha, W.A.; Jalal, Y.; Saat, M.; Sarmidi, M.R.; Aziz, R.; El Enshasy, H.A. Bioprocess Development for High cell density cultivation of *Rhizobium trifolii* in semi-industrial scale stirred tank bioreactor. AIChE Annual Meeting, Nov. 3rd. – Nov. 8th.. 2013 , San Francisco, CA, USA.

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. Staitstical medium Optimization for high biomass production of *Trichoderma harzianum*: a potential biocontrol agent for ganodermal oil palm disease. AIChE Annual Meeting, Nov. 3rd. – Nov. 8th.. 2013 , San Francisco, CA, USA.

58. Othman, N.Z.; Ramli, S.; Jalal, Y.; Abd Malek, R.; Sarmidi, M.R.; Aziz, R.; Tran, T.T.; Hatti-Kaul, R.; El Enshasy, H.A. Improving Thermostable Phytase Production in recombinant *Escherichia coli* during fed-batch cultivation in semi-industrial scale stirred tank bioreactor. AIChE Annual Meeting, Nov. 3rd. – Nov. 8th.. 2013 , San Francisco, CA, USA.

59. Othman, N.Z.; Kandiyil, S.K.; Abd Malek, R.; Jalal, Y.; Aziz, R.; Hatti-Kaul, R.; El Enshasy, H.A. Optimization of xylanase enzyme production using recombinant *Escherichia*

coli by response surface methodology (RSM). AIChE Annual Meeting, Nov. 3rd. – Nov. 8th. 2013 , San Francisco, CA, USA.

60. Elmarzugi, 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).

61. Chan YS, Othman NZ, Abd Malek R, Ramli S, Ismail NS, Sarmidi MR, Aziz R, Wadaan MA, El Enshasy HA, Elsayed EA. High cell mass cultivation of probiotic bacteria *Lactobacillus plantarum*: Development of high and functional and production medium. In 29th. Saudi Biological Society Meeting, Environment and Development in the Gulf Region, 25-27 Feb., 2014. Dammam, Saudi Arabia

62. Elsayed EA, Sreeram S, Othman NZ, Abd Malek R, Aziz R, Wadaan M, El Enshasy H. Optimization of cell growth and polysaccharide production of *Ganoderma lucidum* in submerged culture. 29th. Saudi Biological Society Meeting, Environment and Development in the Gulf Region, 25-27 Feb., 2014. Dammam, Saudi Arabia

63. Dailin DJ; Harun N; Malek RA; Othman NZ; El Enshasy HA; El Sayed EA. Optimization of Polysaccharide Production by *Lactobacillus kefiranofaciens* using Response Surface Methodology. International Conference of Biotechnology for Wellness Industries (ICBWI 5th.), 11-12 June, 2014, Kuala Lumpur, Malaysia.

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 themostable 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 mixutres 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. Symbiotics 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, Rjni 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. Ramli N, Abd Malek R, Ramli S, Othman NZ, Aziz R, Leng OM, El Enshasy (2016). Optimization of nitrogen source for high cell mass and spore production of *Bacillus thuringiensis.* A biocontrol agent for agriculture application. 6th. International Conference in Plant Pathogens and People" with the mission "Challenges in Plant Pathology to benefit humankind. 23-27 Feb., NASC Complex, New Delhi, India.

84. Soltani M, Ware I, Ramli S, Othman NZ, Malik R, El Enshasy H (2016). Optimization of carbon and nitrogen sources in production of cordycepin by submerged cultivation of mushroom *Cordyceps militaris.* 6th. International Conference in Biotechnology for Wellness Industries (ICBWI), 16-17 August 2016, Equatorial Hotel, Melaka, Malaysia.

85. Ramli NB, Malek RA, Ramli S, Othman NZ, Leng OM, EL Enshasy HA (2016). Enhanced production of spore of *Bacillus thuringiensis* var *kurstaki* by using industrial semi-defined medium. 6th. International Conference in Biotechnology for Wellness Industries (ICBWI), 16-17 August 2016, Equatorial Hotel, Melaka, Malaysia.

86. Mustafa SM, Chua LS, El Enshasy HA, Othman NZ (2016). Growth an dfuncational properties of *Lactobacillus casei* probioticated pomegranate juice. 6th. International Conference in Biotechnology for Wellness Industries (ICBWI), 16-17 August 2016, Equatorial Hotel, Melaka, Malaysia.

87. Hock LW, Hanapi SZ, Suhaimi NH, Ramli S, Azam ZM, Din AJM, Malek RA, Othman NZ, Park EY, Sarmidi MR, El Enshasy H (2016). Recycled paper as feedstock for submerged cultivation of *Trichoderma sp.* for agricultural application: plant growth promoter and biological control. 6th. International Conference in Biotechnology for Wellness Industries (ICBWI), 16-17 August 2016, Equatorial Hotel, Melaka, Malaysia.

88. Ata R, Musa NF, Ramli S, Abd Malek R, Othman NZ, Aziz R, El Enshasy H (2016). Production of D-lactic acid from cassava starch by *Lactobacillus delbrueki* in the semi-industrial scale 16-L bioreactor. 6th. International Conference in Biotechnology for Wellness Industries (ICBWI), 16-17 August 2016, Equatorial Hotel, Melaka, Malaysia.

89. Ramli S, Ramli N, Abd Malek R, Othman NZ, Aziz R, Leng OM, El Enshasy HA (2016). The influence of nutrienst and dissolved oxygen on the cell growth and spore production of *Bacillus thuringiensis* in semi-industrial scale bioreactor. 6th. International Conference in Biotechnology for Wellness Industries (ICBWI), 16-17 August 2016, Equatorial Hotel, Melaka, Malaysia.

90. 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.

91. 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.

92. 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 xylanse encoding gene from *Bacillus halodurans*. International Symposium toward the future of advanced research in Shizuoka University, 27th Feb., 2017. Shizuoka, Japan.

93. 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.

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

95. 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.

96. 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.

97. 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.

98. 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.

99. 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.

100. 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.

101. Abd Malek R, Ramili 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.

102. 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.

103. 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.

104. Zainol N, Ho CK, Ab Malek R, Hanapi SZ, Mat SZ, Wong ML, Teo CL, Wong TJ, Idris A, El Enshasy H (2018). Functional characterization of soypeptides as supplementary

diet and their effects on the kinetics of cell growth of probiotic microorganisms. AIChE2018 Annual Meeting 28 Oct.- 2 Nov., 2018. Pittsburgh, PA, USA.

105. Abd Malek R, Masri HJ, Ramli S, Dailin DJ, Hanapi SZ (2018) Optimization of pleuran production by *Pleurotus ostreatus* using batch and fed-batch cultivation systems. AIChE2018 Annual Meeting 28 Oct.- 2 Nov., 2018. Pittsburgh, PA, USA.

106. Dailin DJ, Nordin NZ, Abd Malek R, Hanapi SZ, Ramli S, El Enshasy H (2019). Bioprocess optimization for production of high xanthan gum using statistical method. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

107. Shanmugaprakasham S, Abd Malek R, Dailin DJ, Gupta VK, El Enshasy HA (2019). Biomass production of probiotic *Lactobacillus reuteri* DSM 20016 by developing low cost medium cultivation strategy. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

108. Low LZMI, Dailin DJ, Malek RA, Hanapi SZ, Ramli S, El Enshasy HA (2019). Optimization of pullulan production. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

109. Nurjayadi M, Auni PAN, Muslimah H, Efrianti UR, Sukmawati D, Saamia V, Wiranatha IM, Nastassya I, El Enshasy HA (2019). Development of rapid kit detection food-borne pathogen *Salmonella enteritidis* in egg and meat based on real-time PCR. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

110. Nurjayadi M, Jinan SF, Setiyoto T, Hardianto D, Sulfianti A, Agustini K, El Enshasy HA (2019). Variation of volume of Fim-C *Salmonella typhi* protein production as vaccine candidates and typhoid fever detection kits on laboratory scale. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

111. Sukmawawi D, Dellanerra D, Sri Rahayu, Daillin DJ, El Enshasy HA (2019). Optimization of activity of amylase enzyme originated from August flower (*Pyrostegia venusia* (Ker Gawl.) Milers mold. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

112. Ambehabati KK, El Enshasy HA, Hanapi SZ, Leng OM (2019). Isolation and identification studies on potential xylanase enzyme producing *Trichoderma sp.* from local soil. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

113. Mekan NN, El Enshasy HA, Park EY, Malek RA, Hanapi SZ (2019). Preliminary screening for higher production medium for riboflavin by recombinant *Ashbya gossypii*.

IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

114. Mohd Hishamuddin AI, Abd Malek R, Ramli S, El Enshasy H (2019). Biorpocess optimization for high cell mass production by *Kluyveromyces lactis.* IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

115. Eyahmalay J, Siwapiragam V, Dailin DJ, Malek RA, Ramli S, El Enshasy H (2019). Bioprocess development for high cell biomass production of *Lactobacillus casei* in semi industrial scale bioreactor. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

116. Kato T, Dohra H, El Enshasy HA, Park EY (2019). Genomic analysis of riboflavin-overproducing *Ashbya gossypii* mutant isolated from disparity mutagenesis. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

117. Nurjayadi M, Muslimah H, Auni PAN, Azizah N, Efrianti UR, Kurniadewi F, Sukmawati D, Saamia V, Wiranatha IM, Nastassya L, El Enshasy HA (2019). A real time PCR method for rapid detection of food-borne-pathogens bacteria *Staphylococcus auereus* in contaminated meat and milk product. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

118. Larasati RP, Kurniati TK, Sukmawati D, Arman Z, Husna SNA, Nurjayadi M, Dailin DJ, EL Enshasy HA (2019). Molds isolated from chicken feed as potential amylase resources. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

119. Efrianti UR, Nurjayadi M, Azizah N, Kurniadewi V, Saamla V, Wiranatha IM, Nastassya I, El Enshasy HA (2019). Detection of *Salmonella typhimurium* foodborne bacterial pathogen on articicially contaminated milk by real time PCR using STM 4497 and *Fljb* primers. IPSB2019, International Postgraduate Symposium in Biotechnology. 24-25 Sep., 2019. UTM, Johor Bahru, Malaysia.

120. Low LZMI, Dailin DJ, Key SWC, Abd Malek R, Sukmawati D, Sayyed R, El Enshasy HA (2020). Screening of factors influencing pullulan production by *Aureobasidium melanogenum* DSM 2404 using fractional factorial design. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

121. Amerhabati KK, Hanapi SZ, Ong ML, Sayyed RZ, El Baz AF, Nurjayadi M, El Enshasy HA (2020). Isolation and identification studies on potential xylanase enzyme producing *Trichoderma* sp. from local soil. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

122. Mod Hishamuddin AI, Abd Malek R, Ramli S, Dailin DJ, Nurjayad M, El Deeb N, El Enshasy HA (2020). Bioprocess optimization for cell mass production of *Kluyveromyces lactis* using statistical medium optimization. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

123. Selvamani S, Abd Malek R, Ramli S, Dailin DJ, Gupta VK, Sukmawati D, Ong ML, El Enshasy HA (2020). Improvement of biomass production by *Lactobacillus reuteri* using double-carbon source cultivation strategy. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

124. Eyahmalay J, Siwapiragam V, Ramli S, Dailin DJ, Hanapi SZ, Puspitaningrum R, El Deeb N, Sayyed R, El Enshasy HA (2020). Bioprocess optimization for high biomass production of *Lactobacillus casei* in pilot scale bioreactor. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

125. Nurjayadi M, Efrianti UR, Azizah N, Kurniadewi F, Saamia V, Wiranatha M, Nastassya L, El Enshasy HA (2020). Deterction of *Salmonella typhimurium* on artificially contaminated milk by real time PCR using STM4497 and fljB primers. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

126. Nurjayadi M, Briantomo HS, Hardiyanto D, Agustini K, El Enshasy HA (2020). Purification of Fim-C *Salmonella typhi* recombinant protein with Co-NTA resins as an alternative provision of raw materials of rapid kits detection of typhoid fever. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

127. Kepli AN, Dailin DJ, Abd Malek R, Ramli S, Ong ML, Puspitaningrum R, El Baz A, El Enshasy HA (2020). Optimization of medium compostion for *Lactobacillus acidophilus* biomass production in semi-industrial scale. Science and Matethematic International Conference (SMIC). 8-9 Aug., Jakarta, Indonesia.

Universitiy 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 Malasyia, 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 Operabiity 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- Theoritical 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 vetrenary 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

Level	Number of Trainees
Postdoctoral Fellows	2
PhD Students	12 (finished)
	5 (submitted/in progress)
Master Students	31 (finished)
	9 (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 Erythomycin 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 B_{12} 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 kefiran. (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 Kandiyll, 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 Boumedeine, 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 lignen degrading enzyme production for industrial applications. (Ms. Zulaiha Hanapi), Faculty of Chemical Engineering, Universiti Teknologi Malaysia).

12- Improving functional properties of *Punica granatum* juice by probiotification using *Lactobacillus* species. (Ms. Siti Marhaida Bt Mustafa), School of Chemical and Energy Engineering, Faculty of Engineering, Universiti Teknologi Malaysia.

13- 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.

14- Development of improved process of high sporulation and high cell density cultivation of *Bacillus thuringiensis*.(Mr. Yousry Al Azaly, Ain Shams university), in progress

15- 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

16- Bioprocess design for semi-industrial scale production of polymaleic acid using the yeast strain (Ms. Roslinda Malik, Faculty of Chemical and Energy Engineering, Universit Teknologi Malaysia), in progress

17- Bioprocess optimization of novel antibiotics from lactic acid bacteria (Ms. Vasanthamalar A/P Sabanayagam, Faculty of Chemical and Energy Engineering, Universit Teknologi Malaysia), in progress

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 mediteranei* 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 *Streptomycis 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 Teknology 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. Mastooreh 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).

32- Bioprocess optimization of biomass production of *Lactobacillus acidophilus* (Ms. Afif Najihah binti Kepli, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia)

33- Optimization of bioprocess for biomass production of *Lactobacillus casei* (Ms. Jennifer Edwina A/P Eyahmalay, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia)

34- Bioprocess optimization for biomass production of the probiotic yeast *Kluyveromyces lactis* (Ms. Aelia Insyeera binti Mohd Hishamuddin, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia)- in progress.

35- Strain isolation and bioprocess optimization of high xylanase producer strain *Trichoderma* sp. (Mr. Kugan Kumar Ambehabati, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

36- Development of efficient process for high polysaccharides production by *Pleurotus ostreatus* (Mr. Solleh Ramli, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

37- Medium optimization and bioprocess design for efficient riboflavin production using *Ashbiya sp.* (Ms. Nivashini A/P Neela Mekan, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

38- Bioprocess optimization for pullulan production in semi-industrial scale (Ms. Luo Zaini binti Mohd Izwan Low, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

39- Isolation, identification and biomass production of nitrogen removing bacteria for waste water treatment applications (Ms. Nurul Zahidah binti Nordin, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

40- Isolation and identification of functional microbes from rice microbiome and rhizosphere (Ms. Li Ting, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

41- Bioprocess optimization for high cell mass production of the probiotic strain *Lactobacillus lactis* subspecies *cremoris*. (Mr. Ramesh, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.

42- Medium optimization of biomass production of *Lactobacillus fermentum* in semi-industrial scale. (Mr. Puvaniswaran A/L Krishna Moorthi, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Malaysia), in progress.