

Curriculum Vitae

For

Tarek Mohamed Ahmed Ali El-Bagory

Assistant Professor in Mechanical Engineering and Industrial
Engineering Department,
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on sabbatical leave from Helwan University,
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Education:

2010 Ph.D.	Mechanical Design [Materials]	Helwan University, Egypt
2004 M.Sc.	Mechanical Design [Materials]	Helwan University, Egypt
1997 B.Sc.	Mechanical Engineering [Power]	Helwan University, Egypt

Key Qualification:

Properties & Strength of Materials, Stress Analysis & Finite Element, & Mechanical Design, Mechanics of Materials, Machine Element Design, Engineering Materials, and Fracture Mechanics

Work Experience:

<u>2011-2017</u>	<u>Assistant Professor</u>	<u>Majmaah Univ.</u>
Taught: Several Courses including: Machine Element Design, Mechanical Drawing, AutoCAD, Mechanical Vibration, Theory of Machine, Math 001, Math 107, GE 101, Mechanics of Materials and Mechanical Design.		
<u>2010-2011</u>	<u>Assistant Professor</u>	<u>Helwan Univ.</u>
Taught: Several Courses including: Machine Element Design, Strength of Materials, Stress Analysis, Mechanical Drawing, AutoCAD, Mechanical Vibration, Theory of Machine and Fracture Mechanics		

2004-2010

Ass. Lecturer

Helwan Univ.

Taught Several Courses including: Mechanical Design, Machine Element Design, Strength of Materials, Stress Analysis, Mechanical Drawing, AutoCAD and Mechanical Vibration

1999-2010

Demonstrator

Helwan Univ.

Taught: Several Courses Including: Mechanical Design, Machine Element Design, Strength of Materials, Stress Analysis, Mechanical Drawing, and Mechanical Vibration.

Computer Expertise:

Languages: Lab View Program

Software: Spreadsheets (EXCEL), [Cosmos] Finite Element Program, Microsoft word, and AutoCAD.

References:

- 1- **Prof. M.Y.A. Younan**, Mechanical Engineering Dept., The American University in Cairo, EGYPT Tel 2-(02) 7975336.
- 2- **Prof. H.E.M. Sallam**, Materials Engineering Dept., Zagazig University, Zagazig, EGYPT Tel 2-(055) 2854849.

Awards:

1. Participated in the Euro-Mediterranean Innovation Marketplace 26th -28th January, 2010, Cairo- Egypt.

“Ranked as the 1st among all the Applicants of the Contest”

For the Invention “Testing Station for Natural Gas Piping Systems”

2. Participated in the VI MOSUBKA 2010 NP

“Ranked as the 1st among all the Applications of the Contest from the Middle East”

- **EL-Bagory**, T.M., and Alsayed. M, “Design and Implementation of Fuzzy Based Control System for a Special Testing Machine (STM) for Natural Gas Pipes”, National Instrument® Virtual Instrumentation Conference and Exhibition (NI Week), Austin, United States of America, August 2010.

3. Participated in the International Exhibition of Inventions of Geneva 6th -10th April 2011, Geneva Palexpo- Switzerland,

“Ranked as the Gold Medal among all the Applicants of the Contest”

For the Invention “Testing Station for Natural Gas Piping Systems”

4. Participated in the International Exhibition of Inventions and Inventors of the Mediterranean, Italy, Catania 3rd -5th June 2011,

“Ranked as Important Invention’s among all the Inventions of the Contest”

For the Invention “Testing Station for Natural Gas Piping Systems”

5. Participated in the ASME Student Competition, Baltimore Maryland, USA, 17-21, July 2011,

“Ranked from the Best PhD Thesis’s in the World”

6. Participated in PhD Thesis's Competition, Cairo –Egypt, Helwan University, July 2011,
“Ranked as the 1st among all the Applicants of the Contest”
7. Innovation Awards of Majmaah University, 2016 (13-7-1437H).
“Ranked as the 1st among all the Applicants of the Contest”
8. Membership in American Society of Mechanical Engineers, ASME
Membership No.: 100136043
9. Membership in Egyptian Engineers Syndicate, Cairo, Egypt
Membership No.: 36/05674

Patent:

1. Patent No. 1 from:

King Abdul-Aziz City for Science and Technology

Patent No.: 4406

Date: 11/10/2015

Invention Name: "Special Pre-cracking Machine for Water and Natural Gas Piping Systems"

2. Registration for Patent No. 2 from:

King Abdul-Aziz City for Science and Technology

Registration No. : 116370492

Date: (26-6-1437H) (4-4-2016)

Invention Name: "Creep Testing Machine for Ring Specimens using in Natural Gas Piping Systems"

3. Registration for Patent No. 3 from:

King Abdul-Aziz City for Science and Technology

Registration No.: 116370439

Date: (11-6-1437H) (11-06-2016)

Invention Name: "The Air Conditioned Jamarat Bridge using Renewable Energies"

4. Registration for Patent No. 4 from:

King Abdul-Aziz City for Science and Technology

Registration No. : 117380278

Date: (26-6-1437H) (04-04-2016)

Invention Name: "Creep Testing Machine for Muti Ring Specimens using in Natural Gas Piping Systems"

5. Registration for Patent No. 5 from:

King Abdul-Aziz City for Science and Technology

Registration No. : 117380287

Date: (16-4-1438H) (14-01-2017)

Invention Name: " Pre-Cracking Machine for Polymeric Ring specimens"

6. Registration for Patent No. 6 from:

King Abdul-Aziz City for Science and Technology

Registration No. : 117380624

Date: (25-7-1438H) (22-04-2017)

Invention Name: "Smart Convenient Tracks in Trains for Special Needs"

7. Registration for Patent No. 7 from:

King Abdul-Aziz City for Science and Technology

Registration No. : 117380625

Date: (26-7-1438H) (23-04-2017)

Invention Name: "Smart Waiting Cabins for Pilgrims using Renewable Energies"

8. Registration for Patent No. 8 from:

Egyptian Patent Office

Technology Development and Scientific Services Sector

The Egyptian Academy of Scientific Research and Technology (ASRT)

Registration No.: 2010/195

Date: 7/2/2010

Invention Name: Testing Station for Natural Gas and Piping Systems

Publications:

1. Conference:

1. **EL-Bagory**, T.M., EL-Fadaly, M.S., Younan, M.A., and Abdel-Latif, L.A., "Influence of Crack Orientation and Crosshead Speed on the Fracture Toughness of PVC Pipe Materials" Proceedings of the ASME 2004 Pressure Vessels & Piping Division / K-PVP Conference PVP 2004.
2. **EL-Bagory**, Younan, M.A., T.M., Sallam H.E.M., and Abdel-Latif, L.A. "Limit Load of Pre-Cracked Polyethylene Miter Pipe Bends Subjected to In-Plane Bending Moment" Proceedings of the ASME 2010 Pressure Vessels & Piping Division / K-PVP Conference PVP 2010.
3. **EL-Bagory**, Younan, M.A., T.M., Sallam H.E.M., and Abdel-Latif, L.A. "Effect of Load Angle on Limit Load of Polyethylene Miter Pipe Bends" Proceedings of the ASME 2010 Pressure Vessels & Piping Division / K-PVP Conference PVP 2010.
4. **EL-Bagory**, T.M., and Alsayed, M. "Design and Implementation of Fuzzy Based Control System By Special Testing Machine (STM) for Natural Gas Pipes" National Instrument@ Virtual Instrumentation Conference and Exhibition (NI Week), Austin, United States of America, August 2010.
5. **EL-Bagory**, Younan, M.A., T.M., and Sallam H.E.M., "Limit Load Determination and Material Characterization of Cracked Polyethylene Miter Pipe Bends" Proceedings of the ASME 2011 Pressure Vessels & Piping Division / K-PVP Conference PVP 2011 July 17-21, 2011 Baltimore Maryland, USA, Paper Number: PVP 2011-57587.
6. **EL-Bagory**, T.M., Sallam H.E.M., Younan, M.A., and Abdel-Latif, L.A. "Effect of Strain Rate, Thickness, Welding on the J-R Curve for Polyethylene Pipe Materials" Proceedings of the ASME 2012 Pressure Vessels & Piping Division / K-PVP Conference PVP 2012 July 15-19, 2012 Toronto, Ontario, Canada, Paper Number: PVP 2012- 78587.
7. **EL-Bagory**, T.M., Sallam H.E.M., and Younan, M.A., "Mechanical Behavior of Welded and Un-welded Polyethylene Pipe Materials" Proceedings of the ASME 2013 Pressure Vessels & Piping Division / K-PVP Conference PVP 2013 July 14-18, 2013 Paris, France, Paper Number: PVP 2013-97743.

8. **EL-Bagory**, T.M., Sallam, H.E.M., and Younan, M.A., "Evaluation of Fracture Toughness Behavior of Polyethylene Pipe Materials" Proceedings of the ASME 2014 Pressure Vessels & Piping Division / K-PVP Conference PVP 2014 July 20-24, 2014, Anaheim California, USA Paper Number: PVP 2014-28407.
9. **EL-Bagory**, T.M., Alkanhal, T. A. R., and Younan, M.A., "Effect of Specimen Geometry on the Predicted Mechanical Behavior of Polyethylene Pipe Material" Proceedings of the ASME 2014 Pressure Vessels & Piping Division / K-PVP Conference PVP 2014 July 20-24, 2014, Anaheim California, USA Paper Number: PVP 2014-28401.
10. **EL-Bagory**, T.M., Sallam, H.E.M., and Younan, M.A., "Validation of Linear Elastic Fracture Mechanics in Predicting the Fracture Toughness of Polyethylene Pipe Materials" Proceedings of the ASME 2015 Pressure Vessels & Piping Division / K-PVP Conference PVP 2015, July 19-23, 2015, Boston, Massachusetts, USA, Paper Number: PVP 2015-45651.
11. **EL-Bagory**, and Younan, M.A., "Crack Growth Behavior of Pipes Made from Polyvinyl Chloride Pipe Material" Proceedings of the ASME 2015 Pressure Vessels & Piping Division / K-PVP Conference PVP 2015, July 19-23, 2015, Boston, Massachusetts, USA, Paper Number: PVP2015-45657

الابحاث باللغة العربية:

12. عبدالله بن عبد المحسن العبد الكريم، طارق محمد أحمد علي الباجوري، جهاد جاسر محمد الناهض، ثامر حسام ناصر العرفج، "استخدام الطاقات المتجددة في التسهيل من أداء مناسك الحج على جسر الجمرات" الملتقى العلمي السادس عشر لأبحاث الحج والعمرة والزيارة، مكة المكرمة - جمادى الأولى 1437هـ، الرمز المرجعي: 1437373.

2. Journals:

1. **EL-Bagory**, T.M., EL-Fadaly, M.S., Younan, M.A., and Abdel-Latif, L.A., "Influence of Crack Orientation and Crosshead Speed on the Fracture Toughness of PVC Pipe Materials" **Journal of Pressure Vessel Technology**, November 2004, Vol. 126, pp. 489-496.
2. **EL-Bagory**, Younan, M.A., T.M., Sallam H.E.M., and Abdel-Latif, L.A. "Plastic Load of Pre-Cracked Polyethylene Miter Pipe Bends Subjected to In-Plane Bending Moment" **Journal of Pressure Vessel Technology**, December, 2013, Vol. 135, No. 6.
3. **EL-Bagory**, Younan, M.A., T.M., Sallam H.E.M., and Abdel-Latif, L.A. "Effect of Load Angle on Limit Load of Polyethylene Miter Pipe Bends" **Journal of Pressure Vessel Technology**, June, 2014, Vol. 136, No. 1.
4. **EL-Bagory**, Younan, M.A., T.M., Sallam H.E.M., and Abdel-Latif, L.A. "Limit Load Determination and Material Characterization of Cracked Polyethylene Miter Pipe Bends" **Journal of Pressure Vessel Technology**, June, 2014, Vol. 136, No. 4.
5. **EL-Bagory**, T.M., Sallam H.E.M., Younan, M.A., and Abdel-Latif, L.A. "Effect of Strain Rate, Thickness, Welding on the J-R Curve for Polyethylene Pipe Materials" **Theoretical and Applied Fracture Mechanics**, December 2014, Vol. 74, pp. 164-180.

6. **EL-Bagory**, T.M., Alkanhal, T. A. R., and Younan, M.A., “Effect of Specimen Geometry on the Predicted Mechanical Behavior of Polyethylene Pipe Material” **Journal of Pressure Vessel Technology**, Dec. 2015, Vol. 137, No. 6.
7. **EL-Bagory**, T.M., Sallam, H.E.M., and Younan, M.A., “Evaluation of Fracture Toughness Behavior of Polyethylene Pipe Materials” **Journal of Pressure Vessel Technology**, Dec. 2015, Vol. 137, No. 6.
8. **EL-Bagory**, and Younan, M.A., “Crack Growth Behavior of Pipes Made from Polyvinyl Chloride Pipe Material” **Journal of Pressure Vessel Technology**, Feb. 2017, Vol. 139, No. 1 doi: 10.1115/1.4033124.

Under Publication:

1. **EL-Bagory**, T.M., EL-Fadaly, M.S., Younan, M.A., and Abdel-Latif, L.A. “Geometrical Considerations in Experimental and Finite Element Fracture Analysis of PVC” to be Published.

Dissertations:

- 1- Experimental and Finite Element Analysis of Crack Growth in Pipes Made of Polymeric Materials, **M. Sc.** Thesis, Helwan Univ., **Egypt**, 2004.
- 2- Failure Analysis of Polymeric Miter Pipe Bends Under Combined Loading, PhD. Thesis, Helwan Univ., **Egypt**, October 2010.

Students Projects:

1. Project 2009 Helwan University “Failure Analysis of Polymeric Materials Pipes” Mechanical Production Department, Faculty of Engineering, Helwan University, 2009, Cairo-Egypt.
2. Project 2009 Al-Azhar University “Failure Analysis of Polymeric Materials Pipes” Mechanical Engineering Department, Production Engineering Branch, Faculty of Engineering-Al-Azhar, Al-Azhar University, 2009, Cairo-Egypt.

Research projects funded locally or internationally:

Research title	Year of Funding	Amount of Funding	The funding agency
An Implementation Method for Initiation and Measuring Crack Growth in Piping Systems	1433-1434 H	35,200 SAR	Deanship of Scientific Research, Majmaah University

Memberships: the editorial board of journals, reviewers board, theses supervising committee, theses examination committee:

Type of membership and its details.	Year	Other remarks
Membership in American Society of Mechanical Engineering, ASME	2012-2013	ASME-USA

Scientific Referee in the 3rd Scientific Conference for students of higher education in K.S.A	2011-2012	Third Scientific Conference for students of higher education in K.S.A
Inventions and Innovations Referee in the 3rd, 4th, 5th and 6th Scientific Conference for students of higher education in K.S.A.	2011-2015	Third, fourth, fifth and sixth Scientific Conference for students of higher education in K.S.A
Reviewer and Arbitration	2014-2015	Innovation Center

Participation of the member in the committees

No.	Committee Name	Committee Mission	Committee work Period
1	Engineering Clubs Committee	Coordinator	2011
2	Engineering Clubs Committee	Coordinator	2012
3	Scientific Innovation Unit for Students	Coordinator	2013
4	Quality Unit	Member of the quality unit in mechanical and industrial engineering department	2011, Academic year (1432-1433H)
5	Student Support Unit	Member and Secretary	1436-1437H
6	Engineering Practice Committee	Member	1436-1437H
7	Senior Design	Member	1436-1437H
8	Health and Public Safety	Member	1436-1437H
9	Community Services	Member	1436-1437H
10	Student Support Unit	Member and Secretary	1437-1438H
11	Engineering Practice Committee	Member	1437-1438H
12	Senior Design	Member	1437-1438H
13	Health and Public Safety	Member	1437-1438H

Participation of the member in the Services of university and Society

No.	Participation Name	Type of Participation	Period
1	3 th Scientific Conference for Students of Higher Education in the KSA	Coordinator of Engineering College	AL-Khobr, 9-12 Jumada AlAkhera 1433H
2	Conference NI Week 2012,	Coordinator	6-9/8/2012

	USA		Academic year (1432-1433H)
3	1 st International Exhibition of Majmaah University	Coordinator of Engineering College	4-5/1/1434H Academic year (1433-1434H)
4	4 th Scientific Conference for Students of Higher Education in the KSA	Coordinator of Engineering College	Makkah, 19-22 Jumada AlAkhera 1434H

Training Courses

No.	Name of Course	Place Taken	Date Taken
1	Introduction of Lab View Program	Cairo, Egypt	2002
2	Code of Ethics	Cairo, Egypt (Helwan University)	13-14, January, 2010
3	Credit Hours Systems	Cairo, Egypt (Helwan University)	21-22, April, 2010
4	Modern Directions in the Teaching	Cairo, Egypt (Helwan University)	6-8/2006
5	Scientific Research Skills	Cairo, Egypt (Helwan University)	14-17/7/2005
6	Cogitation Skills	Cairo, Egypt (Helwan University)	26-28/2/2006
7	Reactive Presentation Skills	Cairo, Egypt (Helwan University)	3-5/9/2006
8	Lab View Core No. 1 and 2	College of Engineering Majmaah University	2015
9	Skills of Scientific Research	Majmaah University	27-5-1437H

Conferences, Seminars and Workshops

No.	Name of Conferences, Seminars and Workshop	Place Taken	Date Taken
1	ASME Conference, PVP 2004	San Diego, California, USA	PVP 2004 July 25–29,
2	ASME Conference, 2010 PVP	Bellevue, Seattle Washington	PVP 2010 July 18 - 22,
3	ASME Conference, 2011	Baltimore Maryland, USA	PVP 2011 July 17-21,
4	ASME Conference, PVP 2012	Toronto, Ontario, Canada	PVP 2012 July 15-19, 2012
5	ASME Conference,	Paris, France	PVP 2013 July 14-18,

	PVP 2013		2013
6	ASME Conference, PVP 2014	Anaheim California, USA	PVP 2014 July 20-24, 2014
7	ASME Conference, PVP 2015	Boston, Massachusetts, USA	PVP 2015, July 19-23, 2015