Curriculum Vitae
Dr. Mohamed A. Elgamil

Name Mohamed Ahmed Elgamil Ahmed

Date of Birth May 14th, 1963

Nationality Egypt

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Address Dept. of Mechanical Design and Production, Faculty of Engineering, Cairo University, 12316 Giza, EGYPT.

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Education

* B.Sc. of Mechanical Engineering, Cairo University, Egypt (1981~1986), Very Good with Honor Degree.

* Graduation Project "Design of New Planetary Gear Hydraulic Motor" Distinction.

* M.Sc. of Mechanical Engineering, Cairo University, Egypt (1988~1991)
"Investigation of Performance of Single Stage Hydraulic Servovalve with Four Control Gaps".

* Training Course in Mechatronics (JICA, Osaka, Japan) (1995~1996).

* Ph.D. of Dynamic Design, Kobe University, Japan (1996~1999)
"Investigation of New Hydraulic Control Valves"

Experience

* Demonstrator at the Department of Mechanical Design and Production, Faculty of Engineering, Cairo University (1988~1991).

* Assistant Lecturer at the Dept. of Mechanical Design and Production, Faculty of Engineering, Cairo University (1991~1999).

* Assistant Professor of system dynamics and control at the Dept. of Mechanical Design and Production, Faculty of Engineering, Cairo University (1999~now).

* Expert of simulation of system dynamics and control, Mitsubishi Heavy Industry, Takasago Works, Hyogo, Japan. 1996-1999.

* Manager of hydraulic and lubrication systems at Al Ezz Flat Steel, Ain Sukhna, Egypt (March 2003~June 2005).

* Assistant Professor at Engineering College, Al-Qassim University, Saudi Arabia (2005 ~ 2006)

* Fulltime Consultant of hydraulic systems, lubrication systems and mechanical maintenance at Al Ezz Flat Steel, Ain Sukhna, Egypt (August 2006~Sep. 2008).

* Teaching Subjects (Academic and Industrial courses):

1- Automatic Control
2- Fluid Power Control
3- Mechanical Vibration, machine diagnostics and condition monitoring
4- Theory of Machine
5- Mechanism Synthesis
6- Control Valve Technology
7- Machine Design
8- Mechanical Drawing

* Analysis and Simulation of Dynamical Systems, vibration and control.

* Vibration analysis, machine diagnostics, rotor balancing and condition monitoring

* Consultation, Design and Maintenance of Hydraulic and Pneumatic Systems.

* Consultation and supervision of machine design.

* Consultation and supervision of machine manufacturing, installation, diagnoses and maintenance.

* Design and preparation of on job training on Hydraulic systems, Mechanical vibration and condition monitoring, and process control valves technology .

- Expert of system dynamics, design and control at the Center for Advancement of Post-Graduate Studies and Research in Engineering Science, Faculty of Engineering, Cairo University.
- Process control design, troubleshooting and maintenance.

Major research projects

- STDF project no. 465 " Remotely Operated Rrobots with Application to Landmines Removal in Egypt", Principal Investigator: Prof. Said Mohamed Megahed

- STDF project no. 1586 "Development of an Egyptian Prototype CSP System", Principal Investigator: Prof. Amin Mobarak

- STDF project no. 2466 " Development of a Variable Geometric Volume PositiveDisplacement Pump and a New Hydraulic Servovalv", Principal Investigator: Dr. Mohamed A. Elgamil

Publications:

1. Elgamil, M. A., & Kanki, H. "New Methods for Flow Force Reduction and Spool Drives in Proportional and Servo Valves". The 4th International Research/Expert Conference, Zenica'98 October 2-3, 1998. (pp. 26 - 33). University of Sarajevo, Faculty of Mechanical Engineering in Zenica.

2. Elgamil, M. A., & Kanki, H. "Asymmetric Orifice Area Gradient Effect on Static and Dynamic Servovalve Performance". The 4th International Research/Expert Conference, Zenica'98 October 2-3, 1998. (pp. 131- 138). University of Sarajevo, Faculty of Mechanical Engineering in Zenica.

3. Elgamil, M. A., Kanki, H. & Nishida T. "Flow Torque Reduction and Compensation in Rotary Valves". The Sixth Scandinavian International Conference on Fluid Power, SICFP'99 May 26-28, 1999, Tampere, Finland.

4. Elgamil, M. A., Kassem, S. A. & Kanki H., "Performance of Single Stage Four Nozzles Pintle Type Hydraulic Servovalves". The JSME International Journal, November 2, 1999.

5. Elgamil, M. A., Kassem & Kanki, H., “Effect of Unmatched Area Gradients on Static and Dynamic Underlapped Servovalve Performance”. The 7th Cairo University International Conference on Mechanical Design and Production, Feb. 15~17, 2000.

6. Elgamil, M A. “On the Dynamic Flow Forces of a New Class of Rotary Hydraulic Valves”. The Seventh Scandinavian International Conference on Fluid Power, SICFP’01 in Linkoping, Sweden, May 30-June 1, 2001.

7. Elgamil, M A. & Kassem, S. A., “On the Characteristics of Unsymmetrical Actuators Driven by Unmatched Proportional Directional Control Valves”. The Seventh Scandinavian International Conference on Fluid Power, SICFP’01 in Linkoping, Sweden, May 30-June 1, 2001.

8. Elgamil M A., Zeyada Y. M. & Kassem S. A., “Design Aspects of a New Type of Hydraulic Pumps” The Eighth Scandinavian International Conference on Fluid Power, SICFP’03 May 7-9, 2003, Tampere, Finland.

9. Elgamil, M A, “Piloting the Valve Spool by Using a Through Axial Shaft”, Bath Symposium on Power Transmission & Motion Control, PTMC 2006, 13 – 15 September 2006

10. Elgamil, M A, Kassem S. A. "Analysis and Performance of a New Hydraulic Servovalve Incorporating Through-the-Spool Pilot Shaft", The 9th Cairo University International Conference on Mechanical Design and Production, Jan. 8~10, 2008.

11. N. E. Elzayady, R. M. Rashad, M. Elgamil, and M. A. Elhabak "Design and Manufacturing of thermal cyclic Fatigue Apparatus" Journal of American Science 2012; 8(5)

12. Galal A. Hassaan, Mohammed A. Al-Gamil and Maha M. Lashin " Optimal Synthesis of a 4-Bar Simple Toggle", Journal of American Science, 2011; 7(11):522-528. (ISSN: 1545-1003).

13. Galal A. Hassaan , Mohammed A. Al-Gamil and Maha M. Lashin " New Approach for the Synthesis of Planar 4-Bar Mechanisms for 2 Coupler-Positions Generation", New York Science Journal 2012; 5(10) :86-90. (ISSN: 1554-0200).

14. Galal A. Hassaan , Maha M. Lashin and Mohammed A. Al-Gamil " Computer-Aided Data for Machinery Foundation Analysis and Design ", Researcher 2012; 4(11):50-58. (ISSN: 1553-9865).

15. Elgamil Mohamed A. “Dynamic Performance of Servovalves with Closed Center Type Pilot Stage”, The 9th International Fluid Power Conference, 9. IFK, March 24-26, 2014, Aachen, Germany

16. Elgamil Mohamed A., Khaled Mostafa, Norman Bügener, Saad Kassem, and Jürgen Weber, “Potentials and Challenges of a New Variable Geometric Positive Displacement Pump”, The 9th JFPS International Symposium on Fluid Power Matsue 2014, Oct/28/2014 - Oct/31/2014
17. Elgamil Mohamed A., Moataz Amin, and Saad Kassem, “Development of a New Hydraulic Servovalve with Two Land Spool and New Pilot Stage”, The 9th JFPS International Symposium on Fluid Power Matsue 2014, Oct/28/2014 - Oct/31/2014
18. Elgamil Mohamed A., Moataz Amin, and Saad Kassem, “Development of High performance High Flow Fast switching Hydraulic Directional Control Valves”, The Fourteenth Scandinavian International Conference on Fluid Power, May 20-22, 2015, Tampere, Finland
19. Elgamil Mohamed A., Ahmed R. Abdelbaki, Chahinaz A. Saleh, “Second order dynamic accumulators, the features, the applications and the feasibility”, The Fourteenth Scandinavian International Conference on Fluid Power, May 20-22, 2015, Tampere, Finland

Patents

Patent name	Egyptian patent number	Date of binding	Date of issu	
Sliding Control Valve of Low Sensitivity to Flow Forces	1197/97	12/11/1997	7/12/1999	
Turbo Valve of Low Sensitivity to Flow Forces	1196/97	12/11/1997	20/5/2000	
Spool Valve of Low Sensitivity to Flow Forces	1198/97	12/11/1997	8/8/2001	Award of Outstanding Egyptian Hi. Tech. Invention, 2002
Eight-Nozzle Servovalve 12/11/1997	188/98	17/2/1998	12/8/2001	Award of Outstanding Egyptian Hi. Tech. Invention, 2002
Hydraulic Spool Servovalve of Rectified Jet Angle and Hybrid Valves	190/98	17/2/1998	12/8/2001	Award of Outstanding Egyptian Hi. Tech. Invention, 2002
Positive Displacement Pumps & Motors with Multi-rise Rotating Cam and Several Followers	784/2002	8/7/2002	14/02/2004	
Electric power generation by wind plant, which reverses air flow discharge direction and produces fresh water as side product	Application 740/2011	11/05/2011	For approval	
Drive & Control mechanisms for sun trackers and for trackers of bodies moving in the outer space	Application 1195/2011	14/07/2011	For approval	Elgamil et al
Wind turbines which reverse air flow discharge direction	Application PCT/EG2011/000018	11/08/2011	Published in 15/11/2012	Elgamil et al

			No. WO 2012/152 291	
Purifying and Separating Fluids by Using Helical Units	Application 815/2012	03/05/2012	For approval	
Solar power plants that collect energy by accumulating direct and reflected rays	Application 1472/2012	30/08/2012	For approval	
Multi-reacting turbine to wind flow	Application 1473/2012	30/08/2012	For approval	
Usage of jets and supersonic jets in building turbines and improving their performance	Application 1474/2012	30/08/2012	For approval	
Hydraulic Turbines with Exit Flow Direction Opposite to its Inlet Flow Direction	Application 1811/2012	23/10/2012	For approval	
Positive displacement hydraulic pumps with geometric volume controlled by control oil volume, cam and flexible and sliding followers.	Application 83/2013	15/01/2013	For approval	Elgamil et al
Hydraulic servovalve with self-main spool position feedback and closed center pilot stage	Application 103/2013	20/01/2013	For approval	Elgamil et al
Hydraulic accumulators of self-adapting working pressure range	Application 288/2013	24/02/2013	For approval	Elgamil
Positive displacement hydraulic pumps with geometric volume controlled by control oil volume, cam and flexible or sliding followers	Application PCT/EG2014 /000003	12/01/2014	For approval	Elgamil
Hydraulic Servovalve or Proportional with Self-Main Spool Position Feedback and Closed Center Pilot Stage	Application PCT/EG2014 /000005	16/01/2014	For approval	Elgamil

Hydraulic Positive Displacement Pump with Cams and Swiveling Followers and Controlled by Controlling The Volume of Control Oil.	Application 181/2014	09/02/2014	For approval	Elgamil et al
Check Valves with Fast Response and Wide Openings	Application 319/2014	02/03/2014	For approval	Elgamil
Hydraulic motors of cams driven by their followers, and their equivalent hydraulic pumps	Application 320/2014	02/03/2014	For approval	Elgamil
Suppression of Pressure and Flow Rate Pulsation by Using Resonance Tuned Dynamic Hydraulic Accumulators	Application 387/2014	13/03/2014	For approval	Elgamil
Quick Switching Pilot Operated Hydraulic Directional Control Valves	Application 388/2014	13/03/2014	For approval	Elgamil
Hydraulic Positive Displacement Pump with Cams and Swiveling Followers and Controlled by Controlling The Volume of Control Oil	Application PCT/EG2015 /000003	08/02/2015	For approval	Elgamil
Check Valves with Fast Response and Wide Openings	Application PCT/EG2015 /000006	26/02/2015	For approval	Elgamil
Suppression of Pressure and Flow Rate Pulsation by Using Resonance Tuned Dynamic Hydraulic Accumulators	Application PCT/EG2015 /000007	26/02/2015	For approval	Elgamil
Fast Switching Pilot Operated Hydraulic Directional Control Valves	Application PCT/EG2015 /000008	26/02/2015	For approval	Elgamil
Hydraulic motors of cams driven by their followers, and their equivalent hydraulic pumps	Application PCT/EG2015 /000009	26/02/2015	For approval	Elgamil
Direct Operated Hydraulic Servovalves	Application 503/2015	02/04/2015	For approval	Elgamil
Fast switching 3/2 direct operated hydraulic directional control valve	Application 504/2015	02/04/2015	For approval	Elgamil
Electromagnetic torque motor with high torque and limited angle	Application 617/2015	21/04/2015	For approval	Elgamil