

## ***CURRICULUM VITAE***

**NAME** **Dr. Moshaiov Amiram**

**FACULTY/DEPT** School of Mechanical Engineering  
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### **A. EDUCATION**

1983-1985 The University of Michigan, Ann Arbor, Michigan  
Naval Architecture and Marine Engineering  
Ph.D.

1982-1983 The University of Michigan, Ann Arbor, Michigan  
Naval Architecture and Marine Engineering  
M.Sc.

1977-1982 Tel-Aviv University (External Student)  
Solid Mechanics, Materials and Structures  
M.Sc.

1971-1974 The Technion Institute of Technology  
Mechanical Engineering (Naval Architecture Program)  
B.Sc.

**Title of M.Sc Thesis** Optimum Shape Design of a Parabolic Reflector  
**Name of supervisor** Prof. M. Fuchs

**Title of Doctoral Dissertation** Thermo-elastic-plastic Plate Bending by Boundary Element Method with Initial Plastic Moments  
**Name of Supervisor** Prof. W. Vorus

### **B. FURTHER STUDIES**

1989-2002 Self-studying of Robotics, Bio-Mechanics, MEMS, Computer -Vision and Soft-Computing

## C. ACADEMIC AND PROFESSIONAL EXPERIENCE

1988/9 – Present	<i>Founder &amp; Head of the Robotics &amp; Mechatronics Program</i> The School of Mechanical Engineering, TAU Formerly, the Department of Mechanics, Materials & Systems, TAU
1985-1988	<i>Assistant Professor (Tenure Track)</i> Massachusetts Institute of Technology Department of Ocean Engineering
1982-1985	<i>Research Assistant</i> The University of Michigan, Department of Naval Architecture and Marine Engineering
1975-1980	<i>Mechanical Engineer</i> Office of Naval Architecture, Naval Headquarters, Israel Defense Forces

### *Sabbatical Hosts*

2000/1 - O. Kaynak	Ex-President of the IEEE Society of Industrial Electronics, and the UNESCO Chair on Mechatronics, Bogazici University, Istanbul, Turkey
2004 - A. Duffy	Ex-President of the Design Society, Strathclyde University, Glasgow, UK
2005 - X. Yao	Ex-Editor-in-Chief of the IEEE Trans. on Evolutionary Computations The Univ. of Birmingham, UK
2013/14 - Y. Jin	Chair in Computational Intelligence, The University of Surrey, UK

### *Founding the Robotics and Mechatronics Program (at TAU)*

- Moshaiov was challenged, by his department and faculty at TAU, to found and develop the robotics and mechatronics section of the mechanical engineering program of the faculty of engineering (currently the School of Mechanical Engineering). This challenge should be understood in the light of Moshaiov's lack of any previous experience and knowledge in robotics, and the lack of a mentor and a technician.
- Moshaiov had to independently struggle his way into Robotics. Over the 90's he developed, from scratch, several courses and their labs. In addition to developing the undergraduate program, he has also developed several graduate courses, and a modest research/project laboratory.

### *Activities in International Organizations Networks and Special Interest Groups*

1. *Member* of the Management Board of the European Network of Excellence in Robotics (EURON II)
2. *Member* of the Special Interest Group on Good Experimental Methodologies and Benchmarking of EURON II
3. *Member* of the IEEE Working Group (Task Force) on Artificial Life and Complex Adaptive Systems
4. *Member* of the Technical Committee on Soft Computing of the Int. Assoc. of Science & Technology for Development (IASTED)

5. *Member* of the Technical Committee on Education of the Int. Assoc. of Science & Technology for Development (IASTED)

#### ***General Chair/Co-Chair in International and National Scientific Meetings***

1. *Co-Chair* – The IEEE/RSJ IROS Workshop on Multi-Competence Optimization and Adaptation in Robotics and A-life, Nice, France, 2008 (IROS-MOR 2008)
2. *Co-Chair* - The GECCO Workshop on The Evolution of Natural and Artificial Systems – Metaphors and Analogies in Single and Multi-objective Problems (GECCO-ENAS-2007)
3. *Co-Chair* - The IEEE/RSJ IROS Workshop on Multi-Objective Robotics (IROS-MOR 2006)
4. *Program Co-Chair* - The 1<sup>st</sup> Israel Conference on Robotics (ICR 2006)
5. *Conference Special Sessions General Chair* - The 3<sup>rd</sup> Int. Conf. on Information Technology Based Higher Education and Training (ITHET 2002)
6. *Conference Special Sessions General Chair* - The 1st Int. Conf. on Information Technology in Mechatronics (ITM 01)

#### ***Editorial and Review Activities in Scientific Journals***

1. *Editorial Board*      Journal of Memetic Computing, Springer
2. *Reviewer* -            IEEE / ASME Transactions on Mechatronics
3. *Reviewer* -            Journal of Computing in Civil Eng., ASCE
4. *Reviewer* -            IEEE Transactions on Systems Man and Cybernetics – Part C
5. *Reviewer* -            IEEE Transactions on Education
6. *Reviewer* -            Journal of Structural and Multidisciplinary Optimization
7. *Reviewer*-            International Journal of Mechanics and Materials in Design
8. *Reviewer* -            Research In Engineering Design

#### ***Membership in International & National Program and Technical & Steering Committees***

1. *IPC Member* -        IEEE Int. Conf. on Sys., Man, and Cybernetics (IEEE-SMC 2013,15)
2. *TPC Member* -        The Int. Conf. on Engineering Design (ICED 2013)
3. *Associate Ed.* -        The 10th IFAC Symposium on Robot Control (SYROCO 2012)
4. *IPC Member* -        The 9th Int. Conf. on Simulated Evolution And Learning (SEAL2012)
5. *SAB Member* -        The 32<sup>nd</sup> Israeli Conf. on Mechanical Engineering (ICME 2012)
6. *Associate Ed.* –        IEEE/RSJ Int. Conf. on Intelligent Robots & Sys. (IROS 2008-9)
7. *IPC Member* –        IEEE Congress on Evolutionary Computation (CEC 2009)
8. *IPC Member* –        IEEE Sym. on Comp. Intelligence for Security and Defense Applications (CISDA 2009)
9. *IPC Member* –        IEEE Sym. on Comp. Intelligence in Multicriteria Decision Making (MCDM 2009)
10. *IPC Member* –        The 3rd Int. Conf. on Integrity, Reliability & Failure (IRF'2009)
11. *SC Member* –        The 2nd Israel Conf. on Robotics (ICR 2008)
12. *IPC Member* –        The European Robotic Symposium (EUROS '08)
13. *TPC Member* –        IEEE World Cong. on Comp. Intelligence (IEEE-WCCI-2008)
14. *IPC Member* –        IEEE/SMC Int. Conf. on Dist. Human-Mach. Sys. (DHMS 2008)
15. *IPC Member* –        Learning and Intelligent Optimization (LION 2007-8)
16. *IPC Member* –        The 1<sup>st</sup> & 2<sup>nd</sup> IEEE Sym. on Artificial Life (IEEE-ALife 2007-8)
17. *IPC Member* –        The 5<sup>th</sup> Int. Conf. on Mechanics and Materials in Design (M<sup>2</sup>D 2006)
18. *IPC Member* –        Int. Conf. on Parallel Prob. Solving from Nature (PPSN, 2004-6)
19. *IPC Member* –        IEEE Int. Conf. on Comput. Cybernetics (ICCC 2003-8)

- 20. *IPC Member* – IASTED Int. Conf. on Comp. and Advanced Tech. in Education (CATE 2005-8)
- 21. *IPC Member* - Int. Workshop on Research and Education in Mechatronics (REM 2003, 2007-9)
- 22. *Review Panel* - Int. Sym. on Tools and Methods of Competitive Engineering (TMCE 2002-6)
- 23. *IPC Member* – The 5th Int. Conf. on IT Based Higher Education and Training (ITHET 2004)
- 24. *IPC Member* – The 12<sup>th</sup> Mediterranean Conf. on Control and Auto. (MED '04)
- 25. *IPC Member* – Int. Conf. on Mechatronics (ICOM 2003)
- 26. *IPC Member* – IEEE Int. Conf. on Control Applications (CCA 2003)
- 27. *IPC Member* – The 3<sup>rd</sup> Int. Conf. on Applied Automatic Systems (AAS 2003)
- 28. *IPC Member* - Int. IFAC workshops on Automatic Systems for Building the Infrastructure in Developing Countries (DECOM-TT 2001-3)

### ***Review of Scientific Proposals***

- 1. *Reviewer* The United States-Israel Bi-national Science Foundation
- 2. *Expert Reviewer* Marie-Curie Research and Training Networks Program of the EU
- 3. *Reporter* The "Advanced Robotics" call of FP6 of the EU
- 4. *Member* Consolidation Committee of the European Network of Excellence in Robotics

## **D. ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS**

- 1. The IEEE World Congress on Computational Intelligence, Beijing, China 2014 (two papers presentations)
- 2. The 13th Annual UK Workshop on Computational Intelligence (UKCI 2013), Guildford, UK, 2013 (paper presentation)
- 3. The 16th European Conference on the Applications of Evolutionary Computation, EvoApplications 2013, Vienna, Austria 2013 (paper presentation)
- 4. International Conference on Parallel Problem Solving from Nature, Taormina, Italy 2012 (two papers presented).
- 5. Workshop on Theoretical Aspects of Evolutionary Multiobjective Optimization at PPSN 2012, Taormina, Italy 2012 (oral presentation)
- 6. International Workshop on Evolutionary and Reinforcement Learning for Autonomous Robot Systems, Montpellier, France 2012 (paper presentation)
- 7. The 32<sup>nd</sup> Israeli Conference on Mechanical Engineering, Tel-Aviv 2012 (member of the scientific advisory board, session co-chair, three oral presentations)
- 8. The IEEE/RSJ IROS Workshop on Multi-Competence Optimization and Adaptation
- 9. in Robotics and A-life, Nice, France, 2008 (**Co-Chair**, paper presentation)
- 10. The 2<sup>nd</sup> Israel Conference on Robotics, Hertzelia 2008 (Session Chair, three oral presentations)
- 11. EURON SIG Meeting on Good Experimental Methodologies and Benchmarking in Robotics, Prague, 2008 (oral presentation)
- 12. The European Conference on Complex Systems, Dresden, Germany 2007 (poster and oral presentation)
- 13. The European Conference on Eye Movements, Potsdam, Germany 2007 (abstract)

14. The GECCO Workshop on User Centric Evolutionary Computation, London, UK, 2007 (paper presentation)
15. The GECCO Workshop on The Evolution of Natural and Artificial Systems –Metaphors and Analogies in Single and Multi-objective Problems, London, UK, 2007 (**Co-Chair**)
16. The IEEE Int. Workshop on Safety, Security, and Rescue Robotics, Rome, Italy 2007
17. The PPSN Workshop on Multiobjective Problem Solving from Nature, Iceland, 2006 (paper presentation)
18. The IEEE Congress on Evolutionary Computations, Vancouver, Canada, 2006 (paper presentation)
19. The IEEE/RSJ IROS Workshop on Multi-Objective Robotics, Beijing, 2006 (**Co-Chair**, paper presentation)
20. The 5<sup>th</sup> Int. Conference on Mechanics and Materials in Design, Porto, Portugal, 2006 (**Keynote paper**)
21. The 1<sup>st</sup> Israel Conference on Robotics, Tel-Aviv University, 2006 (Program Chair, two presentations)
22. Int. Workshop on Exploring Complexity in Collaborative Design and Solutions, Brunell University, UK, June, 23-24, 2005 (paper presentation)
23. Seminar/Workshop of the EPSRC network on Nature-inspired Creative Design, 2005.
24. The Haifa Robotics Conference, May, 2004 (presentation)
25. The 2004 IEEE Int. Conf. on Computational Cybernetics, Vienna, Austria, (two paper presentations)
26. Interactive Information Day Workshop, Joint call priority 2 - IST and 3 - NMP on Manufacturing, Products and Services Engineering in 2010, Brussels, 2003 (poster)
27. Embodied Artificial Intelligence Workshop, University of Zurich, 2002 (abstract-poster)
28. The 2002 IEEE/RSJ Int. Conference on Intelligent Robots and Systems- IROS 2002 (accepted poster)
29. The 3<sup>rd</sup> Int. Conf. on Information Technology based Higher Education and Training – ITHET 2002 (**special sessions general chair, two special sessions organizer** and a paper presenter)
30. The 1<sup>st</sup> Int. Joint Conf. on Autonomous Agents and Multi Agent Systems - AAMAS 2002 (attending including a tutorial)
31. The 1<sup>st</sup> Int. Conf. on Information Technology in Mechatronics – ITM 2001 (**special sessions general chair** and **plenary paper** presentation)
32. The 13<sup>th</sup> Int. Conf. on Engineering Design – ICED 2001 (paper presentation).
33. The 21<sup>st</sup> Century Education and Training in Automation and Control – EPAC 2000 (**invited paper** presentation)
34. The 1st Int. Conf. on Information Technology based Higher Education and Training - ITHET 2000 (paper presentation)
35. The 28<sup>th</sup> Israel Conf. on Mechanical Engineering, 2000 (**keynote lecture**).
36. Int. Conf. on Neural Computation in Science and Technology, 1999 – NCST 99 (poster presentation)
37. Int. Grad. School in Applied Mechanics, Tech. U. of Denmark, 1998 (**invited lecture**)
38. The 26<sup>th</sup> Israel Conf. on Mechanical Engineering, 1996 (presentation)
39. The 6<sup>th</sup> Int. Symposium on Practical Design of Ships and Mobile Units, Seoul, Korea, 1995 (paper discussor)
40. The 25<sup>th</sup> Israel Conf. on Mechanical Engineering, 1994 (paper presentation)
41. German-Israeli Seminar on Micro-Systems, Tel-Aviv, 1993 (attending)
42. 18<sup>th</sup> Int. Congress of Theoretical and Applied Mechanics, Haifa, Israel, 1992 (presentation and abstract)
43. Ramot Symposium on Robotics and Automation in Industry, Tel-Aviv, 1992 (presentation)

44. The 2<sup>nd</sup> Int. Workshop on Robot Kinematics, Linz, Austria, 1990 (paper presentation)
45. Symposium on Welding of the Israeli Metallurgical Society, Tel-Aviv, Israel, 1989 (presentation)
46. Symposium on Structural Mechanics of the Israeli Society of Theoretical and Applied Mechanics, Haifa, Israel, 1988 (presentation)
47. The 7<sup>th</sup> Int. Conference on Offshore Mechanics and Arctic Engineering, Houston, Texas, USA, 1988 (paper presentation)
48. MIT Sea Grant Conference, Cambridge, Massachusetts, USA, 1988 (**invited paper** presentation)
49. Undersea System Defense Conference, San Diego, California, USA, 1987 (paper presentation)
50. 2<sup>nd</sup> Boundary Element Technology Conference, BETECH86, Cambridge, Massachusetts, 1986 (paper presentation)
51. The Annual Meeting of the Society of Naval Architects and Marine Engineers, New York, N.Y., USA, 1982 (paper discussor)

## **E. ACADEMIC AND PROFESSIONAL AWARDS**

### **E.1 INTERNAL GRANTS (AT TAU)**

- |      |   |
|------|---|
| 2013 | <p><b><i>The TAU Vice President Research Encouragement Fund</i></b><br/>         Research Grant on: "Bootstrapping the Evolution of Families of Controllers"<br/>         Sum: 19,000 NIS</p>                               |
| 2008 | <p><b><i>The TAU Vice President Research Encouragement Fund</i></b><br/>         Research Grant on: "Multi-competence Evolution"<br/>         Sum: 18,000 NIS</p>   |
| 1991 | <p><b><i>The TAU Basic Research Fund</i></b><br/>         Research Grant on: "Developing Micro-Casting &amp; Micro-Assembling Process for Micro-Machines"<br/>         Sum: Seed funds<br/>         Co-PI: N. Travitzky</p> |

### **E.1.2 EXTERNAL GRANTS**

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|------|--|
| 2015 | <p><b><i>Israel Ministry of Defense</i></b><br/>         Research Grant on: "Multi-payoff Aeronautical Games"<br/>         Sum: 200,000 IS<br/>         Co-PI: Y. Reich (due to administrative reasons)</p>                    |
| 2015 | <p><b><i>Israel Ministry of Defense</i></b><br/>         Research Grant on: "Biomimetic Underwater Vehicle Drag Reduction"<br/>         Sum: 200,000 IS<br/>         Co-PI: Y. Reich, M. Rosenfeld</p>                         |
| 2014 | <p><b><i>Israel Ministry of Defense</i></b><br/>         Research Grant on: "Design Space Exploration under Multiple Objectives"<br/>         Sum: 200,000 IS<br/>         Co-PI: Y. Reich (due to administrative reasons)</p> |

- 2013 ***Israel Ministry of Defense***  
Research Grant on: "Design Space Exploration under Multiple Objectives"  
Sum: 117,000 IS  
Co-PI: Y. Reich (due to administrative reasons)
- 2006 ***Israel Ministry of Science***  
Research Grant on: "Road Safety"  
Sum: 20,000 IS  
Co-PI: L. Yaroslavsky (due to administrative reasons)
- 2004 ***European Union (FP6)***  
Title: European Network of Excellence (Participation in Management Board)  
Sum: N.A.  
Co-PIs: N.A.
- 1987 ***The MIT Sea Grant College Program***  
Research Grant on: "Composite Cylinders under Hydrostatic Pressure."
- 1987 ***Office of Naval Research***  
Research Grant on: "Accuracy Control During Welding of Large Scale Complex Structures."  
Co-PIs: T. Eager, C. Chrysostomidis
- 1987 ***Sloan Funds (MIT)***  
Research Grant on: "Three Dimensional Simulations of Thermo-Elastic-Plastic Process in Manufacturing Large Scale Welded Structures."
- 1987 ***Office of Naval Research***  
Research Grant on: "Impulsive Loading of Composite Panels."

LIST OF PUBLICATIONS (On a separated document)