CURRICULUM VITAE

Associate Professor Michael Regev

September 2023

Work Address: Braude College of Engineering, Dept. of Mechanical Engineering P.O. Box 78, Karmiel 2161002, Israel. Tel: 972-4-9901734, Fax: 972-4-9901886
Home Address: 4 WIZO St., Haifa 3440004, Israel, Tel: 972-4-8340878
Date of Birth: August 23, 1964
Place of Birth: Haifa, Israel
Marital Status: Married, 3 children

ACADEMIC DEGREES:

Ph.D., Materials Engineering, Technion - Israel Institute of Technology, Haifa, Israel
"The Influence of the Microstructure on the Creep Properties of AZ91D Magnesium Alloy" under the supervision of Prof. A. Rosen and Assoc. Prof. M. Bamberger

- M.Sc., Materials Engineering, Technion Israel Institute of Technology, Haifa, Israel
 "The Influence of Thermal Processes on the Properties of T22 Steel to T91 Steel Weldments" under the supervision of Prof. B.Z. Weiss and Dr. S. Berger
- 1989 B.Sc., Mechanical Engineering, Technion Israel Institute of Technology, Haifa, Israel. Cum Laude
- 2022 B.A., History, The Open University of Israel

ACADEMIC POSITIONS:

2015-present	Braude College of Engineering, Karmiel, Israel Head, Mechanical Engineering M.Sc. Program
2013-present	Braude College of Engineering, Karmiel, Israel Associate Professor, Mechanical Engineering Department
2006-present	The Israel Institute of Metals, Technion Consultant
3.2016-8.2016	Researcher, sabbatical at The Israel Institute of Metals, Technion
2011-2015	Braude College of Engineering, Karmiel, Israel Head, Mechanical Engineering Department
2009-2013	Braude College of Engineering, Karmiel, Israel

	Senior Lecturer, Mechanical Engineering Department
2005-2009	Braude College of Engineering, Karmiel, Israel Lecturer, Mechanical Engineering Department
2000-2001	Tel-Aviv Acadenic College of Engineering, Tel-Aviv, Israel Adjunct Lecturer
1998-2001	The Israel Institute of Metals, Technion - Israel Institute of Technology, Haifa, Israel Senior Researcher, Metallurgical Laboratory
1995-1998	Technion - Israel Institute of Technology, Haifa, Israel Teaching Assistant in the Faculty of Materials Engineering

PROFESSIONAL EXPERIENCE:

2002-2005	RAFAEL Ltd., Haifa, Israel. Welding Group Leader, areas of specialization: TIG, MIG, EBW, PAW welding processes, robot welding
2001-2002	Intel Israel Ltd., Haifa, Israel. Failure Analysis Team Leader, areas of specialization: failure analysis of electronic chips
1989-1995	Israeli Electric Company (IEC), Haifa, Israel. Mechanical Engineer, areas of specialization: steam boilers, steam pipeline, welding

TEACHING EXPERIENCE:

- 2005-present <u>Braude College of Engineering</u> Materials Engineering, Introduction to Manufacturing Processes, Advanced Materials Engineering, Strength and Materials Lab Plastic Deformation Theory (M.Sc. Program)
- 2018-2022 <u>Technion International</u> Manufacturing Processes (in English)
- 2000-2004 <u>IDF (reserve duty)</u> Basic Principles of Strength and Materials Engineering
- 2000-2001 <u>Tel-Aviv Academic College of Engineering</u>

	Materials and Manufacturing Technologies
1999	The Israel Institute of Metals
	Introduction to Materials Engineering (for Israel Military Industries engineers)
1995-1998	Technion
1770 1770	Teaching Assistant in:
	Materials Selection, Thermal Treatments of Metals
	Laboratory Instructor in:
	Students' Lab, Advanced Materials Engineering Lab,
	Experiment developing for Advanced Materials Engineering Lab

ACADEMIC AND PROFESSIONAL AWARDS AND GRANTS:

Funded Research Projects:

"Interrupted Creep of Magnesium Alloys", The Israel Institute of Metals and Prof. A. Rosen, January 1999 – February 2001, approx. \$30,000

"Development of Gold Alloys", The Israel Institute of Metals, January 2000 – February 2001, approx. \$100,000

"Friction Stir Welding", RAFAEL Ltd., January 2003 - December 2003, approx. \$35,000

"Development of a New Dental Bur", Ministry of Economy and Industry, November 2007 – October 2009, approx. \$150000

"Development of a New Thermo-Mechanical Process for Medium Carbon Steels", Ministry of Economy and Industry, June 2017 – December 2017, approx. \$15700

Internal funding by OBC over the years 2010 - 2018 for various research projects in the fields of friction stir welding and friction stir processing, approx. \$25000

Honors and Awards:

2001	Listed in "Who's Who in Science and Engineering"
2001	Listed in "Who's Who in the World"
1998	The Miriam and Aaron Gutwirth Special Distinction Fellowship Award
1996	"GRANJON" Award of the International Welding Institute – IIW
1989	Bachelor of Science Cum Laude

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

ASME, member since January 2007

REVIEWER FOR:

- 1. Journal of Materials Science
- 2. Physica Status Solidi
- 3. Materials Science and Engineering
- 4. Journal of Materials Engineering and Performance
- 5. Materials and Design
- 6. Micromachines
- 7. Journal of Non-Crystalline Solids
- 8. Coatings
- 9. Wear
- 10. Metals
- 11. Materials
- 12. Journal of Alloys and Compounds
- 13. Heliyon
- 14. Materials Letters

EDITORSHIP:

- 1. Metals Editorial Board member
- 2. Materials special issue on High Entropy Alloys (Guest Editor)
- 3. Metals special issue on Amorphous Alloys (Guest Editor)
- 4. Metals special issue on Advances in Friction Stir Welding and Processing (Guest Editor)

LIST OF PUBLICATIONS

Theses:

- Ph.D. "The Influence of the Microstructure on the Creep Properties of AZ91D Magnesium Alloy"
 Research conducted under the supervision of Professor A. Rosen and Associate Professor Menachem Bamberger.
- M.Sc. "The Influence of Thermal Processes on the Properties of T22 Steel to T91 Steel Weldments"
 Research conducted under the supervision of Professor B.Z. Weiss and Dr. Shlomo Berger.

Refereed Journal Papers:

- 1. M. Regev, S. Berger and B. Z. Weiss: "Investigation of Microstructure, Mechanical and Creep Properties of Weldments between T91 and T22 Steels", Welding Journal (Research Supplement), Volume 75, Number 8, pp. 261s 268s (1996)
- 2. M. Regev, E. Aghion and A. Rosen: "Creep Studies of AZ91D Pressure Die Casting", Materials Science and Engineering A, Vol. A234-236, pp. 123-126 (1997)
- M. Regev, E. Aghion, M. Bamberger and A. Rosen: "Creep Studies of Coarse Grained AZ91D Magnesium Alloy", Materials Science and Engineering A, Vol. A252, pp. 6-16 (1998)
- M. Regev, E. Aghion, M. Bamberger S. Berger and A. Rosen: "Dislocation Analysis of Crept AZ91D Ingot Casting", Materials Science and Engineering A, Vol. A257, pp. 349-352 (1998)
- M. Regev, O. Botstein, M. Bamberger and A. Rosen: "Continuous vs. Interrupted Creep in AZ91D Magnesium Alloy", Materials Science and Engineering A, Vol. A302/1, pp. 51-55 (2001)
- M. Regev, A. Rosen and M. Bamberger: "Qualitative Model for Creep of AZ91D Magnesium Alloy", Metallurgical and Materials Transactions A, Vol. 32A, pp. 1335-1345 (2001)
- 7. S. Spigarelli, M. Regev, E. Evangelista and A. Rosen: "A Review of the Creep Behavior of AZ91 Mg Alloy Produced by Different Technologies", Materials Science and Technology, Vol. 17, pp. 627-638 (2001)
- M. Regev, H. Rosenson and Z. Koren: "Microstructure Study of Particle Reinforced AZ91D and AM50 Magnesium Alloys Semisolid Casting", Materials Science and Technology, Vol. 23, pp. 1485-1491 (2007)
- U. Ben-Hanan, H. Judes and M. Regev: "Comparative Study of Three Different Types of Dental Diamond Burs", Tribology - Materials, Surfaces & Interfaces, Vol. 2, pp. 77-83 (2008)
- A. Katz-Demyanetz, H. Rosenson, Z. Koren and M. Regev: "Bulk Metallic Glass Formation in the Mg₈₀Cu₁₅Y₅ System", Materials Science and Technology, Vol. 25, pp. 1227-1233 (2009)
- 11. M. Regev, H. Judes and U. Ben-Hanan: "Wear Mechanisms of Diamond Coated Dental Burs", Tribology Materials, Surfaces & Interfaces, Vol. 4, pp. 38-42 (2010)
- M. Regev, H. Rosenson, Z. Koren and A. Katz-Demyanetz: "The Influence of the Cooling Rate on Bulk Metallic Glass Formation in Mg₈₀Cu₁₅Y₅ and Mg₈₀Cu₁₀Y₁₀ ", Journal of Materials Science, Vol. 45, pp. 6365-6373 (2010)
- 13. S. Spigarelli, M. El Mehtedi and M. Regev: "Enhanced Plasticity and Creep in an Extruded ZK60 Alloy", Scripta Materialia, Vol. 63, pp. 617-620 (2010)
- 14. M. Cabibbo, P. Ricci and M. Regev: "Nanoindentation Applied to an Optimized FSW-AZ31 Butt Joint", Kovove Materialy Metallic Materials, Vol. 49, pp. 233-242 (2011)
- A. Katz-Demyanetz, H. Rosenson, Z. Koren and M. Regev: "Thermal Stability and DSC Studies of Melt-spun Mg₈₀Cu₁₅Y₅ and Mg₈₀Cu₁₀Y₁₀", Journal of Materials Science and Engineering A (formerly part of Journal of Materials Science and Engineering), Vol. 1 pp. 168-173 (2011)

- S. Spigarelli, M. El Mehtedi and M. Regev: "Effect of Grain Size on High Temperature Deformation of AZ31 alloy", Materials Science and Engineering A, Vol. 528, pp. 6919-6926 (2011)
- 17. S. Spigarelli, M. Regev, M. El. Mehtedi, G. Quercetti and M. Cabibbo: "Analysis of the Effect of Friction Stir Welding on the Minimum Creep Rate of a Mg-3%Al-1%Zn Alloy", Scripta Materialia, Vol. 65, pp. 626-629 (2011)
- S. Spigarelli, M. El Mehtedi, M. Regev and E. Gariboldi: "High Temperature Creep and Superplasticity in a Mg-Zn-Zr Alloy", Journal of Materials Science and Technology, Vol. 28, pp. 407-413 (2012)
- U. Ben-Hanan, M. Regev and H. Judes: "Temperature Measurements During Dental Cutting Using an Internally Cooled Diamond Dental Bur", Journal of Materials Science and Engineering B Vol. 2, pp. 551-559 (2012)
- M. Regev and S. Spigarelli: "Plastic Deformation Mechanisms of Base Material and Friction Stir Welded AZ31B-H24 Magnesium Alloy", Materials Sciences and Applications, Vol. 4, pp. 357-364 (2013)
- 21. M. Regev, M. El Mehtedi, M. Cabibbo, G. Quercetti, D. Ciccarelli and S. Spigarelli: "High Temperature Plasticity of Bimetallic Magnesium a nd Aluminum Friction Stir Welded Joints", Metallurgical and Materials Transactions A, Vol. 45A, pp. 752-764 (2014)
- 22. M. Regev, S. Spigarelli and M. Cabibbo: "Microstructure Stability During Creep of Friction Stir Welded AZ31B Magnesium Alloy", ASME Journal of Manufacturing Science and Engineering, Vol. 137, pp. 051021-1 – 051021-8 (2015)
- 23. M. Regev, S. Essel and A. Katz-Demyanetz: "Microstructure Characterization of Melt Spun Mg₆₅Cu₂₅Y₁₀", Kovove Materialy Metallic Materials, Vol. 55, pp. 1-5 (2017)
- N. Larianovsky, A. Katz-Demyanetz, E. Eshed and M. Regev: "Microstructure, Tensile and Creep Properties of Ta₂₀Nb₂₀Hf₂₀Zr₂₀Ti₂₀ High Entropy Alloy", Materials, Vol. 10, pp. 883-1 – 883-12 (2017)
- 25. M. Regev, T. Rashkovsky, M. Cabibbo and S. Spigarelli: "Microstructure Stability During Creep of Friction Stir Welded AA2024-T3 Alloy", Journal of Materials Engineering and Performance, Vol. 27, pp. 5054-5063 (2018)
- C. Paoletti, M. Regev and S. Spigarelli: "Modelling of Creep in Alloys Strengthened by Rod-Shaped Particles: Al-Cu-Mg Age-Hardenable Alloys", Metals, Vol. 8, pp. 930-1 – 930-18 (2018)
- 27. M. Regev and S. Spigarelli: "Study of Mechanical, Microstructural and Thermal Stability Properties of Friction Stir Processed Aluminum 2024-T3 Alloy", Kovove Materialy -Metallic Materials, Vol. 57, pp. 229-236 (2019)
- E. Santecchia, M. Cabibbo , M. Ghat , M. Regev and S. Spigarelli: "Physical Modeling of the Creep Response of an Al-Cu-Mg Alloy With a Fine Microstructure Transformed by Friction Stir Processing", Materials Science and Engineering A, Vol. 769, article 138521 (2020)
- 29. M. Regev and S. Spigarelli: "Microstructure, Thermal Stability During Creep and Fractography Study of Friction Stir Processed AA2024-T3 Aluminum Alloy", Journal of Materials Engineering and Performance, Vol. 29, pp. 4872-4878 (2020)
- A. Katz-Demyanetz, M. Bamberger and M. Regev: "Quantitative Microstructure Study of Melt Spun Mg₆₅Cu₂₅Y₁₀", SN Applied Sciences, Vol. 2, article 1811 (2020)
- 31. M. Regev and S. Spigarelli: "A Study of the Metallurgical and Mechanical Properties of Friction-Stir-Processed Cu", Metals, Vol. 11, pp. 656-1 656-11 (2021)

- 32. C. Paoletti, E. Santecchia, M. Cabibbo , M. Regev and S. Spigarelli: "Revisiting Copper as a Case Study of Creep in Pure Metals: Prediction of Creep Response in Pure Cu in Half-Hard and Friction-Stir-Processed States", Materials Science and Engineering A, Vol. 832, article 142426 (2022)
- 33. M. Regev and S. Spigarelli: "Microstructural Changes During Creep and Fractography study of Friction Stir Processed Commercially Pure Cu", Journal of Materials Engineering and Performance, Vol. 31, pp. 7031-7038 (2022)
- M. Regev, B. Almoznino and S. Spigarelli: "A Study of the Metallurgical and Mechanical Properties of Friction-Stir-Welded Pure Titanium", Metals, Vol. 13, pp. 524-1 – 524-13 (2023)
- 35. M. Regev, A. Santoni and S. Spigarelli: "Oxidation Effects on Short-Term Creep Response in Air of Commercially Pure Titanium (CP-2 Ti)", Metals, Vol. 13, pp.1275-1 – 1275-16 (2023)
- 36. S. Spigarelli, M. Regev, A. Santoni, M. Cabibbo and E. Santecchia: "Effect of Friction Stir Welding on Short-Term Creep Response of Pure Titanium", Metals, Vol. 13, pp. 1616-1 – 1616-12 (2023)

Refereed Conference Proceedings:

- M. Regev, E. Aghion, M. Bamberger and A. Rosen: "Creep Studies of AZ91D Castings", Proceedings of DGM International Conference on Magnesium Alloys and Their Applications, pp. 283 - 288 (1998)
- M. Regev, A. Rosen and M. Bamberger: "Structural Stability and Creep Properties of AZ91", Proceedings of the 1999 Annual Meeting, San Diego, California, pp. 163 – 170 (1999)
- 3. M. Regev, D. Kalinka and S. Spigarelli: "Deformation Mechanisms Operating During Creep of Friction Stir Welded AZ31B Magnesium Alloy", Conference Proceedings of the 9th International Conference on Magnesium Alloys and Their Applications, Vancouver, Canada, ISBN number 978-0-615-67510-7, pp. 923-928(2012)
- 4. M. Regev and S. Spigarelli: "Plastic Deformation Mechanisms Operating in Parent Metal and Friction Stir Welded AZ31B Magnesium Alloy", Conference Proceedings of the 7th Asia Pacific IIW International Conference, Singapore, pp. 523-527 (2013)
- M. Regev and S. Spigarelli: "Microstructure Stability During Creep of Friction Stir Welded AZ31B-H24 Magnesium Alloy and AA2024-T3 Aluminum Alloy", Proceedings of IIW 2017 International Conference, Shanghai, P.R. China, pp. F13-F20 (2017)
- 6. M. Regev and S. Spigarelli: "Microstructural Processes Occurring During Creep of Friction Stir Welded AA2024-T3 Alloy", Proceedings of IIW 2019 International Conference, Bratislava, Slovakia, paper 000031 (2019)

Other Conference Proceedings:

- A. Finkel, M. Regev, E. Aghion, M. Bamberger and A. Rosen: "Aging Studies of AZ91D Casts", Proceedings of The First Israeli International Conference on Magnesium Science & Technology, Dead Sea, Israel, pp.121-126 (1997)
- 2. S. Spigarelli, M. Cabibbo, E. Evangelista, M. Regev and A. Rosen: "Process and Microstructural Effects on the Creep Properties of the AZ91 Magnesium Alloy",

Proceedings of the Second Israeli International Conference on Magnesium Science and Technology, Dead Sea, Israel, pp. 293-300 (2000)

3. M. Regev, O. Botstein and A. Rosen: "The Influence of the Microstructure on the Creep Properties of AZ91D Magnesium Alloy – Continuous vs. Interrupted Creep", Proceedings of the Second Israeli International Conference on Magnesium Science and Technology, Dead Sea, Israel, pp. 301-307 (2000)

Other Publications:

- 1. M. Regev: "Fire-side Corrosion in Coal Fired Steam Boilers of Power Plants", Mechonot, Nov. 1992, pp. 5-7 (in Hebrew)
- 2. M. Regev: "Creep Mechanisms in Steam Boiler Tubes Made of T22 Steel", Mechonot, Mar. 1994, pp. 28-30 (in Hebrew)
- 3. M. Regev and O. Botstein: "Scanning Electron Microscopy and its Applications for Researchers and Engineers", Mechonot, Jun. 1999, pp. 8-12 (in Hebrew)

Technical Reports:

- 1. "Friction Stir Welding Review", submitted to RAFAEL Report No. 2004/M2/001, February 2004 (in Hebrew)
- 2. "Development of Nano/Sub-micron Particle Reinforced Light Alloys", submitted to the Israel Institute of Metals, October 2006 (in Hebrew)
- 3. M. Regev, U. Ben-Hanan: "Comparative Examination of Three Different Types of Dental Burs", submitted to Strauss & Co., November 2006 (in Hebrew)
- 4. "Development of Nano/Sub-micron Particle Reinforced Light Alloys", submitted to the Israel Institute of Metals, December 2006 (in Hebrew)
- 5. U. Ben-Hanan, M. Regev: "Grinding Zirconia Comparative Study of Three Different Types of Dental Burs", submitted to Strauss & Co., November 2009 (in Hebrew)

Conference Presentations:

- May 30, 1996 The 30th Annual Meeting of the Israel Society for Microscopy, Haifa, Israel
- 2. October 22, 1996 The National Welding Conference, Shfaim, Israel
- 3. April 16-17, 1997 The Eighth Israel Materials Engineering Conference IMEC VIII, Beer-Sheva, Israel
- 4. August 25-29, 1997 Eleventh International Conference on the Strength of Materials ICSMA-11, Prague, Czech Republic
- 5. November 10-12, 1997 The First Israeli International Conference on Magnesium Science & Technology, Dead Sea, Israel
- 6. April 28-30, 1998 Magnesium Alloys and Their Applications Conference, Wolfsburg, Germany
- 7. December 6-7, 1999 The Ninth Israel Materials Engineering Conference IMEC IX, Haifa, Israel
- 8. February 22-24, 2000 The Second Israeli International Conference on Magnesium

Science & Technology, Dead Sea, Israel

- 9. May 10-11, 2006 The 7th Israeli Conference on Corrosion and Electrochemistry, Bar-Ilan University, Ramat-Gan, Israel
- July 11-12, 2006 The 2nd Braude College Interdisciplinary Research Conference, Ma'alot, Israel
- 11. September 10-11, 2007 EUROMAT 2007, Nürnberg, Germany
- 12. October 8-9, 2007 The 3rd Braude College Interdisciplinary Research Conference, Hagoshrim, Israel
- 13. December 9-10, 2007 The 13th Israel Materials Engineering Conference IMEC 13, Haifa, Israel
- 14. October 22-23, 2008 The 4th Braude College Interdisciplinary Research Conference, Nazareth Ilit, Israel
- 15. September 7-10, 2009 EUROMAT 2009, Glasgow, UK
- 16. October 14-15, 2009 The 5th Braude College Interdisciplinary Research Conference, Nahariya, Israel
- 17. December 13-14, 2009 The 14th Israel Materials Engineering Conference IMEC14, Tel-Aviv, Israel (presented by Dr. A Katz)
- 18. April 21-23, 2010 IWNCS 2010, Barcelona, Spain
- 19. October 13-14, 2010 The 6th Braude College Interdisciplinary Research Conference, Haifa, Israel
- 20. January 26-28, 2011 CIRP winter meeting, Paris, France (presented by Dr. U. Ben-Hanan)
- 21. September 19-20, 2011 The 7th Braude College Interdisciplinary Research Conference, Kfar-Blum, Israel
- 22. January 25-27, 2012 CIRP winter meeting, Paris, France (presented by Dr. R. Wertheim)
- 23. July 8-12, 2012 9th International Conference on Magnesium Alloys and their Applications, Vancouver, BC, Canada
- 24. October 17-18, 2012 The 8th Ort Braude College Interdisciplinary Research Conference, Acre, Israel
- 25. July 8-10, 2013 The 7th Asia Pacific IIW International Conference, Singapore
- 26. October 2-3, 2013 The 9th Braude College Interdisciplinary Research Conference, Hagoshrim, Israel
- 27. December 2-6, 2013 THERMEC 2013, Las Vegas, USA (invited talk)
- 28. May 20-22, 2014 10th FSW Symposium, Beijing, China
- 29. October 19-20, 2014 The 10th Braude College Interdisciplinary Research Conference, Nahariya, Israel
- 30. March 22-25, 2015 BIT's 1st Annual World Congress of Smart Materials, Busan, Republic of Korea (including chairmanship)
- 31. October 7-8, 2015 The 11th Braude College Interdisciplinary Research Conference, Hagoshrim, Israel
- 32. May 29-June 3, 2016 THERMEC 2016, Graz, Austria (invited talk)
- September 28-29, 2016 The 12th Braude College Interdisciplinary Research Conference, Hagoshrim, Israel
- 34. June 29-30, 2017 IIW 2017, Shanghai, P.R. China
- 35. September 17-21, 2017 EUROMAT 2017, Thessaloniki, Greece (keynote lecture)

- 36. October 25-26, 2017 The 13th Braude College Interdisciplinary Research Conference, Nahsholim Seaside Resort, Israel
- 37. July 8-13, 2018 THERMEC 2018, Paris, France (invited talk)
- 38. October 17-18, 2018 The 14th Braude College Interdisciplinary Research Conference, Kfar-Blum, Israel
- 39. July 11-12, 2019 IIW 2019, Bratislava, Slovakia (including chairmanship)
- 40. September 1-5, 2019 EUROMAT 2019, Stockholm, Sweden
- 41. October 23-24, 2019 The 15th Braude College Interdisciplinary Research Conference, Kfar-Blum, Israel
- 42. May 10-14, 2021 THERMEC 2021, Virtual Conference (invited talk)
- 43. September 13-17, 2021 EUROMAT 2021, Virtual Conference
- 44. February 21, 2023 Israeli International Section of the AWS (invited talk)
- 45. September 3-7, 2023 EUROMAT 2023, Frankfurt, Germany