Name: Irena Gotman **Date: February 2020**

CURRICULUM VITAE

1. Personal Details

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2. Higher Education

A. Undergraduate and Graduate Studies

Period of Study	Name of Institution and Department	Degree	Year of Approval of Degree
1974-1980	Faculty of Physical Metallurgy, Leningrad Polytechnic Institute, St. Petersburg (Leningrad), Russia	M.Sc. (Engineer) Magna Cum Laude	1980
1984-1987	Department of Materials Engineering, Technion - IIT	M.Sc.	1987
1987-1991	Department of Materials Engineering, Technion - IIT	D.Sc.	1992

B. Post-Doctoral Studies

Period of Study	Name of Institution, Department and Host	Degree	Year of Completion
1992-1995	Department of Materials Engineering, Drexel University, Philadelphia, PA, USA Prof. Michael Koczak		1995

3. Academic Ranks and Tenure in Institutes of Higher Education

Dates	Name of Institution and Department	Rank/Position
1992	Department of Materials Engineering, Technion - IIT	Research Associate
1992-1994	Department of Materials Engineering, Drexel University, Philadelphia, PA, USA	Fulbright Post-doctoral Research Fellow
1993-1995	Department of Materials Engineering, Drexel University, Philadelphia, PA, USA	Adjunct Assistant Professor
1994-1995	Department of Materials Engineering, Drexel University, Philadelphia, PA, USA	Post-doctoral Research Fellow
1995-1997	Department of Materials Engineering, Technion - IIT	Levi Eshkol Post-Doctoral Fellow
1996-2001	Department of Materials Engineering, Technion - IIT	Teaching Fellow
1997-2001	Department of Materials Science and Engineering, Technion - IIT	Senior Research Associate
2001-2016	Department of Materials Engineering, Technion - IIT	Senior Research Fellow
2001-2017	Department of Materials Science and Engineering, Technion - IIT	Senior Teaching Fellow
2009-2010 2015-2016	Department of Biomedical Engineering, Tel-Aviv University	Adjunct Professor
2017-present	Department of Mechanical Engineering, ORT Braude Academic College	Professor

5. Scholarly Positions and Activities outside the Institution

A. Membership in Scientific Societies

- Member of International Association on Self-propagating High-temperature Synthesis (SHS-AS) of the World Academy of Ceramics, Faenza, Italy (since 2002).
- Member of the European Society for Biomaterials – ESB (since 2003).

B. Journals Editorial Board Membership

- Vice-editor of *Advanced Biomaterials and Devices in Medicine*, since 2014
- Member of Editorial Advisory Board of *Materials and Surfaces for Biocompatible Systems*, since 2014
- Member of Editorial Board of *International Journal of SHS*, Springer-Verlag, since 2006

C. Reviewing for Scientific Journals and Foundations

- Acta Materialia
- Journal of the American Ceramic Society
- Journal of Materials Research
- Journal of the European Ceramic Society
- Biomaterials

- Acta Biomaterialia
- Journal of Biomedical Materials Research
- Surface and Coating Technology
- International Journal of SHS
- Journal of Materials Science
- Materials Science and Engineering
- Materials Letters
- Journal of Alloys and Compounds
- Research Proposal Referee for the Israel Science Foundation (ISF)
- Research Proposal Referee for the Israeli Ministry of Science, Technology and Space

6. Participation in Scholarly Conferences

a. **Active Participation**

Date	**Name of Conference**	**Place of Conference**	**Subject of Lecture/Discussion**	**Role**
1986-2015	About **90** contributed talks and posters at International Conferences presented either by Irena Gotman or by the graduate students			
October 1996	First International Symposium on Urological Stents (ISUS-1)	Jerusalem, Israel	Characteristics of Metals Used in Implants	**Invited Lecture**
June 1998	CIMTEC '98 - 9th International Conference on Modern Materials and Technologies	Florence, Italy	Reactive Synthesis of Ceramic Matrix Composites under Pressure	**Invited Lecture**
August 1998	New Developments in High Temperature Ceramics - NASA Workshop	Istanbul, Turkey,	Dense High-Temperature Ceramics by Thermal Explosion Reactions	**Invited Lecture**
August 1999	5th International Symposium on Self-Propagating High-Temperature Synthesis (SHS-99)	Moscow, Russia	Dense *In situ* Composites via Thermal Explosion Mode of SHS under pressure	**Invited Lecture**
April 2000	International Workshop "Endocoronary Biomechanics and Restenosis"	Marseille, France	Metals Used for Surgical Implants: From Orthopaedics to Endoluminal Stenting	**Invited Lecture**
November 2000	The First Mediterranean Tribology Conference,	Jerusalem, Israel	New Wear Resistant TiN Coatings on Orhopaedic Implants	**Invited Lecture**

February 2002	IMEC-10 - 10th Israel Materials Engineering Conference,	Dead Sea, Israel	Materials for Surgical Implants and their Surface Modification	**Invited Lecture**
July 2002	CIMTEC '2002 - 10th International Ceramics Congress	Florence, Italy	Pressure Assisted Synthesis of Dense *In situ* Ceramic Matrix Composites via Thermal Explosion Mode of SHS	**Invited Lecture**
September 2002	8th International Conference on Ceramic Processing Science (ICCPS)	Hamburg, Germany	Dense Near-Net-Shape Ceramics by a Novel SHS-Based Reactive Forging Method	**Keynote Lecture**
July 2003	7th International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2003)	Cracow, Poland	Reactive Forging Approach to Controlled Combustion Synthesis of Dense Ceramics and Composites	**Keynote Lecture**
June 2005	8th International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2005)	Cagliary, Italy	Pressure Assisted Reactive Synthesis of Dense *in situ* Composites: from Science to Application	**Plenary Lecture**
September 2005	EUROMAT 2005	Prague, Czech Republic	RGD Peptide Grafting *via* Phosphonate Anchored Self Assembled Monolayer (SAM) Enhances Osteoblast Attachment to a Low Modulus Ti-Nb Alloy	**Invited Highlight Lecture**
June 2006	CIMTEC 2006 – 11th International Ceramics Congress	Acireale, Sicily	Surface Engineering of Surgical Implants for Improved Biological Performance	**Invited Lecture**
March 2007	Workshop on Surface Treatments and Coatings for Mechanical and Aeronautical Applications (ICMSE)	Sevilla, Spain	Protective PIRAC Coatings on Metal Alloys and Non-oxide Ceramics	**Invited Lecture**
May 2007	5th China International Conference on High-Performance Ceramics (CICC-5)	Changsha, China	Surface Engineering of Surgical Implants for Improved Biological Performance	**Invited Lecture**
May 2007	3rd International Conference "Corrosion, Advanced	Beer Sheva, Israel	Biofunctionalization of titanium alloys *via* deposition of	**Invited Lecture**

	Materials and Processes in Industry, CAMPI 2007"		biodegradable coatings with incorporated biomolecules	
July 2007	9th International Symposium on Self-Propagating High-Temperature Synthesis- (SHS-2007)	Dijon, France	Reactive Forging of Dense Monolithic and Composite Intermetallics	**Keynote Lecture**
March 2008	International Conference on Functional Nanocoatings	Budapest, Hungary	Biofunctional and Bioactive Nanostructured Coatings on Surgical Implants	**Invited Lecture**
April-May 2008	35th International Conference on Metallurgical Coatings and Thin Films, ICMCTF 2008	San Diego, USA	Surface Functionalization of Surgical Implants for Cell Guidance and Control	**Invited Lecture**
June 2008	International Conference "Recent developments in the processing and application of structural metals and alloys"	Como, Italy	Protective Coatings *via* PIRAC on Metals and Alloys	**Keynote Lecture**
September 2009	EUROMAT 2009	Glasgow, UK	Metal Alloy Load Bearing Scaffolds	**Invited Highlight Lecture**
June 2010	CIMTEC 2010, 12th International Ceramics Congress	Montecatini, Italy	Thermal Explosion in Synthesis of Ceramic Materials and Items	**Invited Lecture**
September 2011	International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2011)	Athens, Greece	Medical Devices with Designed Microstructure and Controlled Biological and Mechanical Properties	**Plenary Lecture**
November 2011	International Conference "Nonisothermal Phenomena & Processes: from Thermal Explosion Theory to Structural Macrokinetics"	Cherno-golovka, Moscow region, Russia	Thermal Explosion for Materials Synthesis and Net-Shape Processing	**Invited Lecture**
August - September 2012	5th International Conference "Biomaterials, Tissue Engineering &	Constanta, Romania	Load-Bearing 'Trabecular Nitinol' Bone Scaffolds: *in vitro* and *in vivo* studies	**Plenary Talk**

	Medical Devices" BiomMedD'2012			
September 2012	2nd Joint Meeting of the COST Action MP1005 (NAMABIO - from NAno to MAcro BIOmaterials)	Vienna, Austria	Trabecular Nitinol - a novel load-bearing scaffold material for bone repair	**Invited Lecture**
October 2012	International workshop "Materials and Technologies for the Future Medicine"	Svetlogorsk, Kaliningrad Region, Russia	Biomaterials for implants with designed microstructure and controlled biological and mechanical properties	**Keynote Lecture**
January 2013	International workshop: "Nanostructured Titanium Based Alloys for Medical Applications: Mechanical Properties and Biocompatibility"	Ein-Gedi, Israel	Novel load bearing highly porous Nitinol scaffolds for bone regeneration	**Keynote Lecture**
September 2016	International conference "Advanced Materials with Hierarchical Structure for New Technologies & Reliable Structures"	Tomsk, Russia	Hierarchically structured Trabecular Nitinol scaffolds for bone repair	**Invited Lecture**
October 2019	International Workshop "Multiscale Biomechanics and Tribology of Inorganic and Organic Systems"	Tomsk, Russia	Biomechanical and Tribological Aspects of Orthopaedic and Dental Implants	**Plenary Lecture**

b. **Organization of Conferences or Sessions**

Date	**Name of Conference**	**Place of Conference**	**Subject of Conference/ Role at Conference/ Comments**	**Role**
February 2002	VI International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2001)	Haifa, Israel	Co-chairman	Co-chairman
July 2003	VII International Symposium on Self-Propagating High-	Krakow, Poland	Member of International	Member of International

	Temperature Synthesis (SHS-2003)		Advisory Committee	Advisory Committee
June 2005	VIII International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2005)	Cagliary, Sardinia, Italy	Member of International Advisory Committee	Member of International Advisory Committee
September 2005	Armenian-Israeli Workshop on SHS	Erevan, Armenia	Member of Advisory Committee	Member of Advisory Committee
October 2006	International Conference "Non-isothermal Phenomena and Processes"	Erevan, Armenia	Member of Advisory International Board	Member of Advisory International Board
July 2007	IX International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2007)	Dijon, France	Member of International Advisory Committee	Member of International Advisory Committee
March-April 2008	International Conference "Functional Nanocoatings"	Budapest, Hungary	Member of International Advisory Committee	Member of International Advisory Committee
November 2008	International Workshop on "Advanced Nanostructured Thin Films and Coatings for Industrial Applications"	Nottingham, UK	Member of International Advisory Committee	Member of International Advisory Committee
July 2009	X International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2009)	Erevan, Armenia	Member of International Advisory Committee	Member of International Advisory Committee
March 2010	ECNF –European Conference on Nano-Films	Liege, Belgium	Symposium co-chairperson: "Recent Progress in Biomedical Coatings"	Symposium co-chairperson: "Recent Progress in Biomedical Coatings"
May 2010	"European Postgraduate Training on Nanofilms", Module V: "Biocompatible Wear Resistant and Bioactive Nanostructured Coatings"	Haifa, Israel	Organizer and Moderator	Organizer and Moderator
September 2011	XI International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2011)	Athens, Greece	Member of International Advisory Committee	Member of International Advisory Committee

September 2011	24th Annual European Conference on Biomaterials (ESB 2010)	Dublin, Ireland	Member of the Scientific Advisory Board	Member of the Scientific Advisory Board
November 2011	International Conference "Non-isothermal Phenomena and Processes: from Thermal Explosion (SHS) Theory to Structural Macrokinetics"	Chernogolovka, Russia	Member of International Organizing Board	Member of International Organizing Board
January 2013	International Workshop "Nanostructured Titanium Based Alloys for Medical Applications: mechanical properties and biocompatibility"	Ein-Gedi, Israel	Co-chairperson	Co-chairperson

7. Invited Lectures\ Colloquium Talks

Date	**Place of Lecture**	**Forum**	**Presentation/Comments**
December 2005	Haifa University	Haifa University	Materials for Skeletal Tissue Replacement: Engineering Approaches to Enhancing Biocompatibility
May 2006	Oranim Academic College	Oranim Academic College	Materials for Skeletal Tissue Replacement: Engineering Approaches to Enhancing Biocompatibility
June 2006	Haifa	Rambam Medical Center	Materials Engineering at the Service of Orthopaedics
January 2008	Haifa	Biomedical Workshop, Technion	Wear resistant coatings and load-bearing osteoproductive scaffolds for orthopaedic applications
June 2009	Frankfurt, Germany	European Postgraduate Training on Nanofilms	Nanoparticles, Nanostructured Coatings and Biomolecules for Medical Applications
April 2010	Tel-Aviv	2010 ISMBE (the Israel Society for Medical and Biological Engineering) Annual Meeting	Biomaterials for Bone Healing
May 2010	Tel-Aviv	ISM 2010 – The 44th Annual Scientific Meeting of The Israel Society for Microscopy	Biomaterials for Bone Regeneration with Designed Architecture and Surface Morphology
November 2011	Bar Ilan University	Bar Ilan University	Materials Science at the Service of Orthopaedics Surface Modification of Hard Tissue Replacements

December 2011	Karmiel	ORT Braude College of Engineering	Design and surface modification of orthopedic implants for improved longevity and enhanced bone-regenerative capability
June 2014	Tomsk, Russia	Tomsk Polytechnic Institute	PIRAC – Thermal Reactive Diffusion Process for Coating and Infiltration of Ceramics and Metals
September 2016	Tomsk, Russia	Institute of Strength Physics and Materials Science of Siberian Branch of Russian Academy of Sciences (ISPMS SB RAS)	Theranostic nanoparticles: a recent breakthrough in nanomedicine

8. Research Grants

a. Grants Awarded

Role in Research	Co-Researchers	Topic	Funded by/ Amount	Year
PI	Prof. M.J. Koczak, Drexel University, Philadelphia, PA, USA	Development of mercury free dental amalgams	H. Stern Fund for Innovative Academic Initiatives, $95,000	1994 - 1996
PI	Prof. P. Ducheyne, University of Pennsylvania (UPenn), PA, USA	Design, processing, mechanical properties and biocompatibility of wear resistant coatings on total hip implants	BSF, $120,000	1996 - 1999
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Solid state displacement reactions in AlN-, Si_3N_4- and BN-Ti and Ti alloy systems	Israel Science Foundation (ISF), $75,000	1996 - 1999
PI	Dr. A. Weiss, Faculty of Medicine, Technion	Hard coatings on total hip implants - processing, wear behavior and biocompatibility	Israeli Ministry of Health, NIS 80,000	1996 - 1998
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Development of refractory alloys for storage of toxic materials	Israel Atomic Energy Commission, $27,000	2001 - 2003
PI	Dr. L. Klinger, Mater. Eng., Technion	SHS synthesis of ceramic composites in inhomogeneous systems: theoretical modeling and reactive in situ processing	Israel Science Foundation (ISF), $120,000	2001 - 2004

PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Development of grinding wheels with advanced super-abrasive ceramic bond based on SHS technology for machining of hard materials	Israel Ministry of Industry and Trade – Toolgal Ind. Diamonds Ltd, $220,000	2003 - 2004
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Development of SHS Technology	Israel Ministry of Defense, $85,000	2001 - 2004
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Gradient corrosion and oxidation resistant coatings and multilayers	Schunk Kohlenstoffechnik GmbH, BMBF, Germany, $110,000	2001 - 2004
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	NOE-EXCELL: "To overcome the fragmentation in European Research in multifunctional thin films"	European Community – EU-6, Euro 951,000	2005 - 2010
PI	---	Strong osteoinductive Ti and Nb based bone graft substitutes: reactive synthesis of porous scaffolds and growth factor incorporation within bio-inspired surface layers	Israel Science Foundation (ISF), $184,000	2005 - 2009
PI	Prof. P. Ducheyne, UPenn and Prof. E.Y. Gutmanas, Mater. Eng., Technion	Development of bioresorbable load bearing nanostructured ceramic-polymer composites with entrapped biomolecules	BSF, $196,000	2005 - 2009
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	SHS processing of ceramic *in situ* composites - eutectics based on B_4C-TiB_2 system with submicron/nanoscale microstructure	US Army, ARL-ERO (ARDEC), $20,000	2007
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	PIRAC-processed Ti-6Al-4V for wear-resistant orthopaedic bearing surfaces	NOFAR - Ministry of Industry and Trade (Israel) with Johnson & Johnson, $92,000	2007 - 2008
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Effective Jacketed Steel Tubes for High Temperatures	BMBF (Schunk Kohlenstoffechnik GmbH Coordinator), 117,000 Euro	2009 - 2012
PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion	Development of Wear Resistant TiN Coated Hip Resurfacing Implants	Technion President Fund, $72,000	2009 - 2011

PI	Prof. E.Y. Gutmanas, Mater. Eng., Technion; Tecvac Ltd. University of Sheffield)	Novel duplex processes to enhance compressor blade life and retain engine efficiency	MATERA+ 2009 (EC, in Israel funding via Ministry of Science), 100,000 Euro	2010 - 2013
PI	---	Bioinspired magnesium-toughened ceramic-based nanocomposites with enhanced interfacial and mechanical properties for resorbable bone healing devices	Israel Science Foundation (ISF), $220,000	2011 - 2015
PI	Prof. C.J. Kirkpatrick, University of Mainz	Cell activity and bone regeneration in bio-functionalized resorbable scaffolds made of polymer- and Mg-toughened Ca Phosphate-based nanocomposites	GIF, $140,000	2011 - 2014
PI		EU-Russia Joint Project ViNaT: Theoretical Analysis, Design and virtual testing of biocompatibility and mechanical properties of Ti-based nanomaterials	EU-FP7 program, 300,000 Euro	2011 - 2014

c. <u>Submission of Research Proposals – Not Funded</u>

Role in Research	**Co-Researchers**	**Topic**	**Funded by/ Amount**	**Year**
PI	Prof. P. Ducheyne, University of Pennsylvania, PA, USA	High strength iron alloy-toughened calcium phosphate nanocomposites with dispersed silver nanoparticles for resorbable bone healing devices	BSF, ~$250,000 **Very good**	2010
PI	---	Targeted iron oxide magnetic nanoparticles: conjugation of biomolecules through Self Assembled Monolayers (SAM)	ISF, ~$180,000	2010
PI	Dr. R. De Santis, IMCB-CNR Institute of Composite and Biomedical	Strong biodegradable Ca phosphate-polymer nanocomposite scaffolds for bone tissue engineering by combination of Rapid	Israel-Italy Joint Innovation Program for Scientific and Technological	2011

	Materials, Naples, Italy	Prototyping and High Pressure Consolidation	Cooperation in R&D, 40,000 Euro	
PI	Coordinator – Prof. M. Santin, University of Brighton, UK	STABILOSS - Stabilisation and Advanced Biocompatibility of Osteointegrative Implants	EU-FP7 Large-scale integrating project	2011
PI	Prof. S. Best, University of Cambridge, UK	Enhanced functionalized scaffolds for bone tissue regeneration	BIRAX – the Britain-Israel Research and Academic Exchange Partnership – Regenerative Medicine Initiative, 110,000 GBP	2012

9. Scholarships, Awards and Prizes

2010 Excellence in teaching, Tel-Aviv University

2007 Medal of the Russian Academy of Sciences and International Association "Self-Propagating High-Temperature Synthesis" for contribution to R&D.

2002, 2004 Excellence in teaching, Technion

1995/97 Levi Eshkol Post-Doctoral Award

1992/94 Fulbright Post-Doctoral Award

10. Teaching

a. Courses Taught in Recent Years

Year	Name of Course	Type of Course	Degree	Number of Students
1996-2016	Biomaterials	Self-developed course (Dept. of Materials Sci. Eng., Technion)	Undergraduate	~30
2016	Metallic and Ceramic Biomaterials	Self-developed course (Dept. of Biomedical Eng., Tel-Aviv Univ.)	Undergraduate	26
2002-2006	Materials in Biomedical Engineering	Mandatory course (Dept. of Biomedical Eng., Technion)	Undergraduate	~50
2009-2010 2015-2016	Introduction to Materials in Medicine	Mandatory course (Dept. of Biomedical Eng., Tel-Aviv Univ.)	Undergraduate	~50
2012 2019	Biomedical Applications of Materials	Mandatory (2012) (ORT Braude College of Engineering)	Undergraduate	~40 (2012) 9 (2019)
2017-present	Materials Engineering	Mandatory course (ORT Braude College of Engineering)	Undergraduate	60-120

2017-present	Ceramic Materials	Mandatory course (ORT Braude College of Engineering)	Graduate	5-6

b. **Supervision of Graduate Students**

Name of Student	Title of Thesis	Degree	Date of Completion/ in Progress	Students' Achievements
M.Sc. Students				
Eilon Faran (with Prof. E. Gutmanas)	Solid State Displacement Reactions in the BN-Ti System	M.Sc.	1999	Degree awarded
Anat Shenhar (with Prof. E. Gutmanas)	Growth Kinetics and Mechanical Properties of TiN Coatings For Total Joint Implants	M.Sc.	2000	Degree awarded
Alex Trudler (with Prof. E. Gutmanas)	Design of Nanocrystalline Cu and Ag-Cu Alloys by Advanced Powder Metallurgy Methods	M.Sc.	2001	Degree awarded
Yuri Khoptiar (with Prof. E. Gutmanas)	Reactive in Situ Synthesis of Layered Machinable Ti-Based Ternary Ceramic Matrix Composites	M.Sc.	2002	Degree awarded
Shlomit Zamir	Synthesis of Dense Light Weight Al_3Ti/B_4C Composites by Pressure Assisted Thermal Explosion	M.Sc.	2003	Degree awarded
Reut Rosenberg-Godley (with Prof. E. Gutmanas)	Surface Modification of a Low Modulus Titanium-Niobium Alloy for Use in Medical Implants	M.Sc.	2003	Degree awarded
Ido Mashal (with Dr. L. Klinger)	Reactive Surface Modification of Nickel Alloys by Treatment in Titanium and Nitrogen	M.Sc.	2003	Degree awarded
Eliezer Ribak	Coating of Graphite and Carbon-Carbon Composite via Reaction with Cr Powder	M.Sc.	2004	Degree awarded
Olga Shalev (with Prof. E. Gutmanas)	Processing and Characterization of Porous Metal-based Structures Designed as Scaffolds for Bone Ingrowth	M.Sc.	2004.	Degree awarded
Igor Zlotnikov (with Prof. E. Gutmanas)	Combustion Synthesis of Functionally Graded Composites Reinforced by Hard Particles	M.Sc.	2005	Degree awarded
Michael Bernstein (with	Development of Bioresorbable Load Bearing Nanostructured	M.Sc.	2007	Degree awarded

Prof. E. Gutmanas)	Ceramic-Polymer Composites for Bone Graft Substitutes			
Roni Tzur/Gilert (with Prof. E. Gutmanas)	Bio-Functionalization of Magnetic Nanopowders Employing Self-Assembled Monolayers (SAM)	M.Sc.	2009	Degree awarded
Ran Gur (with Prof. E. Gutmanas)	Processing and Properties of Nano and Sub-Micron Iron Based Composites	M.Sc.	2009	Degree awarded
A. Malka	Calcium Phosphate Deposition on Reticulated NiTi Scaffolds	M.Sc.	2010	Degree awarded
B. Litvak (with Profs. E. Gutmanas and E. Rabkin)	Wear Resistant TiSiN Nanostructured Multi-Layer Coatings on WC-Co	M.Sc.	2013.	Degree awarded
PhD students				
Guy Sovak (with Dr. A. Weiss)	Bone Tissue Reaction to a Novel Titanium Nitride (TiN) Coating on Titanium Alloy (Ti-6Al-4V) Implants and the Effect of Growth Factors and Cell Adhesion Molecules	PhD	2003	Degree awarded
Dror Horvitz (with Prof. E. Gutmanas)	Reactive Forging - a Novel Method of Pressure Assisted Combusrtion Synthesis of Dense Ceramics and in Situ Composites: Ti-O-Al-Mg, B-C-Ti, and Mg-Si Systems	PhD	2004	Degree awarded
Alex Katz-Demyanetz (with Prof. E. Gutmanas)	Kinetics of Reactions and Reactive Synthesis of Metal-Ceramic Composites in Ni-Ti-B System in the Presence of Ti_2Ni and NiB Transient Liquid Phases	PhD	2004	Degree awarded
Itamar Gutman (with Prof. M. Shapiro)	Formation Structure and Properties of Periodic Structures at SiO_2-Mg Interface	PhD	2007	Degree awarded
Gilad Zorn (with Prof. E. Gutmanas)	Surface Modification and Bio-Functionalization of Low Modulus Ti-Nb and TiNi Alloys Employing Self Assembled Monolayers (SAMs)	PhD	2007	Degree awarded
I. Zlotnikov (with Prof. E. Gutmanas)	Bioinspired Nanolaminates: Synthesis by Deposition of Zirconium Oxide on LbL Organic Layers and Mechanical Behavior	PhD	2009	Degree awarded

T. Reiner (with Prof. E. Gutmanas)	Protein Incorporation in Biomimetic CaP and Sol-Gel Silica Coatings on Ti Alloys for Bone Healing	PhD	2010	Degree awarded
C. Makarov (with Prof. E. Gutmanas)	Bioresorbable Calcium Phosphate Ceramic-Polymer Nanocomposites for Load Bearing Bone Healing Devices - Low Temperature Synthesis and Drug Incorporation	PhD	2012	Degree awarded
A. Rakovsky (with Profs. E. Gutmanas and E. Rabkin)	Bioinspired Calcium Phosphate-Polylactide Nanocomposites and Scaffolds with Controlled Pore Architecture for Bone Tissue Regeneration	PhD	2013	Degree awarded
Post-Docs				
Dr. Xiaowei Yin (with Prof. E. Gutmanas)		Post-Doc	2002-2004	
Dr. Shoujin Wu (with Prof. E. Gutmanas)		Post-Doc	2008-2010	
Dr. Chong Li (with Prof. E. Gutmanas)		Post-Doc	2010	
Dr. Sanjaya Kumar Swain (with Prof. E. Gutmanas)		Post-Doc	2014-present	

PUBLICATIONS

A. Ph.D. Dissertation

"Interaction of Si_3N_4 and SiC with Metals", under the supervision of Prof. E.Y. Gutmanas, Technion (1991), pp. 1-147 (in Hebrew).

D. Articles in Refereed Journals

Published

1. **I. Gotman** and E.Y. Gutmanas, Joining of PM T15 High Speed Tool Steel with 4640 Steel by Cold Sintering, *Powder Metallurgy International* **19**, 11-14 (1987).
2. **I. Gotman** and E.Y. Gutmanas, Diffusion and Microstructural Changes at 1200°C in Cold Sintered T15-4640 Joints, *Journal of Materials Science Letters* **6**, 1303-1306 (1987).
3. **I. Gotman** and E.Y. Gutmanas, Interaction of Si_3N_4 with Chromium Powder, *Journal of Materials Science Letters* **8**, 1103-06 (1989).
4. **I. Gotman** and E.Y. Gutmanas, A New Method of Coating Si_3N_4 Ceramics, *Powder Metallurgy International* **21**, 30-33 (1989).
5. **I. Gotman** and E.Y. Gutmanas, Interaction of Si_3N_4 with Titanium Powder, *Journal of Materials Science Letters* **9**, 813-815 (1990).
6. **I. Gotman** and E.Y. Gutmanas, Coating of SiC by Reaction with Metal Powders, *Materials Lett*ers **10**, 370-374 (1991).
7. **I. Gotman** and E.Y. Gutmanas, Microstructure and Thermal Stability of Coated SiC and Si_3N_4, *Acta Metallurgica Materialia* **40S**, 121-131 (1992).
8. E.Y. Gutmanas, **I. Gotman** and W. Kaysser, Coating of Non-Oxide Ceramics by Interaction with Metal Powders, *Materials Science and Engineering* **A157**, 233-241 (1992).
9. **I. Gotman**, E.Y. Gutmanas and P. Mogilevsky, Interaction between SiC and Ti Powder, *Journal of Materials Research* **8**, 2725-2733 (1993).
10. P. Mogilevsky, **I. Gotman**, E.Y. Gutmanas and W.A. Kaysser, Microstructure and Thermal Stability of Coatings Obtained by Interaction of SiC and B_4C with Cr and Ti Powders, *Materials Science and Engineering* **A171**, 271-279 (1993).
11. **I. Gotman**, M.J. Koczak and E. Shtessel, Fabrication of Al Matrix *in situ* Composites via Self Propagating Synthesis, *Materials Science and Engineering* **A 187**, 189-199 (1994) – **145 citations.**
12. E.Y. Gutmanas, L.I. Trusov and **I. Gotman**, Consolidation, Microstructure and Mechanical Properties of Nanocrystalline Metal Powders, *Nanostructured Materials* **8,** 893-901 (1994).
13. P. Mogilevsky, E.Y. Gutmanas, **I. Gotman** and R. Telle, Reactive Formation of Coatings at Boron Carbide Interface with Ti and Cr Powders, *Journal of the European Ceramic Society* **15**, 527-535 (1995).
14. L. Farber, E.Y. Gutmanas, **I. Gotman** and M.J. Koczak, Dense CoAl Based Alloys with Improved Ductility: Solid State Synthesis and Microstructural Control, *Metallurgical and Materials Transactions* **27A**, 1140-1150 (1996).
15. Y. Paransky, E.Y. Gutmanas, **I. Gotman** and M.J. Koczak, Pressure Assisted Reactive Synthesis of Titanium Aluminides from Dense 50Al-50Ti Elemental Powder Blends, *Metallurgical and Materials Transactions* **27A**, 2130-2139 (1996).
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127. A.F. Sharipova, S.G. Psakhie, **I. Gotman,** M.I. Lerner, A.S. Lozhkomoev and E.Y. Gutmanas, Cold sintering of Fe-Ag and Fe-Cu nanocomposites by consolidation in the high-pressure gradient, *Russian Journal of Non-Ferrous Metals* **60**, 162-168 (2019). **Q4**
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5-year Impact Factors of selected relevant journals:

Journal name	5-year impact factor
Materials Science and Engineering R: Reports	21.676
Nano Letters	12.71 (3-year)
Chemistry of Materials	9.21
Biomaterials	8.496
Acta Biomaterialia	6.589
Materials Science and Engineering: C	5.364
Acta Materialia	4.87
Crystal Growth and Design	4.76
Materials Science and Engineering: A	4.580
Nanotechnology	3.89
Langmuir	3.75 (3-year)
Journal of the Mechanical Behavior of Biomedical Materials	3.478
European Journal of Pharmaceutical Sciences	3.463
Materials	3.424 (3-year)
Surface and Coatings Technology	2.374
Scripta Materialia	3.44
Materials Research Bulletin	3.12 (3-year)
RSC Advances	3.098
Journal of the American Ceramic Society	3.0
Advanced Engineering Materials	2.85 (3-year)
Colloids and Surfaces A	2.832

Journal of Materials Science: Materials in Medicine	2.83
Journal of the American Ceramic Society	2.78
Materials Letters	2.785
Applied Surface Science	2.74

E. Articles or Chapters in Scientific Books

Published

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4. **I. Gotman** and S. Fuchs, Bioinspired resorbable calcium phosphate-polymer nanocomposites for bone healing devices with controlled drug release, in *Active Implants and Scaffolds for Tissue Regeneration*, M. Zilberman (ed.), Springer-Verlag Berlin and Heidelberg GmbH & Co, 2011, pp. 225-258.
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6. **I. Gotman**, Biomechanical and Tribological Aspects of Orthopaedic Implants, in *Multiscale Biomechanics and Tribology of Inorganic and Organic Systems*, Eds.: G.-P. Ostermeyer et al., Springer Tracts in Mechanical Engineering, 2021.

F. Articles in Conference Proceedings

Published

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3. I. Gotman and E.Y. Gutmanas, "The Joining of Si_3N_4 Ceramic to Metals by High Pressure Consolidation", in P/M into the 1990's, Institute of Metals, London, **V. 1,** pp. 526-532 (1990).
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H. Other Scientific Publications

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K. Submitted Publications