Curriculum Vitae

OLEG B. GIRIN

Professor, Doctor of Science (Engineering)
Head of the Materials Science Department
Ukrainian State University of Chemical Technology
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Education
(main)

- Academic status of Professor in Materials Science, Oct 2002, Ministry for Education and Science of Ukraine, Kyiv.
- DSc degree in Materials Science, Sept 1991, Higher Attestation Commission under the Council of Ministers of the USSR, Moscow (Dissertation title: “Regularities of Texture Formation and of Substructure Anisotropy in Metals during Electrocrystallization”).
- Academic status of Senior Research Fellow in Materials Science, March 1988, National Metallurgical Academy of Ukraine, Dnipro.
- PhD degree in Materials Science, Sept 1980, National Metallurgical Academy of Ukraine, Dnipro, (Dissertation title: “Investigation into Texture and Substructure in Electrodeposited Metals”).
- MSc degree (with honors) in Materials Science, June 1974, National Metallurgical Academy of Ukraine, Dnipro.
- BSc degree (with honors) in Materials Science, June 1972, National Metallurgical Academy of Ukraine, Dnipro.

(additional)

- BSc degree in Patent Law, June 1982, State Committee for Inventions and Discoveries Affairs of the USSR, Moscow.
- BSc degree in Social Management, June 1980, Dnipro University of Social Sciences, Dnipro.

Professional Experience
(current positions)

- Dec 2013 - Current, Head of the Materials Science Department, Ukrainian State University of Chemical Technology, Dnipro.
- Dec 2013 - Current, Chief Research Fellow (part-time), Ukrainian State University of Chemical Technology, Dnipro.

(previous positions)

- Dec 2010 - Dec 2013, Vice-Rector of Science, Ukrainian State University of Chemical Technology, Dnipro.
- Dec 2010 - Dec 2013, Head of the Materials Science Department (part-time), Ukrainian State University of Chemical Technology, Dnipro.
- Dec 1998 - Dec 2010, Head of the Materials Science Department, Ukrainian State University of Chemical Technology, Dnipro.
- Jan 2002 - Dec 2010, Chief Research Fellow (part-time), Ukrainian State University of Chemical Technology, Dnipro.

- Jan 1991 - Dec 1998, Leading Research Fellow, National Metallurgical Academy of Ukraine, Dnipro.
- April 1988 - Jan 1991, Doctoral student, National Metallurgical Academy of Ukraine, Dnipro.
- Sept 1981 - March 1988, Senior Research Fellow, National Metallurgical Academy of Ukraine, Dnipro.
- Dec 1977 - Aug 1981, Junior Research Fellow, National Metallurgical Academy of Ukraine, Dnipro.
- Nov 1974 - Nov 1977, Postgraduate student, National Metallurgical Academy of Ukraine, Dnipro.

Areas of Expertise

- Electrochemical phase-, structure- and texture formation in metals and alloys.
- Influence of nanocrystal, amorphous, and oriented structure (texture) on the properties of electrodeposited materials.
- Relations of phase / structure / texture / surface morphology / property in materials.
- Advanced technologies for obtaining of coatings with enhanced properties.
- Functional coatings and surface engineering.
- Tinplate and tin-free steel.
- Methods and techniques for structural and textural investigations in materials.

Awards and Honors

- The Academician KF Starodubov International Prize “For Scientific Achievements”, 2016.
- The Yaroslav Mudryi Award in the Field of Science and Technology, 2015.
- Academician of the Academy of Sciences of the Higher School of Ukraine, 2015.
- The Certificate of Gratitude of the Dnipro City Mayor, 2015.
- The Certificate of Honors of the Ukrainian State University of Chemical Technology, 2014.
- The Order Badge “KK Rokossovsky” - Interstate Scientific Honors of the President of Russian Federation, 2011.
- The Certificate of Honors by the Dnipropetrovsk garrison of the Ministry for Defense of Ukraine, 2011.
- The International Einstein Award for Scientific Achievement, IBC, England, 2011.
- The Certificate of Honors by the Cabinet of Ministers of Ukraine and the Award of the Prime Minister of Ukraine, 2005.
- The Badge of Honors “For Scientific Achievements” by the Ministry for Education and Science of Ukraine, 2005.
- The Certificate of Honors of the Ukrainian State University of Chemical Technology, 2003.
- The Certificate of Gratitude of the Dnipro City Mayor, 2001.
- The Certificate of Honors of the Ukrainian State University of Chemical Technology, 2001.
- The Certificate of Honors by the Ministry for Education and Science of Ukraine, 2000.
- Academician of the New York Academy of Sciences, 1997.
- The Certificate of Honors of the National Metallurgical Academy of Ukraine, 1984.
- The Certificate of Honors of the National Metallurgical Academy of Ukraine, 1977.

Major Achievements
Scientific

- O.B. Girin discovered a previously unknown phenomenon of electrochemical phase formation in metals and alloys via a supercooled liquid state stage (priority date - Feb 12, 1986).
- He obtained the priority results in studies of the influence of nanocrystalline, amorphous and oriented structure (texture) on the properties of electrochemical coatings.
- He developed the advanced technologies for producing of new types of protective coatings on metal-roll.
- He created the textured-nanostructured coatings having enhanced chemical / mechanical properties.
- He developed the methods of X-ray analysis for structure, substructure and texture of materials.
- He created the special-property composite film materials and methods for their production.

Organizational

- O.B. Girin founded the Department of Materials Science at the Ukrainian State University of Chemical Technology, 1998.
- He established the licensed R&D laboratory for X-ray structure analysis of materials: innovatively improved X-ray diffractometer, 2002.
- He established the licensed R&D laboratory for X-ray texture analysis of materials: two innovatively improved X-ray diffractometers, 2002.
- He established the licensed R&D laboratory for electron microscopic examination of materials: transmission electron microscope, scanning electron microscope and automatic structure analyzer, 2003.
- He established the two R&D laboratories for producing of protective and special coatings, 2003.
- He established the three R&D laboratories for testing of chemical, mechanical and physical properties of materials, 2004.
- He established the R&D laboratory for heat and plastic treatment of materials, 2005.
- He established the four representative teaching laboratories, 1999, 2002, 2007, 2008.

Teaching

- O.B. Girin organized the training of BSc in Material Science at the Ukrainian State University of Chemical Technology (educational program: Jewelry, Dental and Orthopedic Materials Science), 2019.
- He organized the training of PhD in Material Science at the Ukrainian State University of Chemical Technology, 2016.

Professional Activities
(current positions)

- Expert of the National Research Foundation of Ukraine in the area “Natural, Technical Sciences and Mathematics”, 2020 - Current.
- Member of the Scientific Council of the Ministry for Education and Science of Ukraine in the area “Scientific Problems of Material Science”, 2019 - Current.
- Expert of the Ministry for Education and Science of Ukraine in updating the list of critical technologies in the area “Technologies for Materials Science”, 2019 - Current.

- Member of the Academic Council of the Ukrainian State University of Chemical Technology (hereinafter – USUCT), 1999 - Current.
- Member of the Academic Council of the Computer Science and Engineering Faculty at USUCT, 2020 - Current.
- Member of the Scientific and Technical Council in the area “Fundamental and Applied Research of Perspective Substances and Materials and Development of High-Efficiency Technologies for their Production” at USUCT, 2019 - Current.
- Head of the Providing Group for the training of BSc in Material Science at USUCT, 2020 - Current.
- Head of the Providing Group for the training of PhD in Material Science at USUCT, 2017 - Current.

(previous positions)

- Deputy Chairman of the Scientific Council of the Ministry for Education and Science of Ukraine in the area “Scientific Problems of Material Science”, 2015 - 2019.
- Member of the Scientific Council of the Ministry for Education and Science of Ukraine in the area “Physical and Technical Problems of Materials Science”, 2000 - 2015.
- Deputy Chairman of the Chemical Sciences Division at the Prydniprovsk Scientific Center of the National Academy of Sciences of Ukraine, 2011 - 2014.
- Member of the Academic Council of the Mechanics Faculty at USUCT, 1999 - 2020.
- Deputy Chairman of the Scientific and Technical Council in the area “Fundamental and Applied Research of Perspective Substances and Materials and Development of High-Efficiency Technologies for their Production” at USUCT, 2013 - 2019.
- Chairman of the Scientific and Technical Council of USUCT, 2011 - 2013.
- Member of the Scientific and Technical Council of USUCT, 2000 - 2010.
- Chairman of the Scientific and Technical Council in the area “Development of Technologies, Equipment and Control Systems in Chemical Engineering and Materials Science” at USUCT, 2005 - 2010.
- Head of the Project Group for the training of BSc in Material Science at USUCT, 2019.
- Head of the Project Group for the training of PhD in Material Science at USUCT, 2016.
- Member of the specialized Academic Council on Material Science, Physical Metallurgy and Heat Treatment of Metals at National Metallurgical Academy of Ukraine, 2009 - 2019.
- Chairman of the State Examination Commission in the specialty Physical Metallurgy and Heat Treatment of Metals at the National Metallurgical Academy of Ukraine, 2011-2012.
- Member of the State Accreditation Commission in the specialty Physical Metallurgy and Heat Treatment of Metals at National Metallurgical Academy of Ukraine, 2003.

10 Selected R&D Projects and Grants

Competitive Government Funding for Research

- Head and Principal Investigator: Oleg B. Girin
  Title: Phenomenon of Phase Formation in Metals through a Supercooled Liquid State Stage during Electrocrystallization and Areas of its Use
  Category of R&D: Fundamental Research
  State registration number: 0117U001160
  Funding Agency: Ministry for Education and Science of Ukraine
  Amount of Funding: 2,550,000 UAH
  Time Period of R&D: Jan 01, 2017 - Dec 31, 2019.

- Head and Principal Investigator: Oleg B. Girin
  Title: Regularities of Phase Formation in Metals during Electrocrystallization in Aqueous Solutions under Influence of an External Force
  Category of R&D: Fundamental Research
  State registration number: 0114U002489
  Funding Agency: Ministry for Education and Science of Ukraine
  Amount of Funding: 1,102,720 UAH
  Time Period of R&D: Jan 01, 2014 - Dec 31, 2016.

- Head and Principal Investigator: Oleg B. Girin
  Title: Regularities of Structure Formation in Metals during Electrocrystallization in the Field of Centrifugal Force
  Category of R&D: Fundamental Research
  State registration number: 0111U000110
  Funding Agency: Ministry for Education and Science of Ukraine
  Amount of Funding: 873,600 UAH
  Time Period of R&D: Jan 01, 2011 - Dec 31, 2013.

- Head and Principal Investigator: Oleg B. Girin
  Title: Regularities of Formation of Intermediate Phases in Metal Alloys during Electrocrystallization
  Category of R&D: Fundamental Research
  State registration number: 0108U001163
  Funding Agency: Ministry for Education and Science of Ukraine
  Amount of Funding: 213,965 UAH
  Time Period of R&D: Jan 01, 2008 - Dec 31, 2010.

- Head and Principal Investigator: Oleg B. Girin
  Title: Regularities of Structure Formation in Metallic Materials Alloyed with Hydrogen
  Category of R&D: Fundamental Research
  State registration number: 0105U000419
  Funding Agency: Ministry for Education and Science of Ukraine
  Amount of Funding: 169,000 UAH
  Time Period of R&D: Jan 01, 2005 - Dec 31, 2007.

- Head and Principal Investigator: Oleg B. Girin
  Title: Comprehensive Investigation of the Phenomenon of Metals Electrochemical Deposition through Supercooled Metallic Liquid
  Category of R&D: Fundamental Research
  State registration number: 0102U001953
  Funding Agency: Ministry for Education and Science of Ukraine
  Amount of Funding: 65,572 UAH
  Time Period of R&D: Jan 01, 2002 - Dec 31, 2004.
- Head and Principal Investigator: Oleg B. Girin
  Title: Creation of Technologies for Producing of Protective and Protective-Decorative Coatings based on Manganese from Non-Deficient Domestic Materials and Implementation them at the Enterprises of the Ministry for Industry of Ukraine
  Category of R&D: Applied Research
  State registration number: 0195U009291
  Funding Agency: Ministry for Industry of Ukraine
  Amount of Funding: 4,500,000,000 KRB
  Time Period of R&D: Jan 01, 1995 - Dec 31, 1997.

Competitive Foreign Funding for Research

- Manager and Principal Investigator: Oleg B. Girin
  Title: Technologies for Corrosion Protection of Body-Stock Used in Food Processing Industry
  Project Technical Area: Experimental Industrial Technologies
  Funding Agency: The Science and Technology Center in Ukraine (STCU)

Financing Parties: European Union and Canada
Project Number: 2520
Amount of Funding: $243,975
Time Period of R&D: March 01, 2003 - Feb 28, 2006.

- Group Leader: Oleg B. Girin
  Title: Development of an Effective Technology for the Extraction of Precious Metals from Utilized Raw Materials
  Project Technical Area: Experimental Industrial Technologies
  Funding Agency: The Science and Technology Center in Ukraine (STCU)
  Financing Parties: USA
  Project Number: 3069
  Time Period of R&D: March 01, 2005 - Aug 31, 2006.

- Group Leader: Oleg B. Girin
  Title: Development and Research of High-Performance Alloys of the Si-Ge System
  Project Technical Area: Experimental Industrial Technologies
  Funding Agency: The Science and Technology Center in Ukraine (STCU)
  Financing Parties: USA
  Project Number: Gr-87j
  Time Period of R&D: March 01, 2005 - Feb 28, 2007.

Technical Experience

- Scientific Consultant on Metallurgical and Chemical Technologies for industrial enterprises and branch institutes of ASNT, SVK, DMMP, IFG, NIITM, NTP, and others, 1983 - Current.
- Scientific Consultant on Materials Science of Coatings and Nanotechnologies for academic institutions of IMP, EWI, IPMS, IMET, IFM, and others, 1991 - Current.
- Director of the Polimet Research and Technology Center (part-time), 1992-2017.
- Scientific Advisor on Materials Science and Engineering of the Ministry for Industry of Ukraine, 1995 - 1997.
- Scientific Head of 17 R&D projects funded by industrial companies from Ukraine (1978 - 2010), Russia (1982 - 1990) and Uzbekistan (1992 - 1995).

Teaching Experience
Graduate Courses

- Special Materials Science, 2019 - Current.
- Newest Materials and Nanotechnologies, 2019 - Current.
- Selected Topics on Texture and Substructure of Coatings, 2018 - Current.
- Selected Topics on X Ray Structure and Texture Analysis, 2018 - Current.
- Scientific leadership for degrees' seeker PhD and DSc, 2000 - Current.

Undergraduate Courses

- Applied Materials Science, 1999 - Current.
- Analysis and Control of Materials, 1999 - Current.
- Structure and Properties of Materials, 1999 - Current.
- Material Science and Technology of Materials, 2018 - Current.

Editorial Activities

- Honorary Editor-in-Chief of The Advanced Science Journal (USA, 2011).
- Lead Guest Editor of Advances in Materials (USA, 2015).
- Member of Editorial Boards of American Journal of Materials Research (USA, 2014), Journal of Materials Sciences and Applications (USA, 2014), Chemistry and Chemical Technology Issues (Ukraine, 2000 - 2013).
- Reviewer of Scientific Reports (UK, Springer Nature, 2019), Metal Science and Heat Treatment (USA, Springer Nature, 2016), Metallurgical and Materials Transactions A (USA, Springer Nature, 2012), and others.

Professional Memberships

- Academy of Sciences of the Higher School of Ukraine, 2015.
- American Association for Science and Technology (AASCIT), 2014.
- The Electrochemical Society (ECS), 2005.
- The Materials Information Society (ASM International), 2004.
- New York Academy of Sciences, 1997.
- The Minerals, Metals & Materials Society (TMS), 1995.

Books

- L.O. Snizhko, **O.B. Girin**, V.O. Holovenko, O.O. Kalinichenko, K.V. Roienko. Plasma-electrolytic synthesis of the biocompatible coatings on titanium and magnesium alloys, Dnipro, USUCT, 2019, 126 p. ISBN 978-617-7478-44-6.
- I.M. Kuzyayev, **O.B. Girin**. Modeling of the dynamic behavior of multiphase media, Saarbrücken, LAP LAMBERT Academic Publishing, 2016, 244 p. ISBN 978-3-659-87538-0.
- **O.B. Girin**, V.I. Ovcharenko, Ye.V. Kolesnyk. Analysis and control of materials. Laboratory practicum, Dnipro, USUCT, 2016. – 138 c. ISBN 978-966-8018-81-7

Publications (over 250)
70 Selected Publications in English

- **O.B. Girin**, D.G. Korolyanchuk. Electrochemical Phase Formation of Metals and Alloys at Chemically Identical Solid or Liquid Cathode: Part 1. Metals, *Surface Engineering and Applied Electrochemistry*, 2020, V.56, No.1, P.28-40 (Scopus, Web of Science). https://doi.org/10.3103/S1068375520010068
- **O.B. Girin**, D.G. Korolyanchuk. Electrochemical Phase Formation of Metals and Alloys at Chemically Identical Solid or Liquid Cathode: Part 2. Alloys in the Form of Substitutional Solid Solutions, *Surface Engineering and Applied Electrochemistry*, 2020, V.56, No.3, P. 289-300 (Scopus, Web of Science). https://doi.org/10.3103/S1068375520030059
- **O.B. Girin**, D.G. Korolyanchuk. Electrochemical Phase Formation of Metals and Alloys at Chemically Identical Solid or Liquid Cathode: Part 3. Alloys in the Form of Intermetallic Compounds, *Surface Engineering and Applied Electrochemistry*, 2020, V.56, No.4. P. 501-509 (Scopus, Web of Science). https://doi.org/10.3103/S1068375520040067
- **O. Girin**, I. Kuzyayev, V. Nikolsky, V. Yaris. Discovering and Modelling the Wave-Like Shapes on the Surface of Metal Deposits, Being Electrodeposited Under the Force Impact, *Key Engineering Materials*, 2020, V.844, P.135-145 (Scopus). https://doi.org/10.4028/www.scientific.net/KEM.844.135

- S.V. Kovalyov, **O.B. Girin**, C. Debiemme-Chouvy, V.I. Mishchenko. Copper Electrodeposition under a Weak Magnetic Field: Effect on the Texturing and Properties of the Deposits, *Journal of Applied Electrochemistry*, 2020, V.50, P.1-9 (Scopus, Web of Science). https://doi.org/10.1007/s10800-020-01492-3
- V.O. Holovenko, O.O. Kalinichenko, K.V. Roienko, **O.B. Girin**, L.O. Snizhko. Comparative Adsorption of Tungsten and Silicon Oxides by Alumina Matrix, *Israel Journal of Chemistry*, 2020, V.60, No.5-6, P.593-599 (Scopus). https://doi.org/10.1002/ijch.201900152
- K.A. Plyasovskaya, **O.B. Girin**, V.F. Vargaliuk. Alkaline Electrolyte Electrodeposition of Pb-Sn(TiO_x) Alloy, *Journal of Chemistry and Technologies*, 2020, V.28, No.2, P.221-229 (Scopus). https://doi.org/10.15421/082024
- **O.B. Girin**. Electrochemical Amorphous Phase Formation in Metals, *Journal of Chemical Technology and Metallurgy*, 2019, V.54, No.2, P.391-396 (Scopus). https://dl.uctm.edu/journal/node/j2019-2/18_18-74_p391%20-%20396.pdf
- **O.B. Girin**, D.G. Korolyanchuk. Electrochemical Reduction of Ions in Metals/Alloys at a Liquid Cathode Versus a Solid Chemically Identical One, *Scientific Study & Research: Chemistry & Chemical Engineering, Biotechnology, Food Industry*, 2019, V.20, No.4, P.639-642 (Scopus, Web of Science). http://pubs.ub.ro/?pg=revues&rev=cscc6&num=201904&vol=4&aid=4962
- **O.B. Girin**, V.I. Ovcharenko, D.G. Korolyanchuk. Features of Texture Formation in Polymorphic Metals Being Electrodeposited, *Acta Metallurgica Slovaca*, 2019, V.25, No.4, P.267-275 (Scopus, Web of Science). http://dx.doi.org/10.12776/ams.v25i4.1357
- O.O. Kalinichenko, V.O. Holovenko, K.V. Roienko, D.O. Misnyankin, **O.B. Girin**, L.O. Snizhko. Corrosion of Magnesium Alloy AZ31 Coated by Plasma Electrolytic Oxidation, *Surface Engineering and Applied Electrochemistry*, 2019, V.55, No.5, P.595-601 (Scopus, Web of Science). https://doi.org/10.3103/S1068375519050053
- O. Banakh, L. Snizhko, T. Journot, P.-A. Gay, C. Csefalvay, O. Kalinichenko, **O. Girin**, L. Marger, S. Durual. The Influence of the Electrolyte Nature and PEO Process Parameters on Properties of Anodized Ti-15Mo Alloy Intended for Biomedical Applications, *Metals*, 2018, V.8, No.5, P.370 (1-14) (Scopus, Web of Science). https://doi.org/10.3390/met8050370
- V.I. Redko, E.M. Shembel, T.V. Pastushkin, A.V. Markevych, A. Straková-Fedorková, **O.B. Girin**, O. Kolomoiets, Yu. Polishchuk. Synergistic Effect of Innovating Electrode Technology and Eddy-Current Electromagnetic Impedance for Non-Destructive Testing are Resulting in Increasing Battery Power, *ECS Transactions*, 2018, V.87, No.1, P.275-284 (Scopus, Web of Science). https://doi.org/10.1149/08701.0275ecst
- S.V. Kovalyov, **O.B. Girin**, C. Debiemme-Chouvy. Properties of Tin Films Electrodeposited under a Weak Magnetic Field, *Surface Engineering and Applied Electrochemistry*, 2018, V.54, No.6, P.593-598 (Scopus, Web of Science). https://doi.org/10.3103/S1068375518060066
- **O.B. Girin**. Further Evidence of Phase Formation through a Liquid State Stage in Metals Being Electrodeposited: Part 1, *Surface Engineering and Applied Electrochemistry*, 2017, V.53, No.2, P.137-143 (Scopus, Web of Science). https://doi.org/10.3103/S1068375517020041
- **O.B. Girin**. Further Evidence of Phase Formation through a Liquid State Stage in Metals Being Electrodeposited: Part 2, *Surface Engineering and Applied Electrochemistry*, 2017, V.53, No.3, P.233-239 (Scopus, Web of Science). https://doi.org/10.3103/S1068375517030048
- **O.B. Girin**. Further Evidence of Phase Formation through a Liquid State Stage in Metals Being Electrodeposited: Part 3, *Surface Engineering and Applied Electrochemistry*, 2017, V.53, No.4, P.339-344 (Scopus, Web of Science). https://doi.org/10.3103/S1068375517040056

- I.M. Maksyuta, E.M. Shembel, A.V. Markevych, V. Pisny, L. Neduzhko Yu.V. Polishchuk, N. Zaderey, V.I. Redko, **O.B. Girin**, A. Baskevich. Effect of Nature of Modifying Additive on Electrochemical Characteristics of Electrodes Based on $LiMn_2O_4$, *ECS Transactions*, 2017, V.81, No.1, P.69-77 (Scopus). https://doi.org/10.1149/08101.0069ecst
- **O.B. Girin**, S.I. Zhdanov. Understanding the Corrosion Resistance and Reflectivity of Electrodeposited Zinc Coatings Obtained on Pipes via a Combined Characteristic of Their Texture and Surface Morphology, *Materials Science & Technology Conference and Exhibition (MS&T'17)*, Red Hook, USA, 2017, V.2, P.1078-1082 (Scopus). https://www.internetbookstorepro.com/product/10-74492017mst_2017_1078_1082/
- L.O. Snizhko, **O.B. Girin**, O.O. Kalinichenko, N.L. Gurevina. The Effect of Electrical Breakdown on the Metal Surface and the Adjacent Electrolyte Layer in High-Voltage Oxidation, *Optimization of the Composition, Structure and Properties of Metals, Oxides, Composites, Nano- and Amorphous Materials*, Ariel, Israel, 2017, P.116-126 (Web of Science). http://www.ariel.ac.il/sites/conf/mmt/ws2017/service%20files/papers/116-126.pdf
- **O.B. Girin**, I.M. Kuzyayev. Dynamic Behavior of Gas Nano-Sized Bubbles in Liquid Phase of the Metal Being Electrodeposited, *Journal of Nano- and Electronic Physics*, 2016, V.8, No.1, P. 01034-1 - 01034-6 (Scopus, Web of Science). https://doi.org/10.21272/jnep.8(1).01034
- **O.B. Girin**. Features of Structure of Electrodeposited Metals Resulting from Exposure to External Force Parallel, Normal or Inclined to the Crystallization Front, *Advances in Materials*, 2015, V.4, No.3-1, P.1-14. https://doi.org/10.11648/j.am.s.2015040301.11
- **O.B. Girin**. Structural Features of Electrodeposited Metals as a Result of Ultra-Rapid Solidification of a Highly Supercooled Liquid Metal Phase, *Advances in Materials*, 2015, V.4, No.3-1, P.33-40. https://doi.org/10.11648/j.am.s.2015040301.15
- **O.B. Girin**, V.I. Ovcharenko. Formation of Spherulites and Pentagonal Quasicrystals in Metals Being Electrodeposited, *Eastern-European Journal of Enterprise Technologies*, 2014, V.2, No.11(68), P.30-34 (Scopus). https://doi.org/10.15587/1729-4061.2014.21860
- **O.B. Girin**. Crystallographic Texture Formation in Metals Being Electrodeposited at the External Force Influence, *American Journal of Materials Science*, 2014, V.4, No.3, P.150-158. http://article.sapub.org/10.5923.j.materials.20140403.06.html
- **O.B. Girin**. Structure Features of Metals Obtained by Electrochemical Deposition and by Solidification from Liquid State in Saturated Hydrogen Environment, *Chemical and Materials Engineering*, 2014, V.2, No.5, P.119-126. http://www.hrpub.org/download/20140701/CME3-15502435.pdf
- **O.B. Girin**. Phase Formation through a Stage of Liquid State in Metallic Materials Being Electrodeposited: Recent Experimental Proofs, *International Journal of Material Science*, 2012, V.2, No.4, P.108-118. http://www.ij-ms.org/paperInfo.aspx?ID=4996
- **O.B. Girin**, V.I. Ovcharenko. Crystallographic Texture of Electrochemical Chromium Coatings on Tin-Free Steel as Related to Their Mechanical Durability, *Journal of Electroplating & Finishing*, 2012, V.31, No.8, P.1-6.
- **O.B. Girin**, Ie.V. Kolesnyk. Crystallographic Texture of Electrochemical Tin Coatings on Non-Reflown Tinplate as Related to Their Protective Ability, *Journal of Electroplating & Finishing*, 2011, V.30, No.11, P.1-5.
- **O.B. Girin**. Phase and Structure Formation of Metallic Materials Electrodeposited via a Liquid State Stage: New Experimental Proof, *Defect and Diffusion Forum*, 2010, V.303-304, P.99-105 (Scopus, Web of Science). https://doi.org/10.4028/www.scientific.net/DDF.303-304.99
- **O.B. Girin**. Phase Transformations in the Metallic Materials Being Electrodeposited and Their Application for the Development of Advanced Technologies for Anticorrosive Protection of Canned-Food Steel Sheet, *Materials Science Forum*, 2007, V.561-565,

P.2369-2372 (Scopus, Web of Science).
https://doi.org/10.4028/www.scientific.net/MSF.561-565.2369

- **O.B. Girin**, V.P. Khlyntsev. Mechanism of Liquid Phase Formation in Metals During Electrodeposition, *Elektronnaya Obrabotka Materialov (Soviet Surface Engineering and Applied Electrochemistry)*, 2000, No.3, P.13-18 (Scopus).
- **O.B. Girin**. Phenomenon of Precipitation of Metal Being Electrodeposited, Occurring via Formation of an Undercooled Liquid Metal Phase and Its Subsequent Solidification. Part 1. Experimental Detection and Theoretical Grounding, *Materials Development and Processing*, Eds. J.V. Wood, L. Schultz, and D.M. Herlach, WILEY-VCH, Weinheim, Germany, 2000, V.8, P.183-188. https://doi.org/10.1002/3527607277.ch30
- **O.B. Girin**. Phenomenon of Precipitation of Metal Being Electrodeposited, Occurring via Formation of an Undercooled Liquid Metal Phase and Its Subsequent Solidification. Part 2. Experimental Verification, *Materials Development and Processing*, Eds. J.V. Wood, L. Schultz, and D.M. Herlach, WILEY-VCH Verlag Gmbh, Weinheim, Germany, 2000, V.8, P.189-194. https://doi.org/10.1002/3527607277.ch31
- **O.B. Girin**, Yu.O. Proshenko, E.P. Kalinushkin. Texture of Electrodeposited Copper Coatings as Related to Their Substructure, Granular Structure and Surface Morphology, *Textures and Microstructures*, 2000, V.34, No.2-3, P.171-179.
https://doi.org/10.1155/TSM.34.171
- **O.B. Girin**. Nonconventional X-Ray Diffraction Techniques for Coatings Characterization, *TMS Annual Meeting "Solidification 1998"*, Eds. S.P. Marsh, J.A. Dantzig et al, TMS, USA, 1998, P.161-169 (Scopus, Web of Science).
- **O.B. Girin**, Yu.O. Proshenko. Some Ways to Synthesize New Types of Composite Electrocoatings Having Enhanced Properties, *TMS Annual Meeting "Value-Addition Metallurgy"*, Eds. W.D. Cho and H.Y. Sohn, TMS, USA, 1998, P.277-283 (Scopus, Web of Science).
- H.D. Merchant, **O.B. Girin**. Defect Structure and Crystallographic Texture of Polycrystalline Electrodeposits, *MRS Symposium "Electrochemical Synthesis and Modification of Materials"*, Eds. P.C. Andricacos, S.G. Corcoran et al, MRS, USA, 1997, V.451, P.433-444 (Scopus, Web of Science). https://doi.org/10.1557/PROC-451-433
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25 Selected Presentations

- **O.B. Girin**. "Phenomenon of Electrochemical Phase Formation in Metals and Alloys via a Supercooled Liquid State Stage and the Directions of Its Use", International Scientific and Technical Conference "Modern Electrochemical Technologies and Equipment" (METE 2019), May 13-17, 2019, Minsk, Belarus. (*Invited plenary speaker*).
- **O.B. Girin**. "Additional Arguments in Favour of the Phenomenon of Electrochemical Phase Formation in Metals via a Supercooled Liquid State Stage", 25th International Symposium on Metastable, Amorphous and Nanostructured Materials (ISMANAM 2018), July 2-6, 2018, Roma, Italy. (*Poster*).
- **O.B. Girin**. "Phenomenon of Electrochemical Phase Formation in Metals via a Supercooled Liquid State Stage", 26th International Scientific and Practical Conference "Problems of Modern Materials Science", April 19-20, 2016, Dnipro, Ukraine. (*Invited plenary speaker*).
- **O.B. Girin**. "Innovative Technologies for Material- and Energy-Saving and Low-Toxicity Production of Tinplate", International Scientific and Practical Forum "Science and Business - Fundamentals of Economic Development", Oct 11-12, 2012, Dnipro, Ukraine. (*Invited speaker*).
- **O.B. Girin**. "Electrochemical Phase Formation of Metallic Materials through a Stage of Liquid State: New Experimental Proofs", 216th Meeting of The Electrochemical Society, Oct 4-9, 2009, Vienna, Austria. (*Speaker*).
- **O.B. Girin**. "Advanced Production of Tinplate and Tin-Free Steel", Meeting of the Technical Advisory Board of Companhia Siderurgica Nacional, Oct 20-22, 2008, Volta Redonda, Brazil. (*Invited keynote speaker*).
- **O.B. Girin**. "Advanced Production of Tinplate", Meeting of the Technical Advisory Board of Rasselstein GmbH, Aug 21-23, 2008, Andernach, Germany. (*Invited keynote speaker*).
- **O.B. Girin**. "Phase Transformations in the Metallic Materials Being Electrodeposited and Their Application for the Development of Advanced Technologies for Anticorrosive Protection of Canned-Food Steel Sheet", The Sixth Pacific Rim International Conference on Advanced Materials and Processing, Nov 6-9, 2007, Jeju, Korea. (*Poster*).
- **O.B. Girin**. "Phase Transformations in the Metallic Materials Being Electrodeposited", The Seventh International Scientific Forum "Aims for Future of Engineering Science" (AFES 2006), July 4-10, 2006, Davos, Switzerland. (*Invited plenary speaker*).
- **O.B. Girin**. "Phenomenon of Phase Formation through a Stage of Liquid State in Metals Being Electrodeposited", Annual Meeting of the Organizing, Executive and International Committees of the International Academy of Engineering, Sept 10-15, 2005, Tenerife, Spain. (*Invited plenary speaker*).
- **O.B. Girin**, I.D. Zakharov, V.I. Ovcharenko, "Technologies for Producing of New Types of Protective Composite Coatings on Canned Food Steel Sheet", European Congress on Advanced Materials and Processes (EUROMAT 2005), Sept 5-8, 2005, Prague, Czech. (*Poster*).
- **O.B. Girin**. "Development of Technologies for Producing on Canned Food Steel Sheet of Thin Protective Texturally-Composite Tin Electrocoats from Low-Toxicity Electrolytes", McGill University, Department of Materials Science and Engineering Seminar, June 19-26, 2005, Montreal, QC, Canada. (*Invited keynote speaker*).

- **O.B. Girin**. “Structure Formation of Metals Being Electrodeposited through a Metal Liquid as a Tool for Surface Quality Upgrading of Canned Food Steel Sheet”, The Sixth International Scientific Forum “Aims for Future of Engineering Science” (AFES 2005), March 23-30, 2005, Hong Kong, China. (*Invited plenary speaker*).
- **O.B. Girin**. “Development of Technologies for Producing on Canned Food Steel Sheet of Thin Protective Nanostructurally-Texturally-Composite and Amorphous Composite Chromium Electrocoats from Low-Toxicity Electrolytes”, National Technical University of Athens, Laboratory of General Chemistry Seminar, Dec 17-22, 2004, Athens, Greece. (*Invited keynote speaker*).
- **O.B. Girin**. “New Conceptions on the Structure Formation of the Metals Being Electrodeposited, and Their Usage for the Development of Corrosion-Proofing Technologies for Canned Food Steel Sheet”, Joint International Meeting (the 206th Meeting of The Electrochemical Society and the 2004 Fall Meeting of the Electrochemical Society of Japan), Oct 3-8, 2004, Honolulu, HI, USA. (*Poster*).
- **O.B. Girin**. V.I. Ovcharenko, V.P. Khlyntsev, “Nanostructural Textured Super-Thin Chromium Coats on Canned-Food Steel Sheet”, 7th International Conference on Nanostructured Materials, June 20-24, 2004, Wiesbaden, Germany. (*Poster*).
- **O.B. Girin**. “Phenomenon of Structure Formation of Metals Being Electrodeposited via a Supercooled Metal Liquid, and Its Use for the Development of Advanced Technologies of Depositing New Types of Protective Composite Coats on Canned Food Steel Sheet”, The Fifth International Scientific Forum “Aims for Future of Engineering Science” (AFES 2004), May 2-8, 2004, Paris, France. (*Invited plenary speaker*).
- **O.B. Girin**. “Phenomenon of Electrochemical Deposition of Metals via a Supercooled Metal Liquid and Its Utilization for Applying Electrocoatings Having Enhanced Properties”, 203rd Meeting of The Electrochemical Society, Apr 27-May 2, 2003, Paris, France. (*Speaker*).
- **O.B. Girin**. “Phenomenon of Precipitation of Metal Being Electrodeposited, Occurring via Formation of an Undercooled Liquid Metal Phase and Its Subsequent Solidification”, European Congress on Advanced Materials and Processes (EUROMAT 99), Sept 27-30, 1999, Munich, Germany. (*Poster*).
- **O.B. Girin**. “Nonconventional X Ray Diffraction Techniques for Coatings Characterization”, 127th Annual Meeting & Exhibition of The Minerals, Metals & Materials Society (TMS), Feb 16-19, 1998, San Antonio, TX, USA. (*Speaker*).
- **O.B. Girin**, Yu.O. Proshenko. “Some Ways to Synthesize New Types of Composite Electrocoatings Having Enhanced Properties”, 127th Annual Meeting & Exhibition of The Minerals, Metals & Materials Society (TMS), Feb 16-19, 1998, San Antonio, TX, USA. (*Speaker*).
- H.D. Merchant, **O.B. Girin**. “Defect Structure and Crystallographic Texture of Polycrystalline Electrodeposits”, Materials Research Society (MRS) Symposium “Electrochemical Synthesis and Modification of Materials”, Dec 2-5, 1996, Boston, MA, USA. (*Invited speaker*).
- **O.B. Girin**. “Substructure Formation and Texture in Electrodeposits”, The Minerals, Metals & Materials Society (TMS) Fall Meeting, Oct 4-6, 1994, Rosemont, IL, USA. (*Invited speaker*).
- **O.B. Girin**. “Texture Development and Texture/Property Relations in Electrodeposits”, The Minerals, Metals & Materials Society (TMS) Fall Meeting, Oct 4-6, 1994, Rosemont, IL, USA. (*Invited speaker*).
- **O.B. Girin**. “Crystallographic Features of Texture Formation During Electrolytic Growth of Metal Crystals”, 12th European Crystallographic Meeting (ECM 89), Aug 20-29, 1989, Moscow, Russia (*Poster*).

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