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Пол: жена | Дата на раждане: 18/10/1949, Габрово | Националност българка

ТРУДОВ СТАЖ

От 2022 - До сега	Изследовател (R4) Институт по механика, Българска академия на науките, „Акад. Г. Бончев“, Бл. 4, София
2010 – 2022	Професор, Ръководител на Отворена лаборатория по микро и наномеханика (ОЛЕМ) Институт по механика, Българска академия на науките, „Акад. Г. Бончев“, Бл. 4, София
2006 – 2010	Професор, Научен секретар Централна лаборатория по физико-химична механика, Българска академия на науките, „Акад. Г. Бончев“, Бл. 1, София (България)
1990 - 2006	Доцент (ст.н.с. II ст) Централна лаборатория по физико-химична механика, Българска академия на науките, „Акад. Г. Бончев“, Бл. 1, София (България)
1985-1990	Научен сътрудник Централна лаборатория по физико-химична механика, Българска академия на науките, „Акад. Г. Бончев“, Бл. 1, София (България)

ОБУЧЕНИЕ И НАУЧНИ СТЕПЕНИ

10/11/2005	Научна степен „Доктор на техническите науки“, присъдена от Националната висша атестационна комисия към Министерския съвет на България. Дисертация за д.т.н. на тема: „Полимерни нанокompозити - взаимовръзка на реология, структура и свойства“
1988-1990	Пост-док. стипендиант на фондация Alexander von Humboldt Тема: Теоретична и приложна реология. Университет в Карлсруе, Германия
1987	Научна степен „Доктор“ - присъдена от Националната висша атестационна комисия към Министерския съвет на България. Дисертация на тема: Реология на термореактивни полимерни композити“

СПЕЦИАЛИЗАЦИИ В ЧУЖБИНА

10/01/2001 -10/04/2001	Гост-професор Yamagata University, Venture Business Laboratory, Yonesawa, Japan.
01/04/1997-01/10/1997	Гост професор - JSPS Fellow - Стипендиант на Японската фондация за наука Toyota Technological Institute, Nagoya, Japan
01/03/ - 30/03/2017	University of Salerno, Салерно, Италия
01/09/ - 30/09/2017	Polymer Research Institute, Sichuan University, Китай
01/09/ - 30/09/2018	MackGraphe, MACKENZIE Presbyterian University, Sao Paulo, Бразилия

ПРОФЕСИОНАЛНИ УМЕНИЯ И КОМПЕТЕНЦИИ

Разработване, характеризирание и приложение на мултифункционални полимерни нанокompозити с графен и въглеродни нанотръби. Реологични, структурни, термични, електрични и механични свойства на полимерни нанокompозити. Връзка "реология-структура-свойства". Междофазови и размерни явления в полимерните нанокompозити. Приложение на реологията при 3D печат.

Компютърни умения и компетенции

Microsoft Office; Origin; Photoshop; Работа със специализиран софтуер.

СПИСЪК НА КЛЮЧОВИ РЕЛЕВАНТНИ ПУБЛИКАЦИИ

Книги и глави от книги

1. **R Kotsilkova**. *Thermoset nanocomposites for engineering applications*, Smithers Rapra Publishing, 2007, pp. 1-326, ISBN: 978-1-84735-063-3
2. E. Ivanov, **R. Kotsilkova**. Ch. 17: Reinforcement Effects of Carbon Nanotubes in Polypropylene: Rheology, Structure, Thermal Stability, and Nano, Micro and Macromechanical Properties. *Handbook of Nanoceramic and Nanocomposite Coatings and Materials*. (Eds. A. Makhoulouf, D. Scharnweber) Elsevier, 2015, 357-388,
3. **Kotsilkova R**, Ivanov E, Krusteva E, Silvestre C, Cimmino S, Duraccio D. *Evolution of rheology, structure and properties around the rheological flocculation and percolation thresholds in polymer nanocomposites*. In: "Ecosustainable Polymer Nanomaterials for Food Packaging" (Silvestre C, Cimmino S, Eds), Taylor & Francis Books, Inc., Ch.3 (2013)pp. 55-86, ISBN: 978-90-04-20737-0.
4. **Kotsilkova R**, E. Ivanov, E. Krusteva. *Polymer Nanocomposites of Epoxy Resin and Multiwall Carbon Nanotubes: Processing-Structure-Properties Relationships*. In: Mechanics of Nanomaterials and Nanotechnology (Eds. V. Kavardzhikov, L. Parashkevova, A. Baltov), Sci. Series, Bulgarian Academy of Sciences, Part II, Ch.1 (2012), 51-90, ISSN: 1314-3034.
5. Ivanov E, I. Borovanska, B. Milosheva, **R. Kotsilkova**. *Experimental Nano and Micro Mechanics of Nanostructured Materials*. In: Mechanics of Nanomaterials and Nanotechnology (Eds. V. Kavardzhikov, L. Parashkevova, A. Baltov), Sci. Series, Bulgarian Academy of Sciences, Part IV, Ch.3 (2012), 287-326, ISSN: 1314-3034.

Публикации с IF и Q квартал

- 2023**
1. **R. Kotsilkova**, S. Tabakova. Exploring Effects of Graphene and Carbon Nanotubes on Rheology and Flow Instability for Designing Printable Polymer Nanocomposites. *Nanomaterials* 2023, 13(5), 835; **(Q1, IF 5.719)** <https://doi.org/10.3390/nano13050835>
 2. G. Spinelli, R. Guarini, **R. Kotsilkova**, E. Ivanov, L. Vertuccio, V. Romano, L. Guadagno. Joule heating effect in carbon-based epoxy resin: an experimental and numerical study. *Bulgarian Chemical Communications*, Volume 55, Issue 3 (pp. 335-343) 2023, **(Q4, IF 0.168)**
 3. Giovanni Spinelli, Rosella Guarini, **Rumiana Kotsilkova**, Evgeni Ivanov, and Vittorio Romano
Experimental, Theoretical and Simulation Studies on the Thermal Behavior of PLA-Based Nanocomposites Reinforced with Different Carbonaceous Fillers, In: *Novel Structural and Functional Material Properties Enabled by Nanocomposite Design* (ed. Jurgen Eckert, Daniel Kiener), page 129 - 158, MDPI,
- 2022**
4. Lv, Q., Peng, Z., Meng, Y., ...Ivanov, E., **Kotsilkova, R**. Three-Dimensional Printing to Fabricate Graphene-Modified Polyolefin Elastomer Flexible Composites with Tailorable Porous Structures for Electro-magnetic Interference Shielding and Thermal Management Application. *Industrial and Engineering Chemistry Research*, 2022, 61(45), pp. 16733–16746 **(Q1, IF 4.326)**
 5. T. Batakliiev, E. Ivanov V. Angelov, G. Spinelli, **R. Kotsilkova**. Advanced Nanomechanical Characterization of Biopolymer Films Containing GNPs and MWCNTs in Hybrid Composite. *Structure. Nanomaterials* 2022, 12, 709 **(Q1, IF 5.719)**
 6. Spinelli, **R. Kotsilkova**, E. Ivanov, V. Georgiev, C. Naddeo, V. Romano. Thermal and Dielectric Properties of 3D Printed Parts Based on Polylactic Acid Filled with Carbon Nanostructures. *Macromol. Symp.* **2022**, 405, 2100244 **(Q3, IF 0.9)**
- 2021**
6. Spinelli, G.; Guarini, R.; **Kotsilkova, R.**; Batakliiev, T.; Ivanov, E.; Romano, V. Experimental and Simulation Studies of Temperature Effect on Thermophysical Properties of Graphene-Based Poly(lactic acid). *Materials* 2022, 15, 986. **(Q2, IF 3.748)**
 7. **Kotsilkova, R.**, Tabakova, S. & Ivanova, R. Effect of graphene nanoplatelets and multiwalled carbon nanotubes on the viscous and viscoelastic properties and printability of polylactide nanocomposites. *Mech Time-Depend Mater* (2021). **(Q2, IF 2.88)**
 8. E. Ivanov, T. Batakliiev, **R. Kotsilkova**, M. Otto, D. Neumaier. Study on the adhesion properties of graphene and hexagonal boron nitride monolayers in multilayered micro-devices by scratch adhesion test. *J. of Materi Eng and Perform* 30, 5673–5681 (2021), **(Q3, IF 1.819)**,
 9. Batakliiev, T., Georgiev, V., Angelov, V. E. Ivanov, C. Kalupgian, P. A. R. Muñoz, G. J. M. Fehine, R. J. E. Andrade, **R. Kotsilkova**, Synergistic Effect of Graphene Nanoplatelets and Multiwall Carbon Nanotubes Incorporated in PLA Matrix: Nanoindentation of Composites with Improved Mechanical Properties. *J. of Materi Eng and Perform*, 30, 3822–3830 (2021). **(Q3, IF 1.819)**
 10. Batakliiev, T., Georgiev, V., C. Kalupgian, P. A. R. Muñoz, H. Ribeiro, G. J. M. Fehine, R. J. E. Andrade, E. Ivanov, **R. Kotsilkova**. Physico-chemical characterization of PLA-based composites holding carbon nanofillers. *Appl. Comp. Mat.* (2021), **(Q2, IF 2.368)**
- 2020**
11. G. Spinelli, R. Guarini, E. Ivanov, **R. Kotsilkova**, V. Romano. Experimental, theoretical and simulation studies on the thermal behavior of PLA-based nanocomposites reinforced with different carbonaceous fillers. *Nanomaterials* 11,1511, 1-29 (2021), **(Q1, IF 5.719)**
 12. Radost Ivanova, **Rumiana Kotsilkova**, Evgeni Ivanov, Ricardo K. Donato, Guilhermino J. M. Fehine, Ricardo J. E. Andrade, Rosa di Maio, Clara Silvestre. Composition dependence in surface properties of poly(lactic acid)/graphene/carbon nanotube composites. *Materials Chem. Physics*, **2020**, 122702, **(Q2, IF 4.778)**
- 2019**
13. Giovanni Spinelli, **Rumiana Kotsilkova**, Evgeni Ivanov, Ivanka Petrova-Doycheva, Dzhihan Menseidov, Vladimir Georgiev, Rosa Di Maio, Clara Silvestre. Effects of Filament Extrusion, 3D Printing and Hot-Pressing on Electrical and Tensile Properties of Poly(Lactic) Acid Composites Filled with Carbon Nanotubes and Graphene, *Nanomaterials* **2020**, 10(1), 35, **(Q1, IF 5.719)**

Автобиография

14. Giovanni Spinelli, Patrizia Lamberti, Vincenzo Tucci, **Rumiana Kotsilkova**, Evgeni Ivanov, Dzhihan Menseidov, Carlo Naddeo, Vittorio Romano, Liberata Guadagno, Renata Adami, Darya Meisak, Dzmitry Bychanok, Polina Kuzhir. Nanocarbon/Poly(Lactic) Acid for 3D Printing: Effect of Fillers Content on Electromagnetic and Thermal Properties. *Materials*, **2019**, 12, 2369; (**Q2, IF 3.748**),
15. **Rumiana Kotsilkova**, Ivanka Petrova-Doycheva, Dzhihan Menseidov, Evgeni Ivanov, Alesya Paddubskaya, Polina Kuzhir Exploring thermal annealing and graphene-carbon nanotube additives to enhance crystallinity, thermal, electrical and tensile properties of aged poly (lactic) acid-based filament for 3D printing. *Composites Science and Technology* 181 (**2019**) 107712 (**Q1, IF 9,1**),
16. M. V. Shuba, D. I. Yuko, G. Gorokhov, D. Meisak, D. S. Bychanok, P. P. Kuzhir, S. A. Maksimenko, P. Angelova, E. Ivanov, **R. Kotsilkova**. Frequency and density dependencies of the electromagnetic parameters of carbon nanotube and graphene nanoplatelet based composites in the microwave and terahertz ranges. IOP Publishing, *Mater Res. Express*, 6 (**2019**) 095050 (**Q2, IF 2,025**),
17. K. G. Batrakov, N. I. Volynets, A. Paddubskaya, P. Kuzhir, M. S. Prete, O. Pulci, E. Ivanov, **R. Kotsilkova**, T. Kaplas, Y. Svirko. Stretching and Tunability of Graphene-Based Passive Terahertz Components. *Physica Status Solidi (B)*, **2019**, 1800683, (**Q3, IF 1,782**),
18. Gorokhov, G.; Bychanok, D.; Meisak, D.; Shlyk, I.; Liubimau, A.; Angelova, P.; Menseidov, C.; Ivanov, E.; **Kotsilkova, R.**; Casa, M.; Ciambelli, P.; Kuzhir, P. Carbon nanotubes vs graphene nanoplatelets for 3D-printable composites. IOP Conf. Ser.: *Mater. Sci. Eng.* **2019**, 503 012010 (**Q2, IF 3,407**),
19. Giovanni Spinelli; Patrizia Lamberti; Vincenzo Tucci; Radost Ivanova; Sonia Tabakova; Evgeni Ivanov; **Rumiana Kotsilkova**; Sossio Cimmino; Rosa Di Maio; Clara Silvestre. Rheological and electrical behaviour of nanocarbon/poly(lactic) acid for 3D printing applications. *Composites Part B: Engineering*, Volume 167, 15 June **2019**, Pages 467-476, (**Q1, IF 11.32**),
20. Batakliiev, T.; Petrova-Doycheva, I.; Angelov, V.; Georgiev, V.; Ivanov, E.; **Kotsilkova, R.**; Casa, M.; Cirillo, C.; Adami, R.; Sarno, M.; Ciambelli, P. Effects of Graphene Nanoplatelets and Multiwall Carbon Nanotubes on the Structure and Mechanical Properties of Poly(lactic acid) Composites: A Comparative Study. *Appl. Sci.* **2019**, 9, 469 (**Q1, IF 2.838**),
21. **Rumiana Kotsilkova**, Polya Angelova, Todor Batakliiev, Verislav Angelov, Rosa Di Maio, Clara Silvestre Study on Aging and Recover of Poly (Lactic) Acid Composite Films with Graphene and Carbon Nanotubes Produced by Solution Blending and Extrusion. *Coatings* **2019**, 9(6), 359; (**Q2, IF 3.236**).

Европейски проекти

1. H2020-MSCA-RISE 734164 Graphene 3D (2017-2022) - Project Coordinator
2. H2020-GrapheneFlagship-Core 3 (2020-2023) Coordinator for Bulgarian partner
3. H2020-Graphene Flagship Core 2 (2018-2020)- Coordinator for Bulgarian partner
4. H2020-Graphene Flagship Core 1 (2016-2018). Coordinator for Bulgarian partner
5. Graphene Flagship "Graphene-Based Revolutions in ICT and Beyond" (2014-2016).
6. Nano-XCT (FP7-NMP) (2012-2015). Coordinator for Bulgarian partner
7. BY-NanoERA-(FP7-INCO)(2010- 2013) - Coordinator for Bulgarian partner
8. Napolynet (FP7-NMP) (2008-2011). Coordinator for Bulgarian partner
9. EC-FP7-NMP1-TeAm (2009 -2011). Coordinator for Bulgarian partner
10. EC-FP6-WomenInNano (2005-2008) Coordinator for Bulgarian partner
11. HUNTSMAN Collaborative research project with Industry, Sponsored by Huntsman Polyurethanes, Belgium. (2009-2011). Project Coordinator

Management Committee Member of COST Actions:

1. CA COST Action CA19118 (2020-2024) - MC member .
2. CA COST Action CA15114 (2016-2020) - MC member.
3. COST Action MP1206 (2016-2020) - MC member
4. COST Action MP1202 (2016-2020) - MC member
5. COST Action FA0904- Vice chair and MC member

Национални проекти

1. Ръководител на проект за Научна инфраструктура ДО-02-53/2009, финансиран от ФНИ, за "Отворена лаборатория по експериментална микро и наномеханика (ОЛЕМ)".
2. Ръководител на серия ЕБР проекти по двустранното сътрудничество БАН-CNR (Италия,2002-2016).
3. Ръководител на проект по двустранно сътрудничеството България-Индия (2014-2018)
4. Проект за ко-финансиране на COST Action CA19118 (2020-2022) - ФНИ
5. Проект за ко-финансиране на COST Action CA15114 (2016-2018) - ФНИ

Ръководство на проекти

<https://www.imbm.bas.bg/index.php/bg/BG/projects-7>