

CS I, Dr. habil IOAN BOTIZ: LISTA MAX. 10 LUCRARI RELEVANTE

1. **I. Botiz**, M. M. Durbin, N. Stingelin. Providing a Window into the Phase Behavior of Semiconducting Polymers. *Macromolecules* **54**, 5304 (2021).
2. R. Tarcan, O. Todor-Boer, I. Petrovai, C. Leordean, S. Astilean, **I. Botiz**. Reduced graphene oxide today. *Journal of Materials Chemistry C* **8**, 1198 (2020).
3. S. Chen, B. Haehnle, X. Van der Laan, A. J. C. Kuehne, **I. Botiz**, P. N. Stavrinou, N. Stingelin. Understanding Hierarchical Spheres-in-grating Assembly for Bio-Inspired Colouration. *Materials Horizons* **8**, 2230 (2021).
4. **I. Botiz**, M-A. Codescu, C. Farcau, C. Leordean, S. Astilean, C. Silva, N. Stingelin: “Convective self-assembly of π -conjugated oligomers and polymers” - *J. Mater. Chem. C* **5**, 2513-2518 (2017).
5. R. Tarcan, M. Handrea-Dragan, C.-I. Leordean, R. C. Cioban, G.-Z. Kiss, D. Zaharie-Butucel, C. Farcau, A. Vulpoi, S. Simon, **I. Botiz**. Development of PMMA/RGO Composite Films as Thermal Interface Materials. *Journal of Applied Polymer Science* **139**, e53238 (2022).
6. **I. Botiz**, P. Freyberg, C. Leordean, A.-M. Gabudean, S. Astilean, A. C.-M. Yang, N. Stingelin: “Enhancing the photoluminescence emission of conjugated MEH-PPV by light processing” - *Appl. Mater. Interfaces* **6**, 4974 (2014).
7. K. Rahimi, **I. Botiz**, J. O. Agumba, S. Motamen, N. Stingelin, G. Reiter: “Light absorption of poly(3-hexylthiophene) single crystals” - *RSC Adv.* **4**, 11121 (2014).
8. P. W. Lee, W.-C. Li, B.-J. Chen, C.-W. Yang, C.-C. Chang, **I. Botiz**, G. Reiter, Y. T. Chen, T. L. Lin, J. Tang, J.-H. Jou, A. C.-M. Yang: “Massive Enhancement of Photoluminescence through Dewetting” - *ACS Nano* **7**, 6658 (2013).
9. **I. Botiz**, P. Freyberg, N. Stingelin, A.C.M. Yang, G. Reiter: “Reversibly slowing dewetting of conjugated polymers by light” - *Macromolecules* **46**, 2352 (2013).
10. K. Rahimi, **I. Botiz**, N. Stingelin, N. Kayunkid, M. Sommer, F. P. V. Koch, H. Nguyen, O. Coulembier, P. Dubois, M. Brinkmann, G. Reiter: “Controllable processes for generating large single crystals of poly(3-hexylthiophene)” - *Angew. Chem. Int. Ed.* **51**, 11131 (2012).

CS I, Dr. habil IOAN BOTIZ: LISTA DE LUCRARI

1. TEZA DE DOCTORAT:

Processes of Ordered Structure Formation in Polypeptide Thin Film Solutions. Teza a fost susținută în 4 decembrie 2007 la Universitatea Haute Alsace din Mulhouse (Franta).

2. **TEZA DE ABILITARE:** “*Ordering of conjugated polymers - a versatile approach to alter materials properties*”, susținută în 07/2016 la Universitatea Babes-Bolyai (Romania).

3. **CAPITOL DE CARTE:** M. Potara, A. Campu, D. Maniu, M. Focsan, **I. Botiz**, S. Astilean: “Advanced nanostructures for microbial contaminants detection by means of spectroscopic methods” - *Advanced Nanostructures for Environmental Health*, Elsevier (2019).

4. **CAPITOL DE CARTE:** M. Potara, M. Focsan, A-M. Craciun, **I. Botiz**, S. Astilean: “Polymer-coated plasmonic nanoparticles for environmental remediation: synthesis, functionalization and properties” - *New Polymer Nanocomposites for Environmental Remediation*, Elsevier, 361-387 (2018)

5. **CAPITOL DE CARTE:** **I. Botiz**, C. Leordean, N. Stingelin: “Structure Control in Polymeric Semiconductors Applied to the Manipulation of Light-Emission Properties” - *Semiconducting Polymers: Controlled Synthesis and Microstructure*, Royal Society of Chemistry, 187-218 (2016).

6. **CAPITOL DE CARTE:** M. Potara, C. Farcau, **I. Botiz**, S. Astilean: “Detection of environmental pollutants by surface-enhanced Raman spectroscopy” - *Advanced Environmental Analysis: Applications of Nanomaterials*, Royal Society of Chemistry (2016, in curs de publicare).

7. **CAPITOL DE CARTE:** **I. Botiz**, H. Schlaad, G. Reiter: “Processes of Ordered Structure Formation in Polypeptide Thin Film Solutions” - *Advances in Polymer Science: Self-Organized Nanostructures of Amphiphilic Block Copolymers*, Springer Berlin/Heidelberg, **242**, 117 (2011).

8. **CAPITOL DE CARTE:** G. Reiter, **I. Botiz**, L. Graveleau, N. Grozev, K. Albrecht, A. Mourran, M. Möller: “Morphologies of Polymer Crystals in Thin Films” - *Lecture Notes in Physics: Progress in Understanding of Polymer Crystallization*, Springer Berlin/Heidelberg **714**, 179 (2007).

9. **ARTICOL DE TIP „REVIEW” INVITAT:** **I. Botiz**. Single Crystals of Established Semiconducting Polymers. *Polymers* **16**, 761 (2024).

10. **ARTICOL DE TIP „REVIEW” INVITAT:** B.-A. Andone, M. Handrea-Dragan, **I. Botiz**, S. Boca. State-of-the-art and future perspectives in infertility diagnosis: conventional versus nanotechnology-based assays. *Nanomedicine: Nanotechnology, Biology and Medicine* **54**, 102709 (2023).
11. **ARTICOL DE TIP „REVIEW” INVITAT:** **I. Botiz**. Prominent processing techniques to manipulate semiconducting polymer microstructure. *Journal of Materials Chemistry C* **11**, 364 (2023).
12. **ARTICOL DE TIP „REVIEW” INVITAT:** I. M. Handrea-Dragan, **I. Botiz**, A.-S. Tatar, S. Boca. Patterning at the micro/nano-scale: polymeric scaffolds for medical diagnostic and cell-surface interaction applications. *Colloids and Surfaces B: Biointerfaces* **218**, 112730 (2022).
13. **ARTICOL DE TIP „REVIEW” INVITAT:** R. Tudureanu, I. M. Handrea-Dragan, S. Boca, **I. Botiz**. Insight and recent advances into the role of topography on the cell differentiation and proliferation on biopolymeric surfaces. *International Journal of Molecular Sciences* **23**, 7731 (2022).
14. **ARTICOL DE TIP „REVIEW” INVITAT:** **I. Botiz**, M. M. Durbin, N. Stingelin. Providing a Window into the Phase Behavior of Semiconducting Polymers. *Macromolecules* **54**, 5304 (2021).
15. **ARTICOL DE TIP „REVIEW” INVITAT:** I. Babutan, A.-D. Lucaci, **I. Botiz**. Antimicrobial Polymeric Structures Assembled on Surfaces. *Polymers* **13**, 1552 (2021).
16. **ARTICOL DE TIP „REVIEW” INVITAT:** I. M. Handrea-Dragan, **I. Botiz**. Multifunctional Structured Platforms: From Patterning of Polymer-Based Films to Their Subsequent Filling with Various Nanomaterials. *Polymers* **13**, 445 (2021).
17. **ARTICOL DE TIP „REVIEW” INVITAT:** R. Tarcan, O. Todor-Boer, I. Petrovai, C. Leordean, S. Astilean, **I. Botiz**. Reduced graphene oxide today. *Journal of Materials Chemistry C* **8**, 1198 (2020). Acest articol a fost inclus in colectia online a celor mai populare articole publicate in *Journal of Materials Chemistry C* in 2020. Aceasta lucrare a fost inclusa de WoS ca si “highly cited” si plasata intre primele cele mai influente 1% publicatii in domeniul Stiinta Materialelor din 2020.
18. **ARTICOL DE TIP „REVIEW” INVITAT:** **I. Botiz**, S. Astilean, N. Stingelin: “Altering the Emission Properties of Conjugated Polymers” - *Polym. Int.* **65**, 157-163 (2016). This paper

was *highlighted* in “Towards More Efficient OLEDs; Enhancing the Emission Properties of Polymeric Semiconductors” published in *Materials Views*.

19. **ARTICOL DE TIP „REVIEW” INVITAT: I. Botiz**, Natalie Stingelin: “Influence of Molecular Conformations and Microstructure on the Optoelectronic Properties of Conjugated Polymers” - *Materials* **7**, 2273 (2014).
20. **ARTICOL DE TIP „REVIEW” INVITAT: I. Botiz**, S. B. Darling: “Optoelectronics Using Block Copolymers” - *Materials Today* **13**, 42 (2010).
21. **ARTICOL: R. Tarcan, I. M. Handrea-Dragan, I. Botiz**. Synthesis of concentrated aqueous dispersions of reduced graphene oxide. *Journal of Optoelectronics & Advanced Materials* **26**, 413 (2024).
22. **ARTICOL: O. Todor-Boer, C. Farcau, I. Botiz**. Large Enhancement of Photoluminescence Obtained in Thin Polyfluorene Films of Optimized Microstructure. *Polymers* **16**, 2278 (2024).
23. **ARTICOL: M. Băbuțan, I. Botiz**. Morphological Characteristics of Biopolymer Thin Films Swollen-Rich in Solvent Vapors. *Biomimetics* **9**, 396 (2024).
24. **ARTICOL: L. Senila, I. Botiz, C. Roman, D. Simedru, M. Dan, I. Kacso, M. Senila, O. Todor-Boer**. Processing of Thin Films Based on Cellulose Nanocrystals and Biodegradable Polymers by Space-Confined Solvent Vapor Annealing and Morphological Characteristics. *Materials* **17**, 1685 (2024).
25. **ARTICOL: B.-A. Andone Rotaru, M. Girlovanu, A. Vulpoi, I. Botiz, S. Boca**. P-018 Structural and biocompatibility analysis of gold nanoparticle integrated polymeric scaffolds for infertility diagnosis. *Human Reproduction* **38**, dead093.385 (2023).
26. **ARTICOL: I. Babutan, O. Todor-Boer, L. I. Atanase, A. Vulpoi, S. Simon, I. Botiz**. Self-assembly of block copolymers on surfaces exposed to space-confined solvent vapor annealing. *Polymer* **273**, 125881 (2023).
27. **ARTICOL: I. Petrovai, O. Todor-Boer, L. David, I. Botiz**. Growth of Hybrid Perovskite Crystals from $\text{CH}_3\text{NH}_3\text{PbI}_{3-x}\text{Cl}_x$ Solutions Subjected to Constant Solvent Evaporation Rates. *Materials* **16**, 2625 (2023).
28. **ARTICOL: I. Babutan, O. Todor-Boer, L. I. Atanase, A. Vulpoi, I. Botiz**. Self-Assembly of Block Copolymers in Thin Films Swollen-Rich in Solvent Vapors. *Polymers* **15**, 1900 (2023).

29. **ARTICOL:** L. Máthé, Z. Kovács-Krausz, **I. Botiz**, I. Grosu, K. El Anouz, A. El Allati, L. P. Zârbo. Phonon-Assisted Tunneling through Quantum Dot Systems Connected to Majorana Bound States. *Nanomaterials* **13**, 1616 (2023).
30. **ARTICOL:** I. Babutan, O. Todor-Boer, L. I. Atanase, A. Vulpoi, **I. Botiz**. Crystallization of Poly(ethylene oxide)-Based Triblock Copolymers in Films Swollen-Rich in Solvent Vapors. *Coatings* **13**, 918 (2023).
31. **ARTICOL:** I. Petrovai, O. Todor-Boer, A. Vulpoi, L. David, **I. Botiz**. Generation of Hybrid Lead Halide $\text{CH}_3\text{NH}_3\text{PbI}_{3-x}\text{Cl}_x$ Perovskite Crystals via Convective Self-Assembly. *Coatings* **13**, 1130 (2023).
32. **ARTICOL:** I. Petrovai, O. Todor-Boer, L. David, **I. Botiz**. Enhancing the Photoluminescence of Polyfluorene-Based Thin Films via Illumination. *Studia Universitatis Babeş-Bolyai Physica* **67**, 79-90 (2022).
33. **ARTICOL:** R. Tarcan, M. Handrea-Dragan, C.-I. Leordean, R. C. Cioban, G.-Z. Kiss, D. Zaharie-Butucel, C. Farcau, A. Vulpoi, S. Simon, **I. Botiz**. Development of PMMA/RGO Composite Films as Thermal Interface Materials. *Journal of Applied Polymer Science* **139**, e53238 (2022).
34. **ARTICOL:** I. M. Handrea-Dragan, A. Vulpoi, C. Farcau, **I. Botiz**. Spheres-In-Grating Assemblies with Altered Photoluminescence and Wetting Properties. *Nanomaterials* **12**, 1084 (2022).
35. **ARTICOL:** A. Stefancu, O. M. Biro, O. Todor-Boer, **I. Botiz**, E. Cortés, N. Leopold. Halide-Metal complexes at plasmonic interfaces create new decay pathways for plasmons and excited molecules. *ACS Photonics* **9**, 895 (2022).
36. **ARTICOL:** S. Chen, B. Haehnle, X. Van der Laan, A. J. C. Kuehne, **I. Botiz**, P. N. Stavrinou, N. Stingelin. Understanding Hierarchical Spheres-in-grating Assembly for Bio-Inspired Colouration. *Materials Horizons* **8**, 2230 (2021).
37. **ARTICOL:** T. Nagy-Simon, O. Diaconu, M. Focsan, A. Vulpoi, **I. Botiz**, A.-M. Craciun. Pluronic stabilized conjugated polymer nanoparticles for NIR fluorescence imaging and dual phototherapy applications. *Journal of Molecular Structure* **1243**, 130931 (2021).
38. **ARTICOL:** R. Tarcan, M. Handrea-Dragan, O. Todor-Boer, I. Petrovai, C. Farcau, M. Rusu, A. Vulpoi, M. Todea, S. Astilean, **I. Botiz**. A new, fast and facile synthesis method for reduced graphene oxide in *N,N*-dimethylformamide. *Synthetic Metals* **269**, 116576 (2020).

39. **ARTICOL:** O. Todor-Boer, I. Petrovai, R. Tarcan, L. David, S. Astilean, **I. Botiz**. Control of microstructure in polymer: Fullerene active films by convective self-assembly. *Thin Solid Films* **697**, 137780 (2020).
40. **ARTICOL:** O. Todor-Boer, I. Petrovai, R. Tarcan, A. Vulpoi, L. David, S. Astilean, **I. Botiz**. Enhancing Photoluminescence Quenching in Donor-Acceptor PCE11:PPCBMB Films through the Optimization of Film Microstructure. *Nanomaterials* **9**, 1757 (2019).
41. **ARTICOL:** O. Todor-Boer, I. Petrovai, R. Tarcan, A-M. Craciun, L. David, S. B. Angyrus, S. Astilean, **I. Botiz**. Altering the optoelectronic properties of neat and blended conjugated polymer films by controlling the process of film deposition. *Journal of Optoelectronics & Advanced Materials* **21**, 367 (2019).
42. **ARTICOL:** **I. Botiz**, M-A. Codescu, C. Farcau, C. Leordean, S. Astilean, C. Silva, N. Stingelin: “Convective self-assembly of π -conjugated oligomers and polymers” - *J. Mater. Chem. C* **5**, 2513-2518 (2017).
43. **ARTICOL:** B. Marta, C. Leordean, T. Istvan, **I. Botiz**, S. Astilean: “Efficient etching-free transfer of high quality, large-area CVD grown graphene onto polyvinyl alcohol films” - *Appl. Surf. Sci.* **363**, 613-618 (2016).
44. **ARTICOL:** C. Leordean, B. Marta, A.-M. Gabudean, M. Focsan, **I. Botiz**, S. Astilean: “Fabrication of highly active and cost effective SERS plasmonic substrates by electrophoretic deposition of gold nanoparticles on a DVD template” - *Appl. Surf. Sci.* **349**, 190 (2015).
45. **ARTICOL:** **I. Botiz**, P. Freyberg, C. Leordean, A.-M. Gabudean, S. Astilean, A. C.-M. Yang, N. Stingelin: “Emission properties of MEH-PPV in thin films simultaneously illuminated and annealed at different temperatures” - *Synth. Met.* **199**, 33 (2015).
46. **ARTICOL:** L. Brambilla, M. Tommasini, **I. Botiz**, K. Rahimi, J.O. Agumba, N. Stingelin, G. Zerbi: “Regio-Regular Oligo and Poly(3-hexyl thiophene): Precise Structural Markers from the Vibrational Spectra of Oligomer Single Crystals” *Macromolecules* **47**, 6730 (2014).
47. **ARTICOL:** W. Hourani, K. Rahimi, **I. Botiz**, F.P.V. Koch, G. Reiter, P. Lienerth, T. Heiser, J.-L. Bubendorff, L. Simon: “Anisotropic Charge Transport in Large Single Crystals of π -conjugated Organic Molecules” - *Nanoscale* **6**, 4774 (2014).
48. **ARTICOL:** **I. Botiz**, P. Freyberg, C. Leordean, A.-M. Gabudean, S. Astilean, A. C.-M. Yang, N. Stingelin: “Enhancing the photoluminescence emission of conjugated MEH-PPV by light processing” - *Appl. Mater. Interfaces* **6**, 4974 (2014).

49. **ARTICOL:** K. Rahimi, **I. Botiz**, J. O. Agumba, S. Motamen, N. Stingelin, G. Reiter: “Light absorption of poly(3-hexylthiophene) single crystals” - *RSC Adv.* **4**, 11121 (2014).
50. **ARTICOL:** K. Jahanshahi, **I. Botiz**, R. Reiter, H. Scherer, W. Stille, G. Reiter: “Reversible nucleation and growth of poly(γ -benzyl-L-glutamate) hexagonal columnar liquid crystals by addition and removal of a protic non-solvent” - *Cryst. Growth Des.* **13**, 4490 (2013).
51. **ARTICOL:** P. W. Lee, W.-C. Li, B.-J. Chen, C.-W. Yang, C.-C. Chang, **I. Botiz**, G. Reiter, Y. T. Chen, T. L. Lin, J. Tang, J.-H. Jou, A. C.-M. Yang: “Massive Enhancement of Photoluminescence through Dewetting” - *ACS Nano* **7**, 6658 (2013).
52. **ARTICOL:** **I. Botiz**, P. Freyberg, N. Stingelin, A.C.M. Yang, G. Reiter: “Reversibly slowing dewetting of conjugated polymers by light” - *Macromolecules* **46**, 2352 (2013).
53. **ARTICOL:** K. Jahanshahi, **I. Botiz**, R. Reiter, R. Thomann, B. Heck, R. Shokri, W. Stille, G. Reiter: “Crystallization of poly(γ -benzyl L-glutamate) in thin film solutions: Structure and pattern formation” - *Macromolecules* **46**, 1470 (2013).
54. **ARTICOL:** K. Rahimi, **I. Botiz**, N. Stingelin, N. Kayunkid, M. Sommer, F. P. V. Koch, H. Nguyen, O. Coulembier, P. Dubois, M. Brinkmann, G. Reiter: “Controllable processes for generating large single crystals of poly(3-hexylthiophene)” - *Angew. Chem. Int. Ed.* **51**, 11131 (2012).
55. **ARTICOL:** **I. Botiz**, R. Schaller, R. Verduzco, S. B. Darling: “Optoelectronic Properties and Charge Transfer in Donor-Acceptor All Conjugated Diblock Copolymers” - *J. Phys. Chem. C* **115**, 9260 (2011).
56. **ARTICOL:** R. Verduzco, **I. Botiz**, D. L. Pickel, S. M. Kilbey II, K. Hong, E. Dimasi, S. B. Darling: “Polythiophene-*b*-polyfluorene and Polythiophene-*b*-poly(fluorene-*co*-benzothiadiazole): Insights into the Self-Assembly of All-Conjugated Block Copolymers” - *Macromolecules* **44**, 530 (2011).
57. **ARTICOL:** **I. Botiz**, A. B. Martinson, S. B. Darling: “Minimizing Lateral Domain Collapse in Etched Poly(3-hexylthiophene)-*block*-Polylactide Thin Films for Improved Optoelectronic Performance” - *Langmuir*, **26**, 8756 (2010).
58. **ARTICOL:** **I. Botiz**, S. B. Darling: “Self-Assembly of Poly(3-hexylthiophene)-*block*-Polylactide Block Copolymer and Subsequent Incorporation of Electron Acceptor Material” - *Macromolecules*, **42**, 8211 (2009). This paper was **highlighted** online by *Macromolecules*.

- 59. ARTICOL:** C. Darko, **I. Botiz**, G. Reiter, D. W. Breiby, J. W. Andreasen, S. V. Roth, D.-M. Smilgies, E. Metwalli, C. M. Papadakis: “Crystallization in Diblock Copolymer Thin Films at Different Degrees of Supercooling” - *Physical Review E* **79**, 041802 (2009).
- 60. ARTICOL:** N. Grozev, **I. Botiz**, G. Reiter: “Morphological Instabilities of Polymers Crystals” - *Eur. Phys. J. E* **27**, 63 (2008).
- 61. ARTICOL:** **I. Botiz**, N. Grozev, H. Schlaad, G. Reiter: “The Influence of Protic Non-solvents Present in the Environment on Structure Formation of Poly(γ -benzyl-L-glutamate) in Organic Solvents” - *Soft Matter* **4**, 993 (2008).
- 62. ARTICOL SCURT:** C. Darko, **I. Botiz**, G. Reiter, D.W. Breiby, J.V. Andreasen, D.-M. Smilgies, S.V. Roth, C.M. Papadakis. Thin Films of Diblock Copolymers with One Crystalline Block. *Hasylab Annual Report*, 1437 (2007).
- 63. ARTICOL SCURT:** **I. Botiz**, N. O. Goga, J. Perlo, F. Casanova, and B. Blümich. Characterization of Polymer Materials by NMR-MOUSE[®]. *AixNMR*, issue 9 (2004).
- 64. ARTICOL SCURT:** **I. Botiz**, N. O. Goga, J. Perlo, F. Casanova, and B. Blümich. Rubber Failure Analysis by Single-Sided Tomography. *AixNMR*, issue 8 (2004).
- 65. ARTICOL SCURT:** L. Daraban, **I. Botiz**. Production of Radioisotopes Using Isotopic Neutron Sources. *Studia Universitatis Babeş-Bolyai Physica* **XLIX** **1**, 3 (2004).
- 66. CONFERENCE PROCEEDING:** R. Verduzco, **I. Botiz**, D. L. Pickel, S. M. Kilbey II, K. Hong, E. Dimasi, S. B. Darling: “Synthesis and Self-Assembly of Polythiophene-*b*-poly(flourene-co-benzothiadiazole) Block Copolymers” - *Abstracts of Papers of the ACS* **242**, 142-PMSE (2011).
- 67. CONFERENCE PROCEEDING:** S. B. Darling, **I. Botiz**, A. B. Martinson: “Rational design of nanostructured hybrid materials for photovoltaics” - *Abstracts of Papers of the ACS* **239**, 185-PMSE (2010).
- 68. CONFERENCE PROCEEDING:** **I. Botiz**, S. B. Darling: “Rational Design of Nanostructured Hybrid Materials for Photovoltaics” - *Active Polymers (Mat. Res. Soc. Symp. Proc.)*; A. Lendlein, V. Prasad Shastri, K. Gall, Eds. Warrendale/PA **1190**, 1190-NN03-20 (2009).