



АВТОБИОГРАФИЯ (CV)

Позиция по проекта BG05M2OP001-1.002-0010-C01. Ръководител Работен пакет 2 „ЗД медицина“

Лична информация:

Име **Георги Петров Алтънков**
Адрес **гр. София кв. „СТРЕЛБИЩЕ“ бл. 21 вх. А, ЕТАЖ 4**
Телефон **mob. ☎ +359 889973008**
E-mail **altankov@abv.bg**

Националност **България**
Дата на раждане **24/11/1050 г. София**

Трудов стаж:

- *Дати (от-до)* **11/2021 г. понастоящем**
 - Име и адрес на работодателя **МУ-Плевен**
 - Дейност или сферата на работа **Изследовател /професор, Тъканно Инженерство, Стволови клетки, ЗД медицина**
- *Дати (от-до)* **01.01.1984 г. и понастоящем**
 - Име и адрес на работодателя **Институт по Биофизика и Биомедицинско Инженерство (ИББИ) БАН гр. София**
 - Дейност или сферата на работа **тъканно инженерство, стволови клетки, клетка-матрикс взаимодействия, биоматериали, нановлакна**
 - Заемани длъжности **• , н. с., ст.н.с | ст.Професор, Ръководител секция, Зам. директор по науката, понастоящем Асоцииран Член на ИББИ – БАН**
- *Дати (от-до)* **04/2007 - 12/2018 г..**
 - Име и адрес на работодателя **Институт по Биоинженерия на Каталония, Барселона, Испания**
 - Дейност или сферата на работа **• тъканно инженерство, стволови клетки, клетка-матрикс взаимодействия, биоматериали, нановлакна**
 - Заемана длъжност **• IKREA Research Professor**
• Ръководител секция “Molecular Dynamics at Cell Biomaterials Interface”
- *Дати (от-до)* **01.1984 г. до 04/2007 г.**
 - Име и адрес на работодателя **Институт по Биофизика БАН**
 - Дейност или сферата на работа **• биофизика, кл.биология, кл.адхезия, взаимодействия на клетки с ЕЦМ, биоматериали, биосъвместимост**
 - Заемани длъжности **• Главен асистент 1984-1990 г.)**
• Н.с. II ст. - доцент (1990-2004 г.)
• Н.с. II ст. - професор (2004-понастоящем)

- ръководител секция „Клетъчна адхезия (2004-2007 г.)
- Зам. Директор по Науката (1999-2001 г.)

- *Дати (от-до)*
- Име и адрес на работодателя
- Дейност или сферата на работа
- Заемана длъжност

1999 год. до 2001 год.
GKSS Research Center, Berlin, Germany
Взаимодействие на клетки с биоматериали, биосъвместимост.
Гост Професор

- *Дати (от-до)*
- Име и адрес на работодателя
- Дейност или сферата на работа

1995 год. до 2001 год. (ежегодни научни визити)
GKSS Research Center, Berlin, Germany.
Биоматериали и клетъчна биосъвместимост.

- Заемана длъжност
- Гост учен

- *Дати (от-до)*
- Име и адрес на работодателя
- Дейност или сферата на работа
- Заемана длъжност

1990 год. до 2004 год.
Southwestern Medical Center at Dallas, TX., USA
• Биоматериали и клетъчна биосъвместимост.
• Postdok

ОБРАЗОВАНИЕ И ОБУЧЕНИЕ:

Медицински Институт Варна	1966 -1972	Лекар хуманна медицина
	1984 г.	Кандидат на медицинските науки
Институт по Биофизика БАН	2004 г.	Доктор на Биологическите науки

МАЙЧИН ЕЗИК

Български

ДРУГИ ЕЗИЦИ

Английски

Руски

Испански

- Четене
 - Писане
- Самостоятелно ниво на владеене
Самостоятелно ниво на владеене

ОРГАНИЗАЦИОННИ УМЕНИЯ И КОМПЕТЕНЦИИ

Координация, управление и администрация на хора, проекти и бюджети в професионалната среда или на доброволни начала – културата, спорт, образование и др.

Организация на международни конференции

Директор:

- NATO ARW “Nanoengineered Systems for Regenerative Medicine” Varna, Bulgaria, Sept 21-24, 2007.

Chair:

- 17th European Conference on Biomaterials (Barcelona) Sept. 11-14, 2002
- 2nd IBEC Symp. Bioengineering and Nanomedicine Barcelona, Apr. 14-15, 2009
- 3rd IBEC Symp. Bioengineering and -Nanomedicine Barcelona, June. 1-2, 2010

- *1st World Congress on Nanomedicine (Beijing, China) June 1-2, 2010*
 - *2nd World Congress on Nanomedicine (Shenzhen, China) Nov.*
 - *1st Biotechnology World Congress, Dubai, February 14-15, 2012*
- Ръководител на секции и работни групи**
 Институт по Биофизика –БАН
 Институт по Биоен지니어рия на Каталония, Барселона, Испания

ТЕХНИЧЕСКИ УМЕНИЯ И КОМПЕТЕНЦИИ

Работа с компютри, със специфично оборудване, машини и др.

Microsoft Office (Word, Excel, PowerPoint)

ПУБЛИКАЦИОННА ДЕЙНОСТ, ДРУГИ УМЕНИЯ И КОМПЕТЕНЦИИ

Компетенции, които не са споменати по-горе.

- **h-индекс (индекс на Хирш) - 32**
- Научни публикации – над 120 в международни списания, 1 книга и 5 глави от книги, 6 патента
- Цитирания: 3751 (Google Scholar 2021)

УЧАСТИЕ В НАУЧНО-ИЗСЛЕДОВАТЕЛСКИ ПРОЕКТИ

Опит в ръководството на Европейски проекти за последните 10 години:

FP7-PEOPLE-2012-IAPP (2013-2017) –FIBROGELNET– “Network for Development of Soft Nanofibrous Construct for Cellular Therapy of Degenerative Skeletal Disorders” (n° 324386) (Coordinator) Total costs of 950.000 Euro

MAT 2015 – 69315 –C3 (2015-2017) - MYOHEAL - Muscle regeneration after injury. Engineered biodegradable ion-loaded scaffolds to promote muscle regeneration. Collaborative Project funded by Spanish Ministry of Science and Innovation (Principal investigator) Total costs 70 000 Euro.

MAT2012-38359-C03-03 (2012-2014) –HELINSINERGY– “Material-driven Fibronectin Fibrillogenesis to Engineer Synergistic Growth Factor Microenvironments” funded by Spanish Ministry of Science and Innovation (Principal Investigator) Total costs of 50.000 Euro

EuroNanoMed project FP7 (2012-2014) –STRUCTGEL– “Nanostructured Gel for Cellular Therapy of Degenerative Skeletal Disorders” (Coordinator) Total costs of 752.239 Euro

EULANEST-037 (2010-2012) (European Latin American Network for Science and Technology) -FIBROGEL- “Bioinspired Nanofibrous Gel for Tissue Engineering of Cartilage and Bone” (Coordinator). Total costs of 312. 650 Euro

ДОПЪЛНИТЕЛНА ИНФОРМАЦИЯ

Списък на научните публикации и патенти за последните 10 години

1. Komsa-Penkova R., Stoycheva S., Tonchev P., Stavreva G., Todinova S., Georgieva G., Yordanova A., Kyurkchiev S., Altankov G. Morphological and Quantitative Evidence for Altered Mesenchymal Stem Cell Remodeling of Collagen in an Oxidative Environment—Peculiar Effect of Epigallocatechin-3-Gallate. *Polymers* 2022, 14, 3957. <https://doi.org/10.3390/polym14193957> (IF 4.207).
2. Komsa-Penkova R, Stavreva G, Belezmezova K, Kyurkchiev S, Todinova S, Altankov G. Mesenchymal Stem-Cell Remodeling of Adsorbed Type-I Collagen-The Effect of Collagen Oxidation. *Int J Mol Sci.* 2022 Mar 11;23(6):3058. doi: 10.3390/ijms23063058. PMID: 35328478; PMCID: PMC8953637.
3. Laura Ramalho, Salima Nedjari, Roberto Guarino, Firas Awaja, Dencho Gugutkov, George Altankov *Fibronectin/thermo-responsive polymer scaffold as a dynamic ex vivo niche for mesenchymal stem cells*

4. Gonzalez Garcia, C., Cantini, M., Ballester-Beltran, J., Altankov, G. and Salmeron-Sanchez, M. (2018) The strength of the protein-material interaction determines cell fate. *Acta Biomaterialia*, 77, pp. 74-84. (doi:10.1016/j.actbio.2018.07.016) (PMID:30006313)
5. Ikonomov O, Altankov G, Diego Sbrissa D, Shisheva A (2018) PIKfyve inhibitor cytotoxicity requires AKT suppression and excessive cytoplasmic vacuolation *Toxicology and Applied Pharmacology*, Volume 356, 1 October 2018, Pages 151-158
6. Guillem-Marti J, Boix-Lemonche G, Gugutkov D, Ginebra MP, Altankov G & Manero JM (2018) Recombinant fibronectin fragment III8-10/poly(lactic acid) hybrid nanofiber enhance the bioactivity of titanium surface, *Nanomedicine* Accepted for publication: Published online: 22 March 2018: 10.2217/nmm-2017-0342
7. Nedjari S, Awaja F & Altankov G (2017) Three Dimensional Honeycomb Patterned Fibrinogen Based Nanofibers Induce Substantial Osteogenic Response of Mesenchymal Stem Cells, *Scientific Reports*, 7, 15947 doi:10.1038/s41598-017-15956-8
8. Maria Valeska Bianchi, Firas Awaja and George Altankov (2017) Dynamic adhesive environment alters the differentiation potential of young and ageing mesenchymal stem cells, *Materials Science & Engineering C*, September 2017, 78, 467-474
9. Hristova-Panusheva K, Keremidarska-Markova M, Altankov G, Krasteva N. (2017) Age-related Changes in Adhesive Phenotype of Bone Marrow-derived Mesenchymal Stem Cells on Extracellular Matrix Proteins, *Journal of New Results in Science (JNRS)* 6(1) 11-19
10. Gugutkov D, Awaja F, Belemzova K, Keremidarska M, Krasteva N, Kuyrkchiev S, Gallego Ferrer G, Seker S, Elcin AE, Elcin YM and Altankov G (2017) Osteogenic Differentiation of Mesenchymal Stem Cells using Hybrid Nanofibers with Different Configurations and Dimensionality, *Journal of Biomedical Materials Research Part A (in press)* DOI: 10.1002/jbm.a.36065
11. Gugutkov D, Gustavsson J, Cantini M, Salmeron-Sánchez M and Altankov G (2017) Electrospun Fibrinogen/PLA Nanofibers for vascular tissue engineering, *Tissue Engineering and Regenerative Medicine* 11, 10, 2774-2781
12. Forget J, Awaja F, Gugutkov D, Gustavsson J, Gallego Ferrer G, Coelho-Sampaio T, Hochman-Mendez C, Salmeron-Sánchez M, and Altankov G (2016) Differentiation of Human Mesenchymal Stem Cells Toward Quality Cartilage Using Fibrinogen-Based Nanofibers *Macromol. Biosci.* 2016 vol 16(9) 1348-1359
13. Mingyan Zhao, George Altankov, Urszula Grabiec, Mark Bennett, Manuel Salmeron-Sanchez, Faramarz Dehghani & Thomas Groth (2016) Molecular composition of GAG-collagen I multilayers affects remodelling of terminal layers and osteogenic differentiation of adipose-derived stem cells, *Acta Biomaterialia* Vol 41, 1 September 2016, Pages 86–99 published on line: <http://dx.doi.org/10.1016/j.actbio.2016.05.023>
14. Nuno Miranda Coelho, Virginia Llopis-Hernández, Manuel Salmerón-Sánchez and George Altankov (2016) *Dynamic Reorganization and Enzymatic Remodeling of Type IV Collagen at Cell Biomaterial Interface*, In "Advances in Protein Chemistry and Structural Biology: Enzymes Mechanisms and Dynamics: Insights from Experimental and Computational Methods (Hr. Hristov Ed) - 105" ELSEVIER / S&T Book Production, Chennai.
15. Keremidarska, M., Gugutkov, D., Altankov, G. and Krasteva, N. (2015) Impact of electrospun nanofibres orientation on mesenchymal stem cell adhesion and morphology. *Comptes Rendus de L'Academie Bulgare des Sciences*, 68 (10): 1271-1276.
16. Toromanov G, Gugutkov D, Gustavsson J, Planell J, Salmerón-Sánchez M, & Altankov G (2015) Dynamic Behavior of Vitronectin at the Cell–Material Interface, *ACS Biomater. Sci. Eng.*, 1 (10), pp 927–934.
17. González-García C, Cantini M, Moratal D, Altankov G, Salmerón-Sánchez M (2013) Vitronectin alters fibronectin organization at the cell–material interface, *Colloids Surf. B: Biointerfaces*, 111, 618–625.
18. Gugutkov D, Gustavsson J, Ginebra M-P and Altankov G (2013) Fibrinogen nanofibers for guiding endothelial cells behavior, *Biomater Sci*, 1, 1065-1073.
19. Coelho NM, Salmerón-Sánchez M and Altankov G (2013) Fibroblast remodeling of type IV collagen at biomaterials interface, *Biomater. Sci*, 1, 494-50
20. Perez RA, Altankov G, Jorge-Herrero E, Ginebra M-P (2013) Micro- and nanostructured hydroxyapatite-collagen microcarriers for bone tissue-engineering applications. *J Tissue Eng Regen Med.* 7, 353-361
21. Virginia Llopis-Hernandez, Patricia Rico, David Moratal, George Altankov and Manuel Salmeron-Sanchez (2013) Role of Material-Driven Fibronectin Fibrillogenesis in Protein Remodeling, *BioResearch Open Access*, 2(5) 364-373. DOI: 10.1089/biores.2013.0017
22. Pecheva E, Pramatarova L, Hikov T, Hristova K, Altankov G, Montgomery P and Hanawa T (2012) Electrodeposition of Hydroxyapatite-Nanodiamond Composite Coating on Metals. Interaction with Proteins and Osteoblast-like Cells (Chapter 11), In: *Electrodeposition: Properties, Processes and Applications*, Surya Mohanty (Ed.) ISBN 978-1-61470-826-1.
23. Nuno Miranda Coelho, Cristina González-García, M. Salmerón-Sánchez and George Altankov (2011) Arrangement of Type IV Collagen on NH₂ and COOH functionalized surfaces, *Biotechnology & Bioengineering* 108, 12, 3009-3018

24. Hristova K, Pecheva EV, Pramatarova LD, Altankov G (2011) The interaction of osteoblast-like cells with apatite-nanodiamond coatings depends on fibronectin, *J Mater Sci Mater Med*, **22**, 8, 1891-1900
25. Perez R, Del Valle S, Altankov G, Ginebra M-P (2011) Porous hydroxyapatite and gelatin/hydroxyapatite microspheres obtained by calcium phosphate cement emulsion, *J Biomed Mater Res Part B: Appl Biomater*, **97B**, 156-168.
26. Nuno Miranda Coelho, Cristina González-García, M. Salmerón-Sánchez and George Altankov (2011) Arrangement of Type IV Collagen and Laminin on Substrates with Controlled density of –OH groups, *Tissue Engineering, Part A Sept*, 17-18, 2245-2257.
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28. Nuno Miranda Coelho, Cristina Gonzales-Garcia, Josep A. Plannell, Manuel Salmeron-Sanchez and George Altankov (2010) Different assembly of type IV collagen on hydrophilic and hydrophobic substrata alters endothelial cells interaction, *European Cells and Materials*, **19**, 262-272.
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30. Shastri V P, Altankov G and Lendlein A (2010) Editors “Advances in regenerative medicine: Role of nanotechnology and engineering principles”, Springer Netherlands.
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33. Planell J A, Navarro M, Altankov G, Aparicio C, Engel E, Gil J, Ginebra M-P and Lacroix D (2010) Materials surface effects on biological interactions, *In: Advances in Regenerative Medicine: Role of Nanotechnology and Engineering Principles* (eds. Shastri VP, Altankov G and Lendlein A) Springer Netherlands 233-252
34. Manuel Salmeron-Sanchez and George Altankov (2010). Cell-Protein-Material interaction in tissue engineering, *Tissue Engineering*, Daniel Eberli MD PhD (Ed.), ISBN: 978-953-307-079-7, INTECH (Available at: <http://sciyo.com/articles/show/title/cell-protein-material-interaction-in-tissue-engineering>).
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36. Pegueroles, M, C. Aparicio, M. Bosio, E. Engel, F.J. Gil, J.A. Planell, G. Altankov Spatial organization of osteoblast fibronectin matrix on titanium surfaces: Effects of roughness, chemical heterogeneity and surface energy (2010) *Acta Biomaterialia* **6** 291–301.
37. Gugutkov D, Cristina Gonzalez-Garcia, Jose Carlos Rodriguez Hernandez, George Altankov and Manuel Salmeron-Sanchez (2009) Biological Activity of the Substrate-Induced Fibronectin Network: Insight into the Third Dimension through Electrospun Fibers, *Langmuir* **25**, 10893-10900.
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39. Patricia Rico, Jose Carlos Rodriguez Hernandez, David Moratal, George Altankov, Manuel Monleon Pradas and Manuel Salmeron-Sanchez (2009) Substrate-Induced Assembly of Fibronectin into Networks: Influence of Surface Chemistry and Effect on Osteoblast Adhesion, *Tissue Eng. Part A*, **15**, 11, 3271-3281.
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42. Altankov G., T. Vladkova, N. Krasteva, A. Kostadinova, I. Keranov (2009) Preparation of protein repellent PEI/PEG coatings and fibronectin reorganization study on the coated surfaces, *Journal of the University of Chemical Technology and Metallurgy*, **44**, 4, 333-340.
43. Gustavsson J, Altankov G, Errachid A, Samitier J, Planell J, Engel E (2008) Surface Modifications of Silicon Nitride Based ISFETs for Cellular Biosensor, *J Mater Sci: Mater Med* **19** (4) 1839-1850.
44. Keranov I, T Vladkova M, Minchev, A Kostadinova and G Altankov (2008) Preparation, characterization, and cellular interactions of collagen-immobilized PDMS surfaces, *Journal of Applied Polymer Science*, **110** (1), 321-330.

45. Engel E, Del Vila S, Aparicio C, Altankov G, Asin L, Planell JA and MP Ginebra (2008) Discerning the role of topography and ion exchange in cell response of bioactive tissue engineering scaffolds, *Tissue Engineering Part A*, 14 (8) 1341-1351.
46. Manara S, Paolucci F., Palazzo B, Marcaccio M, Foresti E, Tosi G, Sabatini S, Sabatino P, Altankov G, Roveri N (2008) Biomimetic hydroxiapatite coating electrochemically deposited on titanium plate, *Inorganic Chimica Acta* 361 (6), 1634-1645.
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Патенти:

1. Manev V, Maneva A, Altankov G, Maneva L, “Device for Extracorporeal Sorption of Carcino-embryonic Antigen”, BG Patent No 66184 B1, 2011
2. Jankova K, Altankov G, Ulbricht M, Gunnar J and V. Thom, “Biocompatible material with novel functionality”, European Patent Application WO 0215955, 28/02/2002
3. Altankov G, Dimoudis N. “Autodegradable microcarriers and their use” European Patent Application PCT/EP98/06715, 21/10/1998.
4. Serdev N, Altankov G, Brodvarova I, Tomov N “Method for coverage of wounds with epithelial cells” BG Patent No 51904/1993.
5. Altankov G. “Method for preparation of protein-coated gelatine microspheres”, BG patent (INRA) No 83394/18/03/1988
6. Altankov G, Popdimitrov I, “Camera for cell electrophoresis”, BG Patent (INRA) No 4349/05/05/1979.