

## Curriculum Vitae

- **Personal information**

Name and date of birth: **SERBAN ANDREEA IREN**, 03.08.1975

- **Education**

2000 **MSc in Biophysics**, Biophysics and Physiology Department, University of Bucharest, Romania.

2006 **PhD in Biology**, Biochemistry and Molecular Biology Department (BMBD), Faculty of Biology, University of Bucharest, Romania.

2016 **Habilitation Thesis in Biology**. From 2017 PhD advisor at University of Bucharest, Romania.

- **Current and previous position**

2013 – present **Full Professor**, Preclinical Sciences Department (PSD), University of Agronomical Sciences and Veterinary Medicine from Bucharest (UASVMB). Lectures on Chemistry, Biochemistry, Molecular biology techniques applied in veterinary medicine.

2009 – 2013 **Associate Professor**, PSD, UASVMB. Lectures on Biochemistry

2008 – 2013 **Senior Researcher**, BMBD, Faculty of Biology, University of Bucharest

2006 – 2009 **Lecturer**, PSD, UASVMB. Lectures on Physical Chemistry

1999 – 2006 **Assistant Professor**, PSD, UASVMB. Laboratory lessons on Biochemistry

- **Organization of scientific meetings**

2011 President of the International Symposium of the Veterinary Medicine Faculty Bucharest

2013 - 2021 Member of the Scientific Board, International Conference of the UASVMB  
Bucharest

- **Institutional responsibilities**

2011 – 2012 Vice-Dean for Scientific Research, FVM, USAMVB

2011 – *pres.* Head of Preclinical Sciences Department, FVM, USAMVB

- **Commissions of trust**

2008 – 2011 Evaluator, National Centre for Programs Management – CNMP, Romania

2011 – *pres.* Editorial Board, Scientific Works, C Series, Veterinary Medicine

2013 – *pres.* Reviewer at J Eur Acad Dermatol., Cell Physiol Biochem, Amino Acids, End Res., Plos One, Sci.Rep., Crit. Rev. Food Sci. Nutr., Front. Med., JoVe,

J.Biol.Res. Int. J. Geosci., Int. J. Mol. Sci., World J. Surg. Oncol., Exp. Ther.  
Med., Medicina, Med. Sci. Monit. Basic Res., Molecules.

2013 – *pres.* Evaluator, UEFISCDI (PD, TE);

- **Memberships of Scientific Societies**

2008 – *pres* Member, European Association for the Study of Diabetes (EASD)

2000 – *pres* Member, Federation of European Biochemical Societies (FEBS)

- **Research projects and publications**

✓ *Coordinator of 5 national research projects:*

1. High sensitivity technology for diagnosing colorectal cancer patients at risk of post-resection peritoneal recurrence; guiding personalized therapy (CRCRISK), no. 45PTE/07.09.2020 (2020-2022);

2. The impact of Maillard reaction compounds on the quality and safety of UHT milk based foods and their implication in the development of diabetes-like complications, code: PNII-RU-TE-2012-3-0034, no. 15/26.04.2013, (2013-2016);

3. Fluorescent silica nanoparticle based imaging – evaluation of tissue toxicity due to in vivo accumulation by biochemical and molecular approaches, UEFISCDI, TE-127, no. 99 / 02.08.2010.

4. The importance of advanced glycation end products in the development of diabetes complication, researches in vitro and in vivo CNCSIS research contract, AT 185, no. 12 GR/14.05.2007 (2007-2009);

5. Studies of in vivo and in vitro of collagen glycation in diabetes rats, CNCSIS, AT 764, no. 33747/ 03.07.2003 (2003-2005).

✓ *Cell biology expert in one international project:* Research on the development of Sylibum Marianum hepatoprotective nanoparticles with high bioavailability, Hungary-Romania Cross-Border Co-Operation Program (SM-NANOHEPAT) 09/2010-02/2012;

✓ Researcher member at **10 national research projects.**

✓ **69 articles** published in ISI Thomson Reuters Journals (24 in full and 45 in summary);

✓ **6 books and monographs, one international chapter.**

- **Scientometric indicators**

**546 citations** and **h-index = 12** (WOS and Scopus; Author ID: 35312237500)

**752 citation** and **h-index=14** (Google Scholar).

- **Personal skills and competences**

Genomic and transcriptomic analysis; Cancer and diabetes biomarker identification; DNA sequencing and mutation analysis; Cells proliferation, oxidative stress and inflammation molecular markers evaluation; Biocompatible structures for bioengineering and regenerative medicine; Bioinformatics and biostatistics methods in genomics and transcriptomics assessment; Development of high sensitivity technology for diagnosing colorectal cancer; Ultrasounds, Schuman resonances and Pcl pulsations combination in cancer and diabetes noninvasive treatment strategy; Food chemistry and food safety (mycotoxins and Maillard Reaction assessment).

- **Specialist member in PhD theses evaluation committees:** at University of Bucharest, USAMVB and “Carol Davila” University of Medicine and Pharmacy.
- **Significant publications in journals indexed in Clarivate Analytics, Web of Science, Core Collection:**
  1. Valentin Calu, Adriana Ionescu, Loredana Stanca, Ovidiu I. Geicu, Florin Iordache, Aurelia Magdalena Pisoschi, Andreea Iren Serban, Liviu Bilteanu, Key biomarkers within the colorectal cancer related inflammatory microenvironment. *Sci Rep* 11, 7940, 2021.
  2. Liviu Bilteanu, Ovidiu I. Geicu, Loredana Stanca, Aurelia M. Pisoschi, Florea Serban, Andreea I. Serban, Valentin Calu, Human eye optics within a non-euclidian geometrical approach and some implications in vision prosthetics design, *Biomolecules*, Vol. 11(2) Article number 215, 2021.
  3. Aurelia Magdalena Pisoschi, Aneta Pop, Florin Iordache, Loredana Stanca, Gabriel Predoi, Andreea Iren Serban, Oxidative stress mitigation by antioxidants - an overview on their chemistry and influences on health status, *European Journal of Medicinal Chemistry*, Vol. 209, Article number 112891, 2021.
  4. Geicu O.I., Stanca L, Voicu S.N., Dinischiotu A., Bilteanu L., Serban A.I., Calu V., (2020) Dietary AGEs involvement in colonic inflammation and cancer: insights from an in vitro enterocyte model, *Scientific Reports* 8 (1), Article number: 104681, 2020.
  5. Aurelia Magdalena Pisoschi, Aneta Pop, Iuliana Gajaila, Florin Iordache, Razvan Dobre, Iuliana Cazimir, Andreea Iren Serban, Analytical methods applied to the assay of sulfur-containing preserving agents, *Mirochemical Journal*, Vol. 155, Article number 104681, 2020.
  6. S.N. Voicu, M. Balas, M.S. Stan, B. Trică, A. I. Serban, L. Stanca, A. Hermenean, A. Dinischiotu, Amorphous Silica Nanoparticles Obtained by Laser Ablation Induce Inflammatory Response in Human Lung Fibroblasts, *Materials*, 12 (7), Article number: 1026, 2019.
  7. Geicu O.I., Stanca L, Dinischiotu A, Serban A.I., Proteomic and immunochemical approaches to understanding the glycation behaviour of the casein and  $\beta$ -lactoglobulin fractions of flavoured drinks under UHT processing conditions, *Scientific Reports* 10 (1), Article number: 12869, 2018.

8. Andreea Iren Serban, Stanca L, Geicu OI, Munteanu MC, Dinischiotu A, RAGE and TGF- $\beta$ 1 cross-talk regulate extracellular matrix turnover and cytokine synthesis in AGEs exposed fibroblast cells. *PLoS ONE* 11(3): e0152376, 2016.
9. Andreea Iren Şerban, O. I. Geicu, and F. Serban, Geophysicochemical model of an ionospheric auroral gyroscope, *Earth and Space Science*, 3 (1), 15–33, 2016.
10. Andreea Iren Serban, L.Stanca, OI.Geicu, MC.Munteanu, M. Costache, A.Dinischiotu, Extracellular matrix is modulated in advanced glycation end products milieu via a RAGE receptor dependent pathway boosted by transforming growth factor- $\beta$ 1, *Journal of Diabetes*, 7(1):114-124, 2015.
11. Andreea Iren Serban, L. Stanca, O.I. Geicu, A. Dinischiotu, AGEs-induced IL-6 synthesis precedes RAGE up-regulation in HEK 293 cells: an alternative inflammatory mechanism?, *Int. J. Mol. Sci.*, 16(9), 20100-20117, 2015.
12. Andreea Iren Serban, L. Stanca, C. Sima, A.C. Staicu, O. Zarnescu, A. Dinischiotu, Complex responses to Si quantum dots accumulation in carp liver tissue: Beyond oxidative stress, *Chem. Biol. Interact.*, 239, 56-66, 2015.
13. L. Stanca, C. Sima, S.N. Petrache (Voicu), Andreea Iren Serban, A. Dinischiotu, In vitro evaluation of the morphological and biochemical changes induced by Si/SiO<sub>2</sub> QDs exposure of HepG2 cells, *Romanian Reports in Physics*, 67,(No. 4), 1512–1524, 2015.
14. Aurelia Magdalena Pisoschi, Aneta Pop, Andreea Iren Serban and Cornelia Fafaneata, Electrochemical methods for ascorbic acid determination, *Electrochimica Acta*, Vol. 121, pp. 443-460, 2014.
15. L. Stanca, S. N. Petrache, Andreea Iren Serban, A. C. Staicu, C. Sima, M. C. Munteanu, O. Zarnescu, D. Dinu, A. Dinischiotu, Interaction of silicon based quantum dots with Gibel carp liver: oxidative and structural modifications, *Nanoscale Research Letters*, 8:254, 2013.
16. A. Dinischiotu, L. Stanca, D. Gradinaru, S. N. Petrache, M. Radu, Andreea Iren Serban, *Oxidative Stress and Nanotechnology, Methods and Protocols, Series: Methods in Molecular Biology*, Vol.1028, Chapter 10: Lipid Peroxidation Due to In Vitro and In Vivo Exposure of Biological Samples to Nanoparticles, pp.156-164, Armstrong Donald, Bharali J. Dhruva (Eds.), Hummana Press, Springer, 2013.
17. L.Stanca, S.N. Petrache, M. Radu, Andreea Iren Serban, M.C. Munteanu, D.Teodorescu, A.C. Staicu, C. Sima, M.Costache, C. Grigoriu, O. Zarnescu, A. Dinischiotu, Impact of silicon-based quantum dots on the antioxidative system in white muscle of *Carassius auratus gibelio*, *Fish Physiol Biochem* 38(4),963-975, 2012.
18. S. N. Petrache, L.Stanca, Andreea Iren Serban, C. Sima, A. C. Staicu, M. C. Munteanu, M. Costache, R. Burlacu, Otilia Zarnescu, Anca Dinischiotu, Structural and Oxidative Changes in the Kidney of Crucian Carp Induced by Silicon-Based Quantum Dots, *Int. J. Mol. Sci.* 13(8), 10193-10211, 2012.
19. A.M. Pisoschi, A. Pop, A.I. Serban and Gh.P. Negulescu, Ethanol determination by an amperometric bienzyme sensor based on a Clark-type transducer, *Journal of Electroanalytical Chemistry*, Vol. 671, pp. 85–91, 2012 .
20. D.Dinu, G.O.Bodea, C.D. Ceapa, M. C. Munteanu,F. Israel-Roming, Andreea Iren Serban, A. Hermenean, M. Costache, O. Zarnescu, A.Dinischiotu, Adapted response of the

- antioxidant defense system to oxidative stress induced by deoxynivalenol in Hek-293 cells, *Toxicol*, 57, 1023-1032, 2011.
21. Andreea Iren Serban, M.Costache, A.Dinischiotu. Controversial behavior of aminoguanidine in the presence of either reducing sugars or soluble glycated bovine serum albumin, *Carbohydrate Research*, 346 (18), 2872-2880, 2011.
  22. M. Radu, M.C. Munteanu, S. Petrache, Andreea Iren Serban, D.Dinu, M. Costache, A. Dinischiotu, The depletion of intracellular glutathione and increase of lipid peroxidation mediate the hematite nanoparticles-induced cytotoxicity in MRC-5 cells, *Acta Biochimica Polonica*, 57, 1-6, 2010.
  23. G.O. Dragomir Bodea, M.C. Munteanu, D. Dinu, Andreea Iren Serban, F. Israel Roming, M. Costache, A. Dinischiotu, Influence of deoxynivalenol on the oxidative status of HepG2 cells, *Romanian Biotechnological Letters*, 14 (2), 4349-4359, 2009.
  24. Andreea Iren Serban, E. Condac, M. Costache, A. Dinischiotu, The relationship between AGEs, Cu<sup>2+</sup> and crosslinking of collagen, *Revue Roumaine de Chimie*, 54 (1), 93-101, 2009.
  25. Andreea Iren Serban, M.Costache, A.Dinischiotu. AGEs and glucose levels modulate type I and III procollagen mRNA synthesis in dermal fibroblasts cell culture, *Experimental Diabetes Research*, 2008 (1), 1-7, 2008.