PERSONAL INFORMATION

Stelian Arjoca

Timisoara, Romania

arjoca.stelian@umft.ro

Sex Male | Date of birth 25/09/1988 | Nationality Romanian

WORK EXPERIENCE

09/2018 – to date — ASSISTANT PROFESSOR

Victor Babes University of Medicine and Pharmacy, Timisoara, Romania

Department III – Biophysics Group

10/2017 – 08/2018 — RESEARCH ASSISTANT

West University of Timisoara, Timisoara, Romania

Faculty of Physics

03/2017 – 09/2017 — PHYSICIST/ LAB ASSISTANT

Victor Babes University of Medicine and Pharmacy, Timisoara, Romania

Department II – Genetics Group

09/2012 – 08/2016 — JUNIOR RESEARCHER

National Institute for Materials Science, Tsukuba, Japan

Optical Single Crystals Group

EDUCATION AND TRAINING

2016 — PhD in Materials Engineering

Waseda University, Tokyo, Japan

School of Advanced Science and Engineering, Research on single crystal growth and characterization

2012 — MSc in Physics

West University of Timisoara, Timisoara, Romania

Faculty of Physics - “Physics of crystalline materials” program

2010 — BSc in Physics

West University of Timisoara, Timisoara, Romania

Faculty of Physics - “Environmental Physics” program

PERSONAL SKILLS

Mother tongue: Romanian

Other languages: English (advanced), French (intermediary), Japanese (beginner)

Communication skills

- good communication skills in both Romanian and English languages (developed during my work experience in Romania and abroad), including technical writing (developed and practiced while redacting theses, scientific articles, technical reports or research project proposals).
- experienced in public speaking (presenter at multiple national and international conferences or events)
- teaching experience: (1) coordinating Biophysics practical works for Medicine students (up to 30 participants), (2) “Professional communication” and (3) “Crystal Growth Methods” courses for MSc students at West University of Timisoara;
- experience working in multicultural environments;
- willing to take part in various sociocultural activities.

Organisational / managerial skills

- punctuality, ability to work under pressure and to meet deadlines;
- ability to self-evaluate and self-improve;
- good organisational skills developed while assembling and promoting seminaries and conferences;
- willing to participate in organising and promoting academic events.

Job-related skills

- Biophysics experiments;
- Knowledge and practical skills in 3D (bio)printing;
- Materials synthesis and processing: solid-state reaction, crystal growth (Czochralski, Bridgman, micro-PD), cutting and polishing crystals, thermal treatments;
- Material analysis: chemical composition (XRD, XRF, DSC), spectrophotometry (UV-Vis, FTIR, PL, lifetime, QE, chatodo- and radio-luminescence);
- Specialised software: CAD/CAM (Autodesk Fusion 360, Cura), crystallography (FullProf, Match!, FindIt, Vesta), numerical modelling of heat and mass transport (ANSYS, CrysVUn), spectrophotometry (SpecWin Pro)

Computer skills

- Proficient user of Microsoft Windows, macOS și Linux (Ubuntu, Arch) operating systems;
- Good command of Office suites (Microsoft, LibreOffice, WPS, macOS);
- LaTeX typesetting;
- Python programming;
- Experience in data processing, analysis and visualization (pyplot, OriginLab, Prism, gnuplot).

Driving licence

Category B

ACADEMIC RESULTS

Hirsch index of 5 (WOS citation report) **or 6** (Scopus, Google Scholar);
Author of **10 ISI publications** (4 as first author) with **>150 citations in the last 5 years** (WOS);
Author of another 3 publications indexed in international databases;
Oral and poster presentations at over 35 national and international conferences.

Research projects

Director of research projects won in national/institutional competitions:

1. 2020–2022 – "Development and experimental validation of 3D bioprinting software for building model tissues for cancer research", postdoctoral grant won in UMFVBT internal competition, contract no. 1POSTDOC/1310/31.01.2020, Romania (*in progress*)
2. 2016 – "Synthesis and characterization of fluoro-elpasolite compounds", National Competition UEFISCDI 2016, Program 1.1 – Postdoctoral research, Romania (*not implemented*)

Member in research teams:

1. 2017 – "Physical and numerical experiments for studying the laser accelerated particles and their interaction with crystalline materials" (ELICRYS-2), grant no. 32-ELI/01.09.2016, Romania
2. 2014–2016 – "Development of single crystal phosphors for high-brightness LEDs", Grant JSPS KAKENHI No. 25420308, Japan

Honours and awards

2021 – **Winner** of **Romanian Healthcare Awards 2021** competition, "**Proiectul de Cercetare al Anului**" ("The Research Project of the Year") section.

2017 – **"Best Poster Presentation Award"** (awarded during Laser Ignition Summer School, 19-22 July, Brasov, Romania).

2015 – **"Excellent Student Presentation Award"** (awarded during the 2015 Annual Meeting of the Materials Science Society of Japan, 22 August, Tokyo, Japan).

2013, 2014, 2015 – Recipient of **Waseda University Young Doctoral Students Scholarship**.

2012 – Recipient of **Japan Student Services Organization Scholarship**.

List of scientific publications

Research articles published in journals indexed in WOS Core Collection:

1. F. Bojin, A. Robu, M.I. Bejenariu, V. Ordodi, E. Olteanu, A. Cean, R. Popescu, M. Neagu, O. Gavriliuc, A. Neagu, **S. Arjoca**, V. Păunescu, "3D bioprinting of model tissues that mimic the tumor microenvironment", *Micromachines* **12** 535 (2021);
2. A. Popescu, **S. Arjoca**, D. Vizman, "Numerical study of EMF cylindrical configuration for directional solidification growth of multi-crystalline silicon", *Romanian Journal of Physics* **62** 608 (2017);
3. **S. Arjoca**, D. Inomata, Y. Matsushita, K. Shimamura, "Growth and optical properties of $(Y_{1-x}Gdx)_3Al_5O_{12}$:Ce single-crystal phosphors for high-brightness neutral white LEDs and LDs", *CrystEngComm* **18** 4799-4806 (2016);
4. **S. Arjoca**, E.G. Villora, D. Inomata, Y. Arai, Y. Cho, T. Sekiguchi, K. Shimamura, "High homogeneity, thermal stability and external quantum efficiency of Ce:YAG single-crystal powder phosphors for white LEDs", *The Journal of the Ceramic Society of Japan* **124** 574-578 (2016);
5. E.G. Villora, **S. Arjoca**, D. Inomata, K. Shimamura, "Single-crystal phosphors for high-brightness white LEDs/LDs", *Proceedings of SPIE:9768, Light-Emitting Diodes: Materials, Devices and Applications for Solid State Lighting XX,* 976805 (2016);
6. **S. Arjoca**, E.G. Villora, D. Inomata, K. Aoki, Y. Sugahara, K. Shimamura, "Temperature dependence of Ce:YAG single-crystal phosphors for high-brightness white LEDs/LDs", *Materials Research Express* **2** 055503 (2015);
7. E.G. Villora, **S. Arjoca**, K. Shimamura, D. Inomata, K. Aoki, "beta-Ga_2O_3 and single-crystal phosphors for high-brightness white LEDs and LDs, and beta-Ga2O3 potential for next generation of power devices", *Proceedings SPIE:8987, Oxide-based Materials and Devices V*, 89871U (2014);
8. **S. Arjoca**, E.G. Villora, D. Inomata, K. Aoki, Y. Sugahara, K. Shimamura, "Ce:$(Y_{1-x}Lu_x)_3Al_5O_{12}$ single-crystal phosphor plates for high-brightness white LEDs/LDs with high-color rendering (Ra>90) and temperature stability", *Materials Research Express* **1** 025041 (2014);
9. A. Neculae, **S. Arjoca**, D. Vizman, "Numerical study of the heat transfer in buildings for different environmental conditions", *AIP Conference Proceedings* **1387** 276-282 (2011).

Research articles published in journals indexed in international databases:

1. R.A. Tuce, **S. Arjoca**, M. Neagu, A. Neagu, "The use of 3D-printed surgical guides and models for sinus lift surgery planning and education", *Journal of 3D printing in Medicine* **3**(3) 145-155 (2019);
2. C. Sabou, S. Cătană, A. Neagu, **S. Arjoca**, M. Neagu, V. Pupăzan, "Changes in body composition induced by diet and exercise", *Romanian Journal of Biophysics* **28**(2) 29-43 (2018);
3. E.G. Villora, **S. Arjoca**, D. Inomata, K. Aoki, K. Shimamura, "Single-Crystal Phosphors for High-Brightness White LEDs and LDs" (*review article*), *Journal of Japanese Association for Crystal Growth* **42**(2) 119-129 (2015).

Meeting abstracts published in journals indexed in WOS Core Collection:

1. F. Bojin, A. Robu, M.I. Bejenariu, V. Ordodi, E. Olteanu, A. Cean, R. Popescu, M. Neagu, O. Gavriliuc, A. Neagu, **S. Arjoca**, V. Păunescu, "3D bioprinting of model tissues that mimic the tumor microenvironment", *European Biophysics Journal with Biophysics Letters* **50** (Suppl1) 173 (2021).

Chapters in volumes indexed in WOS:

1. K. Shimamura, **S. Arjoca**, E.G. Villora, D. Inomata, K. Aoki, A. Funaki, T. Hatanaka, T. Kizaki, K. Naoe, "Development of Electro-Optical Single Crystals for Energy Saving", Ch.8 of *Ceramic Materials for Energy Applications IV* (2014).