



Gavril-Ionel Giurgi

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

EDUCATION AND TRAINING

30/09/2018 – CURRENT Cluj-Napoca, Romania

PHD IN CHEMISTRY Babeş-Bolyai University, Faculty of Chemistry and Chemical Engineering

- Studying the literature in Organic Solar Cells (OSCs) and manufacturing and characterizing OSCs.
- Developing methods to improve the performance of OSCs.

Address Str. Arany Janos 11, 400028, Cluj-Napoca, Romania | **Website** <http://chem.ubbcluj.ro/> |

Field of study Organic Solar Cells

30/09/2016 – 16/07/2018 Cluj-Napoca, Romania

MASTER'S DEGREE IN ELECTRONIC ENGINEERING Faculty of Electronics, Telecommunications, and Information Technology; Technical University

Address Str. George Barițiu 26-28, 400027, Cluj-Napoca, Romania | **Website** <https://etti.utcluj.ro/>

30/09/2012 – 14/06/2016 Cluj-Napoca, Romania

ENGINEER'S DEGREE Faculty of Electronics, Telecommunications, and Information Technology; Technical University

Address Str. George Barițiu 26-28, 400027, Cluj-Napoca, Romania | **Website** <https://etti.utcluj.ro/>

14/09/2008 – 14/06/2012 Baia-Mare, Romania

HIGH SCHOOL DIPLOMA Vasile Lucaciu National College

Address Str. Culturii 2, 430282, Baia-Mare, Romania | **Website** <https://www.lucaciu.ro/>

DIGITAL SKILLS

Matlab/Simulink | Sigma Plot | Eagle | LTSpice | Proteus, | PSIM | Microsoft Visual Studio | Orcad | Microsoft Office

● WORK EXPERIENCE

15/11/2022 – 15/01/2025 Cluj-Napoca, Romania

RESEARCH ASSISTANT UNIVERSITATEA BABES-BOLYAI

- Manufacturing single-component organic solar cell (OSC) prototypes based on Covalent Organic Frameworks (COFs).
- Measurement and investigation of performance parameters for COF-based OSC prototypes.

01/11/2021 – 01/11/2022 Cluj-Napoca, Romania

RESEARCH ASSISTANT UNIVERSITATEA TEHNICA

- Manufacturing of flexible substrate (PET) organic solar cell (OSC) prototypes.
- Measurement and investigation of performance parameters for flexible OSC prototypes.
- Modeling of organic solar cells in the Matlab/Simulink programming environment.
- Creating series/parallel OSC connections for powering electronic components (LEDs, supercapacitors, "on-body" sensors, etc.).

30/09/2018 – 30/09/2020 Cluj-Napoca, Romania

RESEARCH ASSISTANT UNIVERSITATEA BABES-BOLYAI

- Manufacturing of two-component and single-component organic solar cell (OSC) prototypes.
- Measurement of performance parameters for OSC prototypes.
- Development of procedures for investigating the obtained devices.
- Creation of datasheets regarding OSC performance.

22/11/2016 – 01/11/2018 Cluj-Napoca, Romania

MAINTENANCE ENGINEER FOR COMPUTER EQUIPMENT AND NETWORKS SC. JOLIDON IMPORT EXPORT SRL

- Maintenance of computer systems and electronic equipment.
- Technical support for installation and maintenance of IT networks.

12/07/2015 – 19/08/2015 Baia Mare, Romania

ELECTRONICS ENGINEERING TECHNICIAN SC NAGELIN SERVICE SRL

- Maintenance services for air conditioning units and heating systems.

● MANAGEMENT AND LEADERSHIP SKILLS

Certificate of Completion for the "Entrepreneurial Skills" Course

● HONOURS AND AWARDS

23/06/2021

2nd Place in the "From Research to Start-up" Competition, organized within the POCU/380/6/13/123886 project: Entrepreneurship for Innovation through Doctoral and Postdoctoral Research – Babeş-Bolyai University

● PUBLICATIONS

The Impact of Structural Modifications in Donor-Acceptor Systems on Homojunction Organic Solar Cell Photovoltaic Properties

Daniel-Florin Bogoşel¹, Gavril-Ionel Giurgi¹, Alexandru Balan, Alexandra Pop, Ion Grosu, Andreea Petronela Crişan, Anamaria Terec

Organic Electronics, 2025, **141**, 107212.

¹ These authors contributed equally to this work.

Non-Fullerene Electron Acceptors Based on Hybridisation of Corannulene and Thiophene-S,S-Dioxide Motifs

Dr. Gábor Báti, Dr. Dániel Csókás, Gavril-Ionel Giurgi, Jingsong Zhou, Dr. Lorant A. Szolga, Dr. Richard D. Webster, Dr. Mihaela C. Stuparu

Chemistry – A European Journal, 2023, **29**, e202203856

Bulk and bilayer inverted organic solar cells (OSCS) exhibiting D-A and A-D-A donors with 2,2'-bi[3,2-b]thienothiophene units and PC61BM or C70 acceptors

Levi Gabrian, Gavril-Ionel Giurgi, Lorant Szolga, Andreea Petronela Crişan, Elena Bogdan, Ramona Voichiţa Gălătuş, Anamaria Terec, Ion Grosu

Studia Universitatis Babeş-Bolyai Chemia, 2023, **68**, 275-283.

Exploring the Optoelectronic Properties of D-A and A-D-A 2,2'-bi[3,2-b]thienothiophene Derivatives

Levi Gabrian, Gavril-Ionel Giurgi, Ioan Stroia, Elena Bogdan, Andreea Petronela Crişan, Niculina Daniela Hădade, Ion Grosu, Anamaria Terec

Molecules, 2022, **27**, 8463.

Structure-properties of small donor-acceptor molecules for homojunction single-material organic solar cells

Natalia Terenti[†], Gavril-Ionel Giurgi[†], Andreea Petronela Crişan, Cătălin Anghel, Alexandra Bogdan, Alexandra Pop, Ioan Stroia, Anamaria Terec, Lorant Szolga, Ion Grosu, Jean Roncali

Journal of Materials Chemistry C, 2022, **10**, 5716-5726.

[†] These authors contributed equally to this work.

Effect of the Terminal Acceptor Unit on the Performance of Non-Fullerene Indacenodithiophene Acceptors in Organic Solar Cells

Natalia Terenti[†], Gavril-Ionel Giurgi[†], Lorant Szolga, Ioan Stroia, Anamaria Terec, Ion Grosu, Andreea Petronela Crişan

Molecules, 2022, **27**, 1229-1244.

[†] These authors contributed equally to this work.

Benefits of Fuzzy Logic on MPPT and PI Controllers in the Chain of Photovoltaic Control Systems

Gavril-Ionel Giurgi, Lorant Andras Szolga, Danut-Vasile Giurgi

Applied Sciences, 2022, **12**, 2318.

Photovoltaic performances of two triarylamine-based donors in various inverted cell configurations

Gavril-Ionel Giurgi, Lorant Szolga, Andreea Crisan, Ion Grosu, Jean Roncali

Studia Universitatis Babeş-Bolyai Chemia, 2021, **66**, 97-105.

Structure-properties relationships in triarylamine-based push-pull systems-C60 dyads as active material for single-material organic solar cells

Alexandra Bogdan, Lorant Szolga, Gavril-Ionel Giurgi, Andreea Petronela Crişan, Diana Bogdan, Sarinya Hadsadee, Siriporn Jungsuttiwong, Riccardo Po, Ion Grosu, Jean Roncali

Dyes and Pigments, 2021, **184**, 108845.

Power Conversion Performance of a Single-Phase PV Inverter with Fuzzy Logic Algorithm

Gavril-Ionel Giurgi, Dorin Petreus, Lorant Andras Szolga, Danut-Vasile Giurgi

IOP Conf. Ser.: Earth Environ. Sci., 2021, **897**, 012018

Mono- and di-substituted pyrene-based donor- π -acceptor systems with phenyl and thienyl π -conjugating bridges

Monica Irina Nan, Eszter Lakatos, Gavril-Ionel Giurgi, Lorant Szolga, Riccardo Po, Anamaria Terec, Siriporn Jungsuttiwong, Ion Grosu, Jean Roncali

Dyes and Pigments, 2021, **184**, 108845.

Inverted versus direct structure bulk heterojunction organic solar cells involving a triphenylamine-based small molecular donor

Studia Universitatis Babeş-Bolyai Chemia, 2020, **65**, 95-106.

Gavril-Ionel Giurgi, Lorant Szolga, Istvan Kovacs, Elena Bogdan, Niculina Daniela Hădăde, Anamaria Terec, Ion Grosu, Jean Roncali

● **CONFERENCES AND SEMINARS**

26/08/2021 – 29/08/2021 Florence (Italy)

Power Conversion Performance of a Single-Phase PV Inverter with Fuzzy Logic Algorithm

The 4th International Conference on Renewable Energy and Environment Engineering

03/06/2021 – 04/06/2021 Cluj-Napoca (Romania)

Inverted organic solar cells based on single-material

Young Researchers' International Conference on Chemistry and Chemical Engineering (YRICCCE III)