



## Dr. Andra-Elena Bejan

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 0749384756,  bejan.andra@icmpp.ro

### EDUCATION

- 2019–2016 **PhD student, PhD Thesis:** "Triarylamine-based derivatives for advanced materials", Romanian Academy, Petru Poni" Institute of Macromolecular Chemistry, Polycondensation and Thermostable Polymers, Iasi, Romania
- 2016-2014 **Master degree** - "Pharmaceutical and cosmetic products" specialization, Faculty of Chemical Engineering and Environmental Protection, "Gh. Asachi" Technical University, Iasi, Romania
- 2014-2011 **Bachelor of Chemistry** - "Chemistry" specialization, Faculty of Chemistry, "Alexandru Ioan Cuza" University, Iasi, Romania

### OTHER

1. "FROM BIOMASS TO BIOPRODUCTS", University of the Basque Country, Engineering School of Gipuzkoa, San Sebastian, Spain, 30.04.2018 – 04.05.2018
2. "International Summer School on Crystal Growth and Advanced Materials for Energy Conversion", Bucuresti, Romania, 10.07.2017 – 15.07.2017
3. Psycho-pedagogical Training for Level 1 (Initial training) towards Teaching Certification, "Chemistry" domain, Faculty of Chemistry, "Alexandru Ioan Cuza" University, Iasi, Romania, 10.2013 – 06.2014

### PROFESSIONAL EXPERIENCE

- 2019 – Present **Research assistant**, Electroactive Polymers and Plasmochemistry Laboratory Department, "Petru Poni" Institute of Macromolecular Chemistry, Iasi
- 2023 – Present **Research assistant** in the project PN-III-P2-2.1-PED-2021-1666, Exceeding the limits of polyimide membranes for less-energy intensive CO<sub>2</sub> separation and capture by employing the PIM concept and blending technique (memPIM-PIs)
- 2023 – Present **Research assistant** in the project PN-III-P1-1.1-TE-2021-1068, "Developing new conjugated polymeric microporous architectures as solid state sensors for detection of harmful nitroaromatic derivatives" (CPM-NAD)
- 2023 **Research assistant** in the project PN-III-P4-PCE-2021-1728, Energy storage smart windows: from material development to engineering single flexible device with integrated electrochromic and capacitive functions (EnStoreSW)
- 2019 – 2017 **PhD student and research assistant** in the project PN-III-P4-ID-PCE-2016-0708, "Smart materials with versatile chromic response to external stimuli developed by macromolecular engineering" (SMARTCrom)

2018 – 2017 | **PhD student** in the project PN-III-P2-2.1-PED-2016-0510, “Dye-sensitized solar cells by molecular engineering of phenoxazine- or phenothiazine-based sensitizers” (EngDSSC)

**WORK EXPERIENCE**

- Synthesis and characterization of monomers, polymers and copolymers based on: triphenylamine (TPA), triphenylmethane, polycyclic aromatic units (naphthalene, perylene) or different heterocyclic units (pyridine, thiophene, furan, oxadiazole, carbazole, phenothiazine) with various macromolecular structures (azomethines, imides, amides, arylenes) and architectures (linear, branched, hyperbranched) for advanced optoelectronic applications;
- Synthesis and characterization of heteroatom structures-based dyes for photovoltaic cells and TPA-based compounds for electrochromic devices;
- Synthesis and characterization of conjugated Schiff bases containing heterocyclic or chromophoric moieties with opto-electronic and electrochemical responses through the environment changes (pH, iodine doping, etc).

MOTHER TONGUE(S)	Romanian				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
Spanish	A2	-	-	-	-
French	-	A2	-	-	A2
Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user					

**EXPERIMENTAL SKILLS**

- Good experience in fine organic synthesis and macromolecular chemistry;
- Good experience in the structural identification of the molecular and macromolecular structures;
- Good experience in thermal, morphological, opto-electronic and electrochemical characterization of monomers and polymer materials (including thin films and coatings);
- Expertise in assessing the applicative potential of polymer materials;
- Skill in manipulation several instruments (FTIR, RMN, UV-Vis, PL, electrochemistry, electrical measurements, etc);

**DIGITAL COMPETENCE**

ECDL certificate – European Computer Driving Licence  
 Others: Chemdraw, Origin, TopSpin, HyperChem, Photoshop, UiEChem, UV-Probe, AutoLAB, etc;

**SCIENTIFIC CONTRIBUTION**

- 10 scientific referred articles (first author in 6) published in ISI journals (4 – Q1, 4 – Q2, 1 – Q3, 1– Q4) and 1 indexed in Scopus;
- 5 national projects - as team member;
- 9 oral communications and 2 poster at international/national scientific events;
- Scientific visibility:
  - H-index: 7 (according to ISI Web of Science, 21.03.2024)

- Citing Articles: 66 without self-citation; Times Cited: 87 without self-citation; Average per item: 10.7 (according to ISI Web of Science, March 2024)

1. A. E. Bejan, C. P. Constantin, M. D. Damaceanu, Triphenylmethane based-polyimines with multiple switching characteristics triggered by pH, photoirradiation and electrical current, *Progress in Organic Coatings*, 187, 108114 (2024) (Q1)
2. A. E. Bejan, C. P. Constantin, M. D. Damaceanu, Evidence of diimide structure variation on overall performance of electro(fluoro)chromic devices integrating versatile triphenylamine-based polyimides, *Materials Today Chemistry*, 26, 101100 (2022) (Q2)
3. A. E. Bejan, C. V. Diaconu, M. D. Damaceanu, Opto-Electronic Properties Modulation Through Iodine Doping of Imine- and Triphenylamine-Based Oligomers, *Journal of Electronic Materials*, 50, 1358–1369, (2021) (Q3)
4. P. Nitschke, B. Jarzabek, M. D. Damaceanu, A. E. Bejan, P. Chaber, Spectroscopic and electrochemical properties of thiophene-phenylene based Schiff-bases with alkoxy side groups, towards photovoltaic applications, *Spectrochimica Acta Part A Molecular Spectroscopy*, 248, 119242, (2021) (Q2)
5. P. Nitschke, B. Jarzabek, A. E. Bejan, M. D. Damaceanu, Effect of Protonation on Optical and Electrochemical Properties of Thiophene–Phenylene-Based Schiff Bases with Alkoxy Side Groups, *The Journal of Physical Chemistry B*, 125, 8588–8600, (2021) (Q2)
6. A. E. Bejan, M. D. Damaceanu, New heterocyclic conjugated azomethines containing triphenylamine units with optical and electrochemical responses towards the acid environment, *Synthetic Metals*, 268, 116498, (2020) (Q2)
7. A. E. Bejan, C. P. Constantin, M. D. Damaceanu, n-Type Polyimides with 1,3,4-Oxadiazole-Substituted Triphenylamine Units - An Innovative Structural Approach, *The Journal of Physical Chemistry C*, 123, 15908-15923, (2019) (Q1)
8. A. E. Bejan, M. D. Damaceanu, Acid-responsive behavior promoted by imine units in novel triphenylamine-based oligomers functionalized with chromophoric moieties, *Journal of Photochemistry and Photobiology A: Chemistry*, 378, 24-37, (2019) (Q3)
9. M. D. Damaceanu, C. P. Constantin, A. E. Bejan, M. Mihaila, M. Kusko, C. Diaconu, I. Mihalache, R. Pascu, Heteroatom-mediated performance of dye-sensitized solar cells based on T-shaped molecules, *Dyes and Pigments*, 166, 15-31, (2019) (Q1)
10. C. P. Constantin, A. E. Bejan, M. D. Damaceanu, Synergetic Effect between Structural Manipulation and Physical Properties towards Perspective Electrochromic n-Type Polyimides, *Macromolecules*, 52, 8040–8055, (2019) (Q1)

