


PERSONAL INFORMATION

Alexandrina Nan

 Donat, 67-103, 400293 Cluj-Napoca (Romania)

 +40264584037

 alexandrina.nan@itim-cj.ro

 <http://www.itim-cj.ro/en/index.php>

WORK EXPERIENCE

01/01/2005–Present

Senior Researcher II

National Institute for Research and Development of Isotopic and Molecular Technologies (INCDTIM), Cluj-Napoca (Romania)

- Synthesis and characterization of different functionalized monomers and polymers.
- Polymerization reaction of: conducting polymers, polyesters, polyamide and polyacrylates.
- Synthesis and characterization of oxide metal nanoparticles.
- Preparation of functionalized hybrid material based on magnetic nanoparticles and polymers.
- Preparation of new recyclable magnetic organocatalysts.
- Synthesis and characterization of polymers composites.
- Project Director from INCDTIM to national projects.

EDUCATION AND TRAINING

01/10/1995–01/06/1999

Bachelor's Degree – in Chemistry

Faculty of Chemistry and Chemistry Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)

01/10/1999–01/07/2000

Diploma – MSc in Heterocyclic Chemistry

Faculty of Chemistry and Chemistry Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)

01/10/2000–31/12/2004

PhD in Chemistry

Faculty of Chemistry and Chemistry Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)

Contributions to the synthesis and stereochemistry of new: 1-thia-3-oxa; 1,3-dioxo; 1-oxa-3-aza cyclohexane derivatives

PERSONAL SKILLS

Mother tongue(s)

Romanian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C2	C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
Common European Framework of Reference for Languages

Organisational / managerial skills

- **Grant CNCSIS-Td113**, „Synthesis of some new 1,3-oxazines derivatives use as precursor in

macrocycles compounds synthesis", 2002-2004;

- **Project CEEX-ET nr. 26**, „Functionalized nanostructures based on polypyrrole", 2006-2008;

- **Project PN-II-RU-TE-2011-3-0130**, "Novel organocatalyst magnetic core-shell nanoparticles and their application", 2011-2014;

- **Project PN-II-RU-TE-2014-4-0654**, "Unprecedented polyesters as coating for solid surfaces with application in medicine and nanotechnology", 2015-2017;

#### Job-related skills

Synthesis and characterization of different functionalized monomers.

Synthesis and structural investigation of polymers and their composites.

Preparation and characterization of functionalized magnetic hybrid material based on magnetic nanoparticles and polymers.

#### Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Independent user	Independent user	Independent user

#### Digital skills - Self-assessment grid

Skills to use various programs and Software: ChemDraw, Chemometrics package, Mestrec-NMR, TopSpin NMR, Origin, IR-Spectra Manager. Computer use, data processing and graphic representation development. Use of UV-VIS and FTIR devices for recording spectra. Using Reaxys databased.

## ADDITIONAL INFORMATION

#### Memberships

Member of Romanian Chemical Society

Member of Society Connecting Science from 2017- Membership number:75086.

#### Patents

1. RO125022, A. Nan, R. Turcu, I. Crăciunescu, J. Liebscher, Magnetic nanoparticles based on magnetite and polypyrrol copolymers and their preparation method.
2. RO128567, A. Nan, S. Karsten, S. Kallane, I. Crăciunescu, R. Turcu, J. Liebscher, Magnetic nanoparticles functionalized with glucidic units and their preparation method.
3. RO127622, A. Nan, R. Turcu, J. Liebscher, Method for the preparation of iron oxide nanoparticles.
4. RO132015, A. Nan, R. Turcu, Method for the preparation of magnetic nanostructure based on kaolinite.

#### Publications (of the last 5 years)

1. R. Mrówczyński, A. Nan, J. Liebscher, Magnetic Nanoparticle-supported organocatalysts – an efficient way of recycling and reuse, RSC Advances, 4(12), 5927-5952, 2014.
2. R. Mrówczyński, A. Nan\*, R. Turcu, J. Leistner, J. Liebscher, Polydopamine a versatile coating for surface initiated ring opening polymerization of lactide to polylactide, Macromolecular Chemistry and Physics, Vol. 216(2), 211-217, 2015.
3. A. Nan\*, T. Radu, R. Turcu, Poly(glycidyl methacrylate)-functionalized magnetic nanoparticles as platforms for linking functionalities, bioentities and organocatalyst, RSC Advances, Vol. 6, 43330–43338, 2016.
4. M. Cîrcu, A. Nan\*, G. Borodi, J. Liebscher, R. Turcu\*, Refinement of magnetite nanoparticles by coating with organic stabilizers, Nanomaterials, Vol. 6(12), 228, 2016.
5. A. Petran, T. Radu, A. Nan, D. Olteanu, A. Filip, S. Clichici, I. Baldea, M. Suci, R. Turcu, Synthesis, characterization and cytotoxicity evaluation of high magnetization multifunctional nanoclusters, Journal of Nanoparticles Research, Vol. 19(1), article 10, 2017.
6. A. Nan\*, A. Bunge, M. Cîrcu, A. Petran, N. D. Hädade, X. Filip, Poly(benzofurane-co-arylacetic acid) – a new type of highly functionalized polymers, Polymer Chemistry, 8, 3504–3514, 2017.
7. M.-L. Soran, O. Pană, A. Nan, C. Leoştean, I. Bratu, Synthesis and spectroscopic characterization

of hybrid magnetic nanoparticles, based on Fe@Au and pyrrole, *Studia Universitatis Babeş-Bolyai, Chemia*, Vol. 62 (LXII) 2017, pp. 105-112.

8. A. Nan\*, I. C. Feher, A new polyester based on allyl  $\alpha$ -hydroxy glutarate as shell for magnetite nanoparticles, *AIP Conference Proceedings*, 1917 (1), 040003, 2017.

9. A. Petran, T. Radu, G. Borodi, A. Nan, M. Suci, R. Turcu, Effects of rare earth doping on multi-core iron oxide nanoparticles properties, *Applied Surface Science*, Vol. 428, 492-499, 2018.

10. M. Cîrcu, A. Bunge, C. Vasilescu, S. Porav, A. Nan\*, Non-catalytic, solvent free synthesis of poly(tartronic-co-glycolic acid) as a versatile coating of different surfaces, *Polymer International*, Vol. 67(2), 212-219, 2018.

11. A. Nan\*, I.-V. Ganea, R. Turcu, Physicochemical properties of a new magnetic nanostructure based on poly(benzofurane-co-arylacetic acid), *Analytical Letter*, Vol. 52, No. 1, 27-36, 2019.

12. A. Nan\*, X. Filip, M. Dan, O. Marincaş, "Clean production of new functional coatings of magnetic nanoparticles from sustainable resources", *Journal of Cleaner Production*, Vol. 210, 687-696, 2019.

13. C. Vasilescu, A. Todea, A. Nan, M. Cîrcu, R. Turcu, I.-C. Benea, F. Peter, Enzymatic synthesis of short-chain flavor esters from natural sources using tailored magnetic biocatalysts, *Food Chemistry*, <https://doi.org/10.1016/j.foodchem.2019.05.179>.

#### Conferences

Participation at 82 international and national conferences and 16 oral presentations at the international conferences:

1. 20<sup>th</sup> Bratislava International Conference on Macromolecules, Advanced Polymeric Materials, *Magnetic Nanocomposites Based on Polypyrrole and Functionalized Polypyrrole*, Bratislava, Slovakia, June 2006.
2. XX<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics, New synthetic methods of magnetic core-shell nanoparticles by surface-initiated ring-opening polymerization of caprolactone, May 2009, Sibiu, Romania.
3. 8<sup>th</sup> International Conference on Advanced Polymers via Macromolecular Engineering, Encapsulation of functionalized magnetic nanoparticles in polymeric gels, Sept. 2009, Dresden, Germany.
4. PIM-2009, Surface-initiated ring-opening polymerization of lactones on iron oxide nanoparticles, 24-26 Sept. 2009, Cluj-Napoca, Romania.
5. Mini-ImSat, Surface modification and functionalization of magnetic nanoparticles, June 2010, Dresden, Germany.
6. 27<sup>th</sup> Annual Congress of the Ethiopian Chemical Society, Functionalized magnetic nanoparticles—synthesis, properties and potential applications, Addis Ababa, Ethiopia, Feb. 2011.
7. PIM-2011, Surface modification of magnetic nanoparticles by acrylates derivatives, 29 sept.-1 oct. 2013, Cluj-Napoca, Romania.
8. 6<sup>th</sup> International Meeting on Developments in Materials, Processes and Applications of Emerging Technologies, 2-4 July 2012, Alvor, Portugal, Functionalization of magnetic nanoparticles using pyrrole chemistry.
9. 7<sup>th</sup> International Conference on Surface, Coatings and Nanostructured Materials, 18-21 Sept. 2012, Praha, Czech Republic, Magnetic nanoparticles-supported proline a new perspective in organocatalysis.
10. 10<sup>th</sup> International Conference on Nanoscience and Nanotechnologies, July 2013, Thessaloniki, Grecia, New ways in organic catalysis -Tagging to magnetic nanoparticles.
11. PIM-2013, Employing pyrrole chemistry for functionalization and covering the magnetic nanoparticles surface, 25-27 Sept. 2013, Cluj-Napoca, Romania.
12. IMSAT-12, Magnetic Core-Shell nanoparticles – Synthesis, Properties and Application, Sept. 2015, Goslar, Germany.
13. PIM-2017,  $\alpha$ -Hydroxy acids as bricks for functionalized polymers engineering, 27-29 Sept. 2017, Cluj-Napoca, Romania.