

PERSONAL INFORMATION

Radu-Cristian Gavrea

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Sex Male | Date of birth 9 Apr 1991 | Nationality Romanian

WORK EXPERIENCE

01/04/2019–Present

Scientific researcher

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

01/10/2018–31/03/2019

Research assistant

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

01/03/2015–01/01/2018

Research assistant PN II RU TE 2014-4-2360 – Physics and Fabrication of Thin Films

Babes-Bolyai University, Cluj-Napoca (Romania)

01/03/2015–01/01/2018

Research assistant PN II RU TE 2014-4-0009 - New Heusler materials for spintronics applications

Babes-Bolyai University, Cluj-Napoca (Romania)

04/07/2017–25/07/2017

Research assistance

CNRS -Centre national de la recherche scientifique, Institute Neel, Grenoble (France)

04/01/2017–15/02/2017

Research assistance

CNRS -Centre national de la recherche scientifique, Institute Neel, Grenoble (France)

01/09/2014–01/03/2015

Osnabruck University, Osnabruck (Germany)

Internships

01/09/2013–31/08/2014

Research assistance PN II PCE 2012-4-0470 - Interphase Exchange Coupling in Hard/Soft Magnetic Nanocomposites

Universitatea Babes-Bolyai, Cluj-Napoca (Romania)

EDUCATION AND TRAINING

01/09/2006–15/06/2010

High school diploma

Colegiul Tehnic Augustin Maior, Cluj-Napoca (Romania)

01/10/2010–01/07/2013

Bachelor degree in physics

Babes-Bolyai University, Cluj-Napoca (Romania)

01/09/2013–01/07/2015 **Master degree in Solid State Physics**
Universitatea Babes-Bolyai, Cluj-Napoca (Romania)

01/10/2015–Present **Phd. student**
Universitatea Babes-Bolyai, Facultatea de Fizica, Cluj-Napoca (Romania)

PERSONAL SKILLS

Mother tongue(s) Romanian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Engleză	B1	B1	B1	B1	B2

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

Communication skills Good communication skills gained from attending at national and international conferences.

Job-related skills

- Preparation of massive alloys for different systems of compounds (MnBi, Mn_{54-x}YxAl₄₆ (where Y = Ni, Ti), Heusler alloys: Mn_{2-x}YxVAI (where Y = Co, Cu), Fe₂TiSn).
- Obtaining nanocomposites by mechanical milling (intermetallic compounds of rare earth elements with transition metals: Nd₂Fe₁₄B + 10% Fe).
- Heat treatments
- X-ray diffraction and neutron diffraction,
- Magnetic measurements performed in laboratories of Babes-Bolyai University, ILL Insitute and CNRS Grenoble.
- Technical skills in x-ray photoelectron spectrometry, acquired after a research internship at Osnabruck University (Germany).

Digital skills - Office, Origin, FullProof, PowderCell etc.

Driving licence B

ADDITIONAL INFORMATION

- Conferences
- **International Summer School of Physical and Chemical Principles in Materials Science 2016 July 11-17, 2016 in Paris – France, Poster:** “STRUCTURAL, MAGNETIC AND ELECTRONIC PROPERTIES OF Mn_{2-x}Co_xVAI (X=0, 0.2, 0.6, 1) HEUSLER ALLOYS”
 - **24th International Workshop on Rare-Earth and Future Permanent Magnets and Their Applications (REPM 16) 28 August to 1 September 2016 Darmstadt, Germany, Poster:** “Structural, electronic and magnetic properties of the Mn_{54-x}Al₄₆Ti_x (x = 2; 4) alloys”
 - **11th International Conference On Physics Of Advanced Materials (ICPAM-11), 8th to 14th of September, 2016 Cluj-Napoca, Romania, Poster:** “THE INFLUENCE OF THE CO DOPING ON THE ELECTRONIC AND MAGNETIC PROPERTIES OF THE HALF-METALLIC FERRIMAGNET Mn₂VAI”
 - **16th International Balkan Workshop on Applied Physics and Materials Science IBWAP 2016 (7-9, July, 2016) Constanta, Romania, Oral Presentation:** “INVESTIGATIONS OF THE FERRIMAGNETISM AND DISORDER IN THE HALF-METALLIC HEUSLER ALLOY Mn_{2-x}Co_xVAI “
 - **TIM 17 Physics Conference 2017 May 25-27, 2016 in Timisoara – Romania, Poster:** “Influence of the Cu doping on the Electronic Structure and Magnetic Properties of the Mn₂VAI

Heusler compound”

- **The European Conference PHYSICS OF MAGNETISM 2017 (PM'17) June 26-30, 2017 Poznań, POLAND , Poster:** “Influence of the Cu doping on the Electronic Structure and Magnetic Properties of the Mn_2VAI Heusler compound”
- **11th International Conference Processes in Isotopes and Molecules, 27th to 29th of September, 2017 Cluj-Napoca, Romania, Poster:** “Influence of the Cu doping on the Electronic Structure and Magnetic Properties of the Mn_2VAI Heusler compound”

Publications

- "Structural, Electronic and Magnetic Properties of the $Mn_{50}Al_{46}Ni_4$ Alloy", **Sever Mican, Diana Benea, Razvan Hirian, Radu Gavrea, Olivier Isnard, Viorel Pop and Marin Coldea**, Journal of Magnetism and Magnetic Materials, Vol 401, 841-847 (2016).
- "Structural, electronic and magnetic properties of the $Mn_{54-x}Al_{46}Ti_x$ ($x = 2; 4$) alloys“, **R. Gavrea, R.Hirian, S. Mican, D. Benea, O. Isnard, M. Coldea and V. Pop** INTERMETALLICS 2017 Volume: 82 Pages: 101-106
- "Influence of the Cu doping on the Electronic Structure and Magnetic Properties of the Mn_2VAI Heusler compound" , **R. Gavrea, A. Bolinger, V. Pop, O. Isnard, M. Coldea and D. Benea** PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS 2017 Volume: 254 Pages:1-7
- "Effect of Co for Mn substitution on the electronic properties of $Mn_{2-x}Co_xVAI$ as probed by XPS", **R. Gavrea, C. Leostean, M. Coldea, O Isnard, V. Pop and D. Benea** INTERMETALLICS 2018 Volume: 93 Pages: 155-161
- "Reduction of the substitutional disorder by heat treatments in $Mn_{2-x}Co_xVAI$ Heusler alloys", **Gavrea, R; Coldea, M; Barbu-Tudoran, L; Isnard, O; Pop, V; Benea, D.** POWDER METALLURGY AND ADVANCED MATERIALS, 2018, Volume: 8 Pages: 219-227
- " Half-metallic compensated ferrimagnetism in the Mn-Co-V-Al Heusler alloys", **D. Benea, R. Gavrea, Coldea, M, O Isnard, V. Pop**; Journal of Magnetism and Magnetic Materials, 2019 Volume 475,Pages 229-233