

PERSONAL INFORMATION



AXENTE Damian

 67-103 Donat Str, Cluj-Napoca, 400293, Romania

 +402645848037

 Damian.Axente@itim-cj.ro

Sex Male | Date of birth 09/04/1941 | Nationality Romanian

WORK EXPERIENCE

Replace with dates (from - to)

- Scientific Researcher I, Department of Physics and Technology of Isotopes, 1992 – present;
National Institute for R. and D. of Isotopic and Molecular Technologies (INCDTIM) 400293 Cluj-Napoca, 67-103 Donat Str., POBox 700, Romania, <http://www.itim-cj.ro>

- Scientific Researcher II, 1990- 1992, Isotope Separation Laboratory.

- Scientific Researcher III, 1975 – 1990, Isotope Separation Laboratory.

- Scientific Researcher, 1969 – 1975, Isotope Separation Laboratory.

- Chemist, 1966 – 1969, Isotope Separation Laboratory.

- Scientific Secretary of the Institute, 1987 – 1990.

- Head Isotope Separation Laboratory of INCDTIM

Industria Sârmei, Câmpia Turzii, Romania.

- Chemist, 1964 – 1966, Chemical analysis of the steel.

Isotope Separation and Labelled Compounds Laboratory

- The separation of the isotope ^{15}N by isotopic exchange in $(\text{NO}, \text{NO}_2)_{(\text{g})} - \text{HNO}_3_{(\text{s})}$ system. It is utilized for production of that isotope at a concentration of 99 at. % ^{15}N . At present the production plant has the status of installation of national interest.

- The separation of isotope ^{18}O by isotopic exchange in Nitrox system.

- The separation of the isotope ^{13}C by isotopic exchange in $\text{CO}_2 - \text{Carbamate}$ system.

- The recovery of heavy water vapours of CANDU nuclear reactor atmosphere (Cernavoda, Romania). It has been developed the technology and the design themes for industrial installation and the test stand.

- Production of the labelled compounds with stable isotopes ^{15}N , ^{18}O , ^{13}C ; the technologies have been approved and the compounds were delivered.

- The technology for production of the uranium hexafluoride has been approved. Patented.

- Technology for production of sulphur hexafluoride.

- The kinetics and mechanism of the isotopic exchange $^{15}\text{N}/^{14}\text{N}$ in the system $(\text{NO}, \text{NO}_2)_{(\text{g})} - \text{HNO}_3_{(\text{s})}$.

EDUCATION AND TRAINING

- PhD chemistry: 1968 – 1973, Faculty of Chemistry, Univ. Babeş – Bolyai, Cluj-

Napoca, Romania

PhD thesis: "The kinetics of $^{15}\text{N}/^{14}\text{N}$ exchange between nitrogen oxides and nitric acid"

- Sept. 1959 – June 1964: Faculty of Chemistry, Univ. Babeş- Bolyai, Cluj-Napoca.
- Physical-Chemistry, Inorganic Chemistry, Organic Chemistry, Chemical Technology, Analytical Chemistry, State Thesis in Physical Chemistry, Chemist.
- Oct. 1971 May 1972: physical-chemistry of isotopes and isotope separation, Institute du Ge'nie Chimique Toulouse (Prof. Jean Mahenc) and CEA, CEN Saclay, France (Dr. Fernande Botter)
- Sept. – Dec. 1978: Physical Chemistry of isotopes and isotope separation, State Univ. of New York at Stony Brook, USA (Professor F. T. Bonner).
- April - May 1997, isotope separation by chemical exchange on ions exchange resins, Tokyo Institute of Technology, Tokyo, Japan (Professor Yasuhiko Fujii).

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C ₁ /C ₂	C ₁ /C ₂	C ₁ /C ₂	C ₁ /C ₂	C ₁ /C ₂
French	C ₁ /C ₂	C ₁ /C ₂	C ₁ /C ₂	C ₁ /C ₂	C ₁ /C ₂
Russian		B ₁ /B ₂	B ₁ /B ₂	B ₁ /B ₂	B ₁ /B ₂

Communication skills

Good communications skills obtained by own experience as scientific researcher, scientific secretary of the Institute, head of the isotope separation and labelled compounds laboratory, PhD supervisor, associate professor at Faculty of Chemistry and Chemical Engineering, Univ. babes-Bolyai, Cluj-Napoca.

Organisational / managerial skills

- Programme of ^{15}N separation by isotopic exchange in NITROX system: Responsible, performer; 1966 – 1973
- Separation of isotope ^{18}O by isotopic exchange in NITROX system: Responsible, performer; 1973 – 1980.
- Programme of recovery of heavy water vapours from CANDU (Cernavoda, Romania) nuclear power plant atmosphere: Responsible, performer; 1985 – 1990.
- Programme of synthesis and production of labelled compounds with ^{15}N , ^{18}O , ^{13}C : Responsible, performer; 1970 – 1994; Coordinator; 1994-2006.

- Technology of uranium hexafluoride production by fluorination of uranium concentrates: Responsible, performer; 1982 – 1989.
- Production of sulphur hexafluoride: responsible, performer; 1989 – 1992.
- The kinetics and mechanism of the $^{15}\text{N}/^{14}\text{N}$ exchange in NO , NO_2 – HNO_3 system: Responsible, performer; 1993 – 1996.
- Programme ORIZONT 2000: The determination of isotope effect in the $^{235}\text{U}/^{238}\text{U}$ isotope exchange by displacement of a uranium adsorption band in an anion resin packed column: Director, performer; 2003 – 2005.
- Programme CERES: The research works on enrichment of the ^{235}U isotope by chemical exchange: Director, performer; 2003 – 2005.
- Programme NUCLEU: The study of the electronic exchange reaction U^{4+} - $[\text{UO}_2\text{Cl}_x]^{(x-2)-}$: Director, performer; 2003 – 2005.
- Programme NUCLEU: Stable isotope separation: Director, performer; 2006 – 2008.
- Programme CEEEX: The technology of ^{15}N separation at 99 at. % concentration for preparation of nitride nuclear fuels: Director, performer; 2006 – 2008.
- Programme NUCLEU: The research works on isotope separation by chemical exchange and automatic control of the separation plant: Performer; 2009 – 2011.
- Programme Partnership in the priority fields: Utilization of the nuclear methods for determination of the agrochemical and ecological efficiency of the unconventional fertilizers: Responsible, performer; 2008 – 2011.
- Programme FP7 – Euratom: Advanced nuclear fuels for reactor of IV-th generation; Reprocessing and dissolution: Director, performer; 2012 – 2016.
- Programme NUCLEU: Design and development of the new solutions for optimization of the stable isotope separation process: Performer; 2016 – 2018.

Job-related skills

- Leading of the research group from Institute :1970 – 1994
- Leading of the Isotope Separation and Labelled Compounds Laboratory of the Institute: 1994 – 2006.
- Scientific Secretary of the Institute: 1987 - 1990.
- Leading of the research group: 2006 – 2018.

Digital skills

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

Other skills

- Associate Professor at Faculty of Chemistry and Chemical Engineering Univ. Babeş-Bolyai Cluj-Napoca; 1992 – present.
- PhD thesis supervisor in Physical Chemistry: 5 PhD s in INCDTIM and 6 PhDs in other institutes.

- As head of Isotope Separation and Labelled Compounds Laboratory he has coordinated the production and delivery in export all over the world and in Romania of the ^{15}N labelled compounds during 10 years.
- More than 125 citations in the scientific international journals.
- Led the Isotope Separation section of the International Conference on Stable Isotope, Tbilisi, Georgia, 1989.
- Official referent for PhD thesis in Romania and abroad.
- Official referent for the most prestigious separation journal: Separation Science and Technology.
- Official referent for international journal: Nucleonica.
- Expert of the European Commission for evaluation of research programmes in : Nuclear Chemistry, Physical Chemistry, Chemical Technology.
- More than 100 papers published in ISI coted journals.
- A book entitled: “Separation of isotopes ^{15}N , ^{18}O , ^{13}C , ^{10}B by isotopic exchange”, Ed. Casa Cărții de Știință, Cluj-Napoca, Romania, 1994.
- A chapter entitled: “The chemistry at Cluj Institute of Stable Isotopes”, in the Volume entitled: “ The history of Romanian Chemistry” Ed. of Romanian Academy, 2018.
- 85 scientific communications, 25 of them abroad.
- 130 scientific reports.
- 30 technologies realized.
- 20 products approved .

Driving licence : B

Cluj – Napoca,

June 03, 2019.

Dr. Damian AXENTE

