

Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) Valer Tosa
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E-mail tosa@itim-cj.ro
Nationality Romania
Date of birth Aug 30, 1955
Gender M

Work experience

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| <p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p> <p>Type of business or sector</p> | <p>1979-1982</p> <p>Head of Mechanical Testing Laboratory</p> <p>Coordinate technical and logistic activities in Mechanical Testing Laboratory, develop a model for prediction of long term relaxation behavior of precompressed concrete wires</p> <p>Metalurgical Plant Campia Turzii</p> <p>Industry</p> |
| <p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> | <p>1982-2018 (except periods listed further on)</p> <p>Researcher, senior researcher 3, senior researcher 2, senior researcher 1</p> <p><i>experimental</i></p> <ul style="list-style-type: none"> ❖ laser infrared multiphoton decomposition of CF₂HCl, CF₂DCI, AND Si₂F₆ ❖ laser isotope separation of C isotopes <p><i>theoretical and computer modeling</i></p> <ul style="list-style-type: none"> ❖ theoretical calculation of the fine rotational structure of spherical tops ❖ modelling ir multiphoton absorption of spherical top and symmetric top polyatomic molecules ❖ calculation of vibrational relaxation times of polyatomic molecules in ground electronic state ❖ computer programs for impurities migration in multilayer polymer structures; ❖ application in migration estimation in food packaging ❖ computer program for high order harmonics generation in high intensity laser fields ❖ harmonics propagation in ionized media ❖ single attosecond pulse generation |
| <p>Name and address of employer</p> <p>Type of business or sector</p> | <p>National Institute of R&D Isotopic and Molecular Technologies, Cluj-Napoca, Romania</p> <p>Research</p> |
| <p>Dates</p> <p>Occupation or position held</p> | <p>Aug 1993 – sept 1995</p> <p>Guest Researcher</p> |

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| Main activities and responsibilities | <ul style="list-style-type: none"> ❖ multiple photon excitation and dissociation of polyatomic molecules ❖ laser isotope separation of Si isotopes ❖ measurement of vibrational (raman and infrared) spectroscopy of small polyatomic molecules ❖ measurement of high resolution vibrational-rotational spectra of polyatomic molecules ❖ laser diode spectroscopy in supersonic free jet |
| Name and address of employer | Laser Isotope Separation Laboratory, RIKEN, The Institute of Physical and Chemical Research, Japan |
| Dates | Nov. 2001 – jan 2003 |
| Occupation or position held | Guest Scientist |
| Main activities and responsibilities | Modeling macroscopic high order harmonics generation |
| Name and address of employer | Laser Technology Laboratory, RIKEN, The Institute of Physical and Chemical Research, Japan |
| Dates | oct – dec 2003, oct – dec 2005, apr-jun 2007, may-nov 2004 |
| Occupation or position held | Guest Scientist, Brain Pool Fellow |
| Main activities and responsibilities | <ul style="list-style-type: none"> ❖ High order harmonics generation, ❖ single attosecond pulse generation ❖ attosecond pulse train characterisation |
| Name of the employer | KAIST, Korean Advanced Institute for Science and Technology, South Korea, |
| Dates | , jan-apr 2008, mar-jun 2013, oct-dec2016 |
| Occupation or position held | Invited scientist |
| Main activities and responsibilities | High order harmonics generation, single attosecond pulse generation attosecond pulse train g |
| Name and address of employer | Gwangju Institute of Science and Technology, South Korea |
| Dates | mar-jun 1992, feb-apr 1993, oct.-dec. 1991, apr 2000 - apr 2001 |
| Occupation or position held | Guest Scientist, NATO Outreach Fellow |
| Main activities and responsibilities | <ul style="list-style-type: none"> ❖ gas-phase vibrational relaxation times of polyatomic molecules by an interferometric method ❖ experimental studies on nonresonant laser multiphoton ionisation of rare gas atoms ❖ develop computer program for high order harmonics generation in high intensity laser pulses |
| Name and address of employer | Department of Physics, Naples University, Italy |

Education and training

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| Dates | 1970-1974 |
| Principal subjects/occupational skills covered | Intensive Physics class |
| Name and type of organisation providing education and training | Emil Racovita High School, Cluj-Napoca |
| Dates | 1975-1979 |
| Principal subjects/occupational skills covered | MS Physics Course |
| Name and type of organisation providing education and training | Physics Faculty, Babes-Bolyai University |
| Dates | 1990-1992 |
| Principal subjects/occupational skills covered | PhD Physics course |
| Name and type of organisation providing education and training | Physics Faculty, Babes-Bolyai University |

Dates March-april 1987
 Principal subjects/occupational skills covered Winter College on Atomic and Molecular Physics
 Name and type of organisation providing education and training ICTP Trieste, training

Dates may 1988-may 1989
 Principal subjects/occupational skills covered "Programme for Training and Research in Italian Laboratories", stage at Naples University
 Name and type of organisation providing education and training ICTP Trieste, training

Dates Sept 2011
 Principal subjects/occupational skills covered International summer school of quantum electronics: Atoms and Plasmas in Super-intense Laser Fields; Erice-Sicily, Italy

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English, French, Italian**

Self-assessment
European level ()*

English
French
Italian

| Understanding | | Speaking | | Writing |
|---------------|----------|--------------------|-------------------|----------|
| Listening | Reading | Spoken interaction | Spoken production | |
| Advanced | Advanced | Advanced | Advanced | Advanced |
| Average | Average | Average | Average | Average |
| Advanced | Advanced | Advanced | Advanced | Advanced |

Organisational skills and competences Project director for 7 national projects and 1 CNCSIS grant
 Partner coordinator for 2 FP7 projects
 Participating in 5 national projects

Technical skills and competences Building physical models for various physical and chemical phenomena
 Developing computer applications based on models
 Referee for PhysicsI Review A, Physical Review Letters, Optics Letters, Optics Express

Computer skills and competences Operating systems Windows and Linux;
 programs: Mathematica, Origin, Microsoft Office;
 programming languages: Fortran, QuickBasic, C

Other skills and competences Teaching: Numerical Analysis Physics Faculty, Babes-Bolyai University, 2001
 Journal Editor for PIM Conference Proceedings 2009

Additional information

ISI papers: 130; Citations in ISI journals: > 1097 excluding self-citations, Hirsch index: 20
 Invited/oral talks: 14;
 Other conference contributions: more than 100
<http://www.researcherid.com/rid/B-5577-2011>

Date 05.09.2018

Signature

