



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Gabriel Moagăr-Poladian**  
Address Aleea Fuiorului nr.6 bloc Y3A sc.1 et.6 ap. 27, sector 3, București, România  
Mobile 0748.849.778  
E-mail(s) Gabriel.moagar@imt.ro  
Nationality Romanian  
Date of birth 23 September 1965  
Gender Male

### Desired employment / Occupational field

### Physics

### Work experience

Dates	01.09.1990 – 31.08.1992
Occupation or position held	Research Assistant
Main activities and responsibilities	Research & Development
Name and address of employer	S.C. Optoelectronica 2001 (former Institute of Optoelectronics IOEL at that time) Str. Atomiştilor, București-Măgurele, România
Type of business or sector	Research
Dates	01.09.1992 – 13.01.1994
Occupation or position held	Researcher
Main activities and responsibilities	Research & Development
Name and address of employer	S.C. Biotehnos S.A. Str. Dumbrava Roșie nr. 16, București, România (present address: Str. Gorunului nr. 3-5, București-Otopeni, România)
Type of business or sector	R&D
Dates	14.01.1994 →
Occupation or position held	Senior Researcher
Main activities and responsibilities	Research & Development
Name and address of employer	IMT-Bucharest 126A Erou Iancu Nicolae, 077190 Bucharest (Romania)
Type of business or sector	R & D

### Education and training

Dates 1992 - 1999  
Title of qualification awarded PhD  
Principal subjects / occupational skills covered Solid state physics / optoelectronics

Name and type of organisation providing education and training University of Bucharest, Faculty of Physics, Str. Atomistilor, București-Măgurele, România

Level in national or international classification ISCED 6

Dates 1985 - 1990

Title of qualification awarded MSc

Principal subjects / occupational skills covered Physics of semiconductor materials and devices

Name and type of organisation providing education and training University of Bucharest, Faculty of Physics, Str. Atomistilor, București-Măgurele, România

Level in national or international classification ISCED 6

**Personal skills and competences**

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment  
European level (\*)

**English**

**Italian**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Proficient user

(\*) [Common European Framework of Reference \(CEF\) level](#)

Social skills and competences Good communication ability, ability to work in team, ability to coordinate research teams (coordinated teams of 35 to 60 members)

Organisational skills and competences I) Coordinator of 10 national research projects, responsible from behalf of the National Institute for R&D in Microtechnology for 1 national research project and 2 international EU research projects (FP7-ENIAC, H2020-ECSEL), participation as researcher in 15 projects  
II) Co-founder and Coodinator of the Integrated Experimental Laboratory for Advanced Technologies for Micro- and Nanosystems (Rapid Manufacturing for Micro/Nanoscale) <http://www.imt.ro/micronanolab>

Technical skills and competences Good experience and command of research activities

Computer skills and competences Medium

Artistic skills and competences -

Other skills and competences -

Driving licence(s) -

**Additional information** **List of papers** (including Proceedings with a peer-review process)

1. M. Bulinski, **G. Moagăr-Poladian** – “Fourier-transform interference lithography”, Romanian Reports in Physics, Volume 68, Number 2, p. 713 – 724, (2016).
2. M.-E. LUPEANU, A. E.W. RENNIE, M.-M. ROȘU, **G. Moagăr-Poladian** – “Research strategy on

- developing additive manufactured bespoke ophthalmic instruments assisted by an online integrated platform*”, U.P.B. Sci. Bull., Series D, Vol. 76, Iss. 2, p. 143, (2014).
3. V. Moagăr-Poladian, **G. Moagăr-Poladian** - “MEMS Sensors for High Voltage Lines”, IEEE Proceedings of the ESSDERC-ESSCIRC 2013 Conference, p. 358 – 361, (2013).
  4. **G. Moagăr-Poladian** – “Sub-Wavelength Resolution Laser Lithography in the Field of MEMS”, SPIE Proceedings Vol. 7007, p. 70070L-1 – 70070L-11, (2008).
  5. **G. Moagăr-Poladian**, Z. Illyefalvi-Vitez, B. Balogh, D. Ulieru, A. Corâci – „Laser Applications in the Field of MEMS”, SPIE Proceedings Vol. 7007, p. 70070K-1 – 70070K-10, (2008).
  6. **G. Moagăr-Poladian** – „On the Light Pressure Induced in a Medium by the Non-Uniform Light Intensity Distribution”, Journal of Optics A: Pure and Applied, vol. 9, p. 767 – 776, (2007).
  7. **G. Moagăr-Poladian**, D. Ulieru, C.Sandu, M. Bulinski, A. Dinescu, M. Dănilă, R. Gavrilă – „Microengraving of a Potassium Dihydrogen Phosphate Crystal by Laser Ablation Technique”, Proceedings of SPIE vol. 5455 (Photonics Europe 2004 Conference, Strasbourg, France), pp. 375 - 380, (2004).
  8. **G. Moagăr-Poladian** – “Spatial Light Modulators Based on Structures Containing Photoelectrets and Electro-optic Materials: Key Devices for Optical Computing”, Journal of Optical Technology (English version of Russian Opticheskii Zhurnal), vol. 71, no. 7 p. 478 - 486 (2004).
  9. **G. Moagăr-Poladian**, M. Bulinski – “Reconfigurable Optical Neuron Based on the Transverse Pockels Effect”, Journal of Optoelectronics and Advanced Materials vol.4, no.4 p. 929 – 936 (2002).
  10. **G. Moagăr-Poladian** – “The Theory of the Basic Optoelectronic Behaviour of the Tunnel Diode”, Applied Optics volume 40 no. 33, p. 6086 – 6097 (2001).
  11. **G. Moagăr-Poladian** – “Image Amplifier Based on a Photoelectret-Electrooptic Medium Sandwich-type Structure”, Journal of Optics Part A: Pure and Applied vol. 2 no.6, p. 569 – 575 (2000).
  12. **G. Moagăr-Poladian** – “A Novel Type of Thresholding Element for Optoelectronic Neurons”, Romanian Journal of Information Science and Technology vol.3, no.4, p. 353 – 364 (2000).
  13. **G. Moagăr-Poladian** - “Reconfigurable Optical Neuron Based on Photoelectretic Materials”, Applied Optics vol.39 no.5, p.782-787 (2000). (See note below)
  14. **G. Moagăr-Poladian** - “MOS Transistor with Photoelectret Controlled Gate”, International Journal of Optoelectronics, vol.12 no.1, p. 1-7 (1998).
  15. **G. Moagăr-Poladian** - “ An MOS Transistor with Optical Rectification Controlled Gate”, Semiconductor Science and Technology, vol. 12, p. 210-216 (1997).

#### Note

Paper [10] was mentioned as being state-of-the-art, presenting interest for the field of optical computers based on neural networks, in the John Wiley & Sons INSIDE R&D publication (see [http://www.wiley.com/technical\\_insights/](http://www.wiley.com/technical_insights/) ), as indicated below:  
H.Goldstein – “New Structure Proposed For All-Optical Neurons” , Inside R&D vol.29 no.13 p. 2, March 29, 2000.

#### List of Conferences

1. **G. Moagăr-Poladian** – A Possible Mechanism for Cold Fusion, Proceedings of the 15th International Conference on Condensed Matter Nuclear Science (ICCF-15), Rome, Italy 2009, p. 362, (2011),

published by ENEA Italy

2. V. Moagăr-Poladian, **G. Moagăr-Poladian** – *Finite Element Simulation of a New Type of All-metal Infrared Detector*, Proceedings of the SENSOR 2001 Conference (May 8 – 10 2001, Nuremberg, Germany), vol.1, p. 275 – 280 (2001).
3. **G. Moagăr-Poladian**, V. Moagăr-Poladian - *Stress Determination in Dielectric Thin Films Using the Piezoresistive Effect*, Proceedings of the MME'98 Conference (MicroMechanics Europe), Ulvik i Hardanger, Norway, p. 307 – 310, (1998).
4. **G. Moagăr-Poladian** - "*The Parallel Photoelectromagnetic Effect*", Proceedings Supplement of Balkan Physics Letters, vol. 5, part 2, p.1079-1082, (1997).
5. **G. Moagăr-Poladian**, C. Savaniu, T. Șerban, N. Năstase - *Cerium Doped Silica Glass Prepared by Sol-Gel Method*, RoCAM'97 Conference (Romanian Conference on Advanced Materials), Romanian Academy, București, November 1997
6. E. Gheorghiu, **G. Moagar-Poladian**, T.G. Paunescu. *Determination of living cell concentration by on-line dielectroscopic measurements*, Proceedings of the 1st International Symposium "Biotechnologies Now and Tomorrow", Bucharest, Romania (June 24-25, 1993), p. 219-226.
7. **G. Moagăr-Poladian** - *A Method of Emissivity Determination*, The 27<sup>th</sup> European Seminar on Quantitative Infrared Thermography QIRT'92, Paris, France, July 1992.
8. **G. Moagăr-Poladian** - *The Determination of Optical Indicatrix Axes in Uniaxial Nonlinear Crystals*, National Conference of Physics CNF'90, Cluj, Romania, October 1990.
9. **G. Moagăr-Poladian** – *Optical Logical Gates Based on Saturable Absorbers. Working Principles*. National Conference on Electronics, Communications, Automation and Computers CNETAC'88, București, Romania, December 1988.

#### General dissemination papers

1. **G. Moagăr-Poladian** – *Optical Reconfigurable Neuron – Research, Demonstrator Experimentation and Parameters Evaluation*, Micro and Nanotechnologies Bulletin, ed. IMT-Bucharest and Ministry of Education and Research from Romania, vol.3 no.4 p.8, December 2002.
2. **G. Moagăr-Poladian** - *Reflection conoscope*, MikroMedia No. 38, May 2007, [http://www.ivam.de/index.php?content=mitteilung\\_details&mitteilung\\_id=1005](http://www.ivam.de/index.php?content=mitteilung_details&mitteilung_id=1005)

#### Patents (granted)

1. **G. Moagăr-Poladian** - Method and equipment for guided transmission of information through fluid media and/or plasma by using electromagnetic radiation.
2. **G. Moagăr-Poladian** - Method and installation for maintaining pipes rectilinear.
3. **G. Moagăr-Poladian** - Structure for thermal and mechanical insulation of pipes.
4. **G. Moagăr-Poladian** - Antireflective structure for electromagnetic radiation.
5. **G. Moagăr-Poladian** - Broadband reflective element.
6. **G. Moagăr-Poladian** - Schottky diode for optoelectronic applications.
7. **G. Moagăr-Poladian** – Procedure and equipment for conoscopic measurements in optically anisotropic thin films.
8. **G. Moagăr-Poladian**, V. Moagăr-Poladian – Structure for the thermal management of integrated

circuits and microsystems.

9. **G. Moagăr-Poladian**, V. Moagăr-Poladian – Structure for the bonding of microsystems and integrated circuits.

10. **G. Moagăr-Poladian** – Microelectrodes for electrical discharges in gases and in vacuum.

11. **G. Moagăr-Poladian** – Method and equipment for measuring the refractive index.

12. **G. Moagăr-Poladian** – Procedure for measuring ultra-small displacements by using total internal reflection.

13. **G. Moagăr-Poladian** – Electric field sensor.

14. **G. Moagăr-Poladian**, V. Moagăr-Poladian – Method for slicing semiconductor and dielectric wafers by using laser radiation.

15. **G. Moagăr-Poladian**, V. Moagăr-Poladian – Procedure for the calibration of thermal expansion of cantilevers in dip pen nanolithography.

#### **Patent applications (those in blue are also subjected to international patenting)**

1. **G. Moagăr-Poladian** – Device for detection of infrared radiation.

2. **G. Moagăr-Poladian** – Nanostructures material with electro-optic properties.

3. **G. Moagăr-Poladian** – Procedure of optically assisted 2D and 3D fountain pen nanolithography (WO 173506 / 2012)

4. **G. Moagăr-Poladian** – Element for thermal and acoustic insulation

5. **G. Moagăr-Poladian** – Methods for 3D building of Silicon and Germanium based micro and nanostructures

6. **G. Moagăr-Poladian** – Procedure for obtaining semiconducting particles of the same size

7. **G. Moagăr-Poladian**, V. Moagăr-Poladian – Element for the protection of spaceships against micrometeorite impacts

8. **G. Moagăr-Poladian** – Rapid manufacturing procedure by using focused ultrasound beam

9. **G. Moagăr-Poladian** - Multi-role chip for advanced 2D and 3D nanolithography systems

#### **Medals and prizes**

- Prize of KLAR Professional / Policolor company at the 3M Awards Innovation “Pr3miază Inovația” 2014 competition. It is a competition organized by 3M company from USA. Title of the invention: - *Procedure for 2D and 3D optically assisted fountain pen and aperture pen nanolithography*. Author: **Gabriel Moagăr-Poladian**.
- Special award from Chamber of Commerce and Industry of Valcea at the Inventika 2014 Invention Fair, Bucharest, Romania, October 2014. Title of the invention: Rapid manufacturing procedure by using a focused ultrasound beam. Author: **Gabriel Moagăr-Poladian**.
- The Gold medal at the Inventika 2014 Invention Fair, Bucharest, Romania, October 2014. Title of the invention: Rapid manufacturing procedure by using a focused ultrasound beam. Author: **Gabriel Moagăr-Poladian**.
- The Gold Medal at the 62<sup>th</sup> World Exhibition of Innovation, Research and New Technology, Bruxelles, Belgium, November 2013. Title of the invention: - *Procedure for 2D and 3D optically*

*assisted fountain pen and aperture pen nanolithography*. Author: **Gabriel Moagăr-Poladian**.

- The prize of the delegation representing Bosnia-Herzegovina, Serbia, Montenegro, Kosovo and Macedonia – for the contribution to the stimulation, development and promotion of the creativity at “Bruxelles Innova / Eureka”, Bruxelles, Belgium, November 2013. Title of the invention: - *Procedure for 2D and 3D optically assisted fountain pen and aperture pen nanolithography*. Author: **Gabriel Moagăr-Poladian**.
- The Gold Plus Medal (Highest) at the 55<sup>th</sup> World Exhibition of Innovation, Research and New Technology, Bruxelles, Belgium, November 2006. Title of the invention: - *Method and equipment for guided transmission of information through fluid media and/or plasma by using electromagnetic radiation*. Author: **Gabriel Moagăr-Poladian**.
- The Gold Medal ARCA of the Croatian Association of Inventors at the 55<sup>th</sup> World Exhibition of Innovation, Research and New Technology, Bruxelles, Belgium, November 2006. Title of the invention: - *Method and equipment for guided transmission of information through fluid media and/or plasma by using electromagnetic radiation*. Author: **Gabriel Moagăr-Poladian**.
- The 2006 Cup of the International Federation of the Inventors' Association at the 10<sup>th</sup> Invention Fair INVENTIKA 2006, held in September 2006 in Bucharest, Romania. Title of the invention: - *Method and equipment for guided transmission of information through fluid media and/or plasma by using electromagnetic radiation*. Author: **Gabriel Moagăr-Poladian**.
- The Gold Plus Medal (Highest) at the 10<sup>th</sup> Invention Fair INVENTIKA 2006, held in September 2006 in Bucharest, Romania. Title of the invention: - *Method and equipment for guided transmission of information through fluid media and/or plasma by using electromagnetic radiation*. Author: **Gabriel Moagăr-Poladian**.
- The Silver Medal at the 33<sup>rd</sup> International Exhibition of Inventions, New Techniques and Products, Geneva, Switzerland, April 2005. Title of the invention: *Structure for the thermal management of integrated circuits and microsystems*. Authors: **Gabriel Moagăr-Poladian**, Victor Moagăr-Poladian.
- The Silver Medal at the 53<sup>th</sup> World Exhibition of Innovation, Research and New Technology, Bruxelles, Belgium, November 2004. Title of the invention: *Procedure and equipment for conoscopic measurements in optically anisotropic thin films*. Author: **Gabriel Moagăr-Poladian**.
- The Silver Medal at the 51<sup>th</sup> World Exhibition of Innovation, Research and New Technology, Bruxelles, Belgium, November 2002. Title of the invention: *Antireflective Structure for Electromagnetic Radiation*. Author: **Gabriel Moagăr-Poladian**.

#### **Other positions**

- a) Member of the International Programme Committee of the “III International Conference For Students, Young Scientists and Engineers "Optics'2003" and Topical Meeting on Optoinformatics”, Sankt-Petersburg, 20 – 24 October 2003, Rusia of the “Topical Meeting on Optoinformatics 2004” and of the “ Topical Meeting on Optoinformatics 2005”.
- b) Member of the International Programme Committee of the “Industrial Applications of Lasers 2007” Conference, Bran, 23 – 25 May 2007, Romania.

- c) Referee at the IEEE Transactions on Electron Devices journal
- d) Referee at the Applied Optics journal
- e) Referee at the Optics Express on-line journal
- f) Referee at Optics Letters journal