FUNDING APPLICATION
Section C – CV Template

C.1 CURRICULUM VITAE

Personal information

Name, Surname:	Carmen Aura Moldovan		
Date of birth:	28.05.1958	Sex:	F
Nationality:	Romanian		
Researcher unique identifier(s) (ORCID, Researcher ID etc.):	https://orcid.org/0000-0002-0503-2859		
URL for personal website (if case):	https://www.imt.ro/organisation/research%20labs/L2/rt.htm; https://www.researchgate.net/profile/Carmen-Moldovan-3		

Education

Year	Faculty/department - University/institution - Country
2002	Doctoral Diploma - Faculty of Electronics and Telecommunications – Politehnica University Bucharest, RO
1983	Engineer - Faculty of Electronics and Telecommunications – Politehnica University Bucharest, RO

Positions - current and previous
(*Academic sector/research institutes/industrial sector/public sector/other)*

Year	Job title – Employer - Country
2015-Present	National Institute for R&D in Microtechnologies (IMT); Director of the Research Centre for Integration of Technologies (CINTECH), Scientific Researcher level 1
2002-2009	National Institute for R&D in Microtechnologies (IMT), Ro; Director of Technology Department
1998-2011	Politehnica University of Bucharest, - Faculty of Electronics and Telecommunications and Department of foreign languages, part time associated professor
1996-present	National Institute for R&D in Microtechnologies (IMT), Head of Laboratory of Microsystems for Biomedical and Environmental Applications
1993-1996	Centre of Microtechnology, Ro – Process engineer: CMOS Integrated Circuits, MEMS development CMOS compatible: Photolithography, Plasma etching, Mask Design
1984-1993	Microelectronica S.A, Bucharest, CMOS Process engineer

Career breaks (if case)

Year	Reason
N/A	Not applicable

Project management experience ***List of relevant project***

Year	Project title - Role – Funder – Budget – link to project webpage

2023-2027	**NerveRepack** "Intelligent neural system for bidirectional connection with exoprostheses and exoskeleton"-**Coordinator**-Horizon Europe - KDT JU 2023-2027; Total Budget: 17,150,000 Euro IMT's budget: 1,200,000Euro, www.nerverepack.eu
2023-2025	N**ET4Air** "A Networking Center for excellence in Nanoelectronic Devices for Air Monitoring", **-Coordinator- Horizon Europe; Total budget: 1,500,000 Euro; IMT budget: 970,000 Euro; www.net4air.eu**
2024-2027	**Unlooc** "Unlocking data content of Organ-On-Chips", partner task coordinator, Horizon Europe Chips JU, Total budget: 50 000 000 Euro; IMT's budget: 800 000 euro
2019-2024	**ARMIN** "Arm neuroprosthesis equipped with artificial skin and sensorial feedback" – Partner leader – SEE Norwegian Funds, Total: 1,500,000 Euro; IMT: 350,000 Euro, www.armin-see.eu
2023-2025	**ICOS** "International Cooperation on Semiconductors"-Partner leader- Horizon EU, CSA, Total budget 1,500,000Euro; IMT's budget: 45,000 Euro; http://icos-semiconductors.eu
2021-2023	**FIT-4-NMP** " Strategic and targeted support to incentivise talented newcomers to NMP projects under Horizon Europe"-Partner leader- Total Budget:1,500,000 Euro; IMT Budget: 109,000Euro; Home | FIT-4-NMP
2020-2023	**CESMIN** - CEntru Suport pentru cooperare europeană în MIcro- și Nanotehnologii, Coordinator, Fonduri structurale POC, buget total: 560,000 EUR, https://www.imt.ro/CESMIN/
2020-2023	**Moore4Medical** "Accelerate innovation in emerging medical devices with open technology platforms"; partner task leader; https://moore4medical.eu; Total budget: 68 000 000EUR; IMT:1,310,000 EUR
2018 2021	**i-bracelet** "Intelligent bracelet for blood pressure monitoring and detection of preeclampsia" i-bracelet--Principal investigator- EUROSTAR H2020- IMT budget: 175,000 Euro https://mfe.gov.ro/i-bracelet-bratara-inteligenta-pentru-monitorizarea-tensiunii-arteriale-si-detectarea-preeclampsiei;
2017-2021	**RoboCom++** / Rethinking Robotics for the Robot Companion of the future –Partner leader; H2020 FLAG ERA JTC 2016; IMT: 125,000 Euro; https://www.flagera.eu/flag-era-calls/jtc-2016/jtc-2016-funded-projects;
2017-2021	**Convergence**/ FRICTIONLESS ENERGY EFFICIENT CONVERGENT WEARABLES FOR HEALTHCARE AND LIFESTYLE APPLICATIONS/ FLAG ERA JTC 2016"-PArtner leader; IMT: 125,000 Euro; https://www.flagera.eu/flag-era-calls/jtc-2016/jtc-2016-funded-projects;
2020-2024	**SmartEnergy** - Piezoelectric Energy Source for Smart Factory Applications, Coordinator, H2020 M-ERA.NET, total budget: 950.000 EUR, https://www.imt.ro/smartenergy/
2018-2020	SENSIS - Sensors and Integrated Electronic and Photonic Systems for people and Infrastructures Security, Coordinator, **PCCDI-2017-0419,** total buget: 1,100,000 EUR, IMT's budget 600,000 EURO; https://sensis-ict.ro/
2018-2020	**MiMoSA** - New methods of pregnancy monitoring and prenatal diagnosis, Principal investigator component project; total budget: 1,100,000 EUR, PN III, contract 67 **PCCDI-2017,** https://www.imt.ro/mimosa
2019-2021	**VOC-DETECT** - Smart Portable System for VOCs detection, Coordinator, M-ERA.NET call 2018, total budget: 358.000 EUR, https://www.imt.ro/voc-detect;
2016-2018	BioSIM - Selective biochip with portable analyzer for the assessment of insulin resistance and metabolic syndrome, Partner leader, PNIII, Proiect PTE, https://www.ddsdiagnostic.ro/BIOSIM/
2015-2018	P**iezoMEMS** - Piezoelectric MEMS for efficient energy harvesting – Coordinator, H2020 M-ERANET 2014 call; Total budget: 642 500Euro; IMT's budget 250 000 Euro; https://www.imt.ro/piezomems;

	https://www.m-era.net/success-stories/piezoelectric-mems-for-efficient-energy-harvesting-piezomems;
2016-2018	WaterSafe - Sustainable autonomous system for nitrites/nitrates and heavy metals monitoring of natural water –partner responsible; H2020 M-ERANET call 2014, Total budget 450000EURO; https://www.icf.ro/pr_2016/WaterSafe/index.html
2014-2016	AMI-DETECT - Microbiosensor arrays fabrication and portable detection apparatus development for acute myocardial infarction diagnostic; Coordinator; contract 11/2014, PN II, Total budget: 2 500 000RON; IMT Budget:1 250 000RON, http://www.imt.ro/ami-detect/
2012-2014	**PARCIVAL** „Partner Network for a Clinically Validated Multi-Analyte Lab-on-a-Chip Platform", contract 278090, FP7, Health, STREP" –Partner leader -Total budget 5,000,000Euro IMT budget:250,000Euro; https://imt.ro/projects/FP7.htm;
2011-2014	**PESTIPLAT** - Integrated Platform for Pesticides Detection, Coordinator, EU MNT ERANET contract 7-035/2011;Total budget 950 000 Euro; https://www.imt.ro/organisation/research%20labs/L2/projects.htm;
2012-2014	IMUNOPLAT – Platforma de Micro Imunosenzori pentru Investigarea sindromului Metabolic, Coordinator, contract 13/2011, PN II (national project)
2007-2010	NEUROSENSE "Integrated platform for parallel monitoring of electrophysiological activity and chemical environment of neuronal cells", Coordinator, PNCDI2 (national project), https://www.imt.ro/neurosense/en/index.htm
2007-2010	HINAMASENS "Hybrid nanostructured nanomaterials for sensors with application in diagnosis and therapy", Partner leader, National Project, PN II, Budget 600000 RON
2005-2009	**4M NoE**, Multi Material Micro Manufacture : Technology and Applications – Partner leader; FP6/ Network of Excellence/NMP; Total budget 5 000 000 Euro, IMT budget 250 000 Euro
2006-2009	**TOXICHIP**, Development of a toxin screening multi-parameter on-line biochip system, Partner leader, FP6/IST /STREP; Total budget 3 000 000 Euro; IMT budget: 250 000 Euro; https://www.imt.ro/organisation/research%20labs/L2/projects.htm;
2005-2008	"**INTEGRAMplus** - Integrated Micro/Nanotechnologies Platforms and Services', Partner leader, FP6/ IST IP, Integrated project; IMT budget 250 000 Euro; https://cordis.europa.eu/project/id/027540/factsheet;
2004-2009	**Nano2Life** Network of excellemce "A network for bringing NANOtechnologies TO LIFE", associate partner,. https://cordis.europa.eu/project/id/500057;

Other relevant professional experiences

(e.g. institutional responsibilities, organisation of scientific meetings, membership in academic societies, review boards, advisory boards, committees and major research or innovation collaborations, other commissions of trust in public or private sector)

Year	Description - Role
2008-2024	National Institute for R&D in Microtechnologies, member and vice-president of the Scientific Council
2019-present	Member of the Regional Committee for Innovation Bucharest – Ilfov; role: Development and implementation of the Smart Specialization strategy for Bucharest – Ilfov Region
2011-2013	Member of ISTAG (Information Society Technology Advisory Group) https://cordis.europa.eu/article/id/14054-ist-advisory-group-istag-takes-strategic-approach; , working together other 24 members, for the preparation of H2020 having monthly meeting in Brussels
2000-2009	Member of NEXUS Steering Committee; preparation of Eastern countries integration in European projects in Information Society Technology area
2008-2024	International conference on Semiconductors, IEEE Conference, Member of the International Scientific Board

2018	Member of the International Committee of BioCAS Conference taking place in Torino, September 2018
2023-2024	Member of International Scientific Committee of ICSAAM (International Conference on Structural Analysis of Advanced Materials) https://icsaam2024.eu/wp-content/uploads/2024/03/Flyer-ICSAAM-2024_announcement_Mar24-update_v01-1.pdf;
2007-present	Evaluator and Reviewer for European Commission participating in multiple evaluation sessions or project reviews.

C.2 Track record of the last 10 years

A list of the ten most important scientific outputs (publications, patents, technologies etc).

1. O N Ionescu; E Franti; V Carbunaru; **C Moldovan**; S Dinulescu; M Ion; D C Dragomir; C M Mihailescu; I Lascar; A M Oproiu; T P Neagu; R Costea; M Dascalu; M D Teleanu; G Ionescu; R Teleanu, ***System of Implantable Electrodes for Neural Signal Acquisition and Stimulation for Wirelessly Connected Forearm Prosthesis***, **Biosensors** 2024, Volume 14, Issue 1, 31. https://www.mdpi.com/2079-6374/14/1/31; https://doi.org/10.3390/bios14010031
2. **C A Moldovan**, M. Ion, D. Dragomir, S. Dinulescu, C. Mihailescu, E.Franti, M.Dascalu, L. Dobrescu, D.Dobrescu, M I Gheorghe, Lars-Cyril Blystad, Per Alfred Ohlckers , Luca Marchetti, Kristin Imenes, B K Hønsvall, Jairo Ramirez-Sarabia, Ioan Lascar, Tiberiu Neagu, Stefania Raita, Ruxandra Costea, Adrian Barbilian, F. Gherghiceanu, Cristian Stoica, Catalin Niculae, G. Predoi, Vlad Carbunaru, Octavian Ionescu and Ana Maria Oproiu; ***Remote Sensing System for Motor Nerve Impulse***; Sensors **2022**, 22, 2823. https://doi.org/10.3390/s22082823
3. Z. Labadi, Benjamin Kalas, Andras Saftics, Levente Illes, Hajnalka Jankovics, Éva Bereczk-Tompa, Anett Sebestyén, Éva Tóth, Balázs Kakasi, **Carmen Moldovan**, Bogdan Firtat, Mariuca Gartner, Marin Gheorghe, Ferenc Vonderviszt, Miklos Fried, and Peter Petrik, ***Sensing Layer for Ni Detection in Water Created by Immobilization of Bioengineered Flagellar Nanotubes on Gold Surfaces***, ACS Biomaterials, *https://dx.doi.org/10.1021/acsbiomaterials.0c00280*
4. Carmen Marinela Mihailescu, Dana Stan, Mihaela Savina, **Carmen Aura Moldovan**, Silviu Dinulescua, Clara Hortensia Radulescua, Bogdan Firtata, George Muscalu , Costin Brasoveanu , Marian Ion, David Dragomir, Diana Stan, Alina Catrinel Ion, ***Platform with biomimetic electrochemical sensors for adiponectin and leptin detection in human serum***, Talanta 210 (2020) 120643, www.elsevier.com/locate/talanta
5. Lisa Drechsel, Martin Schulz, Felix von Stetten, **Carmen Moldovan**, Roland Zengerle and Nils Paust, ***Electrochemical pesticide detection with AutoDip – a portable platform for automation of crude sample analyses***, ***Lab on a Chip***, 2015,**15**, 704-710; https://pubs.rsc.org/en/content/articlelanding/2015/lc/c4lc01214c;
6. **Carmen Moldovan,** Rodica Iosub, Cecilia Codreanu, Bogdan Firtat, Daniel Necula, Costin Brasoveanu si Ion Stan, ***Miniaturized Integrated Platform for Electrical and Optical Monitoring of Cell Cultures***, Sensors 2012, 12(8), 11372-11390; https://doi.org/10.3390/s120811372
7. Savin Mihaela, Mihailescu Carmen Marinela, Matei Iulia, Stan Dana, **Moldovan Carmen Aura**, Ion Marian, Baciu Ion_. *"**Quantum dot-based lateral flow immunoassay for the sensitive detection of human heart fatty acid binding protein (hFABP) in human serum**"* - Talanta", https://doi.org/10.1016/j.talanta.2017.10.045,\
8. M. Chelu, H. Stroescu, M. Anastasescu, J.M.Calderon-Moreno, S. Preda, M. Stoica, Z. Fogarassy, P. Petrik, M. Gheorghe, C. Parvulescu, C. Brasoveanu, A.Dinescu, **C. Moldovan**, M. Gartner, ***High-quality PMMA/ZnO NWs piezoelectric coating on rigid and flexible metallic Substrates***, Applied Surface Science, https://doi.org/10.1016/j.apsusc.2020.147135;
9. Elise Saoutieff, Tiziana Polichetti, Laurent Jouanet, Adrien Faucon, Audrey Vidal, Alexandre Pereira, Sébastien Boisseau, Thomas Ernst, Maria Lucia Miglietta, Brigida Alfano, Ettore Massera, Saverio De Vito, Do Hanh Ngan Bui, Philippe Benech, Tan-Phu Vuong, **Carmen Moldovan**, Yann Danlee, ThomasWalewyns, Sylvain Petre, Denis Flandre, Armands Ancans, Modris Greitans, Adrian M. Ionescu; ***A Wearable Low-Power Sensing Platform for Environmental and Health Monitoring: The Convergence Project***; Sensors **2021**, 21, 1802, https://doi.org/10.3390/s21051802

10. Blystad L.-C., Ohlckers P., Marchetti L., Franti E., Dascalu M., Ionescu O., Dobrescu D., Dobrescu L., Niculae C., Dragomir D.C., Honsvall B.L., Opris C.O., Imenes K., Ion M., Oproiu A.M., Pascalau A.-M., **Moldovan C**., Firtat B., Ristoiu V., Gheorghe R., Barbilian A., ***Bidirectional neuroprosthesis system integration***, published in Proceedings of ESTC 2020, pp. 1-7, 15-18 September 2020, USN, Norway, https://ieeexplore.ieee.org/document/9229697/authors#authors

C.3 Narrative CV

Dr. Carmen Moldovan *is the Head of the Research Center for Integration of Technologies,.and Head of Laboratory of Microsystems for Biomedical applications. She graduated on Electronics and Telecommunications at Politehnica Bucharest and holds a PhD in Microelectronics. Her research activity is focused on development of chemosensors and biosensors, implantable micro-nanoelectrodes and neuronal microprobes, ISFETs, nanowire transistors, M(N)EMS, BioMEMS, microfluidic platforms, readout design, signal processing, data acquisition for microsensor arrays and energy harvester for self-autonomous systems and Platforms. She started the professional activity at Microelectronica SA working in CMOS technology. It was the period of intensive, deep learning of microtechnology dedicated to integrated circuits and she get advanced knowledge on CMOS including specialized training with specialists from abroad. She was responsible for Photolitography Processes, leading the CMOS IC production facility.*

Starting 1995 she started to work on MEMS (Microelectrochemical systems) technology, beginning a completely new direction of development in Romania. She specialized in design and fabrication of MEMS based devices ***developing for the first time processes such as bulk and surface micromachining*** *(anisotropic etching of silicon, double side alignment, sacrificial layer technique).* ***She developed also for the first time a MEMS resonant gas sensor on a polysilicon bridge on the same chip with a CMOS preamplifier****, from the design to full fabrication and characterization. Also* ***she developed MEMS sensors on 10 microns silicon membrane for pressure sensors, gas sensors, achieving outstanding results in technology, miniaturization and sensors sensitivity, integration and compatibility of MEMS technology with CMOS technology****. The results have been published in well-known scientific journals and have been also reported in the Doctoral thesis in 2002. In the same period, she started the collaboration with Politehnica University, Faculty of Electronics and Telecommunications and Electronics Engineering Department in foreign languages working as Associate professor in giving courses (Silicon Technology, Microsensors and Microsystems), laboratories, hands on training and practice stages.*

Together with MEMS technology, she was working in renewing the IMT's infrastructures, working on Support project for equipment acquisition. Between 2002-2008 important infrastructures have been built from zero (lithographic equipments, new clean rooms building, new state of the art characterization tools). In her capacity of Director of the Technology Department she essentially contributed to re-technologization of IMT which is today IMT-MINAFAB (*IMT facility for MIcro- and NAnoFABrication), https://www.imt.ro/MINAFAB/index.htm*

Starting 2005 Carmen was involved in the activity of the Research Institute of Artificial Intelligence, as part time researcher, getting involved in new topics such as robotics and algorithms increasing for sensors selectivity.

In the period 2000-2004 she was involved in four FP5 European projects in the field of microelectronics.

In the period 2004-2009 she was partner leader in three and principal investigator and in other two ***FP6 Projects****. She was developing in FP6 projects* ***mixt technologies for integration of silicon, glass, ceramic devices in microfluidic or electronic platforms with data acquisition and graphical User interfaces*** *and she published papers on resonant sensors, accelerometers, microsensor arrays, ISFET, Nanowire transistor, biosensors, and chemosensors in the field of BioMedical applications.*

Toxichip, INTEGRAM+, 4M NoE were the main FP6 projects were the mixt technologies concept have been used allowing ***the microsensors integration in microfluidics chips for measuring cell cultures or other biological media (imunosensors)****. Carmen continued the work in biomedical applications in FP7 (PARCIVAL)*

and H2020 (Moore4 Medical) Projects with results in ***PCR detection of viruses and bacteria using multiple wells microfluidic chip and implantable devices****.*
Strating 2023 Carmen is coordinating NerveRepack a Horizon Europe (KDT-JU) project, bringing together 27 partners form 10 European countries and doing advanced research on ***implantable devices for people with nerve injuries****. Moreover, a new Chips-JU project "****Unlooc"*** *will allow Carmen and the team* ***to contribute with new sensors and microfluidic devices*** *for achieving ambitious goals of Organ on chip in a big EU project (50 partners from 9 Countries).*
The activity at National level has been materialized in 35 coordinated/ participating projects and overall Carmen is/ was involved in more than 22 EU projects as coordinator or partner leader and more of 35 National projects and her scientific activity was published in more than 120 papers and she holds 8 Patents.
https://scholar.google.com/citations?hl=en&user=HQ3gWnYAAAAJ&view_op=list_works&sortby=pubdate
https://www.scopus.com/authid/detail.uri?authorId=7003563437).
Her previous collaborations with partners from this project (ICIA, SUUB, SCUB, INFLPR, INCDFM, UAB) but also the current direct collaborations with more of 60 organisations from Europe and Romania indicate that she will succeed to make the Center of Excellence a successful structure, with recognised contribution to European science and technology development.
Since 2007 I have been invited to act as project evaluator at European Commission in (FP6, FP7, H2020, Horizon Europe) for Nanoelectronics, Smart Systems, Photonics, Assisted Living Technologies, FET Open, CleanSky, Pathfinder, Chips JU, etc) and I have been involved in more then 15 evaluation sessions. I am acting also as a reviewer of the running projects in the field of medical devices.
I have been the unique member from Romania next to other 24 experts across EU, in ISTAG (IST Advisory group), with role in preparation of H2020 workprogramme.
Specialisation courses: • 1995, "Etching Technology"course, organised by UETP - MEMS, Community programme for Education and Training in Technology (COMETT), Wien, Austria; • 1999, First school of NOSE (Network of Excellence on Artificial Olfactory Sensing); • Fundamentals on sensors and sensors systems for electronic nose applications, Alpbach, Austria; • 2001, Third School of NOSE (Network of Excellence on Artificial Olfactory Sensing), Santa Cesarea Terme; • 2002, Microsystem Technology, Imperial College, London, 29 Nov-2 Dec; • 2007, 3-5 December, Microbuilder/Integramplus course, Bucharest; • 2008, 21-24 Octombrie, short course STIMESI, Bucharest; • Octombrie 2008 - Februarie 2009, Research Management school organised by IRECSON, Bucharest • 2010-2013, postdoc for Development of human resources through research, in the field of microfluidic devices and sensors for *biomedical applications.*

She has the ***required scientific expertise and capacity to successfully execute*** *in this project the tasks about neural implantable system (T.2.1, T2.2, T2.3, T5.1), sensors module, wearable sensors and biosensors (T3.1, T3.2, T3.3, T3.4), microsensors for multi-well microfluidic bioreactors (T4.1), multi-organ multi-well plate (T4.2), point of care system (T5.2), organ-on-chip platform (T5.3), new projects (T6.2), dissemination, communication and exploitation (T7.1, T7.2, T7.3), management and Ethics (T8.1, T8.2, T8.3), setting up and management of the Centre of Excellence (T1.1 – T1.4).*