

Curriculum vitae Europass



Personal Information	
Surname / Name	Cobianu/Cornel
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E-mail	cornel.cobianu@nanom-mems.com , cornel.cobianu@gmail.com
Nationality	Romanian
Religion:	Ortodox
Data of Birth	16.10. 1953
Marital status	Married
Sex	M
Professional experience	
Period	23.10.2023-present
Position	Senior Researcher-Translational Research Manager
Principal activities/Responsibilities	Intellectual Property and Technology Transfer Manager, scientific research in the field of biosensors and MEMS/NEMS based biomedical devices
Employer	eBio-hub Research Center from National University of Science and Technology Politehnica Bucharest
Type of activity	Coordinating the innovation process inside the eBio-hub Research Center, with focus on (i) the scientists' support in generating and protecting intellectual property for the eBio-hub (ii) coordonating the technology transfer process from eBio-hub to industry or new start-ups, and (iii) research in the field of MEMS/NEMS-based biomedical and biosensors devices.
Period	01 .10.2020-present
Position	Technical Expert
Principal activities/ responsibilities	Advanced research in European and national research projects
Employer	NANOM MEMS , 9 Street George Coșbuc, Râșnov 505400, Brașov,
Type of activity	Research on design and fabrication of gas detection microsystems and bio-electrochemical sensors, design of plasmonic photodetectors for photonic integrated circuits, transition metal dichalcogenide-based supercapacitors. Development of intellectual property (IP) for NANOM MEMS company on the above topics. European Patents and Romanian Patents.
Period	1.02.2017-1.10.2020
Position	Principal Senior Research Scientist First Degree (Highest Degree)
Principal activities/responsibilities	Research in the field of gas microsensors with sensitive layer based nacomposite materials containing carbonic materials (Graphene, Carbon Nano Tubes (CNT) and metal oxide semiconductors (MOS).

Employer	National Institute for Research and Development in Microtechnologies (IMT) Bucharest, 126A Str. Erou Iancu Nicolae, 077190, Voluntari, Romania
Type of activities	Advanced Research in the Romanian governmental „Nucleu” and „Complex Project” won by national competition.
Period	16.01.2003-31.01.2017
Position	Senior Technology Manager, Chief Scientist , Honeywell Engineering Fellow (Co-founder of Honeywell Sensor (Research) Laboratory from Bucharest)
Principal activities/responsibilities	Corporation Research Management, advanced industrial research in sensors. Generation of Intellectual Property for „Honeywell International” via RO, US, EU, CN Patents
Employer	Honeywell Romania , Calea Floreasca Nr. 169 A, Building A 014459 București, Romania
Type of Activities	Research in microelectronics and microsensors , development of novel concepts of miniaturized sensors and their patenting activity.
Period	01.09. 2000-16.01.2003
Position	University Professor
Principal activities/responsibilities	Teaching courses in Sensors and Optoelectronics. Academic research in the same field.
Employer	Valahia University din Târgoviște , 13 Str. Aleea Sinaia, 130004 Târgoviște, Dâmbovița
Type of activities	Teaching courses in Electrical Engineering
Period	01.02.1991-01.09. 2000
Position	Scientific Director and Laboratory manager at the Center of Microtechnology from Bucharest (CMT) (co-founder) transformed in 1996 in National Institute for Research and Development in Microtechnologies.
Principal activities/responsibilities	Research in the field of microsystem technology and thin films with focus on integrated gas sensor in silicon technology. European Research within EU-COPERNICUS Project, called „PORSIS”.
Employer	National Institute for Research and Development in Microtechnologies-IMT Bucharest, 126 A Street Erou Iancu Nicolae, 077190, Voluntari, Romania
Principal activities/responsibilities	Advanced research in microsensors in the framework of national and European Projects
Period	01.09.1977-01.02.1991
Position	Process Engineer, Research and Development engineer for new technologies of integrated circuits
Principal activities/responsibilities	Chemical Vapor Deposition (CVD) of thin films of silicon dioxide (SiO ₂), silicon nitride Si ₃ N ₄ , phosphosilicate glasses (PSG), boron-phosphosilicate glasses (BPSG), polycrystalline silicon films for CMOS integrated circuit fabrication
Employer	„Microelectronica București” state company
Principal activities/responsibilities	Production of CMOS integrated circuits, and R&D for new processes and microelectronic CMOS circuits fabrication.
Education	
Period	01.09. 1985-01.05. 1991
Degree	Ph.D. in microelectronics, speciality devices and electronic components
Developed competencies	Solid state electronics, microelectronic technology for integrated circuit fabrication
University	Politehnica University Bucharest (UPB)
Period	01.10.1972-31.06.1977
Degree	Master of Science in Electronics Engineering.
Principal competencies	Engineering sciences specific to electronics (Mathematics, Physics, Chemistry, Electrotehnics, Electronic Devices, Analog and Digital Electronic Circuits, Physics and Technology of Electronic Devices.
University	Politehnica University Bucharest (UPB)

Period	15.09. 1968-30.06 1972				
High School	Theoretical High School from Fieni, Romania. Bacalaureat passed with total mark of 10				
Acquired knowledge	Disciplines : mathematics, physics, chemistry, biology, history, geography, Romanian language, Russian and French languages.				
High School	Theoretical High School from the city Fieni, Dâmbovița District. I graduated the IX class of high school , in the city Sinaia, Romania.				
Period	15.09.1960-30.06.1968				
Primary school	General School of 8 years from Moroeni, Dambovita. I have graduated the eighth class with general mark 10				
School disciplines	Mathematics, Physics, Chemistry, History , Geography, Foreign Languages : Russian				
Primary School	General School of 8 years from Moroeni, District Dambovita.				
Aptitudes and Personal Competencies	<p>Advanced research in the field of micro/nano electronic technology, new material and process research for MEMS/NEMS micro/nanosystem technology, chemiresistive gas (bio) sensors, electrochemical (bio) gas sensors, mechanical sensors, plasmonic photodetectors for integrated photonic circuits, supercapacitor technology based on metal oxides and transition metal dichalcogenides,</p> <p>Management of research groups and excellent experience in foundation of new research centers and institutes. Dr. Cornel Cobianu co-founded together with Acad. Dan Dascalu the Center of Microtechnology (CMT) from Bucharest, which became later IMT Bucharest. Dr. Cornel Cobianu co-founded „Honeywell’s Sensor Lab from Bucharest, together with Dr. Cleopatra Cabuz from Honeywell International.</p> <p>Dr Cobianu is skilled in the generation of Intellectual Property (IP) for the companies where he worked. developing innovative concepts in the above fields (more than 50 US patents granted, 25 EU Patent granted and many other international and Romanian Patents, as well as patents with world-wide coverage.</p>				
Mother Language	Romanian				
Foreign languages					
Self-evaluation	Understanding		Speaking		Writing
<i>European level(*)</i>	Listening	Reading	Conversation	Oral speech	Writing
English	C2	C2	C2	C2	C2
French	A1	A2	A1	A1	A1
Russian	A1	A1	A1	A1	A1
Italian	A2	A1	A1	A1	A1
	(*) Common European Level for Foreign Languages				
Competences and social abilities	Management of a Research Organization				
Organizational competences	Excellent. I have successfully contributed as a co-founder of two research organisations (IMT Bucharest and Honeywell Sensor Laboratory in Bucharest.				
Computer Competences	Very Good for „OFFICE” , „PAINT”				
Artistic competences	Reduced				
Hobbies	History, tourism				
Relationship	Very Good				
Driving Licence	B-type				
Supplementary Informations					
Annexes	List of papers published in Journals (I) Proceedings (II) List of co-authored book chapters (III) , List of Granted Patents and List of Patent Applications (IV), List of EU granted Projects (V)				

ANNEXES

ANNEXE 1

1. LIST OF PUBLISHED PAPERS IN JOURNALS -79 papers

1. Gonzalo Santos, Marin Gheorghe, **Cornel Cobianu**, Mircea Modreanu, Maria Losurdo, Yael Gutierrez, and Fernando Moreno, Plasmonic hot-electron reconfigurable photodetector based on phase-change material Sb_2S_3 *Optics Express* 38953, Vol. 30, No. 21/ 10 Oct 2022.
2. Yael Gutierrez, Anna P. Ovvyvan, Gonzalo Santos, Dilson Juan, Saul A. Rosales, Javier Junquera, Pablo Garcia-Fernandez, Stefano Dicorato, Maria M. Giangregorio, Elena Dilonardo, Fabio Palumbo, Mircea Modreanu, Josef Resl, Olga Ishchenko, Guy Garry, Tigers Jonuzi, Marin Gheorghe, **Cornel Cobianu**, Kurt Hingerl, Christoph Cobet, Fernando Moreno, Wolfram H.P. Pernice, and Maria Losurdo, Interlaboratory study on Sb_2S_3 interplay between structure, dielectric function, and amorphous-to-crystalline phase change for photonics, *iScience* 25, 104377 June 17, 2022, <https://doi.org/10.1016/j.isci.2022.104377>.
3. Yael Gutiérrez, Andrea Fernández-Pérez, Saúl A. Rosales, **Cornel Cobianu**, Marin Gheorghe, Mircea Modreanu, José M. Saiz, Fernando Moreno, Losurdo, "Polarimetry analysis and optical contrast of Sb_2S_3 phase change material", *Optical Materials Express* Vol. 12, No. 4/1 Apr 2022/ 1531.
4. Bogdan-Catalin Serban, **Cornel Cobianu**, Octavian Buiu, Marius Bumbac, Niculae Dumbravescu Viorel Avramescu, Cristina Mihaela Nicolescu, Mihai Brezeanu, Cristina Pachiu, Gabriel Craciun and Cristiana Radulescu, "Ternary Nanocomposites Based on Oxidized Carbon Nanohorns as Sensing Layers for Room Temperature Resistive Humidity Sensing", *Materials* 2021, 14, 2705. <https://doi.org/10.3390/ma14112705>
5. Bogdan-Catalin Serban, **Cornel Cobianu**, Octavian Buiu, Marius Bumbac, Niculae Dumbravescu, Viorel Avramescu, Cristina Mihaela Nicolescu, Mihai Brezeanu, Cristiana Radulescu, Gabriel Craciun, Cosmin Romanitan and Florin Comanescu, "Quaternary Oxidized Carbon Nanohorns—Based Nanohybrid as Sensing Coating for Room Temperature Resistive Humidity Monitoring", *Coatings*, 2021, 11, 530, <https://doi.org/10.3390/coatings11050530>
6. **Cornel Cobianu**, Bogdan-Catalin Serban, Niculae Dumbravescu, Octavian Buiu, Viorel Avramescu, Cristina Pachiu, Bogdan Bitu, Marius Bumbac, Cristina-Mihaela Nicolescu, and Cosmin Cobianu "Organic–Inorganic Ternary Nanohybrids of Single-Walled Carbon Nanohorns for Room Temperature Chemiresistive Ethanol Detection, *Nanomaterials* 2020, 10, 2552; doi:10.3390/nano10122552
7. **Cobianu, C.**, Dumbravescu, N., Serban, B. C., Buiu, O., Romanitan, C., Comanescu, F., Ionescu O. Sonochemically synthesized ZnO-Graphene nanohybrids and its characterization. *REVIEWS ON ADVANCED MATERIALS SCIENCE*, 2020, 59(1), 176-187.
8. Serban, B. C., Buiu, O., Dumbravescu, N., **Cobianu, C.**, Avramescu, V., Brezeanu, M., Nicolescu, C. M. Oxidized Carbon Nanohorn-Hydrophilic Polymer Nanocomposite as the Resistive Sensing Layer for Relative Humidity. *Analytical Letters*, 2020, 1-14.
9. Serban, B. C., Buiu, O., Dumbravescu, N., **Cobianu, C.**, Avramescu, V., Brezeanu, M., Nicolescu, C. M. Optimization of Sensing Layers Selection Process for Relative Humidity Sensors. *Romanian Journal of Information Science and Technology* 2020., 23(1), 93-104.
10. Ovidiu G. Florea, Adelina Stanoiu, Marin Gheorghe, Cornel Cobianu, Florentina Neatu, Mihaela Trandafir, Stefan Neatu, Mihaela Florea Cristian E. Simion Methane Combustion, using Pd. Deposited on CeOx-MnOx/La-Al₂O₃ Pellistors, *Materials* 2020, 13, 4888; doi:10.3390/ma13214888.
11. Stefan Neatu, Mihaela M. Trandafir, Adelina Stanoiu, Ovidiu G. Florea, Cristina E. Simion, Lucian N. Leonat, **Cornel Cobianu**, Marin Gheorghe, Mihaela Florea, and Florentina Neatu, Bulk versus Surface Modification of Alumina, with Mn and Ce based oxides for CH₄ catalytic combustion, *Materials* 2019, 12, 1771; doi:10.3390/ma12111771.
12. **Cornel Cobianu**, Florin Nastase, Niculae Dumbravescu, Octavian Buiu, Bogdan Serban, Mihai Danila, Raluca Gavrila, Octavian Ionescu, And Cosmin Romanitan, Effect of Silicon Surface Cleaning on Electrical Properties of As-Deposited Atomically Layer-Deposited (ALD) HfO₂ Films Obtained From Tetrakis(dimethylamino)Hafnium (TDMAH) and Water in *Romanian Journal Of Information Science And Technology* Volume 22, Number 1, 2019, 41–56
13. B. C. Serban, O. Buiu, M. Brezeanu, O. Ionescu, **C. Cobianu**, *Nanostructured semiconducting metal oxides for ethanol gas sensing. A possible HSAB interpretation_in Romanian Journal of Information Science and Technology* Volume 21, No. 1, 2018, pp 93-96

14. B.C. Serban, M. Brezeanu, A.D. Luca, S.Z. Ali, O. Buiu, C. Cobiaanu, A. Stratulat, F. Udrea, V. Avramescu, O. Ionescu, N. Varachiu, Nanostructured Metal Oxides Semiconductors for Oxygen chemiresistive sensing, in *Romanian Journal of Information Science and Technology* vol. 20, No.2, pp. 135-150, 2017.
15. **Cornel Cobiaanu**, Alisa Stratulat, Bogdan Serban, Mihai Brezeanu, Octavian Buiu, "Sonochemical Syntheses Of Metal Oxide Nanocomposites For Gas Sensing", *Annals of the Academy of Romanian Scientists Series on Science and Technology of Information* ISSN 2066-8562 Volume 9, Number 1/2016, pp. 5-12.
16. A. Stratulat, B.-C. Serban, A. De Luca, V. Avramescu, **C. Cobiaanu**, M. Brezeanu, O. Buiu, L. Diamandescu, M. Feder, S.Z. Ali, F. Udrea, "Low Power Resistive Oxygen Sensor Based on Sonochemical SrTi_{0.6}Fe_{0.4}O_{2.8} (STFO40)", in *Sensors*, 15, 17495-17506, **2015**, doi:10.3390/s150717495.
17. Bogdan Serban, **Cornel Cobiaanu**, Mihai Brezeanu, Viorel Dumitru, Octavian Buiu, Alisa Stratulat, Stefan Costea, "Hydrogen Sulphide Sensing Review", *Annals of the Academy of Romanian Scientists, Series on Science and Technology of Information*, Vol.7, Number 1/2014, pp 55-67.
18. **Cornel Cobiaanu**, Bogdan Serban, Mihai Brezeanu, Viorel Dumitru, Cazimir Bostan, Octavian Buiu, "Oxygen Sensing: A Review Part 2: Solid State Technologies", *Annals of the Academy of Romanian Scientists Series on Science and Technology of Information* ISSN 2066-8562 Volume 7, Number 2/2014, pp. 5-20.
19. Bogdan-Catalin Serban, **C. Cobiaanu**, O.Buiu, "Materials And Methods For Optical And Galvanic Lead – Free Oxygen Detection", Oxygen Sensing: A Review Part 1: *Annals of the Academy of Romanian Scientists, Online Edition Series on Science and Technology of Information* ISSN 2066 - 2742 Volume **6**, Number **2/2013**
20. B-C Serban, M. Mihaila, V. Avramescu, M. Brezeanu, V. Dumitru, O. Buiu, C.V. Diaconu, **C. Cobiaanu**, B Cole, A Cox, T. Mart, "New Materials And Structures For Sensors And Solar Cells", *The Exponent, Honeywell Technology Journal*, Vol.6, Issue No.1, January 2014.
21. Bogdan Serban, **C. Cobiaanu**, M. Brezeanu, O. Buiu "Quantum Dot Solar Cell. An HSAB Perspective", *Annals of the Academy of Romanian Scientists, Series on Science and Technology of Information* Volume 6, Number1/2013
22. **Cornel Cobiaanu**, Bogdan Serban, Viorel Avramescu, Bryan Hobbs, Keith Pratt, Martin Willett "Lifetime Considerations For Lead-Free Oxygen Galvanic Sensors", *Annals of the Academy of Romanian Scientists, Series on Science and Technology of Information, Volume 5, 2012, online edition, No.2, ISSN 2066-8562*
23. **Cornel Cobiaanu** and Bogdan Serban, "Polymeric Pressure Sensors: A Conceptual View", *Annals of the Academy of Romanian Scientists, Series on Science and technology of information*, Volume 5, Number 1/**2012**, pp. 69-82.
24. B. Serban, A.K Sarin Kumar, M Brezeanu, **C. Cobiaanu**, O Buiu, C. Bostan, N. Varachiu, S. Costea, "CO₂ Sensing Layers For SAW/BAW Devices", *Romanian Journal of Information Science and Technology*, Volume 14, Number 3, **2011**, 222–231.
25. **Cornel Cobiaanu**, Bogdan Serban "A Vision On Resonant Nano–Electro-Mechanical Sensor, *Annals of Academy of Romanian Scientists, Series on Science and Technology of Information*, Volume 4, Number 2/2011, pp 17- 39.
26. Bogdan Serban, **Cornel Cobiaanu**, Cazimir-Gabriel Bostan, Octavian Buiu, "Carbon Nanotubes And Their Nanocomposites For Carbon Dioxide Sensing", *Annals of the Academy of Romanian Scientists, Series on Science and Technology of Information*, Volume 4, Number 1/2011, pp 91-99.
27. **C. Cobiaanu**, B. Şerban, I. Georgescu, Ş. Costea, C. Bostan, "Emerging All-Differential Chemical Sensing", *Romanian Academy Section for Information Science and technology*, Volume 13, Number 4, 2010, pg 342-349, **ISI paper**
28. **C. Cobiaanu**, B. Serban, V. Petrescu, J.Pettine, D.Karabacak, P.Offerman, S.Brongersma, V.Cherman, S.Armini, F.A.Hassani, M.A.Ghiass, Y.Tsuchiya, H.Mizuta, C. Dupre, L.Durrafourg, A.Koumela, D.Mercier, E.Ollier, D.Tsamados, and A.Ionescu, "Towards Nano-Scale Resonant Gas Sensors", *Annals of the Academy of Romanian Scientists, Series on Science and Technology of Information*, Vol.3, No.2, 2010
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30. M. Modreanu, M. Gartner, **C. Cobiaanu**, B. O’Looney and F. Murphy, "Optical Properties Of Silicon Thin Films Related To LPCVD Growth Condition", in *Thin Solid Films*, Volume 450, 2004, pp. 105-110.
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37. **C. Cobianu**, From Nanostructured Materials To Future Electron Devices, *Scientific Bulletin of Hyperion University*, volume 1, Number 1/2000, pp. 58.
38. M. Dumitrescu, **C. Cobianu**, D. Lungu, D. Dascalu, A. Pascu, S. Kolev and A. van den Berg, "Thermal Simulation Of Surface Micromachined Polysilicon Hot Plates Of Low Power Consumption", in *Sensors and Actuators A, (Physical)* 76 (1999), pp. 51-56.
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ANNEXE III

LIST of CO-AUTHORED BOOK CHAPTERS

- C. Cobianu**, M. Gheorghe, A. Stanoiu, O.G. Florea, C.E.Simion, S. Neațu, F. Neațu, M. Trandafir, M. Florea, *Tehnologii Inovative de Sinteză a Nanocompozitelor Catalitice cu Aplicație În Senzori de CH₄ cu Consum Redus de Putere Electrică*, book chapter in the book „MATERIALE MULTIFUNCȚIONALE INTELIGENTE PENTRU APLICAȚII DE ÎNALTĂ TEHNOLOGIE”, ISBN 978-606-26-1490-4, editor, Lucian Pintilie, editura „Pro Universitaria SRL”, 2021.
- Cornel Cobianu**, Bogdan-Catalin Serban, Octavian Buiu, *Towards Microscale Application–Specific Solid-State Oxygen Sensors: From Electrochemical to Optical Principles*, pp 257- 290, book chapter in Advances in micro and nanoelectronics/Progrese in micro si nanoelectronica, Romanian Academy Publishing house, **2018**, editors: Sorin Cristoloveanu, Andreas Wild, Dan Dascălu, ISBN 978-973-27-2982-3.
- Bogdan Serban, **Cornel Cobianu**, Cazimir Bostan, Chapter “*Novel Concepts for CO₂ detection by differential resonant nanosensing*”, pp 57-71, published in “*Nanomaterials and Nanostructures for various applications*”, Romanian Academy Publishing House, ISBN 978-973-27-2169-8, Editors : Gheorghe Brezeanu, Horia Iovu, Cornel Cobianu, Dan Dascalu
- Andrea De Luca, Florin Udrea, Guoli Li, Yun Zeng, Nicolas André, Guillaume Pollissard-Quatremère, Laurent A. Francis, Denis Flandre, Zoltan Racz, Julian W. Gardner, Shan Zee Ali, Octavian Buiu, Bogdan C. Serban, **Cornel Cobianu** and Tracy Wotherspoon, *Sensors and Sensor Systems for Harsh Environment Applications, in Semiconductor Devices in Harsh Conditions*, 7 december 2016, by CRC Press.
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ANNEXE IV

LIST OF US GRANTED PATENTS

Item	Authors	Title	Patent number	Year
1.	Cornel Cobianu , Viorel Georgel Dumitru, Bogdan-Catalin Șerban, Alisa Stratulat, Mihai	<i>Metal oxide nanocomposite heterostructure methods and hydrogen sulfide sensors including the same</i>	US Patent 10527598 B2	7 Jan 2020

	Brezeanu, Octavian Buiu			
2.	Cornel Cobianu , Alisa Stratulat, Bogdan Serban, Buiu Octavian, Bostan Cazimir, Mihai Brezeanu, Costea Stefan Dan	<i>FET based humidity sensor with barrier layer protecting gate dielectric</i>	US Patent. 10585058 B2	10 March 2020
3.	Bogdan-Catalin Șerban, Mihai Brezeanu, Octavian Buiu, Cornel Cobianu	<i>Relative Humidity Sensor and method</i>	US Patent 10634636 B2	28 April 2020
4.	Cornel Cobianu , Bogdan Serban, Viorel-Georgel Dumitru, Buiu Octavian, Alisa Stratulat, Mihai Brezeanu	FET and fiber-based sensor	US Patent 10 663 425 B2	26 May 2020
5.	Cornel Cobianu , Ion Georgescu, Cazimir gabriel Bostan	<i>Bulk Acoustic wave (BAW) sensors for liquid level measurements</i>	US Patent 10168198 B2	1 Jan 2019
6.	Cornel Cobianu , Bogdan-Cătălin Șerban, Viorel gerogel Dumitru, Alisa Stratulat, Mihai Brezeanu	<i>FET and fiber based sensor</i>	US Patent 10197526 B2	5 Feb 2019
7.	Bogdan-Cătălin Șerban, Cornel Cobianu , Octavian Buiu, Alisa Stratulat, Viorel Georgel Dumitru, Andrea Piesker, Christian saunier, Eric Farin	<i>Anti-static compositions</i>	US Patent 10246573 B2	2 April 2019
8.	Bogdan Șerban, Octavian Buiu, Mihai Brezeanu, Cornel Cobianu , Cazimir Gabriel Bostan, Cristian Diaconu	<i>Benzene sensors and associated methods</i>	US Patent 10254217 B2	9 April 2019
9.	Michael Kon Yew Hughes, Ion Georgescu, Cornel Cobianu	<i>Apparatus and method for adjusting guided wave radar pulse width to optimize measurements</i>	US Patent 10310056 B2	4 June 2019
10.	Bogdan Catalin Serban, Cornel Cobianu , Mihai Brezeanu, Octavian Buiu, Cazimir Gabriel Bostan, Alisa Stratulat	Relative humidity sensor and method	US Patent 10429333	1 Oct 2019
11.	Bogdan-Catalin Serban, Octavian Buiu, Cornel Cobianu , Mihai Brezeanu	<i>Hydrogen sulfide sensor and method</i>	US Patent 9 932 449 B2	3 April 2018
12.	Ion Georgescu, Dana Guran, Ioan Pavelescu and Cornel Cobianu	<i>Sensor device with helical antenna and related system and method</i>	US Patent 9985356 B2	29 May 2018
13.	Cornel Cobianu, Viorel-Georgel Dumitru, Bogdan-Cătălin Șerban, Alisa Stratulat, Mihai Brezeanu, Octavian Buiu	<i>Metal oxide nanocomposite heterostructures methods and hydrogen sulfide sensors including the same.</i>	US Patent 10067107 B2	4 Sept 2018
14.	Cornel Cobianu , Serban	<i>Method and system for</i>	US Patent 9604191B2	28 March

	Bogdan Catalin, Stratulat Alisa, Dumitru Viorel Georgel, Brezeanu Mihai, Buiu Octavian	<i>flammable gas detection comprising a sonicated nanostructured metal oxide</i>		2017
15.	Cornel Cobianu , Ion Georgescu, Michael Hughes, Stuart Heath and Frank Haran	<i>Coupling device for impedance matching to a guided wave radar probe</i>	US Patent 9574929 B2	21 Feb 2017
16.	Cornel Cobianu , Bogdan Serban and Bryan Hobbs	<i>Lead-free electrochemical galvanic Oxygen Sensor</i>	US Patent 9557289 B2	31 Jan 2017
17.	Ion Georgescu, Cornel Cobianu , Stuart James Heath, Michael Kon Yew Hughes Frank Martin Haran	<i>Feed-through for GWR measurement in tanks</i>	US Patent 9476753 B2	25 Oct 2016
18.	Ion Georgescu, Dana Guran, Ioan Pavelescu and Cornel Cobianu	<i>Sensor device with helical antenna and related system and method</i>	US Patent 9437933 B2	6 Sept 2016
19.	Cornel Cobianu , Ion Georgescu, Stuart James Heath, Michael Kon Yew, Hughes, Frank Haran	<i>Threaded coupling devices with nozzle for gwr measurements in non-metallic tanks</i>	US Patent 9518856 B2	1 Oct 2015
20.	Cornel Cobianu	<i>Method of fabricating sensors having functionalized resonating beams</i>	US Patent 8980666 B2	17 March 2015
21.	Bogdan-Catalin Serban, Viorel Avramescu, Cornel Cobianu , Ion Georgescu and Nicolae Varachiu	<i>Deposition of sensing layers for surface acoustic wave chemical sensors based on supra-molecular chemistry</i>	US Patent 9074983 B2	7 July 2015
22.	Bogdan Catalin Serban, Mihai Mihaila, Cornel Cobianu , Viorel Georgel Dumitru, Octavian Buiu	<i>Carbon Dioxide Sensor</i>	US Patent 8826724 B2	9 Sept 2014
23.	Cornel Cobianu , Ion Georgescu, Cazimir Bostan	<i>Passive surface acoustic wave sensing system</i>	US Patent 8384524 B2	26 Feb 2013.
24.	Cornel Cobianu , Bogdan-Catalin Serban,	<i>Method for chemical sensor fabrication and related sensor</i>	US Patent 8372 674 B2	12 Feb 2013.
25.	Viorel Georgel Dumitru, Cornel Cobianu , Stefan-Dan Costea, Bogdan-Catalin Serban	<i>Thin-film transistor based piezoelectric strain sensor and method</i>	US Patent 8519449 B2	27 August 2013
26.	Cornel Cobianu , Frank Turnbull, Ion Georgescu and Viorel Avramescu	<i>System for monitoring structural assets</i>	US Patent 8479590 B2	9 July 2013
27.	Bogdan-Catalin Serban, Cornel Cobianu , Mihai Mihaila, Viorel-Georgel Dumitru	<i>Carbon dioxide sensor with functionalized resonating beams</i>	US Patent 8544314	1 Oct 2013

28.	Bogdan Catalin Serban, Cornel Cobianu , Mihai Mihaila, Viorel Gergel Dumitru, Octavian Buiu	<i>"Differential resonators for NO₂, detection and methods related thereto</i>	US Patent 8563319 B2	22 Oct 2013
29.	Bogdan Catalin Serban, Cornel Cobianu , Mihai Mihaila, Viorel Georgel-Dumitru	<i>SO₂ Detection Using Differential Nanoresonators And Methods Related Thereto</i>	US Patent 8609427 B2	17 Dec 2013
30.	Bogdan-Catalin Serban, Cornel Cobianu , Mihai Mihaila, Viorel Georgel Dumitru	<i>Functionalized monolayers for carbon dioxide detection by a resonant nanosensor</i>	US Patent 8230720 B2	31 July 2012
31.	Cornel Cobianu , Ioan Pavelescu, Mihai Gologanu	<i>Surface acoustic wave based micro-sensor apparatus and method for simultaneously monitoring multiple conditions</i>	US Patent 8317392 B2	27 Nov 2012
32.	Bogdan-Catalin Serban, Viorel-Georgel Dumitru, Cornel Cobianu , Stefan Dan Costea, Nicolae Varachiu, Stefan Voicu	<i>Methods for use of a sensitive layer for hydrogen sulphide detection with SAW/BAW devices</i>	US Patent 7867552	11 Jan 2011
33.	Cornel Cobianu , Bogdan Serban, Mihai Mihaila	<i>Differential resonant sensor apparatus and method for detecting relative humidity</i>	US Patent 8479560 B2	19 Oct 2011
34.	Cornel Cobianu , Viorel Avramescu, Ion Georgescu, Stefan-Dan Costea	<i>Method for sensor fabrication and related sensor and system</i>	US Patent 7891252 B2	22 Feb 2011
35.	Bogdan Catalin Serban, Cornel Cobianu , Mircea Bercu, Nicolae Varachiu, Mihai Mihaila, Cazimir Bostan, Stefan Ioan Voicu	<i>Matrix nanocomposite containing aminocarbon nanotubes for carbon dioxide sensor detection</i>	US Patent 7913541 B2	29 March 2011
36.	Cornel Cobianu , Viorel-Georgel Dumitru, Ion Georgescu	<i>Method for MEMS threshold sensor packaging</i>	US Patent 7927906 B2	19 April 2011
37.	Ioan Pavelescu, Ion Georgescu, Dana Elena Guran, and Cornel Cobianu	<i>Integrated MEMS 3D multisensor</i>	US Patent 7784344 B2	31 Aug 2010
38.	Ion Georgescu, Viorel Georgel Dumitru and Cornel Cobianu .	<i>Intelligent packaging method and system based on acoustic wave devices.</i>	US Patent 7755489 B2	13 July 2010
39.	Cornel Cobianu , Viorel-Georgel Dumitru, Ion Georgescu, Mihai Gologanu, Stefan Costea	<i>MEMS based battery monitoring technical field</i>	US Patent 7723961 B2	25 May 2010
40.	Bogdan Catalin Serban, Stefan Voicu, Stefan Dan Costea, Cornel Cobianu	<i>Matrix nanocomposite sensing film for SAW/BAW based hydrogen sulphide sensor and method for making same"</i>	US Patent 7695993 B2	13 April 2010
41.	Bogdan Catalin Serban, Stefan Voicu, Stefan Dan Costea, Cornel Cobianu	<i>Matrix nanocomposite sensing film for SAW/BAW based hydrogen sulphide sensor and</i>	US Patent 7723961 B2	25 May 2010

		<i>method for making same</i>		
42.	Cornel Cobianu , Ioan Pavelescu, Viorel Avramescu, James Cook, Leonard Mc Nally	<i>Surface acoustic wave pressure sensor</i>	US Patent 7651879 B2	26 Jan 2010
43.	Cornel Cobianu and Ion Georgescu	<i>Glass based packaging and attachment of SAW torque sensor</i>	US Patent 7514841 B1	7 April 2009
44.	Cornel Cobianu , Stephen Shiffer, Bogdan Catalin Serban, Alistair Bradley, Mihai Mihaila	<i>Pressure sensor</i>	US Patent 7318 351 B2	15 Jan 2008
45.	Cornel Cobianu , Ion Georgescu, James D. Cook, Viorel V. Avramescu.	<i>Multifunctional multichip system for wireless sensing</i>	US Patent 7391325 B2	24 June 2008
46.	Cornel Cobianu , Mihai Gologanu, Ioan Pavelescu, Bogdan Catalin Serban	<i>Micro-machined pressure sensor with polymer diaphragm</i>	US Patent 7401525 B2	22 July 2008
47.	Viorel Avramescu, Cornel Cobianu , Ioan Pavelescu	<i>Vacuum sealed surface acoustic wave pressure Sensor</i>	US Patent 7198981 B2	3 April 2007
48.	Cornel Cobianu , Ioan Pavelescu, James Cook	<i>MEMS SAW sensor</i>	US Patent 7243547 B2	17 July 2007
49.	James Cook, Cornel Cobianu , Vlad Buiculescu, Ioan Pavelescu, Brian Speldrich, James Liu, Brian Marsh	<i>Method a quartz sensor</i>	US Patent 7000298	21 Feb 2006

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1.	SERBAN, Bogdan-Catalin BUIU, Octavian COBIANU, Cornel AVRAMESCU, Viorel Marian DUMBRAVESCU, Niculae	<i>Quaternary Oxidized Carbon Nanohorns - Based Nanohybrid For Resistive Humidity Sensor</i>	EP 3 992 623 B1	5 July 2023
2.	SERBAN, Bogdan-Catalin BUIU, Octavian COBIANU, Cornel AVRAMESCU, Viorel Marian DUMBRAVESCU, Niculae	<i>Quaternary Hydrophilic Nanohybrid Composition For Resistive Humidity Sensors</i>	EP 3 992 622 B1	28 June 2023
3.	Serban Bogdan-Catalin, Cornel Cobianu , Buiu, Octavian, Brezeanu	<i>Anti-static compositions</i>	EP 3 202 820 B1 ,	6 April 2022

	Mihai, Stratulat Alisa, Dumitru Viorel Georgel, Piesker Andrea, Saunier Christiane, Farin Eric			
4.	Cobianu, Cornel Stratulat, Alisa Serban, Bogdan Buiu, Octavian Bostan, Cazimir Gabriel Brezeanu, Mihai Costea, Stefan Dan	<i>FET Based Humidity Sensor with Barrier Layer Protecting Gate Dielectric</i>	EP 3 244 201 B1	27 Oct 2021
5.	Cornel Cobianu , Mihai Mihaila, Bogdan Serban	<i>Differential resonant sensor apparatus and method for detecting relative humidity,</i>	EP 2378285B1	19 Feb. 2020
6.	Bogdan Catalin Serban, Mihai Brezeanu, Octavian Buiu, Cornel Cobianu	Relative humidity sensor and method	EP 3 211 408 B1	10 April 2019
7.	Ion Georgescu, Cornel Cobianu, James Stuart Heath, Michael Kon Yew Hughes, Frank Martin Haran	<i>Feed-through for gwr measurements in tanks</i>	EP 3 123 126 B1	14 Aug 2019
8.	Cornel Cobianu , Ion Georgescu, Michael Kon Yew Hughes, Stuart James Heath, Frank Haran	<i>Coupling device for impedance matching to a guided wave radar probe</i>	EP 3 084 463 B1	2 Oct 2019
9.	Cornel Cobianu , Ion Georgescu, Stuart James Heath, Michael Kon Yew Hughes, Frank Martin Haran	<i>Threaded coupling device with nozzle for gwr measurements in non-metallic tanks</i>	EP 3 123 125 B1	8 May 2019
10.	Michael Kon Yew Hughes, Ion Georgescu, Cornel Cobianu	<i>Apparatus and method for adjusting guided wave radar pulse width to optimize measurements</i>	EP 3 067 711 B1	18 Dec 2019
11.	Cornel Cobianu , Bogdan-Catalin Serban	<i>Hydrothermal or solvothermal synthesis of iron doped strontium titanate powder</i>	EP 2 883 839 B1	26 Sept 2018
12.	Cornel Cobianu , Bogdan-Catalin Serban, Mihai Brezeranu, Octavian Buiu, Cazimir Gabriel Bostan	<i>Sonochemical synthesis of iron doped strontium titanate powder</i>	EP 2 848 589 B1	18 April 2018
13.	Cornel Cobianu , Alisa Stratulat , Bogdan Serban, Octavian Buiu, Andrea Piesker, Eric Farin	<i>Protective glove with indicator of remaining lifetime</i>	EP3251533B1	17 Oct 2018
14	Bogdan-Catalin Serban, Cornel Cobianu , Mihai Brezeanu, Octavian Buiu, Cazimir Bostan, Alisa Stratulat	<i>Relative humidity sensor and method</i>	EP3078964B1	24 May 2017
15	Cornel Cobianu , Bogdan-Catalin Serban, Viorel	<i>Oxygen galvanic sensor based on noble metals</i>	EP 2 813 844 B1	8 Feb 2017

	Avramescu, Hobbs, Bryan Keith Frances Edwin Pratt Martin Willett			
16	Cornel Cobianu	Method of fabricating sensors having functionalized resonating beams	EP 2 461 159 B1	25.10.2017
17	Cornel Cobianu , Bogdan Serban, Cazimir Bostan, Stefan Dan Costea, Octavian Buiu, Alisa Stratulat, Mihai Brezeanu	<i>A humidity sensor</i>	EP 3 043 173 B1	6 Sept 2017
18	Bogdan Catalin Serban, Mihai Brezeanu Cornel Cobianu , Octavian Buiu, Mihai Mihaila, Cristian Diaconu	<i>Colorimetric gas sensing layer, system, and method of making the same</i>	EP2884274 B1	15 March 2017
19	Cornel Cobianu , Bogdan Serban	<i>Single element pellistor insensitive to internal and external interferences</i>	EP 2 806 266 B1	14 June 2017
20	Bogdan Serban, Cornel Cobianu , Mihai Mihaila, Viorel Dumitru	<i>Functionalized monolayers for carbon dioxide detection by a vibrating beam</i>	EP 2 327 983 B1	28 Dec 2016
21	Cornel Cobianu , Viorel Georgel Dumitru, Bogdan Catalin Serban, Alisa Stratulat, Mihai Brezeanu, Octavian Buiu	<i>Metal oxide nanocomposite heterostructure methods and hydrogen sulfide sensors including the same</i>	EP 2966033 B1	24 Aug 2016
22	Bogdan Catalin Serban, Octavian Buiu, Cornel Cobianu , Mihai Brezeanu	<i>Hydrogen sulfide sensor and method</i>	EP 2966034 B1	31 Aug 2016
23	Viorel-Georgel Dumitru, Cornel Cobianu , Stefan-Dan Costea, Bogdan Serban	<i>Thin-film transistor based piezoelectric strain sensor and manufacturing method</i>	EP 2 290 345 B1	4 April 2015
24	Bogdan Catalin Serban, Cornel Cobianu , Mihai Brezeanu, Viorel Avramescu, Octavian Buiu, Viorel Georgel Dumitru, Mihai Mihaila, Cazimir Gabriel Bostan	<i>Sensing layers for oxygen detection</i>	EP 2848927 B1	9 Sept 2015
25	Cornel Cobianu , Bogdan Catalin Serban, Viorel Avramescu, Bryan Hobbs, Keith Pratt, Martin Willett	<i>Long-life, lead-free, oxygen galvanic sensor</i>	EP 2813843 B1	12 Feb 2015
26	Bogdan Catalin Serban, Mihai Mihaila, Cornel Cobianu , Viorel Georgel Dumitru, Octavian Buiu	<i>Carbon dioxide sensor</i>	EP 2 469 275 B1	23 Dec 2015
27	James Cook, Cornel Cobianu , Ioan Pavelescu	<i>MEMS SAW sensor</i>	EP 1 800 100 B1	18 Jan 2012

28	Cornel Cobianu , Mihai Gologanu, Ioan Pavelescu, Bogdan Catalin Serban	<i>Micro-machined pressure sensor with polymer diaphragm</i>	EP 1 861 687 B1	20 June 2012
29	Cornel Cobianu , Ioan Pavelescu, Viorel Avramescu, James Cook, Leonard Mc Nally	<i>Method of producing surface acoustic wave pressure sensors</i>	EP 1 958 329 B1	24.08.2011
30	James Cook, Brian Marsh, Brian Spelddrich, Ioan Pavelescu, Vlad Buiculescu and Cornel Cobianu	<i>Method for producing a quartz sensor</i>	EP 1 738 147 B1	5 May 2010

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Item	Authors	Title	Patent number	Year
1	Cornel Cobianu and Ion Georgescu	<i>Method and Apparatus for Low Drift Chemical Sensor Array</i>	CN 101710100 B	5 Feb 2015
2	Cornel Cobianu , Mihai Gologanu, Ioan Pavelescu, Bogdan-Catalin Serban	<i>Polymeric pressure sensor with implanted piezoresistive regions</i>	CN 101180525B	1 Aug 2012
3	Bogdan Catalin Serban, Viorel Avramescu, Cornel Cobianu , Ion Georgescu, and Nicolae Varachiu	<i>Design and deposition of sensing layers for surface acoustic wave chemical sensors based on supra-molecular chemistry</i>	CN 101784892 B	1 April 2016
4	Cornel Cobianu , Ioan Pavelescu, James Cook	<i>Quartz sensor system and producing method thereof</i>	CN 101973193 B	13 May 2017

LIST OF GRANTED ROMANIAN PATENTS (selected from more 30 Romanian Patents)

Item	Authors	Title	Patent number	Year
1	COBIANU CORNEL Marin Gheorghe	<i>Senzor de gaze inflamabile pe baza de matwrial catalitic mezoporos si procedeu de obtinere</i>	RO 135536 A2	28.02 2022
2	COBIANU CORNEL , GHEORGHE MARIN	<i>Pelistor cu catalizator fara metale pretioase pe baza de compozite ale oxidului de cobalt.</i>	RO134550 A2	31.05.2019
3	COBIANU CORNEL , GHEORGHE MARIN	<i>Senzor de Gaze Inflamabile pe Bază de Catalizator fără Metale Nobile</i>	RO 134411 A2,	28.08.2020
4	Cornel Cobianu	<i>Procedeu de obtinere a straturilor dielectrice multiple</i>	RO 104580 B1	20 Sept 1990
5	Marian Badila, Gheorghe Brezeanu, Cornel Cobianu , Dan Alexandru Petru, Florin Mitu	<i>Procedeu de fabricatie diode schottky de putere si tensiune ridicata</i>	RO 104755 B1	19 Dec 1994
6	Marian Badila, Gheorghe Brezeanu, Cornel Cobianu	<i>Procedeu de corodare bioxid de siliciu</i>	RO 98639 B1	30 March 1990

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ANNEXE V

LIST OF GRANTED EU RESEARCH PROJECTS

- EU-H2020 FET PROACT "Nanomaterials Enabling Smart Energy Harvesting for Next-Generation (NANO-EH) Internet of Things" "PHEMTRONICS" project, 2020-2023, NANOM-MEMS srl team member
- EU-H2020 FET OPEN, Active Optical Phase-Change Plasmonic Transdimensional Systems Enabling Femtojoule and Femtosecond Extreme Broadband Adaptive Reconfigurable Devices, PHEMTRONICS", 2020-23, NANOM MEMS srl is team member
- EU-FP-7 project, "SOI-HITS" project, 2011-2015, Honeywell team member
- EU-FP7 project, "NEMSIC", 2008-2011, Honeywell team leader
- EU-FP-6 project "e-CUBES", 2005-2008-Honeywell team leader
- Dutch STW foundation grant (TMF 5027), 1999-2002-owner
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- "STIMULANS" grant from Dutch Science Foundation FOM, Feb-Sept 1994-owner

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