Institutia: Institutul National de Cercetare-Dezvoltare pentru Microtehnologie (IMT-Bucuresti)
Functia:. Cercetator stiintific gr 2
  1. **Nume:** VARACHIU
  2. **Prenume:** Nicolae
  3. **Data şi locul naşterii:** 14.01.1956 Bucuresti, Romania
  4. **Cetăţenie:** Romana
  5. **Stare civilă:** casatorit

6. Studii:

Instituţia	Perioada	Grade sau diplome obţinute
Universitatea Politehnica Bucurresti, RO	1992-1999	Doctor in StiinteTehnice, Electronica
Universitatea Politehnica Bucuresti, RO	1975-1980	Inginer Electronica si Telecomunicatii

7. Experienţa profesională:

Instituţia	Perioada	Funcţia	Descriere
Institutul National de Cercetare-Dezvoltare pentru Microtehnologie (IMT-Bucuresti)	1 Feb. 2017-prezent si 1994- 2003	-CS2 -CS2 / Director departament	-Transfer tehnologic (inclusiv proprietate intelectuala) -înfiinţare/coordonare Departament Dezvoltari in Tehnologii Informationale; certetare in inteligenta computationala intrinsieca MEMS
Honeywell Intl	Ian 2004- dec 2016	-EMEA Six Sigma Leader (2011-2016) -Sr. Research Scientist/Business Development Coordinator (2004-2011)	-condus proiecte pt. implementarea de noi produse si tehnologii si imbunatatire produse/tehnologii/procese fabricatie -noi senzori si suport pentru Design For Six Sigma (aplicare in dezvoltare senzori, training, mentoring, certficari in Design For Six Sigma colegi cercetatori).
Universitatea Calgary, Alberta, Canada	1 oct 2001 - 31 oct 2002	Profesor invitat si Manager de poiect	Manager proiect "Glaucoma Expert System" Elaborare si sutinere curs propriu (Fundamentals of Fuzzy Logic) la masterat, sutinere curs Digital Design (an 3), conducere a doua teze de masterat si a doua proiecte de an
Institutul de tehnica de calcul si informatica -ITCI -Bucuresti, Romania	1986-1992	Cercetator stiintific Pr. gr3	Vedere artificiala/prelucrari imagini si actionare/control motoare electrice pentru roboti industriali; manager pentru 5 proiecte de cercetare

Institutul de Cercetare pentru Electrotehnica -ICPE Bucuresti, Romania	1980 -1986	Cercetator stiintific	Sisteme electronice (analogice si digitale) de control si masura a echipamentelor electrotehnice (ex: platforma giroscopica de masurare a vitezei unghiulare, bancuri de test pentru motoare cu inertie redusa pt roboti industriali, etc.)

8. Limbi străine cunoscute: engleza, franceza – nivel profesional; germana - incepator

9. Competențe:

-senzori si sisteme, integrarea sensori in sisteme (micro, nano inclusiv)

-prelucari de semnal si recunoasterea formelor bazata pe statistica si inteligenta computationala (logica fuzzy, retele neuronale, algoritmi genetici)

-eletronica aplicata: circuite, masurari si instrumentatie, achizitii de date (conversie

- analiza si prelucrari de date, design optimizat si robust, proiectarea experimentelor (Design For Six Sigma / Lean)

-proprietate intelectuala si Acquis Comunitar legat de ingineria electrica si practici generale de afaceri

10. Alte specializări și calificări:

-*Six Sigma Master Black Belt* certficat de Honeywell Intl (2016)

- *Acquis Technical Officer* certificat de EICTA - European IC&T and Electrical Industries Association (2004) "Related to general European Union practices and to regulatory affairs of particular importance to IT&C and Electrical Industries"

11. Experiența acumulată în alte programe/proiecte naționale/internaționale:

Programul/Proiectul	Funcția	Perioada	Bugetul administrat
FP6 -Integrated Project E-Cubes: 3-D-integrated micro/nano modules for easily adapted applications" Consortiu: **INFINEON-Germania,** Austria, Norvegia; EFPL-Elvetia, *Honeywell Romania,* PHILIPS-Olanda, Germania, Techniche Univ Berlin-Germania, THALES Alenia Space -Franta, THALES Systems Aeroiportes- Franta, Universitatea Paderborn-Germania, Universitatea Cork-Irlanda, Universitatea UPSALA-Suedia	Cercetator/participant (din partea Honeywell Romania)	2006-2009	-

FP7- Integrated Project „**NEMSIC**: Hybrid Nano-Electro-Mechanical / Integrated Circuit Systems for Sensing and Power Management applications" Consortiu: **EFPL-Elvetia**, TU Delft-Olanda, IMEC Einhoven-Olanda, Univ. of Southampton-UK, Sciprom-Elvetia, IMEC Leuven – Belgia, *Honeywell-Romania*, HiQscreen-Elvetia	Cercetator/participant (din partea Honeywell Romania)	2007-2010	-
Program de colaborare bilaterala IMT-Bucuresti Romania – Universitatea Dortmund, Germania: „Inteligenta computationala / soft computing integrate in microsisteme"	Coordonator task	1994-1998	100 K ECU
Canadian Collaborative Health Research Project "Glaucoma Expert System" – Universitatea Calgari, Alberta, Canada	Project manager	2001-2002	150 K Can$

12. Alte menţiuni:-

1994 -2003 - Secretar stiintific si membru in Comisia de Microtehnologii a Colegiului Consultativ al Ministerului Cercetarii / Agentiei Nationale de Cercetare-Dezvoltare (Programul Orizont 2000)

2004-2007 - Evaluator proiecte la Agentia Nationala de Cercetare-Dezvoltare

1992-2003 - Activitate didactica (plata cu ora) la Universitatea Politehnica Bucuresti si Academia Tehnica Militara, Bucuresti: examinare 3 lucrari doctorat (membru in comisie), conducere doua lucrri diploma, seminarii, laboratoare,
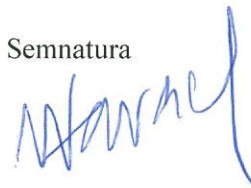
2005-2013 - Conferentiar univ asociat (plata cu ora) la Universitateda de Arhitectura si Urbanism „Ion Mincu" -Bucuresti, Departamentul de Design industrial: elaborare si sustinetre cursuri la master integrat si master (Acquis comunitar si proprietate intelectuala, Managementul proiectului de design industrial, Inovare); co-indrumare lucrare doctorat.

Declar pe proprie răspundere că datele prezentate sunt în conformitate cu realitatea.

Data completării: Semnatura

27.02.2017 .

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2. Bogdan Serban, Cobianu Cornel, Bercu Mircea, **Varachiu Nicolae**, Mihaila Mihai, Bostan Cazimir, Voicu Stefan, *Matrix nanocomposite containing aminocarbon nanotubes for carbon dioxide sensor detection*, US Granted Patent 7,913,541B2, Mar.29,2011

3. Bogdan-Catalin Serban, Viorel-Georgel Dumitru, Cornel Cobianu, Stefan-Dan Costea, **Nicolae Varachiu**, Stefan. I.Voicu, United States Patent, *Methods for use of a sensitive layer for hydrogen sulphide detection with SAW/BAW devices*, US Granted Patent, 7,867,552 B2, January, 11, 2011

4. Bogdan Serban, Viorel V. Avramescu Cornel P. Cobianu, Ion Georgescu, **Nicolae Varachiu**, *Design and deposition of sensing layers for surface acoustic chemical sensors based on supramolecular chemistry*, CN101784892B, 27-March 2013

5. Bogdan Serban, Viorel V. Avramescu Cornel P. Cobianu, Ion Georgescu, **Nicolae Varachiu**, *Design and deposition of sensing layers for surface acoustic chemical sensors based on supramolecular chemistry*, WO2008118740A3, 2008 -12-24

6. Bogdan Serban, Viorel V. Avramescu Cornel P. Cobianu, Ion Georgescu, **Nicolae Varachiu**, *Design and deposition of sensing layers for surface acoustic chemical sensors based on supramolecular chemistry*, US 2008/0229831 A1, Sep 25, 2008

7. Bogdan Serban, Viorel V. Avramescu Cornel P. Cobianu, Ion Georgescu, **Nicolae Varachiu**, *Design and deposition of sensing layers for surface acoustic chemical sensors based on supramolecular chemistry*, WO2008118740A2, oct.2, 2008

8. Bogdan Serban, Cobianu Cornel, Bercu Mircea, **Varachiu Nicolae**, Mihaila Mihai, Bostan Cazimir, Voicu Stefan, *Matrix nanocomposite containing aminocarbon nanotubes for carbon dioxide sensor detection*, US 2008/0264147 A1, Oct.30, 2008

9. Bogdan Serban, Cobianu Cornel, Bercu Mircea, **Varachiu Nicolae**, Mihaila Mihai, Bostan Cazimir, Voicu Stefan, *Matrix nanocomposite containing aminocarbon nanotubes for carbon dioxide sensor detection* EP 1 988 390 A2, 2008-11-05

10. Bogdan Serban, Viorel- Georgel Dumitru, Cornel Cobianu, Costea Stefan, **Nicolae Varachiu**, Stefan Voicu, *Method for use of a sensitive layer for hydrogen sulphide detection with SAW-BAW devices*, U.S. 2009/0280031A1, Nov. 12, 2009

11. Bogdan-Catalin Serban, Viorel V. Avramescu Cornel P. Cobianu, Ion Georgescu, **Nicolae Varachiu**, *Design and deposition of sensing layers for surface acoustic chemical sensors based on supramolecular chemistry*, Chinese patent application, 101784892, June. 21, 2010

12. Bogdan- Catalin Serban, Cobianu Cornel, Bercu Mircea, **Varachiu Nicolae**, Mihaila Mihai, Bostan Cazimir, Voicu Stefan, Matrix nanocomposite containing aminocarbon nanotubes for carbon dioxide sensor detection, Indian Patent Application, 1103/DEL/2008, IN200801103I1, 24/04/2009

13. Bogdan Serban, Viorel- Georgel Dumitru, Cornel Cobianu, Costea Stefan, **Nicolae Varachiu**, Stefan Voicu, *Method for use of a sensitive layer for hydrogen sulphide detection with SAW-BAW devices*, Indian Patent Application, 871/DEL/2009, IN20090087I11, 30/04/2010

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N. VARACHIU, "A FUZZY SHAPES CHARACTERIZATION FOR ROBOTICS" IN *LECTURE NOTES IN COMPUTER SCIENCE, VOL.1625, COMPUTATIONAL INTELLIGENCE - THEORY AND APPLICATIONS,* ED.: B. REUSCH, **SPRIENGER-VERLAG**, BERLIN, HEIDELBERG, NEW YORK, **1999**, PP. 253-258

A.H. DEDIU, A. AGAPIE, **N. VARACHIU**, "SOFT COMPUTING GENETIC TOOL V3.0 – APPLICATIONS" IN *LECTURE NOTES IN COMPUTER SCIENCE, VOL.1625, COMPUTATIONAL INTELLIGENCE - THEORY AND APPLICATIONS,* EDITOR: B. REUSCH, **SPRIENGER-VERLAG,** BERLIN, HEIDELBERG, NEW YORK, **1999**, PP. 704-705

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B. Serban, A. K. Sarin Kumar, Stefan Costea, Mihai Mihaila, Octavian Buiu, Mihai Brezeanu, **Nicolae Varachiu**, Cornel .Cobianu, "Surface acoustic wave CO_2 sensing with polymer-amino carbon nanotube composites", *Proceedings of the International Semiconductor Conference CAS* –**IEEE** Conf. **2008**, 73-76, ISI paper

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B, Serban, A. K. Sarin Kumar, C. Cobianu, O. Buiu, S. Costea, C. Bostan, **N. Varachiu**, "Selection of gas sensing materials using the hard soft acid base theory; Application to surface acoustic wave CO2 detection'', *Proceedings of the International Semiconductor Conference, CAS IEEE Conf. 2010,*247-250, ISI paper

B. Serban, A.K SarinKumar, M.Brezeanu, C. Cobianu, O.Buiu, C. Bostan, **N.Varachiu**, S. Costea '' Amino groups-based polymers for CO2 detection; a comparison between two sensing mechanism models, *CAS 2011 PROCEEDINGS,* IEEE, October 17-19 Sinaia, **2011** Romania, 127-130, ISI paper

B. Serban, A.K Sarin Kumar, M Brezeanu, C Cobianu, 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, ISI paper

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N. Varachiu, "A Fuzzy Pattern Recognition Method Embedded in a Robot Controller" in Proceedings of *International Semiconductor Conference CAS '99*, (**IEEE** event), 1999, Romania, Vol. 1, pp. 309-312

N. Varachiu, "An Improved Membership Function Building for Fuzzy Pattern Recognition" in Proceedings of *Fourth Joint Conference on Information Technology-* Research Triangle Park, North Carolina, **USA**, Oct. 23-28, **1998**, pp 120-122

N. Varachiu, "A Fuzzy Approach in Pattern Recognition for Machine Vision" underline(invited paper) presented at 2nd *International Conference on Computational Intelligence and Neuroscience*, Research Triangle Park, North Carolina, **USA**, March 2-5, 1997 and published in Proceedings of *Third Joint Conference on Information Technology-1997*, pp 235-238

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N. Varachiu, "Fuzzy Pattern Recognition for Robotics" presented and published in Proceedings of *NATO Advanced Study Institute on Soft Computing and its Applications*, Manavgat, Antalya, Turkey, 21-31 August **1996**.

N. Varachiu and M. Gh. Negoita, "The fusion of fuzzy logic and neural networks; applications to shape recognition", in Proceedings of the *European Congress on Intelligent Techniques and Soft Computing EUFIT '94*, Aachen - Germany, Sept. **1994**, pp. 1134-1137,

N. Varachiu and M. Gh. Negoita, "Compactness feature for membership function determination in fuzzy pattern recognition", poster presentation at the *4Dortmunder Fuzzy Days*, Dortmund - Germany, June **1994**