

PERSONAL INFORMATION

Elisabetta Comini



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Via sorelle Agazzi, 60, 25133, Brescia, Italia

Sex F | Date of birth 21/11/1972 | Nationality Italian

ACTUAL POSITION STUDIES

Full professor in physics of matter, PhD in Materials for Engineering

WORK EXPERIENCE

- September 2016 - today University of Brescia, Department of Information Engineering (DII), SENSOR Lab
Full professor, head of SENSOR laboratory
Specialist in growth and characterization of metal oxides for the development of devices such as chemical sensors.
- November 2014 – August 2016 University of Brescia, Department of Information Engineering (DII), SENSOR Lab
Associate professor
- November 2001 – October 2013 Assistant professor Physics of Matter Chemistry and Physics department, Engineering Faculty, University of Brescia.
- October 2001 – November 1999 Technician INFM: temporary employed as “Tecnologo INFM” Unit of Brescia, working on growth of thin films by sputtering for sensing application and their functional characterization

EDUCATION AND TRAINING

- 2000 **PhD in Materials for Engineering** 8 EQF
Department of Mechanical Engineering, Faculty of Engineering, University of Brescia, Italy
Thesis: “Preparation and characterization of thin semiconductor gas sensors”, Elisabetta Comini, Supervisor: Prof. Giorgio Sberveglieri
- 1996 **Degree in Physics** 6 EQF
Degree in Physics at the University of Pisa on 11/7/1996
109/110. Thesis: Study of CaSGG crystals doped with Erbium for the development of laser in the near IR and visible range
Tutor: Prof. Mauro Tonelli; Reviewers: Prof. G. Grosso e Prof. F. Giammanco.
- 1991 **High School Diploma** 5 EQF
Diploma at “Liceo scientifico Statale E. Fermi Salò (Bs)” 60/60

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING	SPEAKING	WRITING

	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C1	C2	C2	C2
Replace with name of language certificate. Enter level if known.					
France	A1	A1	A1	A1	A1
Replace with name of language certificate. Enter level if known.					

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- good communication skills gained through my experience as teacher and lab head

Organisational / managerial skills

- leadership (currently responsible for a team of 10 people)
- coordination and management of research project with national and international partners
- coordination of research activities in cooperation with employee of university institutes and other entities.

Job-related skills

- excellent command of experimental research processes (currently responsible of an experimental laboratory)

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
PROFICIENT USER	PROFICIENT USER	PROFICIENT USER	INDEPENDENT USER	PROFICIENT USER

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

- good command of office suite (word processor, spread sheet, presentation software)
- good command of photo editing software gained as an amateur photographer

Other skills

- 500RYS yoga teacher, BalyaYoga child yoga teacher, metamorphic massage

Driving licence

B

ADDITIONAL INFORMATION

Publications *Publications on journals Web of Science Thomson Reuters Databases=SCI-EXPANDED, CPCI-S*

Author: Elisabetta Comini

Results found: 364

*Sum of the Times Cited: **11142***

*Sum of Times Cited without self-citations: **10215***

Citing Articles: 8237

Citing Articles without self-citations: 8021

Average Citations per Item: 30.61

h-index: 52

Results from Scopus

Candidate: Elisabetta Comini

Documents: 378

Total citations: 12139

H-Index: 54

Results from Google Scholar

Citations 15983

H index 64

i-10-index 214

ResearcherID: C-6721-2008

<http://www.researcherid.com/rid/C-6721-2008>

Presentations

She has written more than 450 communications, 120 invited communications, at conferences and she has given more than 60 invited communications including 6 plenary talks.

Example of publication:

- How to write a successful CV, New Associated Publishers, London, 2002.

Example of project:

(2006-2009) **CHEMICAL THREAT DETECTORS BASED ON MULTISENSOR ARRAYS AND SELECTIVE POROUS CONCENTRATORS** Project CBP.NR.NRSFP 982166
Devon new public library. Principal architect in charge of design, production, bidding and construction supervision (2006-2012).

Projects

Funding agency: NATO Science for Peace Programme

Development of a chemical threats detection system (CTDS) made of a pre-separator and a set of pre-concentrator sensors optimized for in-air toxic gas detection with the presence of interfering agents such as chemicals, commercial products and human odors, which can affect the detection performances.

Role: **NATO Country Director**

(01/03/2007 -30/03/2010)

NanoWire Arrays for Multifunctional Chemical Sensors NanoSci-ERA 1st Transnational Call for Collaborative Proposals (2006)

Role: **Scientific responsible UNIBS**

Development of a scientific and technological platform for the production of multifunctional chemical sensors with enhanced selectivity based on interacting semiconductor nanowire arrays. The multifunctionality will be obtained combining traditional detection methods with a novel optoelectronic sensing mechanism given by the high surface-volume ratio of the nanowires.

(01/01/2001-31/12/2003)

European project IST 2000 Advanced gas sensing Technology for portable applications of low power gas sensors (ADVANTAGAS)

Production of a sensor model, industrially usable, based on the work function.

Preparation of FET devices with integrated electronic for sensing purposes.

Role: **vice-scientific responsible UNIBS.**

(01/09/2010-31/08/2012)

Project "S³: Surface ionization and novel concepts in nano-MOX gas sensors with increased Selectivity, Sensitivity and Stability for detection of low concentrations of toxic and explosive agents" (NMP-2009-1.2-3; 247768).

The objective of S³ is developing breakthrough technologies in gas sensing that will provide higher sensitivity and selectivity at reduced cost. This objective is pursued by bringing together excellence and complementary skills of European Union and Russian groups, studying sensors and sensing principles based on metal oxide semiconductor nanowires (NWS) molecularly engineered.

Role: **vice coordinator**

(01/02/2010-31/01/2012)

Metal oxide NANOWires as efficient high-temperature THERmoelectric Materials

Call: Fondazione Istituto Italiano di Tecnologia (IIT) Progetti Seed year 2009

NANOTHER objective is to assess the thermoelectric performances of quasi 1D MOX nanowires prepared by a simple and low cost evaporation condensation method and to build innovative thermoelectric modules to be employed in radioisotope thermoelectric generators and in the automotive industry in terms of fuel economy improvements by generating electricity from high temperature waste heat and enhancing air conditioning efficiency. Beside developed modules could have a significant impact on low power portable electronics.

Role: Researcher

(05/05/2010-04/05/2013)

XNANO: Carbon nanotube-based electron emitters and quasi-1D metal oxides nanostructures for X-rays sources development

Call: MiUR e Regione Lombardia

Role: Researcher

(01/10/2010-30/09/2014)

FP7-NMP-2009-LARGE-3 **ORAMA : Oxide Materiale Towards a Matured Post-Silicon Electronics Era**

Orama is on the development of new high performance multifunctional oxide based electronic materials, processable at low temperatures, including flexible substrates that have the potential to catapult the electronics industry into a new era of growth. Orama will develop, analyze and utilize these new materials and techniques to investigate into device concepts highlighting the potential of oxides as electronic materials in the automotive industry – a highly competitive environment being of high importance for Europe's industry with challenging demands on information, sensor and resource efficient energy technology to provide sustainable mobility for the European society.

Role: researcher

(22/02/2012-22/02/2016)

FIRB project RBAP115AYN “**Oxides at the nanoscale: multifunctionality and applications**”.

Oxides at the nanoscale offer new and largely unexplored opportunities to establish novel advanced technologies or to improve existing technologies based on oxide materials.

Role: **Scientific responsible UNIBS**

(25/07/2013-24/07/2015)

CNR – Lombardia Region **SUSBIOREM: New approaches and methodologies for bioremediation of water contaminated by chlorinated aliphatic solvents**

From 25/07/2013 to 24/07/2015.

Role: Researcher

(01/09/2013-28/02/2017)

FP7 MSP: “**Multi-Sensor-Platform for Smart Building Management**”

Grant agreement no: 611887

The concept of the MSP project is based on a multi-project wafer approach that enables the development of highly innovative components and sensors based on Key Enabling Technologies (KETs). The central objective of the MSP-project is the development of a technology and manufacturing platform for the 3D-integration of sophisticated components and sensors with CMOS technology being the sound foundation for cost efficient mass fabrication.

Role: **Scientific responsible UNIBS**

(01/01/2014-31/12/2016)

Project acronym: **SNOOPY**

Project full title: “Sniffer for concealed people discovery”

Grant agreement n. 313110

THEME: SEC-2012.34-4, Innovative, cost-efficient, and reliable technology to detect humans hidden in vehicles / closed compartments

The SNOOPY project aims to the development of a handheld artificial sniffer system for customs/police inspection purposes, e.g. the control of freight containers. The artificial system should be able to seek hidden, living persons. The instrument consists of a vapor sampling pump unit, an enrichment unit, a desorption unit, a detection unit (sensor array) and an alarm indicator unit. Different kinds of sensors will be used together with pattern recognition software, so that each target can be detected as selective as possible. The sniffer instrument will be benchmarked towards dogs and towards ion mobility spectrometry.

Role: Researcher

(15/07/2014-14/07/2018)

European Project LEADER within Erasmus Mundus Partnership action 2, grant number 2014-0862/001-001

Role: **Scientific responsible UNIBS.**

(01/03/2015-ongoing)

BSL- Brescia Smart Living

Proposal full title: Brescia Smart Living: Energies and integrated services for wellness enhancement

Proposal number: SCN

Role: Researcher

(2016)

CERIC Proposal

Proposal full title: Electronic, chemical, microstructural interface properties of metal oxide nanowires and heterojunctions for gas sensing applications

Proposal number: 20162029

The aim of proposers is to characterize the surface of nanostructured heterostructures of different metal oxides, synthesized using Vapor-Liquid-Solid (VLS) techniques, to optimize the synthesis process and evaluate the effect of atmosphere composition on material surface. In particular, core-shell structures of different oxides will be mainly investigated, in order to determine the crystallographic growth phase, growth direction, surface defects, oxygen vacancies and generally surface properties. Moreover, the effect of gas interaction on heterojunction surface will be exploited.

Role: Researcher

(2016-oggi)

Scientific responsible of the scientific agreement of the “quadro” agreement with CNR (Consiglio Nazionale delle Ricerche - Università degli studi di Brescia) for the Department of information engineering

(2017)

CERIC Proposal

Proposal full title: Structural and in-operando investigation on metal oxide nanowire-based hydrogen sensors

Proposal number: 20172018

The aim of this proposal is to characterize the surface of nanostructured metal oxides and heterostructures, synthesized using Vapor-Liquid-Solid (VLS) techniques, to evaluate the effect of atmosphere composition, in particular the presence of hydrogen, on material surface properties. Nanowires and core-shell structures made of different metal oxides will be investigated, in order to determine the crystallographic growth phase, growth direction, surface defects, oxygen vacancies and generally surface properties. Moreover, the effect of gas interaction, specifically hydrogen, on material surface will be exploited. Information about the sensing mechanism will be collected by performing simultaneous conductometric and NAP-XPS investigations.

Role: **Scientific responsible**

(2018)

CERIC Proposal

Proposal full title: Surface doping of nanostructured MOX chemical sensors by ion beam irradiation

Proposal number: 20182054

The aim of this proposal is to investigate the effect of doping with ion beam illumination on the structure and chemical sensing performances of metal oxide nanowires (MOX) devices, synthesized using Vapor-Liquid-Solid (VLS) techniques. Ion beam illumination, performed at FAMA (Belgrade), will be used to dope the surface of the MOX nanowires with Nitrogen and Iron ions. Morphological characterization, as well as some structural characterizations, will be performed in house at University of Brescia. At the same time, NAP-XPS and HRTEM will be performed on illuminated devices to confirm the structural modifications due to ions injection, at Charles University (Prague) and NIMP (Bucharest) respectively. The chemical sensing performances of these doped devices will be investigated at University of Brescia using state-of-the-art facilities, and will be compared to pristine (not illuminated) devices, to correlate the chemical sensing performances with surface structural changes.

Role: **Scientific responsible**

(10/2019-9/2022) Project “Advanced Electro-Optical Chemical Sensors” SPS G5634 NATO

Funding agency: NATO Science for Peace Programme

Development of an innovative detection system for CBRN based on electro-optical transduction nanosensors.

Role: **NATO Country Director**

Honours and awards

Award for outstanding oral presentation at EUROSENSORS XIX conference held in Barcelona in 2005

Example of publication

- How to Write a Successful CV, New Associated Publishers, London, 2002.
- 1st place Science as art winner at 2010 MRS Spring Meeting April 5-9 San Francisco, CA
- Elisabetta Comini has been nominated EUROSENSORS 2012 fellow, September 2012
- Research article "Branch-like NiO/ZnO heterostructures for VOC sensing" in collaboration with CERIC Supervision (2008-2012).
- Research article "Chemical Vapor Deposition: Mn3O4 Nanomaterials Functionalized with Fe2O3 and ZnO: Fabrication, Characterization, and Ammonia Sensing Properties (<https://doi.org/10.1002/admi.201970151>) selected as Cover for Wiley "ADVANCED MATERIALS INTERFACES" journal, Vol. 6, N. 24, December 2019.

Start up/spin off

- Co-founder of the start-up company Nano Sensor System (Nasys s.r.l.) spin off of the university of Brescia

Courses, tutoring

- Exercises and exams for the course of "Struttura della Materia" held by Prof. G. Sberveglieri for the laurea degree in Engineering at Università di Brescia, academic years 1998/99, 1999/2000, 2000/01.
- Teaching assignment for the course of "Laboratorio di materiali per l'elettronica" for the laurea degree in Information Engineering at Università di Brescia for the academic years 01/02, 02/03, 03/04, 04/05, 05/06, 06/07, 07/08, 08/09.
- Teaching assignment for the course of "Fondamenti di materiali per l'elettronica" for the laurea degree in Information Engineering at Università di Brescia for the academic year 01/02.
- Teaching assignment for the exercises of the courses of "Fondamenti di materiali per l'elettronica" and "Fisica della materia" for the laurea degree in Information Engineering at Università di Brescia for the academic years 02/03, 03/04, 04/05, 05/06, 06/07, 07/08, 08/09.
- Teaching assignment for the exercises of the courses of "Laboratorio di materiali per l'elettronica" for the laurea degree in Information Engineering at Università di Brescia for the academic year 09/10.
- Teaching assignment for the course of "FISICA SPERIMENTALE C+D E APPLICAZIONI/APPLICAZIONI DI FISICA", disciplinary scientific sector FIS/03, of the three-year laurea degree course 270 Electronic and Telecommunications Engineering at Università di Brescia for the academic year 2009/2010.
- Teaching assignment for the course of "FISICA SPERIMENTALE (Elettrom., Ottica Onde, Applicazioni)-APPLICAZIONI DI FISICA" - FIS/03 of the three-year laurea degree course 270 Electronic and Telecommunications Engineering at Università di Brescia for the academic years from 2010/2011, to 2014/15.
- Teaching assignment for the course of "FISICA SPERIMENTALE (Elettrom., Ottica Onde e.m.)"- FIS/01 of the three-year laurea degree course 270 Computer Science Engineering and of the three-year laurea degree course 270 Electronic and Telecommunications Engineering at Università di Brescia for the academic years 2012/2013, 2013/2014, 2014/15.
- Owner of the course of "FISICA SPERIMENTALE (Elettrom., Ottica Onde, Applicazioni)-APPLICAZIONI DI FISICA" - FIS/03 of the three-year laurea degree course in Electronic and Telecommunications Engineering at Università di Brescia for the academic years starting from 2015/16 up to now.
- Owner of the course of "FISICA SPERIMENTALE (Elettrom., Ottica Onde e.m.)"- FIS/01 of the three-year laurea degree course 270 Computer Science Engineering and of the three-year laurea degree course 270 Electronic and Telecommunications Engineering at Università di Brescia from the academic year 2015/16 to the year 2017.
- Owner of the course of "FISICA SPERIMENTALE I (Mecc. Term.)" FIS/01 of the three-year laurea degree course 270 Electronic and Telecommunications Engineering at Università di Brescia from the academic year 2015/16 up to now.
- Seminar at Physical Electronics Laboratory ETH di Zurigo (Svizzera) on Metal oxide nano-crystals for gas sensing 8 November 2002.
- Adjunct Assistant Professor at Material Science and Engineering Stony Brook University, New York (USA) 1 October-18 October 2004.
- Tutorial Preparation of metal oxide nanowires: present and future challenges" for IEEE SENSORS Tutorial Sessions on Sunday, 26 October 2008 IEEE Sensors 2008, 26-29 October 2008, Lecce, Italy
- Seminar at Material science and engineering department, NTU Singapore, "Preparation and integration of metal oxide nanowires into functional devices", Singapore, November 2009.
- Seminar at Material Science and Engineering Stony Brook University "Preparation and integration of metal oxide nanowires into functional devices", New York January 2010.
- University tutor (Università di Brescia) of the following students: Vincenzo Ciancio, Simone Mutti, Vito Scalvini, Fabio Gasparetti, Davide Signoroni, Michele Mancini, Matteo Grandelli, Gianluca Zucchi, Benedetta Zanetti, Marco Zucchelli, Alessandro Florio, Antonio Pistoni, Bonzi Gabriele, Claudio Crema, Cristian Magrini, Daniele Benetti, Angela Bertuna.
- Thesis supervisor (Università di Brescia) of the following students: Sebastiano Bianchi, Vincenzo Ciancio, Matteo Grandelli, Matteo Melchiori, Angela Bertuna.
- PhD supervisor (Università di Brescia) of the following students: Dott. Andrea Ponzoni, Dott. Sebastiano Bianchi, Dott. Giselle Jimenez, Dott. Dario Zappa, Dott. Navpreet Kaur, Dott. Munasinghe Arachchige Hashitha Mahesh Munasinghe, Dott. Orhan Sisman, Dott. Marco Rizzoni.

PhD Thesis examined

- Delia Puzzovio, Dottorato di ricerca in Fisica, XXI cycle, Università degli studi di Ferrara (Surface interaction mechanisms in meta-oxide semiconductors for alkane detection, tutor Prof. Vincenzo Guidi)
- Candidate KHOO EUGENE, "Nanostructured transition metal oxide (TMO) for electrochemical devices" Supervisors: Prof. Lee Pooi See and Prof. Ma Jan, School of Materials Science and Engineering Nanyang University Singapore 2011
- External examiner "Doctor of Philosophy" candidate Yan Chaoyi "Synthesis of Ge-Based One-Dimensional Nanomaterials for Photodetector Applications" Supervisor: Lee Pooi See School of Materials Science and Engineering Nanyang University Singapore 2011
- Referee PhD candidate Maurizio Donarelli, Dottorato di ricerca in Fisica, XXVI ciclo, Università degli studi dell'Aquila (Electronic properties and potential device applications of exfoliatedMoS2, relatore Luca Ottaviano, tutor Prof. Sandro Santucci)
- External examiner "Doctor of Philosophy" candidate Alexander Malaver, "Development of gas sensing technology for ground and airborne applications powered by solar energy: methodology and experimental results" Supervisor: Prof. Nunzio Motta, School of Chemistry Physics and Mechanical Engineering, Science and Engineering Faculty, Queensland University of Technology, 2014
- External examiner "Doctor of Philosophy" candidate Daniel Raymond Jones, "Characterisation of the surface reactions and gas sensing properties of zinc oxide nanosheets" Supervisor: Prof. Thierry Maffei, College of Engineering, Swansea University, August 2015

Patents

- Patent Title: Miniaturized chamber with directional flows for simultaneous measurements of a variety of gas sensors, especially useful for electronic noses, Inventors: Giorgio Sberveglieri, Guido Faglia, Elisabetta Comini, Matteo Pardo, Matteo Falasconi Filing number: N deposito italiano: TO2002U000214 del giorno 03/12/2002 Atto DG n. 76/02 Consultant: Jacobacci & Perani
- Patent Title: Thin-film semiconductor gas sensor device, Inventors: Giorgio Sberveglieri, Guido Faglia, Elisabetta Comini, Camilla Baratto, Matteo Falasconi Filing number: N. deposito italiano TO2003A000318 del 22/04/2003 Consultant: Jacobacci & Perani
- Patent Title: Carbon monoxide thin-film semiconductor gas sensor working at room temperature. Inventors: Elisabetta Comini, Giorgio Sberveglieri, Guido Faglia Filing number: N. deposito italiano TO2004A000676 del 6/10/2004 Consultant: Jacobacci & Perani
- Patent Title: Thin-film semiconductor gas sensor device with enhanced selectivity, Inventors: Elisabetta Comini, Nicola Poli, Giorgio Sberveglieri Filing number: N. deposito italiano TO2004A000883 del 16/12/2004 Consultant: Jacobacci & Perani

ANNEXES

- List of publications of the last years



16/02/20

Elisabetta Comini

Publication list 2020

1. Vardan Galstyan, Andrea Ponzoni, Iskandar Kholmanov, Marta M. Natile, Elisabetta Comini, and Giorgio Sberveglieri. Highly sensitive and selective detection of dimethylamine through Nb-doping of TiO₂ nanotubes for potential use in seafood quality control. *SENSORS AND ACTUATORS B-CHEMICAL*, 303, JAN 15 2020.
2. Lorenzo Bigiani, Dario Zappa, Elisabetta Comini, Chiara Maccato, Alberto Gasparotto, and Davide Barreca. Manganese Oxide Nanoarchitectures as Chemoresistive Gas Sensors to Monitor Fruit Ripening. *JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY*, 20:3025–3030, MAY 2020
3. Vardan Galstyan, Andrea Ponzoni, Iskandar Kholmanov, Marta M. Natile, Elisabetta Comini, Sherzod Nematov, and Giorgio Sberveglieri. Investigation of Reduced Graphene Oxide and a Nb-Doped TiO₂ Nanotube Hybrid Structure To Improve the Gas-Sensing Response and Selectivity. *ACS SENSORS*, 4:2094–2100, AUG 2019.
4. Francesco Rossella, Vittorio Bellani, Matteo Tommasini, Ugo Gianazza, Elisabetta Comini, and Caterina Soldano. 3D Multi-Branched SnO₂ Semiconductor Nanostructures as Optical Waveguides. *MATERIALS*, 12, OCT 2019.
5. Orhan Sisman, Nicola Poli, Dario Zappa, and Elisabetta Comini. Synthesis of Nanoporous TiO₂ with the Use of Diluted Hydrogen Peroxide Solution and Its Application in Gas Sensing. *COATINGS*, 9, OCT 2019.
6. Lorenzo Bigiani, Dario Zappa, Chiara Maccato, Alberto Gasparotto, Cinzia Sada, Elisabetta Comini, and Davide Barreca. Mn₃O₄ Nanomaterials Functionalized with Fe₂O₃ and ZnO: Fabrication, Characterization, and Ammonia Sensing Properties. *ADVANCED MATERIALS INTERFACES*, 2019.
7. Navpreet Kaur, Dario Zappa, Nicola Poli, and Elisabetta Comini. Integration of VLS-Grown WO₃ Nanowires into Sensing Devices for the Detection of H₂S and O₃. *ACS OMEGA*, 4:16336–16343, OCT 8 2019.
8. Navpreet Kaur, Dario Zappa, and Elisabetta Comini. Shelf Life Study of NiO Nanowire Sensors for NO₂ Detection. *ELECTRONIC MATERIALS LETTERS*, 15:743–749, NOV 2019.
9. Estefania Nunez-Carmona, Marco Abbatangelo, Ivano Zottele, Pierpaolo Piccoli, Armando Tamanini, Elisabetta Comini, Giorgio Sberveglieri, and Veronica Sberveglieri. Nanomaterial Gas Sensors for Online Monitoring System of Fruit Jams. *FOODS*, 8, DEC 2019.
10. Abderrahim Moumen, Bouchaib Hartiti, Elisabetta Comini, Zahira El Khalidi, Hashitha M. M. Munasinghe Arachchige, Salah Fadili, and Philippe Thevenin. Preparation and characterization of nanostructured CuO thin films using spray pyrolysis technique. *SUPERLATTICES AND MICROSTRUCTURES*, 127:2–10, MAR 2019.
11. Galstyan, V., Poli, N., & Comini, E. (2019). Highly sensitive and selective H₂S chemical sensor based on ZnO nanomaterial. *Applied Sciences (Switzerland)*, 9(6). <https://doi.org/10.3390/app9061167>
12. Moumen, A., Hartiti, B., Comini, E., El khalidi, Z., Arachchige, H. M. M. M., Fadili, S., & Thevenin, P. (2019). Preparation and characterization of nanostructured CuO thin films using spray pyrolysis technique. *Superlattices and Microstructures*, 127. <https://doi.org/10.1016/j.spmi.2018.06.061>
13. El khalidi, Z., Hartiti, B., Siadat, M., Comini, E., Arachchige, H. M. M. M., Fadili, S., & Thevenin, P. (2019). Acetone sensor based on Ni doped ZnO nanostructures: growth and sensing capability. *Journal of Materials Science: Materials in Electronics*. <https://doi.org/10.1007/s10854-019-01083-9>

14. Galstyan, V., Ponzoni, A., Kholmanov, I., Natile, M. M., Comini, E., Nematov, S., & Sberveglieri, G. (2019). Investigation of Reduced Graphene Oxide and a Nb-Doped TiO₂ Nanotube Hybrid Structure to Improve the Gas-Sensing Response and Selectivity. *ACS Sensors*, 4(8). <https://doi.org/10.1021/acssensors.9b00772>
15. Núñez-Carmona, E., Bertuna, A., Abbatangelo, M., Sberveglieri, V., Comini, E., & Sberveglieri, G. (2019). BC-MOS: The novel bacterial cellulose based MOS gas sensors. *Materials Letters*, 237. <https://doi.org/10.1016/j.matlet.2018.11.011>
16. Shahzamani, Z., Ranjbar, M., Comini, E., Goodarzi, M. T., Salamati, H., & Sberveglieri, G. (2019). Palladium thin films on microfiber filtration paper as flexible substrate and its hydrogen gas sensing mechanism. *International Journal of Hydrogen Energy*, 44(31). <https://doi.org/10.1016/j.ijhydene.2019.04.277>
17. Muller, G., Prades, J. D., Hackner, A., Ponzoni, A., Comini, E., & Sberveglieri, G. (2019). Gas Ionization Phenomena at Nanowire Electrodes. In *2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems and Eurosensors XXXIII, TRANSDUCERS 2019 and EUROSENSORS XXXIII*. <https://doi.org/10.1109/TRANSDUCERS.2019.8808668>
18. Bigiani, L., Zappa, D., Barreca, D., Gasparotto, A., Sada, C., Tabacchi, G., ... Maccato, C. (2019). Sensing Nitrogen Mustard Gas Simulant at the ppb Scale via Selective Dual-Site Activation at Au/Mn₃O₄ Interfaces. *ACS Applied Materials and Interfaces*, 11(26). <https://doi.org/10.1021/acsmi.9b04875>
19. Kock, A., Wimmer-Teubenbacher, R., Sosada-Ludwikovska, F., Rohracher, K., Wachmann, E., Herold, M., ... Baldwin, A. (2019). 3D-Integrated Multi-Sensor Demonstrator System for Environmental Monitoring. In *2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems and Eurosensors XXXIII, TRANSDUCERS 2019 and EUROSENSORS XXXIII*. <https://doi.org/10.1109/TRANSDUCERS.2019.8808418>
20. Munasinghe Arachchige, H. M. M., Zappa, D., Poli, N., Gunawardhana, N., & Comini, E. (2018). Gold functionalized MoO₃ nano flakes for gas sensing applications. *Sensors and Actuators, B: Chemical*, 269. <https://doi.org/10.1016/j.snb.2018.04.124>
21. Galstyan, V., Bhandari, M. P., Sberveglieri, V., Sberveglieri, G., & Comini, E. (2018). Metal oxide nanostructures in food applications: Quality control and packaging. *Chemosensors*, 6(2). <https://doi.org/10.3390/chemosensors6020016>
22. Kwoka, M., Lyson-Sypien, B., Kulis, A., Zappa, D., & Comini, E. (2018). Surface properties of SnO₂ nanowires deposited on Si substrate covered by Au catalyst studies by XPS, TDS and SEM. *Nanomaterials*, 8(9). <https://doi.org/10.3390/nano8090738>
23. Barreca, D., Gasparotto, A., Gri, F., Comini, E., & Maccato, C. (2018). Plasma-Assisted Growth of β-MnO₂ Nanosystems as Gas Sensors for Safety and Food Industry Applications. *Advanced Materials Interfaces*, 5(23). <https://doi.org/10.1002/admi.201800792>
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