

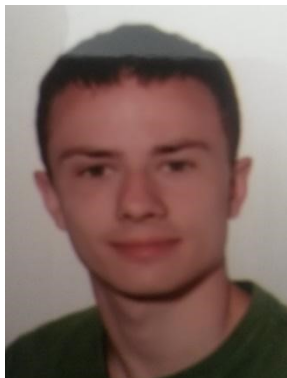

SCIENTIFIC-PROFESSIONAL CURRICULUM IN FORM OF AFFIDAVIT SUBSTITUTE  
DECLARATION (ART. 47 DEL D.P.R. 28.12.2000 n. 445)

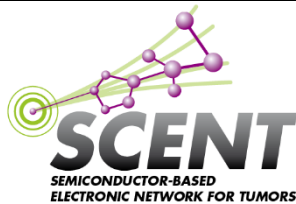
The undersigned **Gaiardo Andrea** (Fiscal Code: **GRDNDR89L10B006X**) born in **Borgo Valsugana (TN)** on **10/07/1989**, resident in **Borgo Valsugana (TN) Via dei faori 14, 38051** aware of the criminal liability that may be incurred in the event of falsification of documents and false statements (art. 76 D.P.R. 28.12.2000 n. 445)

DECLARES:

- that he obtained the Master's Degree in Chemical Sciences, D.M. 270/04 in Chemistry (LM/54 – Class of Master's Degree in Chemistry), on 12/12/2013 at the University of Ferrara, with the following grade: 110/110 cum laude;
- that he obtained the PhD in PHYSICS – (D.M. 45/2013), on 28/2/2018 at the University of Ferrara, with a PhD thesis entitled *Innovative chemoresistive materials for gas sensing and development of silicon and quartz MEMS devices*. The student grant was co-financed by the Bruno Kessler Foundation of Trento (Italy);
- the truthfulness of the own scientific-professional curriculum presented below:

**Curriculum vitae et studiorum**

Personal Information	
	<p>First name: <b>Andrea</b> Family name: <b>Gaiardo</b> Date of birth: 10/07/1989 Place of birth: BORGIO VALSUGANA (TN) Address: via per Telve 66/3, Borgo Valsugana, 38051, (TN), Italy Nationality: Italy Sex: Male Age: 27 Telephone: 0532 – 974230 (office) Mobile: +39 340-8571457 E-mail: <a href="mailto:andrea.gaiardo@unife.it">andrea.gaiardo@unife.it</a>, <a href="mailto:grndnr@unife.it">grndnr@unife.it</a> Linkedin: <a href="https://www.linkedin.com/in/andrea-gaiardo-abb3b795/">https://www.linkedin.com/in/andrea-gaiardo-abb3b795/</a> ORCID: <a href="http://orcid.org/0000-0002-6688-6161">http://orcid.org/0000-0002-6688-6161</a> Scholar: <a href="https://scholar.google.it/citations?user=DoMXx8YAAAAJ&amp;hl=en">https://scholar.google.it/citations?user=DoMXx8YAAAAJ&amp;hl=en</a> Research Gate: <a href="https://www.researchgate.net/profile/Andrea_Gaiardo2">https://www.researchgate.net/profile/Andrea_Gaiardo2</a></p>
Current job position	
	<p><b>University of Ferrara and Bruno Kessler Foundation Research fellowship</b></p> <p>Research fellowship, founded by the University of Ferrara, on the Research project: "<i>Integrazione hardware a software di sensori a semiconduttore di nuova generazione per un naso elettronico</i>": the study concerns innovative materials dedicated to crop cultivation monitoring. First tutor: Prof. Vincenzo Guidi Starting: 1/06/2018 Official length of the fellowship: one year</p>



**SCENT s.r.l**  
**Year 2014-**

He is co-founder, shareholder and chemical expert for the SCENT s.r.l. StartUp, StartUp founded in 2014 that realizes chemical sensors for medical applications

**Previous job position**



**University of Ferrara and Bruno Kessler Foundation**  
**PhD School in Science and Technologies**  
**PhD in Physics**  
 XXXcicle - Year 2014/2017

Student grant co-founded by the Bruno Kessler Foundation on the Research project: "*Innovative silicon micro-heaters for gas sensor technologies*": the study concerns innovative materials, both for sensitive films and for silicon substrates, used in gas sensors design.  
 PhD thesis title: *Innovative chemoresistive materials for gas sensing and development of silicon and quartz MEMS devices*  
 First tutor: Prof. Vincenzo Guidi  
 Second tutor: Dr. Pierluigi Bellutti  
 Period of PhD: 1/11/2014-30/10/2017  
 Official length of the course: 3 years  
 Thesis language: English



**University of Ferrara**  
**Department of Physics and Earth Sciences**  
 Sensors and Semiconductors Laboratory

He worked as chemical researcher in the Sensor and Semiconductor Laboratory, in the topic "nanostructured semiconductor materials suitable for the gas sensing technology" from 10/1/2014 to 30/10/2014.

**University education**



**University of Ferrara**  
**Faculty of Mathematical, Physical and Natural Sciences**  
 LM/54 - Class of Master's Degree in Chemistry (DM 270/04)  
 Master's Degree in Chemical Sciences

Final grade: 110/110 cum laude  
 Date of graduation: 12-12-2013  
 Starting year: 2011  
 Official length of the course: 2 years  
 Thesis language: Italian  
 Thesis title: Study, realization and characterization of chemiresistive nanostructured films for gas sensing applications  
 Supervisor: Prof. Vincenzo Guidi

The research concerned an internship / stage for the conclusion of the studies. I did this internship at the Laboratory of Sensors, Department of Physics and Earth Sciences, University of Ferrara. The research focused on the use of non-oxides semiconductors as functional material for chemoresistive gas sensors. These devices were complete manufactured inside the University of Ferrara.

**University of Ferrara**  
**Faculty of Mathematical, Physical and Natural Sciences**  
 Class 27 – Class of Bachelor's Degree in Chemistry (DM 270/04)  
 Bachelor's Degree in Chemistry

Final grade: 106/110



Date of graduation: 16-12-2011  
Starting year: 2008  
Official length of the course: 3 years  
Thesis language: Italian  
Thesis title: Reazione asimmetrica organocatalizzata di michael/wittig di un ilide di fosforo: sintesi di un alfa-metilene-delta-chetoestere.  
Supervisor: Simonetta Benetti  
The research concerned an internship / stage for the theoretical study on the preparation of alpha-methylene-delta-ketoesters via asymmetric organocatalytic synthesis (useful for the production of drugs).

Internship / Stage in the R&D division at the Pharmaceutical Company E-PHARMA in Ravina (TN), Italy

#### Pre-academic education



**High school diploma: Qualified Industrial Chemist**  
Educational Institute: Istituto Tecnico Industriale Michelangelo Buonarroti (Trento)  
Year of final exam: 2008  
Final Grade: 100/100

#### Language

**English: B1**  
**German: A2**

#### Computer skills



ECDL licence achieved in 2008

**Operating systems:** Windows, Linux  
**Data analysis:** Easy Plot, Origin

#### Skills in sensing field

- **Production of gas sensors:**
  - synthesis of nanostructured powders of inorganic and organic semiconductors;
  - decoration of organic/inorganic compounds with noble metal nanoparticles;
  - preparation of printing pastes;
  - use of different deposition techniques for thin- and thick- sensing films: screen printing, spin-coating, drop-coating;
  - design and development of silicon and quartz micro heaters;
  - use of thermal treatments for the stabilization of the sensing films;
  - packaging of the device through the thermo-compression or ball bonding.
- **Characterization of sensitive devices:**
  - knowledge of techniques used for the morphological, structural, thermal and chemical; characterization of nanostructured powders and sensing films;
  - knowledge of technical characterization of silicon and quartz substrate;
  - five-year experience in the electrical characterization of gas sensors in thermo-activated and photo-activated mode;
  - experience in the use of laboratory equipment and gas bottles.
- **Data analysis:**
  - knowledge of various data processing programs;
  - experience in processing and interpretation of data acquired through gas sensor measurements;
  - expertise in interpretation of chemical reaction in heterogeneous phase.
- **Product positioning:**
  - environmental, industrial and smart monitoring
  - medical applications

- agricultural applications

· **Communication of the results:**

- experience in scientific dissemination of the results obtained through both scientific journals and international conferences  
- ability to use the results for project proposals

**Other technical skills**

- years-experience in chemical laboratories and clean rooms;  
- study of chemical compounds, from design to synthesis and characterization;  
- organic and inorganic synthesis;  
- knowledge of theory and use of technical instruments suitable for characterization of chemical compounds, such as: UV-visible spectrometer, gas chromatograph, HPLC chromatography, SEM, TEM, mass spectrometry, NMR, IR spectrometer, atomic absorption spectrometer, XPS, XRF.

**Publications and Patents**

**Scientific journals**

- [J01] A. Giberti, B. Fabbri, A. Gaiardo, V. Guidi, C. Malagù, Resonant photoactivation of cadmium sulfide and its effect on the surface chemical activity, *Applied Physics Letters* 104 222102 (2014)
- [J02] A. Giberti, D. Casotti, G. Cruciani, B. Fabbri, A. Gaiardo, V. Guidi, C. Malagù, G. Zonta, S. Gherardi, Electrical conductivity of CdS films for gas sensing: Selectivity properties to alcoholic chains, *Sensors and Actuators B* 207 (2014) 504-510
- [J03] Fabbri, B., Gaiardo, A., Giberti, A., Guidi, V., Malagù, C., Martucci, A., Sturaro, M., Zonta, G., Gherardi, S., Bernardoni, P. Chemoresistive properties of photo-activated thin and thick ZnO films (2016) *Sensors and Actuators, B: Chemical*, 222, pp. 1251-1256.
- [J04] G. Zonta, G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù', Detection of colorectal cancer biomarkers in the presence of interfering gases, *Sensors and Actuators B* 218 (2015) 289–295
- [J05] Giberti, A., Gaiardo, A., Fabbri, B., Gherardi, S., Guidi, V., Malagù, C., Bellutti, P., Zonta, G., Casotti, D., Cruciani, G. Tin(IV) sulfide nanorods as a new gas sensing material (2016) *Sensors and Actuators, B: Chemical*, 223, pp. 827-833.
- [J06] Gaiardo, A., Fabbri, B., Guidi, V., Bellutti, P., Giberti, A., Gherardi, S., Vanzetti, L., Malagù, C., Zonta, G. Metal sulfides as sensing materials for chemoresistive gas sensors (2016) *Sensors (Switzerland)*, 16 (3).
- [J07] A. Gaiardo, B. Fabbri, A. Giberti, G. Zonta, Gherardi, V. Guidi, P. Bellutti, A. Martucci, C. Malagù, M. Sturaro, M. Valt, N. Landini, ZnO and ZnO/Au thin films: room-temperature chemoresistive properties for gas sensing applications, *Sensors and Actuators B* (2016) 1085–1094.
- [J08] G. Zonta, G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, N. Landini, C. Malagù', L. Scagliarini, V. Guidi, Preventive screening of colorectal cancer with a device based on chemoresistive sensors, *Sensors and Actuators B* 238 (2017) 1098–1101.
- [J09] G. Zonta, G. Anania, C. Feo, A. Gaiardo, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Palmonari, L. Ricci, A. de Togni and C. Malagù, Use of gas sensors and FOBT for the early detection of colorectal cancer, *Sensors and Actuators B: Chemical*, 262, (2018), pp. 884 – 891.

**Proceedings**

- [P01] B. Fabbri, A. Gaiardo, A. Giberti, V. Guidi, C. Malagù, A. Martucci, M. Sturaro, Electrical, optical and sensing properties of photo-activated ZnO thin films, *Euroensors 2014, Brescia (Italy), September 7-10 2014*, *Procedia Engineering* 87 (2014) 148–151, <https://doi.org/10.1016/j.proeng.2014.11.605>, poster
- [P02] B. Fabbri, A. Gaiardo, V. Guidi, C. Malagù, A. Giberti, Photo-activation of cadmium sulfide films for gas sensing, *Euroensors 2014, Brescia (Italy), September 7-10 2014*, *Procedia Engineering* 87 (2014) 140–143, <https://doi.org/10.1016/j.proeng.2014.11.603>, poster
- [P03] A. Gaiardo, A. Giberti, V. Guidi, P. Bellutti, C. Malagù, B. Fabbri, G. Zonta, S. Gherardi, Tin (IV) sulfide chemoresistivity: a possible new gas sensing material, XVIII AISEM Conference 2015, Trento (Italy), February 3-5 2015, *Proceeding DOI 10.1109/AISEM.2015.7066860*, IEEE Xplore Digital Library,

poster

[P04] B. Fabbri, V. Boldrini, G. Calabrese, A. Gaiardo, A. Giberti, V Guidi, C. Malagù, F. Spizzo, G. Zonta, S. Gherardi, Mesoporous silicon gas sensor: design, fabrication and conduction model, XVIII AISEM Conference 2015, Trento (Italy), February 3-5 2015, Proceeding DOI [10.1109/AISEM.2015.7066765](https://doi.org/10.1109/AISEM.2015.7066765),

IEEE Xplore Digital Library, poster

[P05] V. Guidi, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, C. Malagù, G. Zonta, P. Bellutti, Metal sulfides as solution to in-out oxygen exchange in gas sensing, Eurosensors 2015, Freiburg (Germany), September 6-9 2015, Procedia Engineering 102 (2015) 138–141,

<https://doi.org/10.1016/j.proeng.2015.08.586>, keynote presentation (V. Guidi)

[P06] G. Zonta, G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, N. Landini, C. Malagù, L. Scagliarini, V. Guidi, Chemoresistive sensors for colorectal cancer pre-screening, IMCS 2016 (Korea), July 10-13 2016, <http://www.imcs2016.org/program/index4.php?dcategory=3>

oral presentation (G. Zonta).

[P07] A. Gaiardo, A. Giberti, B. Fabbri, V. Guidi, C. Malagù, P. Bellutti, G. Pepponi, S. Gherardi, G. Zonta, N. Landini, Silicon Carbide: A Gas Sensing Material for Selective Detection of SO<sub>2</sub>, IMCS 2016 (Korea), JULY 10-13 2016, <http://www.imcs2016.org/program/index4.php?dcategory=1>

oral presentation (A. Gaiardo).

[P08] A. Gaiardo, B. Fabbri, V. Guidi, P. Bellutti, M. Valt, G. Pepponi, A. Giberti, C. Malagù, S. Gherardi, G. Zonta, N. Landini, Sensing Properties of ZnO and ZnO/Au Thin Films in Photo-Activation Mode, IMCS 2016 (Korea), JULY 10-13 2016, <http://www.imcs2016.org/program/index4.php?dcategory=1>

oral presentation (A. Gaiardo).

[P09] V. Guidi, B. Fabbri, A. Gaiardo, A. Giberti, C. Malagù, G. Zonta, S. Gherardi, N. Landini, Study of Metal-Sulfide Chemoresistive Properties for Gas Sensing, IMCS 2016 (Korea), JULY 10-13 2016, <http://www.imcs2016.org/program/index4.php?dcategory=4> poster.

[P10] M. Valt, A. Gaiardo, B. Fabbri, S. Gherardi, N. Landini, C. Malagù, G. Zonta, P. Bellutti, V. Guidi, Organic-Functionalized Graphene Oxide for Room Temperature for Fast Sensing of Humidity, IMCS 2016 (Korea), JULY 10-13 2016, <http://www.imcs2016.org/program/index4.php?dcategory=4> poster

[P11] G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, G. Zonta, Devices for screening and monitoring of tumors based on chemoresistive sensors, Eurosensors 2016, Budapest (Hungary), September 4-7 2016, Procedia Engineering 168 (2016) 113 – 116, <https://doi.org/10.1016/j.proeng.2016.11.160>, poster

[P12] A. Gaiardo, P. Bellutti, B. Fabbri, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, G. Pepponi, M. Valt, G. Zonta, Chemoresistive gas sensor based on SiC thick film: possible distinctive sensing properties between H<sub>2</sub>S and SO<sub>2</sub> Eurosensors 2016, Budapest (Hungary), September 4-7 2016, Procedia Engineering 168 (2016) 276 – 279, <https://doi.org/10.1016/j.proeng.2016.11.19>, poster

[P13] N. Landini, B. Fabbri, A. Gaiardo, S. Gherardi, V. Guidi, G. Rispoli, M. Valt, G. Zonta, C. Malagù, Detection of Tumor Markers and Cell Metabolites in Cell Cultures, Using Nanostructured Chemoresistive Sensors, AISEM 2017, Lecce (Italy), February 21-23 2017 Lecture Notes in Electrical Engineering 457, 51-58, [https://doi.org/10.1007/978-3-319-66802-4\\_8](https://doi.org/10.1007/978-3-319-66802-4_8), oral presentation (N. Landini)

[P14] B. Fabbri, M. Valt, V. Strati, A. Gaiardo, F. Mantovani, C. Malagù, S. Gherardi, V. Guidi, Sustainable Water Management: Sensors for Precision Farming, I3S 2017, Barcelona (Spain), September 26-29 2017, Proceedings 2017, 1(8), 780; doi:[10.3390/proceedings1080780](https://doi.org/10.3390/proceedings1080780)

[P15] M. Valt, B. Fabbri, A. Gaiardo, S. Gherardi, C. Malagù, G. Zonta, N. Landini, V. Guidi, Room Temperature Chemoresistive Gas Sensor Based on Organic-Functionalized Graphene Oxide, I3S 2017, Barcelona (Spain), September 26-29 2017, Proceedings 2017, 1(8), 805; doi:[10.3390/proceedings1080805](https://doi.org/10.3390/proceedings1080805)

[P16] A. Gaiardo, B. Fabbri, M. Valt, V. Guidi, C. Malagù, G. Zonta, N. Landini, A. Giberti, S. Gherardi, P. Bellutti, Silicon Carbide: A Gas Sensing Material for Selective Detection of SO<sub>2</sub>, I3S 2017, Barcelona (Spain), September 26-29 2017, Proceedings 2017, 1(8), 745; doi:[10.3390/proceedings1080745](https://doi.org/10.3390/proceedings1080745)

[P17] A. Gaiardo, B. Fabbri, M. Valt, P. Bellutti, V. Guidi, M. Crivellari, A. Bagolini, On the Optimization of a MEMS Device for Chemoresistive Gas Sensors, I3S 2017, Barcelona (Spain), September 26-29 2017, Proceedings 2017, 1(8), 746; doi:[10.3390/proceedings1080746](https://doi.org/10.3390/proceedings1080746)

[P18] G. Zonta, G. Anania, A. de Togni, A. Gaiardo, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Palmonari, L. Ricci, C. Malagù, Use of Gas Sensors and FOBT for the Early Detection of Colorectal Cancer, MDPI Proceedings, 1 (4), (2017), DOI: 10.3390/proceedings1040398.

#### **Abstract with Oral or Poster contributions in national and international conferences**

[A01] B. Fabbri, A. Gaiardo, A. Giberti, V. Guidi, C. Malagù, A. Martucci, M. Sturaro, Electrical, optical and sensing properties of photo-activated ZnO thin films, Eurosensors 2014, Brescia (Italy), 7-10 September 2014, poster.

[A02] B. Fabbri, A. Gaiardo, V. Guidi, C. Malagù, A. Giberti, Photo-activation of cadmium sulfide films for gas sensing, Eurosensors 2014, Brescia (Italy), 7-10 September 2014, poster.

[A03] B. Fabbri, V. Boldrini, G. Calabrese, A. Gaiardo, A. Giberti, V. Guidi, C. Malagù, F. Spizzo, G. Zonta, S. Gherardi, Mesoporous silicon gas sensor: design, fabrication and conduction model, AISEM 2015, Trento (Italy), February 3-5 2015, poster

[A04] A. Gaiardo, A. Giberti, V. Guidi, P. Bellutti, C. Malagù, B. Fabbri, G. Zonta, S. Gherardi, Tin (IV) sulfide chemoresistivity: a possible new gas sensing material, AISEM 2015, Trento (Italy), February 3-5 2015, poster, **best poster award of conference**.

[A05] A. Gaiardo, A. Giberti, V. Guidi, P. Bellutti, C. Malagù, B. Fabbri, G. Zonta, S. Gherardi, Thermo- and photo-activation of metal sulfides for gas sensing, 6th GOSPEL Workshop: Gas sensors based on semiconducting metal oxides – basic understanding & application fields, Tuebingen (Germany), June 7-9 2015, oral presentation (V. Guidi)

[A06] V. Guidi, B. Fabbri, A. Gaiardo, A. Giberti, C. Malagù, G. Zonta, S. Gherardi, P. Bellutti, L. Lorenzelli, Hybrid technologies for chemoresistive gas sensors, AIMETA2015, Genova (Italy), September 14-17 2015, oral presentation (V. Guidi)

[A07] V. Guidi, A. Gaiardo, P. Bellutti, C. Malagù, B. Fabbri, A. Giberti, G. Zonta, S. Gherardi, N. Landini, ZnO vs ZnO/Au thin films: a comparison of sensing properties in photo-activation mode, Eurosensors 2015, Freiburg (Germany), September 6-9 2015, poster

[A08] A. Gaiardo, A. Giberti, V. Guidi, P. Bellutti, B. Fabbri, C. Malagù, G. Zonta, S. Gherardi, Silicon carbide: an high selectivity functional material for chemoresistive gas sensing field, poster at NanotechItaly 2015, Bologna (Italy), November 25-27 2015

[A09] B. Fabbri, A. Gaiardo, V. Guidi, P. Bellutti, A. Giberti, S. Gherardi, C. Malagù, G. Zonta, N. Landini, Metal sulfides as novel class of sensing materials, Convegno Nazionale Sensori 2016 (Roma), February 23-25 2016, oral presentation (B. Fabbri)

[A10] A. Gaiardo, B. Fabbri, A. Giberti, G. Zonta, Gherardi, V. Guidi, P. Bellutti, A. Martucci, C. Malagù, M. Sturaro, M. Valt, N. Landini, ZnO vs ZnO/Au thin films: gas sensing properties in photo-activation mode, Convegno Nazionale Sensori 2016 (Roma), February 23-25 2016, oral presentation (A. Gaiardo)

[A11] N. Landini, G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, C. Malagù, G. Rispoli, G. Zonta, V. Guidi, Detection of volatile tumor markers in blood with nanostructured thick-film gas sensors, accepted as oral presentation to Biosensors 2016, Gothenburg (Sweden), May 25-27 2016

[A12] G. Zonta, G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, L. Scagliarini, Identification of Colorectal Cancer Subjects Feces with a Device Based on Chemoresistive Sensors, IMCS 2016 (Korea), July 10-13 2016, oral presentation (G. Zonta)

[A13] A. Gaiardo, B. Fabbri, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, G. Zonta, Silicon Carbide: a Gas Sensing Material for Selective Detection of SO<sub>2</sub>, IMCS 2016 (Korea), July 10-13 2016, oral presentation (A. Gaiardo)

[A14] A. Gaiardo, B. Fabbri, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, G. Zonta, ZnO and ZnO/Au Thin Films: Chemoresistive Properties in Photo-activation Mode for Gas Sensing Applications, IMCS 2016 (Korea), July 10-13 2016, oral presentation (A. Gaiardo).

[A15] B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, G. Zonta, Study of Metal-sulfide Chemoresistive Properties for Gas Sensing, IMCS 2016 (Korea), July 10-13 2016, poster.

[A16] A. Gaiardo, B. Fabbri, S. Gherardi, A. Giberti, V. Guidi, N. Landini, C. Malagù, G. Zonta, Organic-functionalized Graphene Oxide for Room Temperature Chemoresistive Gas Sensing, IMCS 2016 (Korea), July 10-13 2016, poster

- [A17] G. Zonta, G. Anania, B. Fabbri, A. Gaiardo, S. Gherardi, A. Giberti, N. Landini, C. Malagù, V. Guidi, Devices for screening and monitoring of tumors based on chemoresistive sensors, Eurosenors 2016, Budapest (Hungary), September 4-7 2016, poster
- [A18] A. Gaiardo, V. Guidi, P. Bellutti, B. Fabbri, C. Malagù, G. Zonta, S. Gherardi, N. Landini, M. Valt, Silicon Carbide: a Gas Sensing Material for Selective Detection of SO<sub>2</sub>, Eurosenors 2016, Budapest (Hungary), September 4-7 2016, poster
- [A19] V. Guidi, B. Fabbri, A. Gaiardo, C. Malagù, G. Zonta, N. Landini, S. Gherardi, Gas sensing via chemoresistive effect in nanosizes semiconductors, DySoN 2016, Bad Ems (Germany), October 3-7 2016, oral presentation (B. Fabbri)
- [A20] B. Fabbri, L. Bonoldi, V. Guidi, G. Cruciani, D. Casotti, C. Malagù, G. Bellussi, R. Millini, L. Montanari, A. Carati, C. Rizzo, and S. Zanardi, Crystalline microporous organo-silicates: hybrids for room temperature humidity sensor, 5th International Conference on Multifunctional, Hybrid and Nanomaterials, 6-10 March 2017, Lisbon (Portugal), oral presentation (B. Fabbri)
- [A21] M. Valt, A. Gaiardo, B. Fabbri, S. Gherardi, N. Landini, C. Malagù, G. Zonta, P. Bellutti, and V. Guidi, Functionalization of graphene oxide for gas sensing and cation trapping, 5th International Conference on Multifunctional, Hybrid and Nanomaterials, 6-10 March 2017, Lisbon (Portugal), poster.
- [A 22] B. Fabbri, V. Guidi, V. Strati, F. Mantovani, A. Gaiardo, M. Valt, C. Malagù, S. Gherardi, G. Zonta, N. Landini, HYDRO-INTELLIGENT AGRO-ALIMENTARY: SENSORS FOR PRECISION FARMING, XIX AISEM Conference, 21-23 February 2017, Lecce (Italy), oral presentation (B. Fabbri)
- [A23] M. Valt, A. Gaiardo, B. Fabbri, S. Gherardi, N. Landini, C. Malagù, G. Zonta, P. Bellutti and V. Guidi, ROOM TEMPERATURE CHEMORESISTIVE GAS SENSOR BASED ON ORGANIC-FUNCTIONALIZED GRAPHENE OXIDE, XIX AISEM Conference, 21-23 February 2017, Lecce (Italy), poster (M. Valt)
- [A24] N. Landini, B. Fabbri, A. Gaiardo, S. Gherardi, V. Guidi, C. Malagù, G. Rispoli, M. Valt, G. Zonta, DETECTION OF TUMOR MARKERS AND CELL METABOLITES IN CELL CULTURES, USING NANOSTRUCTURED CHEMORESISTIVE SENSORS, XIX AISEM Conference, 21-23 February 2017, Lecce (Italy), oral presentation (N. Landini)
- [A25] B. Fabbri, M. Valt, V. Strati, A. Gaiardo, F. Mantovani, C. Malagù, S. Gherardi, V. Guidi, Sustainable Water Management: Sensors for Precision Farming, I3S 2017, Barcelona (Spain), September 26-29 2017, Proceedings 2017,
- [A26] M. Valt, B. Fabbri, A. Gaiardo, S. Gherardi, C. Malagù, G. Zonta, N. Landini, V. Guidi, Room Temperature Chemoresistive Gas Sensor Based on Organic-Functionalized Graphene Oxide, I3S 2017, Barcelona (Spain), September 26-29 2017.
- [A27] A. Gaiardo, B. Fabbri, M. Valt, V. Guidi, C. Malagù, G. Zonta, N. Landini, A. Giberti, S. Gherardi, P. Bellutti, Silicon Carbide: A Gas Sensing Material for Selective Detection of SO<sub>2</sub>, I3S 2017, Barcelona (Spain), September 26-29 2017.
- [A28] A. Gaiardo, B. Fabbri, M. Valt, P. Bellutti, V. Guidi, M. Crivellari, A. Bagolini, On the Optimization of a MEMS Device for Chemoresistive Gas Sensors, I3S 2017, Barcelona (Spain), September 26-29 2017.

**Reviewer** of the journals:

- Sensors and Actuators B: Chemical
- Sensors IEEE
- Materials Science and Engineering: B

**Conferences**

- Eurosenors 2014, Brescia (Italy), September 7-10 2014
- AISEM 2015, Trento (Italy), February 3-5 2015
- 6th GOSPEL Workshop: Gas sensors based on semiconducting metal oxides – basic understanding & application fields, Tuebingen (Germany), June 7-9 2015
- AIMETA 2015, Genova (Italy), September 14-17 2015
- Eurosenors 2015, Freiburg (Germany), September 6-9 2015

- **Nanotechitaly 2015**, Bologna (Italy), November 25-27 2015
- **Convegno Nazionale Sensori 2016**, Roma (Italy), February 23-25 2016
- **Biosensors 2016**, Gothenburg (Sweden), May 25-27 2016
- **The 16th International Meeting on Chemical Sensors**, Jeju Island (Korea), July 10-13 2016
- **Eurosenors 2016**, Budapest (Hungary), September 4-7 2016
- **AISEM 2017**, Lecce, February 21-23 2017
- **5th International Conference on Multifunctional, Hybrid and Nanomaterials**, Lisbon (Portugal), March 6-10 2017
- **Eurosenors 2017**, Paris (France), September 3-6 2017
- **I3S 2017**, Barcelona (Spain), September 26-29 2017.

### Patents

- DEVICE FOR PRELIMINARY SCREENING OF ADENOMA OF THE COLON-RECTUM, Inventors: Malagu' Cesare [IT]; Giberti Alessio [IT]; Gherardi Sandro [IT]; Gaiardo Andrea [IT]; Landini Nicolo' [IT]; Zonta Giulia [IT], WO2016063148 (A1) — 2016-04-28.

- Malagù C., Gherardi S., Zonta G., Landini N., Giberti A., Fabbri B. Gaiardo A., Anania G., Rispoli G., Scagliarini L., inventors; SCENT S.R.L., assignee. COMBINATION OF NANOSTRUCTURED SEMICONDUCTOR MATERIALS USED TO DISCRIMINATE HEALTHY CELLS FROM CANCER CELLS. Italy Patent request number 102015000057717. 2015 October 2

### Seminars, workshops, schools

#### Seminars

- 1) "Biomimetism and Bioispiration", Professor Clément Sanchez, CNRS, Trento (Italy), Bruno Kessler Foundation, Povo 2, 9-10 June 2015.
- 2) "Nanomaterials Based Gas Sensors", 13/14/15 June 2016, Professor Wojitek Wlodarski, Department of Physics and Earth Sciences, University of Ferrara (Italy).

#### Courses

- 1) "Theoretical and practical introduction to the EPR spectroscopy", Prof. Julia Jezierska (Head of the Central Laboratory of Magnetochemistry, University of Wroclaw), Department of Chemical Sciences, University of Ferrara, 13-15 May 2014, Ferrara (Italy).
- 2) Courses on Safety and health in chemical laboratories and clean rooms, 4 bases modules + 2 modules on chemical risks, 2014-2015, Bruno Kessler Foundation, Trento (Italy).
- 3) "Public Speaking", CUOA Foundation, Alta Villa Vicentina (Italy), April 2016.
- 4) "Digital Business Strategies: the web as new marketplace", CUOA Foundation, Alta Villa Vicentina (Italy), 16 September 2016.
- 5) Training course on the use and handling of technical gases, organized by SOL GROUP, Ferrara, April 2017.

#### Workshop

- 1) Tredi 2015, workshop on advanced silicon radiation detectors, 17-19 February 2015, Bruno Kessler Foundation, Trento (Italy).

#### Training schools

- 1) Eurosenors school, Brescia (Italy), 7 September 2014.
- 2) Block Course Chemical Sensors – Basic, Technology and Applications, Tuebingen (Germany), 2-13 March 2015.

### Partecipation to research projects and Register

#### Research Projects

- 1) **SACMI Imola S.C.**



Via Selice Provinciale, 17/A C.P. 113 - 40026 Imola (BO) Italia

<http://www.sacmi.it/>

Agosto 2014 – Agosto 2015: Collaboration between Sacmi and Sensors group of Ferrara

Objective: Reproduction of thick-film sensors based on molybdenum oxide

2) **National Institute of Nuclear Physics** (Italy),

LOGOS project, 2014-2015

3) **SACMI Imola S.C.**

Via Selice Provinciale, 17/A C.P. 113 - 40026 Imola (BO) Italy

January 2016 – December 2016: Collaboration between Sacmi and Sensors group of Ferrara

Objective: Study of sensors with particular sensitivity to some target gases

4) **Bruno Kessler Foundation** (Italy),

May 2016 – May 2017: Domosens Project, Founded by CARITRO Foundation

Objective: Collaboration with different high school to promote science education through educational and research.

5) **POR-FESR 2014-2020**

Strategic industrial research projects targeted at priority areas of intelligent specialization strategy

Axis 1: Research and Innovation

Action 1.2.2: Support to the implementation of complex projects of research and development

activities on a few thematic areas of relief and the application of functional technological solutions to the realization of the strategy S3

April 2016 – March 2018

Title: Agroalimentare Idrointelligente (ALADIN)

6) **SACMI Imola S.C.**

Via Selice Provinciale, 17/A C.P. 113 - 40026 Imola (BO) Italy

January 2017 – December 2017: Collaboration between Sacmi and Sensors group of Ferrara

Objective: Study of sensors with particular sensitivity to some target gases

7) **National Institute of Nuclear Physics** (Italy),

AXIAL project, 2016-ongoing.

8) **SACMI Imola S.C.**

Via Selice Provinciale, 17/A C.P. 113 - 40026 Imola (BO) Italy

January 2018 – December 2018: Collaboration between Sacmi and Sensors group of Ferrara

Objective: Study of sensors with particular sensitivity to some target gases

### Register

Abilitation to the chemist italian register, 11/2014, Ferrara (Italy)

### Educational activities

#### Tutorship

1) Educational tutorship of General Inorganic Chemistry, Degree in Biology, Prof. A. Duatti, 2014/2015, 40 hours, University of Ferrara.

2) Educational tutorship of General Organic Chemistry, Degree in Biology, Prof. D. Perrone, 2015/2016, 20 hours, University of Ferrara

3) Educational tutorship of General Inorganic Chemistry, Degree in Biology, Prof. A. Duatti, 2015/2016, 40 hours, University of Ferrara.

#### Educational support

1) Educational Support for General Inorganic Chemistry, Degree in Earth Sciences, Prof. S. Caramori, 2015/2016, 20 hours, University of Ferrara.

2) Educational Support for General Inorganic Chemistry, Degree in Earth Sciences, Prof. S. Caramori, 2016/2017, 22 hours, University of Ferrara.

3) Educational Support for General Inorganic Chemistry, Degree in Earth Sciences, Prof. S. Caramori, 2017/2018, 20 hours, University of Ferrara

### Memberships

**Bruno Kessler Foundation**, 2015-ongoing, Trento (Italy)

**INFN**, Ferrara section, 2015-ongoing

**CNR – INO**

Research program: "Nanostructured metal-oxides and other semiconductors for sensing and advanced applications".

Seat: Ferrara

Period: 01/01/2016 - 30/10/2017

*The undersigned agrees, pursuant to Legislative Decree. 30/06/2003 n. 196, to the processing of their personal data.*

Ferrara, 01/07/2018