
**Fabiana Arduini**

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# CURRICULUM VITAE

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| Date of Birth | 01/08/1978 |
| Sex | Female |
| Nationality | Italian |

Married, two daughters (Eloisa & Emma).

## Education

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| Ph.D (Analytical Chemistry) | Feb 2007, Department of Chemical Science and Technologies, University of Rome Tor Vergata, Italy<br>Supervisor: Prof.ssa Moscone |
| M.S. (Chemistry, Summa cum Laude) | May 2003, Department of Chemical Science and Technologies, University of Rome Tor Vergata, Italy<br>Supervisor: Prof.ssa Moscone |

## Professional Experience

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| Dec 2018-current | Associate Professor, Analytical Chemistry, Department of Chemical Science and Technologies, University of Rome Tor Vergata, Italy |
| Nov 2007-Nov 2018 | Senior Researcher, Analytical Chemistry, Department of Chemical Science and Technologies, University of Rome Tor Vergata, Italy |

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| Jul 2019-current | CEO of SENSE4MED s.r.l. start-up/spin-off located at Department of Chemical Science and Technologies, University of Rome Tor Vergata, Italy, www.sense4med.com |
| Feb 2022-current | Member of Fidelio Medical s.r.l. , start-up winner of National Prize of Innovation 2021, sector: Life Sciences-MEDTech |
| Jun 2021-current | Editor of Green Analytical Chemistry Journal, Elsevier |
| Feb 2021-current | Specialty Chief Editor Micro- and Nano- Sensors, Frontiers in Sensors |
| Jan 2020-current | Associate Editor of Microchemical Journal, Elsevier |
| Oct 2019-Oct 2021 | Coordinator of Interdivisional Sensor Group, Italian Chemical Society |
| Sep 2019-current | RGQ of the Certified Laboratory ISO 9001 LABCap of the Department of Chemical Science and Technologies, University of Rome Tor Vergata |
| May 2019-current | Member of International Scientific Committee of the International Conference "CBRN Research$^{rd}$ & Innovation" |
| Jan 2019-current | Member of the Scientific Committee of Master Maris, Faculty of Economics, University of Rome Tor Vergata |
| Jan 2019-current | Member of the Committee of the Sustainability, University of Rome Tor Vergata |

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## Current Research Interests

The research interests include the development of Bioassay and Biosensor systems, Electrochemical (bio)sensors, Electrochemical Mediators, Screen-Printed Electrodes (how to use, fabricate and modify them), Sensors and Biosensors modified with Nanomaterials (carbon black, gold nanoparticles, etc.), Paper based (bio)sensors. Real applications in the field of biomedical, defence, food, cultural heritage, and environmental analytical chemistry.

## Honors and Awards

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| Oct 2021 | Her name is present in https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3 which listed the top 2% most cited researchers in the world |
| Sept 2019 | Her name is present in PLoS Biology https://doi.org/10.1371/journal.pbio.3000384 which listed the top 2% most cited researchers in the world |
| Apr 2017 | Habilitation as Full Professor in Analytical Chemistry (Italian Ministry for Research) |

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| Jun 2013 | Habilitation as Associate Professor in Analytical Chemistry (Italian Ministry for Research) |
| Sept 2013 | "Best Young Researcher" Award from the Analytical Chemistry Division of the Italian Chemical Society |
| Jun 2012 | "Top cited author" for 2010-2011 on Biosensors and Bioelectronics journal (IF 10.257) for the paper entitled"A thionine-modified carbon paste amperometric biosensor for catechol and bisphenol A determination" |

## Visiting periods

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| Nov 2022 | Visiting Professor at AO Foundation (Davos, Switzerland) |
| Dec 2017 | Visiting senior researcher at Bundeswehr Medical Academy, Medical CBRN Defence (Munich, Germany) |
| Jun 2016 | Visiting senior researcher at Department of Digital Printing and Imaging Technology, Baumann Printing Research, Chemnitz University of Technology, Chemnitz, Germany |
| Feb 2015 | Visiting senior researcher at Centre Suisse d'Electronique et de Microtechnique SA Landquart, Switzerland |
| Feb 2006 | Visiting PhD student at BIOMEM Laboratory, Universite dePerpignan, France |

## Referee/Evaluator Activity

**Referee** Nature Communications, Journal of American Chemical Society, Analytical Chemistry, Analytica Chimica Acta, Biosensors and Bioelectronics, etc. > 300 papers refereed

**Evaluators** Marie Curie Fellowships (European Commission), ITN H2020 (European Commission), Agence nationale de la recherche, Academy of Finland, Central Finance and Contracting Agency (CFCA) of the Republic of Latvia, National research foundation South Africa, Academy of Sciences of Albania, Executive Agency for Higher Education, Research, Development and Innovation Funding, Romania, European Science Foundation.

## Research Grants

Prof. Fabiana Arduini was involved in the following projects with total budget higher than 1.000.000 €:

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| 2022-2025 | European Project RELIANCE Smart Response sELf-desInfected biobAsed NanoCoatEd surfaces for healthier environments", RIA action, HORIZON-CL4-2021-RESILIENCE-01-20, HORIZON EUROPE, *grant in preparation,* **Role: Head of Unit** |
| 2021-2022 | European National project Water 4.0 - Industry-4.0 for Water loss Assessment Through Environmental Research, Ministry of the Economic Development **Role: Collaborator with a head of unit INGV with a contract** |
| 2021-2023 | E-Crome project POR FESR LAZIO 2014-2020: Biosensors on wireless paper-based biosensors for telemedicine in oncology, **Role: Coordinator** |
| 2021-2023 | National Antarctic Research Program project PNRA18_00184: Multidecadal Biogenic Compounds and Nutrients Characterization in Coastal Lake Sediments, **Role: Head of Unit** |
| 2020-2021 | SENSOCARD: SENSOrs for rapid detection CARDiovascular emergencies HA-R2EC project funded by the POR FESR Life 2020 **Role: Collaborator with a head of Unit CNR with a contract** |
| 2020-2025 | European project H2020 STRENTEX project, WIDESPREAD-04-2019: ERA Chair, ERA Chair for emerging technologies and innovative research in Stretchable and Textile Electronics **Role: member of the Advisory board** |
| 2018-2021 | INNOCONCRETE project "Innovative tools for conservation and monitoring of artworks in concrete by exploiting electrochemical paper-based sensors, functionalised nanomaterials, and modelling" within Executive Programme on Scientific and Technological Cooperation between Italian Republic and the Kingdom of Sweden for the years 2018-2020, **Role: Italian Coordinator** |
| 2019-2020 | Cranima Project KETs POR FESR LAZIO 2014-2020 – "KETs"Tecnologie Abilitanti – Project number F85F18000100007: **Role: Collaborator with a head of Unit Nicolò Cusano with a contract** |
| 2020 | National project Patchstress 2020 Minister of Defense, **Role: Head of Unit** |
| 2019 | OPCW project Application of Miniaturised sensors and sampler to Remotely Controlled Mini Aerial Vehicles (payload less than 25 kg), a new pathway for the survey of critical areas, **Role: Participant** |
| 2017-2020 | European Project ERANETMED2-72-328 NanoSWS 2017-2020 "Integrated nanotechnologies for sustainable sensing water and sanitation, **Role: European Coordinator** |
| 2019 | National project BIAPTABONT 2019 Minister of Defense, **Role: Coordinator** |
| 2016-2017 | Mobility project Germany-Italy MIUR-DAAD Joint Mobility Program 2016-2017 "Rapid detection of salmonella using a smart multiplexed impedimetric paper-based sensor", **Role: Italian Coordinator** |

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| 2016-2018 | Mobility project Algeria-Italy 2016-2018 "Electrochemistry and Electrochemical cost-effective sensors for remediation and detection of heavy metals in polluted waters and soils", **Role: Italian Coordinator** |
| 2016 | National Project PRIN 2016 "Securing and ensuring sustainable use of agriculture waste co- and by-products: an integrated analytical approach combining mass spectrometry with health effect-based biosensing", **Role: Participant** |
| 2015 | European Defency Agency 2015, "Generic Identification of Agents: SOlving New Emergencies", **Role: Head of Unit** |
| 2014 | National project APTAMERI BW (CIG 5411905D46) Minister of Defense 2014, **Role: Head of Unit** |
| 2015. | National project ACQUA-SENSE (MI01_00223) INDUSTRIA 2015 **Role: Participant** |
| 2015 | National project Grape Health Wine (MI01_00308) INDUSTRIA 2015, **Role: Participant** |
| 2005-2010 | European Project "Biocop" New Technologies to Screen Multiply Chemical Contaminants in Food, 2005-2010, FP VI, Food Quality and Safety, **Role: Participant** |
| 2005 | European Project Leonardo RO/02/B/F/PP-141004, **Role: Participant** |
| 2004 | National project FISR 1999 "Development of sensor for pesticides detection in drinking and waste waters, **Role: Participant** |

## Invited/Keynote Lectures (selection of most recent)

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| Nov 2021 | "Miniaturized Electrochemical Biosensors for Smart Detection of Chemical & Warfare Agents" invited presentation at International Conference on Disaster and Military Medicine at MEDICA Trade Fair in Dusseldorf, Germany |
| Nov 2021 | "Paper-based (bio)sensors as smart and sustainable point-of-care devices" invited presentation at 9$^{th}$ Annual Sensors in Medicine 2021 |
| Oct 2021 | "Carbon black as an outstanding and affordable nanomaterial for electrochemical (bio)sensors design" invited presentation at TNT2021 School of Nanobiosensors, Tirana, Albania |
| Jun 2021 | "Carbon black-based Printed Electrochemical (Bio)sensors", invited presentation at International school on Programmable Smart Sensors based on compatible Nanocomposite Materials (NanoSENS) |
| Feb 2021 | "Carbon black as nanomodifier of printed electrodes", invited presentation at Workshop "Nuove Tecnologie per Sensori e Biosensori" |
| Feb 2021 | "Carbon black as nanomodifier of printed electrodes", invited presentation at International Conference in Recent Trends in 2D Nanomaterials: Synthesis, Properties and Applications |
| Feb 2021 | "Electrochemical miniaturized (bio)sensors to support the sustainable managment of COVID-19 outbreak, invited presentation at Biosensors for Pandemics 2021 |
| Jan 2021 | "Ecodesigned and cost-effective electrochemical (bio)sensors", invited presentation at International webinar on Deployable nanobionegineered sensing technologies, Springer Nature |

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| Sept 2020 | "All-solid state ion-selective carbon black-modified printed electrode for sodium detection in sweat", invited presentation 71st Annual Meeting of International Society of Electrochemistry, Symposium 1 |
| Jul 2020 | Analytical Chemistry to support COVID-19 Emergency, invited presentation at AUXDEFENSE 2020 |
| May 2019 | "Screen-printed electrodes as cost-effective and miniaturized analytical tools for environmental and biomedical analyses", invited presentation at IEEE International Conference on Design & Test of integrated micro & nanoSystems, Gammarth, Tunis, Tunisia |
| May 2019 | "Cutting edge technologies for fostering biosensors in water quality monitoring, precision medicine and food safety assessment", invited presentation at CRMN of Technopole of Sousse, Tunisia |
| May 2019 | "Carbon black for the development of cost-effective and miniaturised electrochemical sensors", Keynote at NanoMAT 2019, Tunisia |
| May 2019 | "Sustainable forefront technologies for the design of smart electrochemical (bio)sensors" Plenary Lecture at Exploratory Workshop NeXT-Chem, National Institute for Research and Development in Chemistry and Photochemistry, Bucharest, Romania |
| May 2019 | "Electrochemical paper-based (bio)sensors as new smart and sustainable analytical tools" invited presentation at University of Milan, Italy |
| Sept 2018 | "Carbon Black as Successful and Cost-effective Nanomaterial for the Design of Printable Electrochemical (Bio)sensors" Invited presentation at 69 Annual ISE Meeting, 2nd-7th September 2018, Bologna, Italy |
| Apr 2018 | "Electrochemistry and paper towards a new route: electrochemical paper-based (bio)sensors" Keynote at 4 International Symposium on Electrochemistry "Pure and Applied Electrochemistry, April 3 -5 2018, Johannesburg, South Africa |
| Oct 2017 | "Paper-based and reagent free (bio)sensors" Keynote at "Eight International Workshop on Biosensors for Food Safety and Environmental Monitoring", October 12 - 14 , 2017 , Rabat, Morocco th th |
| May 2017 | "Paper-based devices for the detection of chemical warfare agents - Keynote at "2nd International Conference CBRNE - Research & Innovation" May 29 -June 1, Lyon, France. |
| May 2016 | "Carbon black as successful cost-effective raw carbonaceous nanomaterial for electrochemical (bio)sensor development" Plenary Lecture at "IX All-Russian Conference on electrochemical methods of analysis with the Youth Scientific School and international participation «EMA-2016»" May 29 - June 3, 2016, Ekaterinburg, Russia |

## Publications (overview)

**127** papers in ISI peer-reviewed journals, **15** chapters, **26** papers as first-author and **81** papers as corresponding author (9 as co-corresponding)
Total impact factor in the last 10 years: **805**
Average Impact Factor (last 10 years): **5.8**

H-index: **46**; **5735 total citations** (Scopus)

Editor together with V. Scognamiglio, G. Rea and G. Palleschi of the book entitled "Biosensors for Sustainable Food-New Opportunities and Technical Challenges", Elsevier 2016, ISSN 9780444635808 (electronic)

The articles:

1. ◦ D. Sordi, F. Arduini (Corr. Author), V. Conte, D. Moscone, G. Palleschi: "Real Time Monitoring of Hydrogen Peroxide Consumption in an Oxidation Reaction in Molecular Solvent and Ionic Liquids by Hydrogen Peroxide Electrochemical Sensor CHEMSUSCHEM (2011), 6; 792-796" was *Featured in scientific news media (ChemViewsMagazine) http:// www.chemistryviews.org/details/ezine/1075341/Hydrogen_Peroxide_Electrochemical_Sensor.html*

2. ◦ F. Arduini, F. Ricci, C. S.Tuta, D. Moscone, A. Amine, G. Palleschi: "Detection of carbamic and organophosphorous pesticides in water samples using cholinesterase biosensor based on Prussian Blue modified screen printed electrode Analytica Chimica Acta (2006), 580;155-162" was *"Top 25 Hottest Article"* in October-November 2006

3. ◦ S. Cinti, F. Arduini, G. Vellucci, I. Cacciotti, F. Nanni, D. Moscone: "Carbon black assisted tailoring of Prussian Blue nanoparticles to tune sensitivity detection limit towards $H_2O_2$ by using screen-printed electrode, Electrochemistry$_{2\,2}$ Communications (2014), 47; 63-66" *was Featured in scientific news media (Advances in Engineering, section nanotechnology; http://advanceseng.com/nanotechnology-engineering/carbon-black-assisted-tailoring-of-prussianblue-nanoparticles-to-tune-sensitivity-and-detection-limit-towards-h2o2-by-using-screen-printed-electrode/*

4. S. Cinti, V. Mazzaracchio, G. Öztürk, D. Moscone, F. Arduini. "A lab-on-a-tip approach to make electroanalysis userfriendly and de-centralized: Detection of copper ions in river water". Analytica Chimica Acta, 2018, 1029, 1-7 *selected for the cover page*

5. M. Scarselli, F. Limosani, M. Passacantando, F. D'Orazio, M. Nardone, I, Cacciotti, F. Arduini, E. Gaudron, M. De Crescenzi. Influence of Iron Catalyst in the Carbon Spheres Synthesis for Energy and Electrochemical Applications". Advanced Materials Interfaces, 2018, s 2018, 1800070 *selected for the cover page*

6. A. Antonacci, F. Arduini, D. Moscone, G. Palleschi, V. Scognamiglio. "Nanostructured (Bio) Sensors For Smart Agriculture". TrAC Trends in Analytical Chemistry 2018, 98, 95-103 *selected for the cover page*

7. Amendola, L., Saurini, M., Di Girolamo, F., & Arduini, F. (Co-Corr. Author). "A rapid screening method for testing the efficiency of masks in breaking down aerosols". Microchemical Journal, 2020, 157, 104928 *most downloaded August 2020*

8. Fabiani, L., Saroglia, M., Galatà, G., De Santis, R., Fillo, S., Luca, V., Faggioni, G., D'Amore, N., Regalbuto, E., Salvatori, P., Terova, G., Moscone, D., Lista, F., Arduini, F. (Corr. Author). (2021). Magnetic beads combined with carbon black-based screen-printed electrodes for COVID-19: A reliable and miniaturized electrochemical immunosensor for SARS-CoV-2 detection in saliva. Biosensors and Bioelectronics, 171, 112686 *most downloaded February 2021*

9. Fiore, L., Mazzaracchio, V., Galloni, P., Sabuzi, F., Pezzola, S., Matteucci, G., Moscone, D., Arduini, F. (Corr. Author) (2021). A paper-based electrochemical sensor for $H_2O_2$ detection in aerosol phase: Measure of $H_2O_2$ nebulized by a reconverted ultrasonic aroma diffuser as a case of study. Microchemical Journal, 166, 106249 *most downloaded on September 2021*

## List of publications

1. Fabiani, L., Mazzaracchio, V., Moscone, D., Fillo, S., De Santis, R., Monte, A., Amatore, D., Lista, F., **Arduini, F. (Corr. Author)** (2022). based immunoassay based on 96-well wax-printed paper plate combined with magnetic beads and colorimetric smartphone-assisted measure for reliable detection of SARS-CoV-2 in saliva.**Biosensors and Bioelectronics**, 113909.

2. Fiore, L., De Lellis, B., Mazzaracchio, V., Suprun, E., Massoud, R., Goffredo, B. M., Moscone, D. & **Arduini, F. (Corr. Author).** (2022). Smartphone-assisted electrochemical sensor for reliable detection of tyrosine in serum. **Talanta**, 237, 122869.

3. Colozza, N., Caratelli, V., Moscone, D., **Arduini, F. (Corr. Author)** (2021). based devices as new smart analytical tools for sustainable detection of environmental pollutants. **Case Studies in Chemical and Environmental Engineering**, 4, 100167.

4. **Arduini, F**. **(Corr. Author)**, 2021. Nanomaterials and Cross-Cutting Technologies for Fostering Smart Electrochemical Biosensors in the Detection of Chemical Warfare Agents. **Applied Sciences**, *11*(2), p.720.

5. Antonacci, A., Attaallah, R., **Arduini, F.,** Amine, A., Giardi, M. T., & Scognamiglio, V. (2021). A dual electro-optical biosensor based on Chlamydomonas reinhardtii immobilised on paper-based nanomodified screen-printed electrodes for herbicide monitoring**. Journal of Nanobiotechnology**, 19(1), 1-13.

6. Colozza, N., Tazzioli, S., Sassolini, A., Agosta, L., di Monte, M. G., Hermansson, K., **Arduini, F. (Co-Corr. Author)** (2021). Vertical-Flow Paper Sensor for On-Site and Prompt Evaluation of Chloride Contamination in Concrete Structures. **Analytical Chemistry**, 93(43), 14369-14374.

7. Mazzaracchio, V., Serani, A., Fiore, L., Moscone, D., & **Arduini, F. (Corr. Author).** (2021). All-solid state ion-selective carbon black-modified printed electrode for sodium detection in sweat. **Electrochimica Acta**, 394, 139050.

8. Colozza, N., Tazzioli, S., Sassolini, A., Agosta, L., di Monte, M. G., Hermansson, K., & **Arduini, F. (Corr. Author)**. (2021). Multiparametric analysis by paper-assisted potentiometric sensors for diagnostic and monitoring of reinforced concrete structures. **Sensors and Actuators B: Chemical**, 345, 130352.

9. Colozza, N., Caratelli, V., Moscone, D., **& Arduini, F. (Corr. Author).** (2021). Origami Paper-Based Electrochemical (Bio) Sensors: State of the Art and Perspective. **Biosensors**, 11(9), 328.

10. Fabiani, L., Caratelli, V., Fiore, L., Scognamiglio, V., Antonacci, A., Fillo, S., De Santis, R., Monte, A., Bortone, M., Moscone, D., Lista, F., & **Arduini, F. (Corr. Author)**. (2021). State of the Art on the SARS-CoV-2 Toolkit for Antigen Detection: One Year Later. **Biosensors**, 11(9), 310.

11. Bagheri, N., Cinti, S., Nobile, E., Moscone, D., & **Arduini, F. (Corr. Author)** (2021). Multi-array wax paper-based platform for the pre-concentration and determination of silver ions in drinking water. **Talanta**, 232, 122474.

12. Fiore, L., Mazzaracchio, V., Galloni, P., Sabuzi, F., Pezzola, S., Matteucci, G., Moscone, D., **Arduini, F. (Corr. Author)** (2021). A paper-based electrochemical sensor for $H_2O_2$ detection in aerosol phase: Measure of $H_2O_2$ nebulized by a reconverted ultrasonic aroma diffuser as a case of study. **Microchemical Journal**, 166, 106249.

13. Caratelli, V., Fillo, S., D'Amore, N., Rossetto, O., Pirazzini, M., Moccia, M., Avitabile, C., Moscone, D., Lista, F., **Arduini, F. (Corr. Author)** (2021). Paper-based electrochemical peptide sensor for on-site detection of botulinum neurotoxin serotype A and C. **Biosensors and Bioelectronics**, 183, 113210.

14. Colozza, N., Kehe, K., Popp, T., Steinritz, D., Moscone, D., & **Arduini, F. (Corr. Author)** (2021). Paper-based electrochemical sensor for on-site detection of the sulphur mustard. **Environmental Science and Pollution Research**, 28(20), 25069-25080.

15. Bagheri, N., Mazzaracchio, V., Cinti, S., Colozza, N., Di Natale, C., Netti, P.A., Saraji, S., Roggero, S., Moscone D., **Arduini, F. (Corr. Author)** (2021). Electroanalytical Sensor Based on Gold-Nanoparticle-Decorated Paper for Sensitive Detection of Copper Ions in Sweat and Serum. **Analytical Chemistry**, 93(12), 5225-5233.

16. Colozza, N., Mazzaracchio, V., Kehe, K., Tsoutsoulopoulos, A., Schioppa, S., Fabiani, L., Steinritz, D., Moscone, D., **Arduini, F. (Corr. Author)** (2021). Development of novel carbon black-based heterogeneous oligonucleotide-antibody assay for sulfur mustard detection. **Sensors and Actuators B: Chemical**, 328, 129054.

17. Mazzaracchio, V., Fiore, L., Nappi, S., Marrocco, G., **Arduini, F. (Co-Corr. Author)**. "Medium-distance affordable, flexible and wireless epidermal sensor for pH monitoring in sweat". **Talanta**, 2021, 222, 121502

18. Fabiani, L., Saroglia, M., Galatà, G., De Santis, R., Fillo, S., Luca, V., Faggioni, G., D'Amore, N., Regalbuto, E., Salvatori, P., Terova, G., Moscone, D., Lista, F., **Arduini, F. (Corr. Author).** (2021). Magnetic beads combined with carbon black-based screen-printed electrodes for COVID-19: A reliable and miniaturized electrochemical immunosensor for SARS-CoV-2 detection in saliva. **Biosensors and Bioelectronics**, 171, 112686.

19. Cinti, S., Marrone, R., Mazzaracchio, V., Moscone, D., **Arduini, F. (Corr. Author)**. "Novel bio-lab-on-a-tip for electrochemical glucose sensing in commercial beverages". **Biosensors and Bioelectronics**, 2020, 112334.

20. Caratelli, V., Ciampaglia, A., Guiducci, J., Sancesareo, G., Moscone, D., **Arduini, F. (Corr. Author).** "Precision medicine in Alzheimer's disease: An origami paper-based electrochemical device for cholinesterase inhibitors". **Biosensors and Bioelectronics**, 2020, 165, 112411

21. Khanmohammadi, A., Jalili Ghazizadeh, A., Hashemi, P., **Arduini, F.,** Bagheri, H. "An overview to electrochemical biosensors and sensors for the detection of environmental contaminants". **Journal of the Iranian Chemical Society**, 2020, 17(10), pp. 2429-2447

22. Moccia, M., Caratelli, V., Cinti, S., Pede, B., Avitabile, C., Saviano, M., Imbriani, A., Moscone, D., **Arduini, F. (Co-Corr. Author)**. "Paper-based electrochemical peptide nucleic acid (PNA) biosensor for detection of miRNA-492: a pancreatic ductal adenocarcinoma biomarker". **Biosensors and Bioelectronics**, 2020, 165, 112371

23. Deroco, P.B., Fatibello-Filho, O., **Arduini, F. (Corr. Author)**, Moscone, D. "Electrochemical determination of capsaicin in pepper samples using sustainable paper-based screen-printed bulk modified with carbon black". **Electrochimica Acta**, 2020, 354, 136628

24. Amendola, L., Saurini, M., Di Girolamo, F., & **Arduini, F. (Co-Corr. Author)**. "A rapid screening method for testing the efficiency of masks in breaking down aerosols". **Microchemical Journal**, 2020, 157, 104928.

25. Cacciotti, I., Pallotto, F., Scognamiglio, V., Moscone, D., **Arduini, F.** "Reusable optical multi-plate sensing system for pesticide detection by using electrospun membranes as smart support for acetylcholinesterase immobilisation." **Materials Science and Engineering: C**, 2020, 111, 110744.

26. Jemmeli, D., Marcoccio, E., Moscone, D., Dridi, C., **Arduini, F. (Corr. Author).** "Highly sensitive paper-based electrochemical sensor for a reagent free detection of bisphenol A." **Talanta,** 2020, 120924.

27. Attaallah, R., Antonacci, A., Mazzaracchio, V., Moscone, D., Palleschi, G., **Arduini, F**., Amine, A., Scognamiglio, V. "Carbon black nanoparticles to sense algae oxygen evolution for herbicides detection: Atrazine as a case study". **Biosensors and Bioelectronics**, 2020,112203.

28. Roda, A., **Arduini, F.,** Mirasoli, M., Zangheri, M., Fabiani, L., Colozza, N., Marchegiani, E., Simoni, P., Moscone, D. "A challenge in biosensors: Is it better to measure a photon or an electron for ultrasensitive detection?". **Biosensors and Bioelectronics**, 2020, 155, 112093.

29. Colozza, N., Cacciotti, I., Moscone, D., **Arduini, F. (Corr. Author)**. "Effects of Humidity, Temperature and Bismuth Electrodeposition on Electroanalytical Performances of Nafion-coated Printed Electrodes for $Cd^{2+}$ and $Pb^{2+}$ Detection". **Electroanalysis,** 2020, 32(2), 345-357.

30. Bartolucci, C., Antonacci, A., **Arduini, F.**, Moscone, D., Fraceto, L., Campos, E., Attaallah, R., Amine, A., Zanardi, C., Cubillana-Aguilera, C., Santander, J. M. P, Scognamiglio, V. "Green nanomaterials fostering agrifood sustainability". **TrAC Trends in Analytical Chemistry**, 2020, 115840.

31. **Arduini, F. (Corr. Author)**, Cinti, S., Mazzaracchio, V., Scognamiglio, V., Amine, A., Moscone, D. "Carbon black as an outstanding and affordable nanomaterial for electrochemical (bio) sensor design". Biosensors and Bioelectronics, Volume 156

32. Cinti, S., Cinotti, G., Parolo, C., Nguyen, E. P., Caratelli, V., Moscone, D., **Arduini, F**. Merkoçi, A. Experimental Comparison in Sensing Breast Cancer Mutations by Signal ON and Signal OFF Paper-Based Electroanalytical Strips". **Analytical Chemistry**, 2020, 82, 1674-1679

33. Tomei, M. R., Marcoccio, E., Daniela, N., Moscone, D., **Arduini, F. (Corr. Author**). "A miniaturized carbon black-based electrochemical sensor for chlorine dioxide detection in swimming pool water". **Electroanalysis**, 2020, 32 (5), 986-991

34. Deroco, P. B., Fatibello-Filho, O., **Arduini, F. (Corr. Author),** Moscone, D. "Effect of Different Carbon Blacks on the Simultaneous Electroanalysis of Drugs as Water Contaminants Based on Screen-printed Sensors". **Electroanalysis**, 2019, 31(11), 2145-2154.

35. Kojić, T., Stojanović, G., Miletić, A., Radovanović, M., Al-Salami, H., **Arduini, F**. "Testing and Characterization of Different Papers as Substrate Material for Printed Electronics and Application in Humidity Sensor". **Sensors and Materials**, 2019, 31(9), 2981–2995.

36. Cinti, S., Moscone, D., **Arduini, F. (Co-Corr. Author)** "Preparation of paper-based devices for reagentless electrochemical (bio)sensor strips". **Nature Protocols** 14(8) (2019) 2437-2451

37. Mazzaracchio, V., Tomei, M. R., Cacciotti, I., Chiodoni, A., Novara, C., Castellino, M., Scordo, G., Amine, A., Moscone, D., **Arduini, F. (Corr. Author)** "Inside the different types of carbon black as nanomodifiers for screen-printed electrodes". **Electrochimica Acta** 317 (2019) 673-683

38. Scognamiglio, V**., Arduini, F.** "The technology tree in the design of glucose biosensors". TrAC - Trends in Analytical Chemistry 120 (2019) 115642

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## Lists of patents

1. **F. Arduini**, D. Neagu, M.R. Tomei, A. Boccella, D. Moscone NANO AND/OR MICROSTRUCTURED PRINTED ELECTRODES
   PCT/EP2018/061383
2. **F. Arduini**, L. Fiore, V. Mazzaracchio, D. Moscone, A. Riparbelli IMPLANTABLE ELECTROCHEMICAL SENSORS FOR THE pH
   MEASUREMENT PCT/EP2020/063786
3. A. Boccella, D. Moscone Danila, **F. Arduini**, D. Neagu, M. R. Tomei NEW SENSORS PRINTED ON PAPER NANOSTRUCTURED PCT/EP2020/056384
4. **F. Arduini**, N. Colozza, A, Sassolini, V. Mazzaracchio, L.Fiore, K. Hermansson, D. Moscone, "Nuovi elettrodi stampati paper-based per il monitoraggio dei processi degradativi del cemento armato". Italian Patent N. 102019000023157
5. 102020000002017 to Italian Ministry of Economic Development, V. Mazzaracchio, N. Bagheri, S. Cinti, D. Moscone, **F. Arduini**, "Metodo per funzionalizzare un supporto di cellulosa con nanoparticelle metalliche e sensore elettroanalitico che comprende tale supporto di cellulosa funzionalizzato".
6. 102020000016948 to Italian Ministry of Economic Development, **F. Arduini**, G. Galatà, M. Saroglia, L. Fabiani, G. Faggioni Giovanni, S. Fillo, R. De Santis, D. Moscone, F. Lista, "Easy to use analytical method for detection of SARS-CoV-2 and relative disposable and miniaturized kit".
7. 102020000022054 to Italian Ministry of Economic Development, **F. Arduini**, V. Caratelli, D. Moscone, F. Lista, S. Fillo,N. D'Amore, M. Pirazzini, O. Rossetto, "Analytical method and kit for in vitro detection of botulinum neurotoxins in a sample".
8. 102020000027642 to Italian Ministry of Economic Development, L. Fiore, V. Mazzaracchio, **F. Arduini**, "Sensore miniaturizzato modificato con carbon black per la determinazione di Tyr in siero sanguigno".

## Conferences (organization)

| | |
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| Mar 2021 | 1st Workshop Next generation of sensors (NGS-2021) hosted on Springer Nature platform.<br>Organizer together with Can Dincer University of Freiburg, Germany (recognized as “Rising Stars in Sensing” of ACS Sensors), Wei Gai |

(recognized as MIT Technology Review Top 35 Innovators Under 35), California Institute of Technology, USA, Pranjal Chandra, Indian Institute of Technology (recognized as top 2% most cited researchers in the world), Eden Morales Narvaez, Center for Optics Mexico (2020 JPhys Photonics Early Career Award).

## Teaching activity

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| 09/08 – 09/10 | Analytical Chemistry: Biology Bachelor's degree of University of Rome, Tor Vergata (average enrolment: 200 students) |
| 09/08 – 09/21 | Analytical Chemistry II: Chemistry Bachelor's degree of University of Rome, Tor Vergata (average enrolment: 70 students) |
| 09/08 – 09/21 | Analytical Chemistry II: Applied Chemistry Bachelor's degree of University of Rome, Tor Vergata (average enrolment: 70 students) |
| 09/09– 09/10 | Laboratory of Environmental Analytical Chemistry: Chemistry Bachelor's degree of University of Rome, Tor Vergata (average enrolment: 70 students) |
| 09/10– 09/11 | Environmental Analytical Chemistry: Applied Chemistry Bachelor's degree of University of Rome Tor Vergata (average enrolment: 20 students) |
| 09/15-09/21 | Analytical Chemistry: Master's Degree in Medical Biotechnology |
| 09/2018- 12/2021 | Chemistry: Master of Tor Vergata University dedicated to Unit of the Carabinieri responsible for preventing the adulteration of foodstuffs and beverages (average enrolment: 60) |

**Supervisor of 9 PhD students** (Stefano Cinti, Daria Talarico, Noemi Colozza, Maria Rita Tomei, Vincenzo Mazzaracchio, Veronica Caratelli, Luca Fiore, Erika di Meo, Ludovica Gullo).

**Supervisor of over 40 degree theses** (Master's Degree in Chemistry, Bachelor's Degree in Chemistry, Master's Degree in Industrial Biotechnology, Master's Degree in Chemistry and Pharmaceutical Technology).