



Università degli Studi di Roma "Tor Vergata"

CURRICULUM DIDATTICO-SCIENTIFICO DELLA PROF. SSA FABIANA ARDUINI

DATI PERSONALI

Nome e Cognome: Fabiana Arduini

Luogo e data di nascita: Roma 01/08/1978

ATTUALE POSIZIONE: Ricercatore

Dipartimento: Scienze e Tecnologie Chimiche

Indirizzo: via della Ricerca Scientifica

Numero studio: 06/72594404

E-mail: fabiana.arduini@uniroma2.it

Orario ricevimento: mercoledì 12:00-13:00

Settore scientifico-disciplinare: CHIM/01



ATTIVITA' DIDATTICA – SCIENTIFICA

Titoli accademici e di studio:

- Maggio 2003 Laurea in Chimica (vecchio ordinamento) conseguita presso l'Università degli Studi di Roma "Tor Vergata" con votazione 110/110 con lode. Titolo della tesi: "Sviluppo di sensori elettrochimici monouso modificati per la misura di tioli per applicazioni in campo clinico e ambientale".
- Febbraio 2007 Dottorato di Ricerca in Scienze Chimiche presso l'Università degli Studi di Roma "Tor Vergata". Titolo della tesi: "Metodi di analisi basati sull'inibizione delle colinesterasi per applicazioni nel campo ambientale e alimentare".
- Novembre 2007 Ricercatore per il s.s.d. CHIM/01 Chimica Analitica, Università di Roma "Tor Vergata"
- Novembre 2010 Ricercatore confermato s.s.d. CHIM/01 Chimica Analitica, Università degli Studi di Roma "Tor Vergata"

Formazione post-laurea presso istituzioni italiane ed estere ed incarichi professionali (didattici e di ricerca):

- Chimica Analitica II+Lab. (modulo B) (Laurea triennale in Chimica) Anni accademici 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018
- Chimica Analitica II+ Lab (Laurea triennale in Chimica Applicata) 2014/2015, 2015/2016, 2016/2017, 2017/2018
- Laboratorio professionalizzante di Chimica in Campo Ambientale (Laurea triennale in Chimica) Anno accademico 2009/2010
- Chimica Analitica (Laurea triennale in Scienze Biologiche) Anni accademici 2009/2010
- Sensori e Biosensori (Master CBRN Università di Roma Tor Vergata) Anno accademico 2012/2013
- Chimica Analitica (Tirocinio Formativo Attivo (TFA), Classe di Concorso A013) Anno accademico 2011-2012
- Chimica Analitica (Laurea specialistica in Biotecnologie mediche) 2016/2017, 2017/2018

Finanziamenti e premi ricevuti per attività di ricerca:

- ABILITAZIONE SCIENTIFICA NAZIONALE 2012 ai sensi dell'art. 16 della legge n. 240 del 2010 per la Seconda Fascia.
- ABILITAZIONE SCIENTIFICA NAZIONALE 2016 ai sensi dell'art. 16 della legge n. 240 del 2010 per la Prima Fascia
- Top cited author" nel periodo 2010-2011 per l'articolo pubblicato su Biosensors and Bioelectronics 2010, 25, 2003-2008 intitolato "A thionine-modified arbon paste amperometric biosensor for catechol and bisphenol A determination"
- 2013 Premio Giovane Ricercatore consegnato in occasione del XXIV CONGRESSO NAZIONALE DI CHIMICA ANALITICA, Sestri Levante (15-19 Settembre 2013).

Attualmente la dott.ssa Fabiana Arduini è:

- Coordinatore dell'Unità Italiana del progetto di mobilità Italia-Algeria 2016-2018 Ministero degli Affari Esteri "Electrochemistry and Electrochemical cost-effective sensors for remediation and detection of heavy metals in polluted waters and soils"
- Coordinatore dell'Unità Italiana del progetto di mobilità Italia-Germania MIUR-DAAD Joint Mobility Program 2016-2017 "Rapid detection of salmonella using a smart multiplexed impedimetric paper based sensor"
- Coordinatore del progetto Europeo ERANETMED2-72-328 NanoSWS 2017-2020 "Integrated nanotechnologies for sustainable sensing water and sanitation".
- Coordinatore dell'Unità Italiana del progetto Executive Programme on Scientific and Technological Cooperation between Italian Republic and the Kingdom of Sweden for the years 2018-2020 INNOCONCRETE project "Innovative tools for conservation and monitoring of artworks in concrete by exploiting electrochemical paper-based sensors, functionalised nanomaterials, and modelling"

Attività di ricerca: 15 pubblicazioni selezionate

1. S. Cinti, ..., R.R. Baumann, **F. Arduini (Corr. Author)**. Electroanalysis moves towards paper-based printed electronics: carbon black nanomodified inkjet-printed sensor for ascorbic acid detection as a case study. *Sensors and Actuators B* 2018, 265, 155-160.
2. A. Antonacci, ..., M. F. Arduini, ..., V. Scognamiglio. A whole cell optical bioassay for the detection of chemical warfare mustard agent simulants. *Sensors and Actuators B* 2018, 257, 658-665.
3. G. Scordo, D. Moscone, G. Palleschi, **F. Arduini (Corr. Author)**. A reagent-free paper-based sensor embedded in a 3D printing device for cholinesterase activity measurement in serum. *Sensors and Actuators B* 2018, 258, 1015-1021.
4. 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 (*cover page*)
5. S. Cinti, ..., G. Palleschi, **F. Arduini (Co-Corr. Author)** Low-cost and reagent-free paper-based device to detect chloride ions in serum and sweat. *Talanta* 2018, 179, 186-192.
6. **S. Cinti, B. De Lellis, D. Moscone, F. Arduini (Co-Corr. Author)**. Sustainable monitoring of Zn(II) in biological fluids using office paper. *Sensors and Actuators B* 2017, 253, 1199-1206.
7. S. Cinti, ..., **F. Arduini (Co-Corr. Author)**. Carbon black-modified electrodes screen-printed onto paper towel, waxed paper and Parafilm *Sensors* 2017, 17, 2267, 1.
8. N. Colozza, ..., **F. Arduini (Corr. Author)**. A miniaturized bismuth-based sensor to evaluate the marine organism *Styela plicata* bioremediation capacity toward heavy metal polluted seawater. *Science of The Total Environment*, 2017, 584-585, 692-700.
9. **F. Arduini (Corr. Author)**, M. Forchielli, ..., D. Moscone Organophosphorous Pesticide Detection in Olive Oil by Using a Miniaturized, Easy-to-Use, and Cost-Effective Biosensor Combined with QuEChERS for Sample Clean-Up *Sensors*, 2017, 17, 34.
10. **F. Arduini (Corr. Author)**, S. Cinti, ..., Palleschi G. How cutting-edge technologies impact the design of electrochemical (bio) sensors for environmental analysis. A review. *Analytica Chimica Acta*, 2017, 959, 15-42.
11. S. Cinti, M. Basso, D. Moscone, **F. Arduini (Co-Corr. Author)**. A paper-based nanomodified electrochemical biosensor for ethanol detection in beers. *Analytica Chimica Acta*, 2017, 960, 123-130.
12. S. Cinti, ..., G. Palleschi, **F. Arduini (Co-Corr. Author)**. Fully integrated ready-to-use paper-based electrochemical biosensor to detect nerve agents. *Biosensors and Bioelectronics*, 2017, 93, 46-51.
13. S. Cinti, **F. Arduini (Corr. Author)**. Graphene-based screen-printed electrochemical (bio)sensors and their applications: Efforts and criticisms (*review*). *Biosensors and Bioelectronics*, 2017, 89, 107-122
14. D. Moscone, G. Volpe, **F. Arduini**, L. Micheli, Rapid electrochemical screening methods for food safety and quality. *ACTA IMEKO*, 2016, 5, 45-50
15. **F. Arduini**, L. Micheli, D. Moscone, G. Palleschi, S. Piermarini, F. Ricci, G. Volpe, Electrochemical biosensors based on nanomodified screen-printed electrodes: Recent applications in clinical analysis (*review*). *TrAC Trends in Analytical Chemistry*, 79 (2016) 114-126.



Università degli Studi di Roma "Tor Vergata"

ACADEMIC AND SCIENTIFIC CURRICULUM OF PROF. FABIANA ARDUINI

PERSONAL DATA

Name and Surname: Fabiana Arduini

Place and date of birth: Rome 01/08/1978

CURRENT POSITION: Researcher

Department: Chemical Science and Technologies

Address: via della Ricerca Scientifica

Phone number: +39 06 72594404

E-mail: fabiana.arduini@uniroma2.it

Consulting hours: Wednesday 12:00-13:00

Italian Ministry of Education Academic-Scientific sector: CHIM/01



SCIENTIFIC AND DIDACTIC ACTIVITY

Education and academic positions:

- 11/2007 – current Permanent position as Senior Researcher at Department of Chemical Science and Technologies (Laboratory of Analytical Chemistry), University Tor Vergata
- 11/2003-11/2006 PhD in Chemical Science at the University of Rome Tor Vergata- Thesis title is: "Development of the analytical methods based on cholinesterase inhibition for environmental and food analysis"
- 05/2003 Master Degree in Chemistry "cum laude" at the University of Rome Tor Vergata in 2003 - Thesis title: "Development of the electrochemical sensors for thiol detection for environmental and clinical applications"

Professional and didactic activities in Italian and Foreign Institutions:

- 09/08 – 09/10 Analytical Chemistry: 2008-2010 (2 Academic years) Biology Bachelor degree of University of Rome, Tor Vergata (average enrolment: 200 students)
- 09/08 – 09/17 Analytical Chemistry II: 2009-2015 (9 Academic years) Chemistry Bachelor degree of University of Rome, Tor Vergata (average enrolment: 70 students)
- 09/08 – 09/17 Analytical Chemistry II: 2009-2017 (9 Academic years) Applied Chemistry Bachelor degree of University of Rome, Tor Vergata (average enrolment: 70 students)
- 09/09– 09/10 Laboratory of Environmental Analytical Chemistry: (1 Academic year) Chemistry Bachelor degree of University of Rome, Tor Vergata (average enrolment: 70 students)
- 09/10– 09/15 Environmental Analytical Chemistry: 2010-2011 (5 Academic year) Applied Chemistry Bachelor degree of University of Rome Tor Vergata (average enrolment: 20 students)
- 09/15-09/17 Analytical Chemistry (2 Academic years) Master Degree in Medical Biotechnology

Awards and funding:

- 04/2017. Habilitation as Full Professor in Analytical Chemistry (Italian Ministry for Research)
- 06/2013. Habilitation as Associate Professor in Analytical Chemistry (Italian Ministry for Research)
- 09/2013. "Best Young Researcher" Award from the Analytical Chemistry Division of the Italian Chemical Society
- 2012. "Top cited author" for 2010-2011 on Biosensors and Bioelectronics journal (IF 6.451) for the paper entitled "A thionine-modified carbon paste amperometric biosensor for catechol and bisphenol A determination"

The Dr Arduini is involved in the following projects:

- 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**
- 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**

European Project ERANETMED2-72-328 NanoSWS 2017-2020. "Integrated nanotechnologies for sustainable sensing water and sanitation". Role: **Coordinator**

INNOCONCRETE project "Innovative tools for conservation and monitoring of artworks in concrete by exploiting electrochemical paper-based sensors, functionalised nanomaterials, and modelling" within Executive Program on Scientific and Technological Cooperation between Italian Republic and the Kingdom of Sweden for the years 2018-2020, Role: **Italian Coordinator**

The research activity carried out was published in several papers as follows:

-**70** articles (10 reviews) in ISI peer-reviewed journals, among them with high impact factor in the analytical chemistry journal (e.g. Trends in Analytical Chemistry IF 8.442, Biosensor and Bioelectronics IF 7.780). **22** articles as first-author + **38** articles as corresponding author + **5** articles as co-corresponding author. **H-index: 29**, with 2110 total citations (Scopus, April 2018).

Research activity: 15 selected publications

S. Cinti, ..., R.R. Baumann, **F. Arduini (Corr. Author)** Electroanalysis moves towards paper-based printed electronics: carbon black nanomodified inkjet-printed sensor for ascorbic acid detection as a case study. *Sensors and Actuators B* 2018, 265, 155-160.

A. Antonacci, ..., M. F. Arduini, ..., V. Scognamiglio. A whole cell optical bioassay for the detection of chemical warfare mustard agent simulants. *Sensors and Actuators B* 2018, 257, 658.

G. Scordo, D. Moscone, G. Palleschi, **F. Arduini (Corr. Author)**. A reagent-free paper-based sensor embedded in a 3D printing device for cholinesterase activity measurement in serum. *Sensors and Actuators B* 2018, 258, 1015-1021.

A. Antonacci, **F. Arduini**, ..., V. Scognamiglio. Nanostructured (Bio) Sensors For Smart Agriculture. *TrAC Trends in Analytical Chemistry* 2018, 98, 95-103 (cover page)

S. Cinti, L. Fiore, R. Massoud, C. Cortese, D. Moscone, G. Palleschi, F. Arduini (Co-Corr. Author). Low-cost and reagent-free paper-based device to detect chloride ions in serum and sweat. *Talanta* 2018, 179, 186-192.

S. Cinti, B. De Lellis, D. Moscone, **F. Arduini (Co-Corr. Author)**. Sustainable monitoring of Zn(II) in biological fluids using office paper. *Sensors and Actuators B* 2017, 253, 1199-1206.

S. Cinti, V., D. Moscone, **F. Arduini (Co-Corr. Author)**. Carbon black-modified electrodes screen-printed onto paper towel, waxed paper and Parafilm *Sensors* 2017, 17, 2267, 1-12.

N. Colozza, ..., D. Moscone, **F. Arduini (Corr. Author)**. A miniaturized bismuth-based sensor to evaluate the marine organism *Styela plicata* bioremediation capacity toward heavy metal polluted seawater. *Science of The Total Environment*, 2017, 584-585, 692-700.

F. Arduini (Corr. Author), M. Forchielli, ..., D. Moscone Organophosphorous Pesticide Detection in Olive Oil by Using a Miniaturized, Easy-to-Use, and Cost-Effective Biosensor Combined with QuEChERS for Sample Clean-Up *Sensors*, 2017, 17, 34

F. Arduini (Corr. Author), S. Cinti, ..., Palleschi, G. How cutting-edge technologies impact the design of electrochemical (bio) sensors for environmental analysis. A review. *Analytica Chimica Acta*, 2017, 959, 15-42.

S. Cinti, M. Basso, D. Moscone, **F. Arduini (Co-Corr. Author)**. A paper-based nanomodified electrochemical biosensor for ethanol detection in beers. *Analytica Chimica Acta*, 2017, 960, 123.

S. Cinti, C. Minotti, D. Moscone, G. Palleschi, **F. Arduini (Co-Corr. Author)**. Fully integrated ready-to-use paper-based electrochemical biosensor to detect nerve agents. *Biosensors and Bioelectronics*, 2017, 93, 46-51

S. Cinti, **F. Arduini (Corr. Author)**. Graphene-based screen-printed electrochemical (bio)sensors and their applications: Efforts and criticisms (review). *Biosensors and Bioelectronics*, 2017, 89, 107-122

D. Moscone, G. Volpe, **F. Arduini**, L. Micheli, Rapid electrochemical screening methods for food safety and quality. *ACTA IMEKO*, 2016, 5, 45-50

F. Arduini, L. Micheli, D. Moscone, G. Palleschi, S. Piermarini, F. Ricci, G. Volpe, Electrochemical biosensors based on nanomodified screen-printed electrodes: Recent applications in clinical analysis (review). *TrAC Trends in Analytical Chemistry*, 79 (2016) 114-126.