

Curriculum Vitae

Stefano Cinti

Assistant Professor in Analytical Chemistry
University of Naples, Federico II-Dept. Pharmacy
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a) **EDUCATION** (University of Rome "Tor Vergata"):

AA 2014-2015: PhD in Chemical Sciences, Excellent Summa cum Laude. (Prof. Palleschi)
AA 2010-2011: Master Degree in Chemistry, 110 Summa cum Laude. (Prof. Palleschi)
AA 2008-2009: Bachelor Degree in Chemistry, 110 Summa cum Laude. (Prof. Monti)

b) **FELLOWSHIPS**

2022: Postdoctoral Fellowship - Fondazione Umberto Veronesi (30000 euro) - **Supervisor**
2020: Canon Foundation in Europe Research Grant (3600 euro).
2019: Marie Skłodowska-Curie Actions Individual Fellowship, Funding scheme: MSCA-IF-EF-ST, Proposal number: 794007, Proposal acronym: SHINE (158000 euro).
2018: Postdoctoral Fellowship - Fondazione Umberto Veronesi (27000 euro).
2017: Postdoctoral Fellowship - Fondazione Umberto Veronesi (27000 euro).

HONORS:

2021: World's Top 2% Scientists List of Stanford University
2020: World's Top 2% Scientists List of Stanford University
2020: Italia Giovane Award 2020 – Special Mention of Merit for clinical research
2019: Best Young researcher 2019 in Analytical Chemistry from the Analytical Division of Italian Chemical Society.
2018: YERUN Research Mobility Award 2018-2019 (1000 Euro)
2018: Best Young researcher 2018 in Bioanalytical Chemistry from the Bioanalytical Division of Italian Chemical Society.
2018: Best Poster Award at Swiss Symposium in Point-of-Care Diagnostics 2018 (500 CHF).
2018: FameLab 2018, L'Aquila - Winner of the local science communication competition designed to engage and entertain.
2017: Winner of C Travel Award by "Journal of Carbon Research, MDPI" (800 CHF).
2016: Best PhD thesis in Electrochemistry 2016 from Italian Chemical Society sponsored by "Fondazione De Nora" (1000 euro).
2015: Third prize in "Chemistry and Light Contest" organized by ChemistryViews.org, with an essay titled "Chirality helps light to strike cancer".

ITALIAN NATIONAL SCIENTIFIC QUALIFICATION (ASN)

2018: Area 03/A1, Associate Professor, Analytical Chemistry
2018: Area 03/B2, Associate Professor, Fundamentals of Chemical Technologies

INSTITUTIONAL ROLES

2022-now: Coordinator of the "Diffusion of Chemical Culture" interdivisional group of the Italian Chemical Society
2021-now: Member of the Management committee of "Bioelectronics" task-force at University of Naples "Federico II"
2021-now: Delegate at International Younger Chemists Network (IYCN) general assembly
2020-now: Chair of the AMYC-BIOMED Conference

c) **TEACHING EXPERIENCE:**

10/2021-now: "Analytical Chemistry (CHIM/01)" for Pharmacy, University of Naples "Federico II".
10/2020-06/2021: "Analytical chemistry applied to evaluation of olive oil and wine quality (CHIM/01)" delivered to inmates at Secondigliano Penitentiary, University of Naples "Federico II".
10/2019-10/2021: "Environmental Chemometrics and Toxicology Data (CHIM/01)" for Environmental Chemical Toxicology, University of Naples "Federico II".
09/2015-01/2019: "General Chemistry (CHIM/07)" for Industrial and Civil Engineering bachelor degree courses, University of Rome "Niccolò Cusano".

d) CHRONOLOGY OF EMPLOYMENT AND RESEARCH EXPERIENCES

04/2019-now: Assistant Professor in Analytical Chemistry at Department of Pharmacy, University of Naples "Federico II".

01/2019-04/2019: EU-MSCA Fellow at Institut Català de Nanociència i Nanotecnologia at Autonomous University of Barcelona, Spain (Prof. Merkoci).

01/2018-12/2018: Fondazione Umberto Veronesi Postdoc Fellow at University of Rome "Tor Vergata" (Prof. Palleschi).

02/2018: Visiting Postdoc at University of the West of England, Bristol, UK (Prof. Killard).

06/2017: Visiting Postdoc at Chemnitz University of Technology, Chemnitz, Germany (Prof. Baumann).

01/2017-12/2017: Fondazione Veronesi Postdoc Fellow at University of Rome "Tor Vergata" (Prof. Palleschi).

06/2016-09/2016: Visiting Postdoc at University of California Santa Barbara, USA (Prof. Plaxco).

01/2016-12/2016: Postdoc Fellow at University of Rome "Tor Vergata" (Prof. Moscone).

06/2014-12/2014: Visiting PhD at University of California San Diego, USA (Prof. Wang).

06/2013-12/2013: Visiting PhD at University of the West of England, Bristol, UK (Prof. Killard).

04/2012-06/2012: Visiting Researcher at Oulu University of Applied Science, Finland (Dr. Nissinen).

e) RESEARCH ACTIVITIES:

My research interests include the development of electrochemical sensors, Paper-Based devices, Nanomotors, and Nanomaterials, applied to user-friendly analytical chemistry in the clinical, pharmaceutical, environmental, and agri-food sectors. I am author of 56 articles, 5 chapters in books, and 2 proceedings, with an H-Index of 28.

Some of my research activities have been focused on:

- Development of a hand-held electrochemical microfluidic paper-based analytical device that enables the rapid detection of breast cancer;
- Development and characterization of tattoo-sensor to detect bio-markers in sweat;
- Synthesis and characterization of nanomotors for the environmental detection/remediation;
- Point-of-care device for blood cholesterol detection and other disease-related biomarkers;
- Synthesis of nanomaterials (gold and carbon-based) to detect pollutants in water.

List of papers:

56. A. Faheem, **S. Cinti (Corr. Author)**. Non-invasive electrochemistry-driven metals tracing in human biofluids. *Biosensors and Bioelectronics* (2022), 200, 113904.

55. A. Numan, S. Singh, Y. Zhan, L. Li, M. Khalid, K. Rilla, S. Ranjan, **S. Cinti (Corr. Author)**. Advanced nanoengineered—customized point-of-care tools for prostate-specific antigen. *Microchimica Acta* (2022), 189(1), 1-17.

54. J. Saidykhan, L. Selevic, **S. Cinti**, J.E. May, A.J. Killard, Paper-Based Lateral Flow Device for the Sustainable Measurement of Human Plasma Fibrinogen in Low-Resource Settings. *Analytical Chemistry* (2021) 93(41), 14007-14013.

53. S. Singh, A. Numan, **S. Cinti (Corr. Author)**. Point-of-Care for Evaluating Antimicrobial Resistance through the Adoption of Functional Materials. *Analytical Chemistry* (2021), DOI: 10.1021/acs.analchem.1c03856

52. A. Miglione, M. Napoletano, **S. Cinti (Corr. Author)**. Electrochemical Biosensors for Tracing Cyanotoxins in Food and Environmental Matrices. *Biosensors* (2021), 11, 315.

51. D. Calabria, M. Guardigli, P. Severi, I. Trozzi, A. Pace, **S. Cinti**, M. Zangheri, Mara Mirasoli. A Smartphone-Based Chemosensor to Evaluate Antioxidants in Agri-Food Matrices by In Situ AuNP Formation. *Sensors* (2021) 21, 5432.

50. A. Cioffi, M. Mancini, V. Gioia, **S. Cinti (Corr. Author)**. Office Paper-Based Electrochemical Strips for Organophosphorus Pesticide Monitoring in Agricultural Soil. *Environmental Science & Technology* (2021) 55, 8859–8865.

49. V. Ortone, L. Matino, F. Santoro, **S. Cinti (Corr. Author)**. Merging office/filter paper-based tools for pre-concentrating and detecting heavy metals in drinking water. *Chemical Communications* (2021) DOI: 10.1039/D1CC02481G.

48. M. Sher, A. Faheem, W. Asghar, **S. Cinti (Corr. Author)**. Nano-Engineered Screen-Printed Electrodes: A dynamic tool for detection of Viruses. *TrAC Trends in Analytical Chemistry* (2021) Just Accepted

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

46. N. Bagheri, V. Mazzaracchio, **S. Cinti (Corr. Author)**, N. Colozza, C. Di Natale, P.A. Netti, P. A., S. Roggero, D. Moscone, F. Arduini. Electroanalytical Sensor Based on Gold-Nanoparticle-Decorated Paper for Sensitive Detection of Copper Ions in Sweat and Serum. *Analytical Chemistry* (2021) 93(12), 5225-5233.
45. S. Tortorella, **S. Cinti (Corr. Author)**. How Can Chemometrics Support the Development of Point of Need Devices? *Analytical Chemistry* (2021) DOI: 10.1021/acs.analchem.0c04151.
44. A. Chebil, V. Mazzaracchio, **S. Cinti**, F. Arduini, C. Dridi. Facile development of cost effective and greener for all solid-state supercapacitor on paper substrate. *Journal of Energy Storage* (2020) 102107.
43. F. Varriale, L. Tartaglione, **S. Cinti**, A. Milandri, S. Dall'Ara, A. Calfapietra, C. Dell'Aversano. Development of a data dependent acquisition-based approach for the identification of unknown fast-acting toxins and their ester metabolites. *Talanta* (2020) 121842.
42. C. Parolo, A. Sena-Torralba, J.F. Bergua, E. Calucho, C. Fuentes-Chust, L. Hu, L. Rivas, R. Álvarez-Diduk, E.P. Nguyen, **S. Cinti**, D. Quesada-González, A. Merkoçi. Tutorial: design and fabrication of nanoparticle-based lateral-flow immunoassays. *Nature Protocols* (2020) DOI: 10.1038/s41596-020-0357-x.
41. V. Kumar, A.K. Sinha, A. Uka, A. Antonacci, V. Scognamiglio, V. Mazzaracchio, **S. Cinti**, F. Arduini. Multi-potential biomarkers for seafood quality assessment: global wide implication for human health monitoring. *TrAC Trends in Analytical Chemistry* (2020) 116056.
40. **S. Cinti (Corr. Author)**, R. Marrone, V. Mazzaracchio, D. Moscone, F. Arduini. Novel bio-lab-on-a-tip for electrochemical glucose sensing in commercial beverages. *Biosensors and Bioelectronics* (2020), DOI: 10.1016/j.bios.2020.112334.
39. M. Moccia, V. Caratelli, **S. Cinti**, B. Pede, C. Avitabile, M. Saviano, A.L. Imbriani, D. Moscone, F. Arduini. Paper-based electrochemical peptide nucleic acid (PNA) biosensor for detection of miRNA-492: A pancreatic ductal adenocarcinoma biomarker. *Biosensors and Bioelectronics* (2020), DOI: 10.1016/j.bios.2020.112371.
38. **S. Cinti (Corr. Author)**. Covid-19: Physical distancing will make science closer to citizen participation in decision making. *Substantia* 4 (2020) 1.
37. F. Arduini, **S. Cinti**, V. Mazzaracchio, V. Scognamiglio, A. Amine, D. Moscone, D. Carbon black as an outstanding and affordable nanomaterial for electrochemical (bio) sensor design. *Biosensors and Bioelectronics*, 156 (2020) 112033.
36. **S. Cinti (Corr. Author)**, G. Cinotti, C. Parolo, E.P. Nguyen, V. Caratelli, D. Moscone, F. Arduini, A. Merkoçi. Experimental Comparison in Sensing Breast Cancer Mutations by Signal ON and Signal OFF Paper-Based Electroanalytical Strips. *Analytical Chemistry* 92 (2020) 1674-1679.
35. **S. Cinti (Corr. Author)**. Chemistry as building block for a new knowledge and participation. *Substantia* 3 (2019) 25-27.
34. **S. Cinti (Corr. Author)**, D. Moscone, F. Arduini. Preparation of paper-based devices for reagentless electrochemical (bio)sensor strips. *Nature Protocols* (2019) DOI: 10.1038/s41596-019-0186
33. N. Bagheri, **S. Cinti (Corr. Author)**, V. Caratelli, R. Massoud, M. Saraji, D. Moscone, F. Arduini. A 96-well wax printed Prussian Blue paper for the visual determination of cholinesterase activity in human serum. *Biosensors and Bioelectronics* 134 (2019) 97-102.
32. M.R. Tomei, S. **Cinti (Corr. Author)**, N. Interino, V. Manovella, D. Moscone, F. Arduini. Paper-based electroanalytical strip for user-friendly blood glutathione detection. *Sensors and Actuators B: Chemical* (2019) DOI:10.1016/j.snb.2019.02.082.
31. **S. Cinti (Corr. Author)**. Novel paper-based electroanalytical tools for food surveillance. *Analytical and bioanalytical chemistry* (2019) DOI:10.1007/s00216-019-01640-5.
30. **S. Cinti (Corr. Author)**, E. Proietti, F. Casotto, D. Moscone, F. Arduini. Paper-Based Strips for the Electrochemical Detection of Single and Double Stranded DNA. *Analytical Chemistry* 90 (2018) 13680-13686.
29. F. Arduini, **S. Cinti**, V. Caratelli, L. Amendola, G. Palleschi, D. Moscone. Origami multiple paper-based electrochemical biosensors for pesticide detection. *Biosensors and Bioelectronics* 126 (2019) 346-354.
28. A. Amine, **S. Cinti**, F. Arduini, D. Moscone, G. Palleschi. How to extend range linearity in enzyme inhibition-based biosensing assays. *Talanta* 189 (2018) 365-369.
27. **S. Cinti**, F. Limosani, M. Scarselli, F. Arduini. Magnetic carbon spheres and their derivatives combined with printed electrochemical sensors. *Electrochimica Acta* 282 (2018) 247-254.
26. **S. Cinti (Corr. Author)**, V. Mazzaracchio, G. Öztürk, D. Moscone, F. Arduini. A Lab-on-a-tip approach to make electroanalysis user-friendly and de-centralized: detection of copper ions in river water. *Analytica Chimica Acta* 1029 (2018) 1-7.
25. **S. Cinti (Corr. Author)**, R. Cusenza, D. Moscone, F. Arduini. Paper-based synthesis of Prussian Blue Nanoparticles for the development of whole blood glucose electrochemical biosensor. *Talanta* 187 (2018) 59-64.
24. **S. Cinti**, N. Colozza, I. Cacciotti, D. Moscone, M. Polomoshnov, E. Sowade, R.R. Baumann, F. Arduini. 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: Chemical* 265 (2018) 155-160.
23. **S. Cinti (Co-corr. Author)**, L. Fiore, R. Massoud, C. Cortese, D. Moscone, G. Palleschi, F. Arduini. Low-cost and Reagent-free Paper-based Device to Detect Chloride Ions in Serum and Sweat. *Talanta* 179 (2018) 186-192.
22. **S. Cinti (Corr. Author)**. Polymeric Materials for Printed-Based Electroanalytical (Bio) Applications. *Chemosensors* 5 (2017) 31-46.
21. **S. Cinti (Co-corr. Author)**, V. Mazzaracchio, I. Cacciotti, D. Moscone, F. Arduini. Carbon Black-Modified Electrodes Screen-Printed onto Paper Towel, Waxed Paper and Parafilm M®. *Sensors* 17 (2017) 2267-2278.
20. **S. Cinti**, G. Volpe, S. Piermarini, E. Delibato, G. Palleschi. Electrochemical biosensors for rapid detection of foodborne Salmonella: a critical overview. *Sensors* 17 (2017) 1910-1931.
19. **S. Cinti (Co-corr. Author)**, B. De Lellis, D. Moscone, F. Arduini. Sustainable Monitoring of Zn(II) in Biological Fluids using Office Paper. *Sensors and Actuators B: Chemical* 253 (2017) 1199-1206.
- 20.
18. **S. Cinti (Co-corr. Author)**, M. Basso, D. Moscone, F. Arduini. A paper based-nanomodified electrochemical biosensor for ethanol detection in beers. *Analytica Chimica Acta* 960 (2017) 123-130.
17. F. Arduini, **S. Cinti**, V. Scognamiglio, D. Moscone, G. Palleschi. How cutting-edge technologies impact the design of electrochemical (bio)sensors for environmental analysis. *Analytica Chimica Acta* 959 (2017) 15-42.
16. **S. Cinti**, F. Arduini. Graphene-based screen-printed electrochemical (bio)sensors and their applications: efforts and criticisms. *Biosensors and Bioelectronics* 89 (2017) 107-122.
15. **S. Cinti (Co-corr. Author)**, C. Minotti, D. Moscone, G. Palleschi, F. Arduini. Fully integrated ready-to-use paper-based electrochemical biosensor to detect nerve agents. *Biosensors and Bioelectronics* 93 (2017) 46-51.
14. J. Kim, I. Jeerapan, S. Imani, T.N. Cho, A.J. Bhandodkar, **S. Cinti**, P.P. Mercier, J. Wang. Non-invasive alcohol monitoring using a wearable tattoo-based iontophoretic-biosensing system. *ACS Sensors* 1 (2016) 1011-1019.
13. F. Arduini, S. Cinti, V. Scognamiglio, D. Moscone. Nanomaterials in electrochemical biosensors for pesticide detection: advances and challenges in food analysis. *Microchimica Acta* 183 (2016), 2063-2083.
12. **S. Cinti**, D. Talarico, G. Palleschi, D. Moscone, F. Arduini. Novel reagentless paper-based screen-printed electrochemical sensor to detect phosphate. *Analytica Chimica Acta* 919 (2016) 78-84.
11. **S. Cinti**, F. Santella, D. Moscone, F. Arduini. Hg²⁺ detection using a disposable and miniaturized screen-printed electrode modified with nanocomposite carbon black and gold nanoparticles. *Environmental Science and Pollution Research* 23 (2016) 8192-8199.
10. **S. Cinti**, D. Neagu, M. Carbone, I. Cacciotti, D. Moscone, F. Arduini. Novel carbon black-cobalt phthalocyanine nanocomposite as sensing platform to detect organophosphorus pollutants at screen-printed electrode. *Electrochimica Acta* 188 (2016) 574-581.
9. **S. Cinti**, F. Arduini, D. Moscone, G. Palleschi, L. Gonzalez-Macia, A.J. Killard. Cholesterol biosensor based on inkjet-printed Prussian blue nanoparticle-modified screen-printed electrodes. *Sensors and Actuators B: Chemical* 221 (2015) 187-190.
8. D. Talarico, **S. Cinti (Co-first author)**, F. Arduini, A. Amine, D. Moscone, G. Palleschi. Phosphate detection through cost-effective carbon black nanoparticle-modified screen-printed electrode embedded in a continuous flow system. *Environmental Science & Technology* 49 (2015) 7934-7939.
7. **S. Cinti**, F. Arduini, M. Carbone, L. Sansone, I. Cacciotti, D. Moscone, G. Palleschi. Screen-printed electrodes modified with carbon nanomaterials: a comparison among carbon black, carbon nanotubes and graphene. *Electroanalysis* 27 (2015) 2230-2238.
6. **S. Cinti**, G. Valdés-Ramírez, W. Gao, J. Li, G. Palleschi, J. Wang. Microengine-assisted electrochemical measurements at printable sensor strips. *Chemical Communications* 51 (2015) 8668-8671.
5. F. Arduini, C. Zanardi, **S. Cinti**, F. Terzi, D. Moscone, G. Palleschi, R. Seeber. Effective Electrochemical Sensor Based on Screen-Printed Electrodes Modified with a Nanostructured Carbon Black – Au Nanoparticles Composite. *Sensors and Actuators B: Chemical* 212 (2015) 536-543.
4. **S. Cinti**, F. Arduini, D. Moscone, G. Palleschi, A.J. Killard. Development of a Hydrogen Peroxide Sensor Based on Screen-Printed Electrodes Modified with Inkjet-Printed Prussian Blue Nanoparticles. *Sensors* 14 (2014) 14222-14234.
3. **S. Cinti**, F. Arduini, G. Vellucci, I. Cacciotti, F. Nanni, D. Moscone. Carbon Black assisted Tailoring of Prussian Blue Nanoparticles to Tune Sensitivity and Detection Limit towards H₂O₂ by using Screen-Printed Electrode. *Electrochemistry Communications* 47 (2014) 63-66.
2. **S. Cinti**, S. Politi, D. Moscone, G. Palleschi, F. Arduini. Stripping Analysis of As(III) by Means of Screen-Printed Electrodes Modified with Gold Nanoparticles and Carbon Black Nanocomposite. *Electroanalysis* 26 (2014) 931-939.

1. K. Zelenka, T. Trnka, I. Tišlerová, D. Monti, **S. Cinti**, M. L. Naitana, L. Schiaffino, M. Venanzi, G. Laguzzi, L. Luvidi, G. Mancini, Z. Nováková, O. Šimák, Z. Wimmer, P. Drašar. Spectroscopic, Morphological, and Mechanistic Investigation of the Solvent-Promoted Aggregation of Porphyrins Modified in meso-Positions by Glucosylated Steroids. Chemistry – A European Journal 17 (2011) 13743-13753.

Participation to conferences: I have been invited to present my research 12 times (7 nationals, 5 internationals), and I have participated as speaker to 26 conferences in various countries (16 nationals, 10 internationals).

f) EDITORIAL ACTIVITIES

- Biosensors and Bioelectronics X (Elsevier) - Advisory Board Editor
- ACS Measurement Science au (ACS) - Editorial Board
- Chemistry Open (Wiley) - Early Career Advisory Board
- Chemosensor (MDPI) - Topic Board Editor
- MethodsX (Elsevier) - Editorial Board
- Frontiers in Sensors (Frontiers) - Review Editor
- Frontiers in Analytical Science (Frontiers) - Review Editor

g) PUBLIC ENGAGEMENT

TV: Author of “Science behind the excellence” on Cusano Italia TV (Channel 264 DTT).

Radio: Radio guest, Radio Cusano Campus 89.1 FM, “Ethic and Label” and “Culture and Kitchen”.

Blog: AbitareaRoma.net “Writing of educational essays regarding chemistry. Explanation of “everyday” phenomena from a chemical point of view”, Skuola.net “Providing tips to study and understand chemistry for high school and university students.”

January, 1st 2022

Stefano Cinti

