

Viviana Bressi

Research focuses on converting renewable biomass and waste into valuable chemicals, characterizing their textural and physicochemical properties, and exploring their behaviors in sensing and catalytic fields. Currently, the research is centered on synthesizing eco-friendly carbon materials for environmental applications and monitoring water pollution.

EDUCATION & TRAINING



2020 Master degree in Pharmacy



2020 Start of PhD in Engineering and Chemistry of Materials and Constructions in UNIME



2022 Start co-agreement PhD in Fine Chemistry in UCO

SCIENTIFIC PRODUCTION

REVIEW: Bressi, V., Ferlazzo, A., Iannazzo, D., Espro, C. "Graphene Quantum Dots by Eco-Friendly Green Synthesis for Electrochemical Sensing: Recent Advances and Future Perspectives", *Nanomaterials* 2021, 11.

ARTICLE: Satira, A., Paone, E., Bressi, V., Iannazzo, D., Marra, F., Calabrò, P. S., Mauriello, F., Espro, C. "Hydrothermal carbonization as sustainable process for the complete upgrading of orange peel waste into value-added chemicals and bio-carbon materials", *Applied Sciences* 2021, 11.

ARTICLE: Bressi, V., Akbari, Z., Montazerzohori, M., Ferlazzo, A., Iannazzo, D., Espro, C., Neri, G. "On the Electroanalytical Detection of Zn Ions by a Novel Schiff Base Ligand-SPCE Sensor", *Sensors* 2022, 22.

REVIEW: Len, T., Bressi, V., Balu, A. M., Kulik, T., Korchuganova, O., Palianytsia, B., Espro, C., Luque, R. "Thermokinetics of production of biochar from crop residues: an overview", *Green Chemistry* 2022, 24.

CONFERENCE PAPER: Moulae, K., Bressi, V., Ferlazzo, A., Iannazzo, D., Espro, C., Neri, G. "Electrochemical stripping determination of trace heavy metals using screen-printed electrodes as a versatile approach toward a mobile sensing platform", *IEEE International Workshop on Metrology for the Sea; Learning to Measure Sea Health Parameters, MetroSea 2022 - Proceedings 2022*, pp. 164-167.

REVIEW: Bressi, V., Balu, A.M., Iannazzo, D., Espro, C. "Recent advances in the synthesis of carbon dots from renewable biomass by high-efficient hydrothermal and microwave green approaches", *Current Opinion in Green and Sustainable Chemistry* 2023, 40.

ARTICLE: Bressi, V., Chiarotto, I., Ferlazzo, A., Celesti, C., Michenzi, C., Len, T., Iannazzo, D., Neri, G., Espro, C. "Voltammetric Sensor Based on Waste-Derived Carbon Nanodots for Enhanced Detection of Nitrobenzene", *ChemElectroChem* 2023, 10.

ARTICLE: Ferlazzo, A.; Bressi, V.; Espro, C.; Iannazzo, D.; Piperopoulos, E.; Neri, G. "Electrochemical determination of nitrites and sulfites by using waste-derived nanobiochar", *Journal of Electroanalytical Chemistry* 2023, 928.

ARTICLE: Michenzi, C.; Espro, C.; Bressi, V.; Celesti, C.; Vetica, F.; Salvitti, C.; Chiarotto, I. "Electrochemical bottom-up synthesis of biomass-derived carbon dots for promoting Knoevenagel condensation", *Molecular Catalysis* 2023, 544.

ARTICLE: Spagnuolo, D.; Bressi, V.; Chiofalo, M.T.; Morabito, M.; Espro, C.; Genovese, G.; Iannazzo, D.; Trifilò, P. "Using the Aqueous Phase Produced from Hydrothermal Carbonization Process of Brown Seaweed to Improve the Growth of *Phaseolus vulgaris*", *Plants (Basel)* 2023, 12.

DIGITAL SKILLS



LANGUAGES

Italian: mother tongue

English : C1

Spanish : A2

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ARTICLE: Khan, M.; Abid, K.; Ferlazzo, A.; Bressi, V.; Espro, C.; Hussain, M.; Foti, A.; Gucciardi, P.G.; Neri, G. "A Sensitive and Selective Non-Enzymatic Dopamine Sensor Based on Nanostructured $\text{Co}_3\text{O}_4\text{-Fe}_2\text{O}_3$ Heterojunctions", *Chemosensors* 2023, 11.

ARTICLE: Spagnuolo, D.; Iannazzo, D.; Len, T.; Balu, A. M.; Morabito, M.; Genovese, G.; Espro, C.; Bressi, V. "Hydrochar from *Sargassum muticum*: a sustainable approach for high-capacity removal of Rhodamine B dye", *RSC Sustainability* 2023, 1.

ARTICLE: Bressi, V.; Len, T.; Polidoro, D.; Esposito, R.; Mazur, M.; Selva, M.; Espro, C.; Luque, R. "Controllable deposition of dispersed Pd nanoparticles on ZnO for Suzuki-Miyaura cross-coupling reactions", *Dalton Transactions*, 2023.

LIST OF CONFERENCES ATTENDED

Oral communication



"Sensors for monitoring and detection of heavy metals in the waters". Bressi, Viviana; Espro, Claudia; Iannazzo, Daniela; Ferlazzo, Angelo; Neri, Giovanni, XII Congresso Nazionale Associazione Italiana Chimica per l'Ingegneria (AICIng 2021), Reggio Calabria 5-8/09/2021



"Sviluppo di nuove metodologie e di sensori elettrochimici per il monitoraggio dei metalli pesanti nelle acque". Bressi, Viviana; Espro, Claudia; Iannazzo, Daniela; Ferlazzo, Angelo; Neri, Giovanni, Convegno della Sezione Sicilia 2021 (SCI), Catania 02/12/2021



"Zn ions detection by a Schiff base/spce sensor". Bressi, Viviana; Ferlazzo, Angelo; Iannazzo, Daniela; Espro, Claudia; Neri, Giovanni, 21a Conferenza Nazionale Sensori e Microsistemi: AISEM 2022, Roma (virtual edition), 10-11/02/2022



"Rilevamento elettroanalitico di ioni metallici pesanti in acqua di mare mediante sensori TPYP-SPEEK/SPCE". Bressi, Viviana; Iannazzo, Daniela; Espro, Claudia; Neri, Giovanni. IX workshop AICIng: Chemistry for sustainable materials, Ancona 16-17/06/2022



"Electrochemical detection of Pb^{2+} , Cd^{2+} and Hg^{2+} in sea water by sPEEK/TPYP sensor". Bressi, Viviana; Moulae, Kaveh; Iannazzo, Daniela; Espro, Claudia; Neri, Giovanni, 1° Congresso Nazionale della Divisione di Chimica per le Tecnologie della Società Chimica Italiana, Napoli 4-7/09/2022



"Innovative selective chemosensor based on orange peel waste-derived carbon nanodots for enhanced electrochemical detection of nitrobenzene". Bressi, Viviana; Chiarotto, Isabella; Ferlazzo, Angelo; Michenzi, Cinzia; Espro, Claudia, Merck Young Chemists' Symposium XXI edition, Rimini 21-23/11/2022



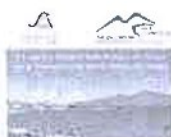
"Orange peel waste-derived carbon nanodots by an integrated hydrothermal and electrochemical approach towards environmental pollutants detection". Bressi, Viviana; Espro, Claudia; Balu Balu, Alina Mariana, XI Congreso científico de Personal Investigador en Formación (PIF) de la Universidad de Córdoba, Córdoba (Spain) 04/05/2023

- Tutor for disabled/learning-disabled students of the DIMED and CHIBIOFARAM departments for educational-integrative activities in support of the students at the University of Messina, Messina, March 2021–November 2021
- Chemistry Course Tutor for Engineering Department students, Messina, September 2021–December 2023
- Teaching Collaborator in Laboratory Sessions for the Elective Course "Organic Structural Determination and Pharmaceutical-chemistry" in the 3rd Year of the Chemistry Degree Program, Córdoba (Spain), March 2023

Poster communication



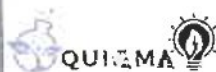
"Zn ions detection by a Schiff base/spectro sensor". Bressi, Viviana; Ferlazzo, Angelo; Iannazzo, Daniela; Espro, Claudia; Neri, Giovanni, 21a Conferenza Nazionale Sensori e Microsistemi: AISEM 2022, Roma (virtual edition), 10-11/02/2022



"Innovative approach for the synthesis of carbon dots by conversion of beer bagasse via Hydrothermal Carbonization Processes". Bressi, Viviana; Celesti, Consuelo; Ferlazzo, Angelo; Espro, Claudia; Luque, Rafa; Neri, Giovanni, 1° Congresso Nazionale della Divisione di Chimica per le Tecnologie della Società Chimica Italiana, Napoli 04-07/09/2022



"Bottom-up hydrothermal and electrochemical synthesis of carbon dots derived from orange peel waste for the selective electrochemical detection of nitrobenzene in water solution". Bressi, Viviana; Chiarotto, Isabella; Ferlazzo, Angelo; Michenzi, Cinzia; Neri, Giovanni; Espro, Claudia. SciCaSi 2022 Convegno congiunto delle sezioni Calabria e Sicilia della Società Chimica Italiana, Reggio Calabria 1-2/12/2022.



"Synthesis of carbon-based nanomaterials via environmentally sustainable approach for enhanced sensing applications". Bressi, Viviana; Espro, Claudia; Balu Balu, Alina Mariana. QUIEMA-23, I CONGRESO DE QUÍMICA APLICADA A LA ENERGÍA Y EL MEDIO AMBIENTE, Córdoba (Spain) 12-13/06/2023



"Organosolv Treatment of Bagasse Beer for Enhanced Biomass Valorization and Microwave-Assisted Conversion of Hemicellulose to Platform Chemicals", Bressi, Viviana; Espro, Claudia; Luque, Rafa. XIII Congresso Nazionale AICInG | II Congresso Nazionale della Divisione di Chimica per le Tecnologie - SCI I, Milano 25-28/06/2023

AWARDS

- Best Poster Communication SciCaSi 2022, Joint conference of Calabria and Sicilia sections of Italian Chemical Society, Reggio Calabria (Italy), 01-02/12/2022
- Best Oral Communication XI Congreso Científico de Personal Investigador en Formación de la Universidad de Córdoba, Córdoba (Spain) 4/05/2023

ATTENDANCE AT DOCTORAL SCHOOL



Advances in Functional Materials: Fundamentals, Technology and Sustainable Energy Productions. Erice (virtual edition) 6-7/07/2021



VI Scuola Nazionale di Monitoraggio Ambientale: i Siti Contaminati. Taranto (virtual edition), 24-26/11/2021



Scuola di Chimica Industriale 2023, Torino, 27/05-01/06/2023