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Aharon Steffè

Date of birth: 08/01/1994

Nationality: Italian

Gender: Male

CONTACT



WORK EXPERIENCE

12/2022 - 11/2023 Florence, Italy

Postdoctoral researcher University of Florence - Department of Chemistry

Research project focused on the chemical synthesis and characterization of polycationic polymers, polymeric nanoparticles and gold nanoparticles.

Skills acquired: **multi-step organic chemistry, nanoparticles synthesis and physicochemical characterization (DLS, TEM, Cryo-EM, UV-Vis and NMR spectroscopy)**

11/2019 - 01/2023 Aviano, Italy

PhD student University of Trieste - National Cancer Institute IRCCS CRO Aviano

Research project focused on the development of a novel hybrid (polymer-gold) theranostic nanoplatform for therapy and diagnosis of hepatocellular carcinoma (HCC).

Skills acquired: **nanoparticles synthesis and physicochemical (DLS, AFM, TEM, SEM, Cryo-EM) and biological (cellular proliferation and biocompatibility assays) characterization, multi-parametric flow cytometry, in vivo mice expertise, cell culturing, fluorescence microscopy, western blot and gel electrophoresis**

03/2018 - 03/2019 Trieste, Italy

MSc student internship University of Trieste - ELETTRA-Sincrotrone Trieste

Research project focused on the implementation of a nanobiosensor for the early detection of HER2+ breast cancer biomarkers.

Skills acquired: **AFM imaging and nanolithography, gold surface functionalization, manipulation of nanobodies, purification of DNA/RNA and proteins, ELISA assays, fluorescence microscopy and cell culturing**

01/2016 - 10/2016 Trieste, Italy

BSc student internship University of Trieste

Research project focused on the study of the adhesion and invasion mechanisms of bacterial strains involved in nosocomial infections and the effect of antimicrobial peptides activity.

Skills acquired: **bacteria culturing and multi-parametric flow cytometry**

07/2011 - 07/2011 Milan, Italy

Student trainee The FIRC Institute of Molecular Oncology (IFOM)

Winner of YouScientist "Lo Studente Ricercatore" 2011 edition

EDUCATION AND TRAINING

11/2019 - 05/2023 Trieste, Italy

PhD in Nanotechnology University of Trieste

Field of study Nanotechnology : Thesis Development of a Novel Hybrid Nanoplatform for Theranostic Applications in Hepatocellular Carcinoma (HCC)

10/2016 - 03/2019 Trieste, Italy

Master's degree in Medical Biotechnology (Nanobiotechnology) University of Trieste

Field of study Nanobiotechnology : Final grade 110/110 : Thesis Implementation of a Nanoscale Platform for the Early Detection of Breast Cancer Circulating Biomarkers

04/12/23

10/2013 – 10/2016 Trieste, Italy

Bachelor's degree in Biological Science and Technology (Biotechnology) University of Trieste

Field of study Biotechnology **Final grade** 110/110 **Thesis** Meccanismo Molecolare di Adesione e Invasione di *Acinetobacter baumannii*

LANGUAGE SKILLS

MOTHER TONGUE(S): Italian

Other language(s):

English

Listening C1

Reading C1

Writing C1

Spoken production C1

Spoken interaction C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Knowledge of working with Mestrenova and Chemdraw : experienced with biology-oriented software: OriginLab, ImageLab, ImageJ : Use of software for physics analysis (SciDavis, Origin, Gwyddion) : Experience using IgorPro : Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access : Flow Cytometry Analysis Softwares (FlowJo, BD FACS Diva)

ADDITIONAL INFORMATION

Proposals

09/2023 – 11/2023

Cryo-EM proposals at Florence Center for Electron Nanoscopy (FloCEN)

Principal investigator of proposals for Cryo-EM experiments on "Supramolecular Self-assembly of Polycationic Polymers"

20/09/2022 – 27/09/2022

X-ray Ptychography proposal at Diamond Light Source (I13-1 beamline)

Co-investigator of the proposal for X-ray ptychography experiments on "3D Characterization of Hybrid Nanoplatfom for Theranostic Applications in Hepatocellular Carcinoma (HCC)"

Publications

Papers in preparation

1. Research article in preparation "Poly(allylamine hydrochloride) (PAH)-based Polymeric Nanoparticles (NPs) Decorated with Dextran (DEX) for siRNA and Protein Delivery" - Small (Wiley)
2. Research article in preparation "Synthesis and Characterization of an Innovative Hybrid Nanoplatfom for Potential Applications in Hepatocellular Carcinoma (HCC)" - Applied Materials & Interfaces (ACS)
3. Mini-review in preparation "Cancer Nanotheranostics: a Versatile Tool for Therapy and Diagnosis of Hepatocellular Carcinoma (HCC)" - Nanomedicine (Lond)

Conferences and seminars

29/11/2023 – 29/11/2023 Online event (participant)

National Seminar "Nanocarriers e Nanomedicina: Produzione, Caratterizzazione e in vitro Analisi"

15/11/2023 – 16/11/2023 Florence, Italy (participant)

International Workshop "Solid-state NMR for the wide Chemistry Community"

02/2021 – 02/2023 Trieste, Italy (oral presentation)

Crossborder Workshop in Nanoscience and Nanotechnology - CROSSNANO (2021-2023 editions) Oral presentation "Triple-action Nanoplatfom for Theranostic Applications in Hepatocellular Carcinoma (HCC)" - authors: Aharon Steffè, Nicole Crestan, Federica Di Cintio, Monica Mossenta, Davide Busato, Idris Vruzhaj, Paolo Macor, Michele Dal Bo, Giuseppe Toffoli (Experimental and Clinical Pharmacology, Centro di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano, Italy)

12/09/2022 – 14/09/2022 Strasbourg, France (participant)

International Training School "Conjugation of glycans onto nanomaterials: opportunities in therapy and diagnosis"

04/12/23

29/03/2022 – 29/03/2022 Trieste, Italy (participant)

International Seminar "CATHENA PROJECT - Cancer THERapy by NANomedicine"

29/06/2021 – 07/07/2021 Online event (participant)

International Workshop "Biacore User Days"

19/05/2021 – 19/05/2021 Trieste, Italy (participant)

Seminar "Nano comes to life: how nanotechnology ushers physics into biology, transforming medicine and the future of technology"

16/04/2021 – 16/04/2021 Online event (participant)

Seminar "PPT presentations for communicating your research"

30/03/2021 – 30/03/2021 Online event (participant)

International StIBNite Online School - 1st Network Symposium: Global Challenges in Materials Science

09/03/2021 – 13/03/2021 Online event (oral presentation)

40° Congresso Nazionale della Società Italiana di Farmacologia "Il Valore Scientifico e l'Uso Appropriato del Farmaco" Oral presentation "Development of a Novel Nanoplatfom for Theranostic Applications in Hepatocellular Carcinoma (HCC)" - authors: Aharon Steffè, Federica Di Cintio, Nicole Crestan, Monica Mossenta, Davide Busato, Lorenzo Marsili, Idris Vruzhaj, Lorena Baboci, Giuseppe Toffoli, Michele Dal Bo (Experimental and Clinical Pharmacology Unit, Centro di Riferimento Oncologico di Aviano (CRO), IRCCS, Aviano, Italy)

08/03/2021 – 08/03/2021 Online event (participant)

National XXIII SIF Seminar on Pharmacology for PhD Students, Fellows, Post Doc and Specialist Trainees

19/02/2021 – 19/02/2021 Trieste, Italy (participant)

Winter School PhD in Chemistry

11/12/2019 – 13/12/2019 Trieste, Italy (participant)

International School of Nanomedicine

28/01/2019 – 04/02/2019 Linz, Austria (poster participant)

International XXI. Annual Linz Winter Workshop "Advances in Single-Molecule Research for Biology & Nanoscience" Poster participant "*In silico* Binder Design and Liquid Biopsy NABP-platform Development for the Personalized Monitoring of HER2 Positive Breast Cancer Progression" - authors: Aharon Steffè, Luciana Gneo, Barbara Medagli, Beatrice Senigagliesi, Fabio Perissinotto, Sara Fortuna, Pietro Parisse, Loredana Casalis (NanoInnovation Laboratory, Elettra-Sincrotrone S.C.p.A., ss14 km 163.5 in Area Science Park, Basovizza 34149, Trieste, Italy)

Volunteering

2012 – 2021 Trieste, Italy

Volunteer and science communicator at Trieste Next and European Researchers' Night (2012-2021 editions)

Memberships

Member of American Association for Cancer Research (AACR)

Junior Member of Italian Society of Pharmacology (SIF)

04/12/23