

UNIVERSITA' DEGLI STUDI DI GENOVA
AREA INTERNAZIONALIZZAZIONE, RICERCA E TERZA MISSIONE
SERVIZIO RICERCA

D.R. n. 5042

IL RETTORE

- Visto il Decreto Rettorale n. 3806 del 20/09/2022, con il quale è stato indetto il concorso, per titoli e colloquio, per il conferimento di n. 1 borsa di ricerca post-laurea di tipo *consolidator* della durata di 6 mesi, eventualmente rinnovabili, dell'importo di € 9.000,00 (novemila/00), per lo svolgimento di una ricerca sul tema: "Polymer and hybrid photonic structures for sensing and emission control" presso il DCCI dell'Università degli Studi di Genova;
- Visto il Decreto Rettorale n. 4851 del 09/11/2022 con il quale è stata costituita la Commissione giudicatrice per il conferimento della suddetta borsa di ricerca;
- Visto il verbale della Commissione giudicatrice del concorso in parola, riunitasi in data 15/11/2022;
- Constatata la regolarità della procedura seguita;

DECRETA

Art. 1

Sono approvati gli atti del concorso di cui in premessa e la seguente graduatoria di merito:

1. Dott.ssa Heba Abdelsalam Abdelwahab Abdelsalam Megahd punti 93/100

Sotto condizione dell'accertamento dei requisiti di cui al bando, è dichiarata vincitrice del concorso in parola la Dott.ssa Heba Abdelsalam Abdelwahab Abdelsalam Megahd.

Genova, 17.11.2022

IL RETTORE

Firmato digitalmente da:
FEDERICO DELFINO
Università degli Studi di Genova
Firmato il: 17-11-2022 12:30:11
Seriale certificato: 818306
Valido dal 03-11-2020 al 03-11-2023

Heba Megahd, MSc

Summary

- Interdisciplinary materials scientist with experience in polymer science and photonics
- Involved in research collaborations with groups in 4 countries, including self-initiated projects
- 9 peer-reviewed publications (5 as first author), h-index 4, 58 citations (source: Scopus)
- 10 conference and meeting contributions including 8 oral ones

Education

- 11/2019 – 10/2022** *University of Genoa, Italy*, PhD student in Chemical Sciences and Technologies
Expected Thesis *Full Scholarship for PhD studies*, Supervisor: Prof. Davide Comoretto
Submission 12/2022 Thesis title: "New Polymer and Composite Structures for Photonic Applications"
- 2017 – 2019** *SERP+ Erasmus Mundus Masters, Full Scholarship*
M.Sc., Joint master's degree from Université Paris-Saclay and University of Genoa in Surface, Electro, Radiation, and Photochemistry (specialization in Surface Science) (27.87/30)
- 9/2017 – 1/2018 • Université Paris-Saclay
2/2018 – 8/2019 • University of Genoa (Thesis 110/110)
- 10/2012 – 7/2017** *German University in Cairo (GUC), Egypt, Academic Excellence Scholarship*
B.Sc., Material Science and Engineering, top 10% of class (1.16/1, German Scale)

Relevant Research Experience

- 1/2022 – 7/2022** *Stimuli-responsive Functional Materials and Devices group (SFD)*, Technical University of Eindhoven, The Netherlands. Supervisor: Prof. Albert Schenning
(Visiting PhD student)
 - Developing of novel liquid crystal-based sensors (including synthesis, processing characterization)
- 2/2019-Current** *Responsive Polymer and Solution-Processed Nanophotonics group*, University of Genoa
(as a master's and PhD student)
 - Polymer thin-film fabrication through spin coating
 - Characterizing film morphology and optical properties through UV-Vis spectroscopy, Fluorescence spectroscopy and AFM
 - Engineering polymer photonic structures for optical microcavities
 - Fabricating polymer photonic crystal chemical sensors and characterizing them through spectroscopic measurements
 - Developing and building experimental optical setups
 - Performing data analysis and modelling through MATLAB[®] and Origin[®]
 - Helping maintain and organize lab, training, and supervising students
- 3/2016 – 8/2016** *Institute of Production Engineering of E-Mobility Components (PEM)*, RWTH Aachen University, Germany (Bachelor's Thesis)
 - Designed (in SolidWorks[®]) and fabricated 3D printed ABS plastic samples
 - Conducted quasi-static, creep and fatigue tests and analyzed failure surfaces
- 3/2015 – 12/2015** *Research Assistant*, Characterization of welds in 3D printed steel parts, GUC, Egypt
 - Conducted literature review and prepared samples for mechanical testing
- 8/2014 – 9/2014** *Quality Assurance Intern*, Housing & Building National Research Centre, Egypt
 - Assisted with quality assurance of building materials

Teaching activity

- 2/2015 –5/2015 *Teaching Assistant for Metallic Materials laboratory, GUC, Egypt*
- Explained concepts of structure and characterisation of metallic materials to 70 students
 - Conducted demonstrations including metallography, x-ray crystallography and various mechanical testing procedures.

Trainings and Workshops

- 3/2022 *Device Integrated Responsive Materials Workshop, Technical University of Eindhoven*
- 6/2021 *Leibniz Young Polymer Scientist Forum, Online/Aachen*
- 6/2021 *Nanolito Summer School on Nanolithography, University of Salamanca*
- 5/2021 *European Polymer Federation Summer School on Polymers and Circular Economy, Online*
- 8/2019 *International Summer School on Circular Economy, HafenCity University Hamburg (Funded)*
- 7/2018 *Summer School on Science Management for Scientists and Engineers, University of Genova (Funded)*

Reviewer Activities

- 3/2021-Current *Reviewer for Materials Advances, Journal of Materials Chemistry C, and ACS Macro L*
- 3/2021-Current *Volunteer, Professional Reviewing Center, Egypt Scholars Inc.*
- Reviewer for university admission, scholarship, and job applications

Skills

- Fabrication and characterization** Spin coating, bar coating, 3D printing, DSC, TGA, Mechanical testing, Optical microscopy, AFM, UV-VIS spectroscopy, Fluorescence spectroscopy (steady state and time resolved)
- Software** Origin, MS Office, MATLAB, Gwyddion (data visualization and analysis), Blender (3D modelling software), Adobe Photoshop and Adobe Illustrator, ANSYS (Finite element analysis software), SolidWorks (CAD software)
- Languages** Arabic (Mother-tongue), English (Fluent, IELTS 8.5), Italian (Intermediate, B2), German (basic), French (basic)

Writing Experience

- 8/2021-Current *Volunteer Student Contributor Writer, Physics World*
- 3/2020-Current *Volunteer Editor, Maqal 'Elmy Science popularization Initiative*
- Translated and summarized impactful research papers to Arabic
 - Proofread articles to finalize for online publication

Awards and Scholarships

- 11/2019-10/2022 *PhD scholarship, University of Genoa*
- 9/2017-08/2019 *SERP+ Erasmus Mundus Master's Scholarship*
- 10/2012-7/2017 *Academic Excellence Partial Scholarship, German University in Cairo*
- 6/2020 *Best Presentation, Macrogiovani - Digital Edition 2020*
- 7/2019 *Best Presentation, Macrogiovani 2019*

Conference Presentations

- **Megahd, H.**; Lova, P.; Comoretto, D. (2022) "*Polymer photonic crystal chemical sensors*", Convegno Nazionale Dell'Associazione Italiana di Scienza e Tecnologia Delle Macromolecole 2022, Trento, IT (**Oral**)
- **Megahd, H.**; Slimani, S.; Peddis, D; Lova, P.; Comoretto D. (2022) "*Magnetic Nanocomposite Polymer Photonics*", EPF 2021, Prague, CZ (**Oral**)
- **Megahd, H.**; Bertucci, S.; Comoretto, D.; Lova, P. (2021) "*Hybrid Polymer-Inorganic Photonic Crystal Sensors*" MACROGIOVANI Workshop for Young Researchers on Macromolecular Science 2021, Genova, IT (**Oral**)
- **Megahd, H.**; Lova, P.; Pucci A.; Comoretto D. (2021) "*Fluorescent Multi-layered Films for Label-Free Detection of Volatile Organic Compounds*" Presentation at META 2021, Online (**Oral**)
- **Megahd, H.**; Lova, P.; Comoretto D. (2021) "*All-Polymer Microcavities for Photoluminescence Control*", Nanolito Summer School, Salamanca, ES (**Poster**)
- **Megahd, H.**; Lova, P.; Comoretto D. (2021) "*Commodity Polymers as Sensors*", EPF Summer School (2021), Online (**Poster**)
- **Megahd, H.**; Lova, P.; Pucci, A.; Comoretto, D. "*Polymer Fluorescent Films for Label-Free Detection of Organic Vapors*", ACS Spring Meeting, Macromolecular Chemistry: The Second Century 2021, Online (**Oral**)
- **Megahd, H.**; Lova, P.; Comoretto, D. (2020), "*Fluorescent Multi-layered Films for Label-Free Detection of Volatile Organic Compounds*". Macrogiovani - Digital Edition 2020, Online (**Oral, Best Presentation Award**)
- **Megahd, H.**; Lova, P.; Comoretto, D. (2019) "*Optical Sensing and Determination of Molecular Diffusion Coefficient in Polymer Multilayered Photonic Crystals*". Oral Presentation International Workshop on Polymeric 2019, Algeria
- **Megahd, H.**; Lova, P.; Comoretto, D. (2019), "*Optical Determination of Molecular Diffusion Coefficient in Polymer Multilayered Sensors*", Macrogiovani 2019, Naples, IT (**Oral, Best Presentation Award**)

List of Publications

- 9 publications included in Attachment B