

PUBBLICATO ALL'ALBO WEB IN DATA 22.02.2023

UNIVERSITA' DEGLI STUDI DI GENOVA

AREA RICERCA, TRASFERIMENTO TECNOLOGICO E TERZA MISSIONE
SERVIZIO RICERCA

D.R. n. 900

IL RETTORE

- Visto il Decreto Rettorale n. 90 del 16/01/2023, con il quale è stato indetto il concorso, per titoli, per il conferimento di n. 1 borsa di ricerca post-laurea di tipo consolidator della durata di 12 mesi, eventualmente rinnovabile, dell'importo di € 19.368,00 (dicianovemilatrecentosessantotto/00), per lo svolgimento di una ricerca sul tema: "Misura ottica "in-situ" della cristallizzazione durante la stampa 3D" presso il DCCI dell'Università degli Studi di Genova;
- Visto il Decreto Rettorale n. 664 del 14/02/2023 con il quale è stata costituita la Commissione giudicatrice per il conferimento della suddetta borsa di ricerca;
- Considerato che la borsa di ricerca è finanziata nell'ambito del Decreto Ministeriale n. 737 del 25-06-2021 "Criteri di riparto e utilizzazione del Fondo per la promozione e lo sviluppo delle politiche del Programma Nazionale per la Ricerca (PNR)", in particolare nelle iniziative previste alla lettera f) "Iniziative di ricerca interdisciplinare che esplorino temi di rilievo trasversale per il PNR, senza restrizioni basate sull'aderenza a settori scientifici di riferimento o ad aree tematiche prioritarie", di cui alla Relazione programmatica delle iniziative da porre in essere con il sostegno del Fondo (Decreto direttoriale n. 2243 del 24 settembre 2021) – CUP D31B21009000007;
- Visto il verbale della Commissione giudicatrice del concorso in parola, riunitasi in data 20/02/2023;
- 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.re Zakarya Baouch punti 73/100

Sotto condizione dell'accertamento dei requisiti di cui al bando, è dichiarato vincitore del concorso in parola il Dott.re Zakarya Baouch.

Genova, 22.02.2023

IL RETTORE

Responsabile del procedimento: Monica Buffa
Area Ricerca, Trasferimento Tecnologico e Terza Missione
Servizio Ricerca

Firmato digitalmente da:
FEDERICO DELFINO
Università degli Studi di Genova
Firmato il: 21-02-2023 14:05:43
Seriale certificato: 818306
Valido dal 03-11-2020 al 03-11-2023

Zakarya BAOUCH

OBJECTIVE: To use my Engineering Skills and Experience to Provide Solutions That Turn Possibilities into Reality.

EDUCATION

• **Jan 2017 – May 2021 Ph.D. in Chemistry**, Specialty Polymeric Materials and Environment from the University of Tlemcen-ALGERIA. *Grade: Very Honorable.*

Project: Preparation and Characterization of Hybrid Materials Composites Based on Biopolymers and Clays used for water and wastewater treatment.

Supervisors: Prof. Benabadji Kamel Ismet & Dr. Bouras Brahim.

• **Sep 2014 – Jul 2016 Master's Degree in Chemistry**, Specialty Polymeric Materials (Macromolecules) at the University of Tlemcen. ALGERIA. (Valedictorian). *Final Mark: 15.55/20*

Project: Modification of starch by an acid chloride, Application to the adsorption of dyes.

Supervisors: Prof. Mansri Ali & Dr. Bouras Brahim.

• **Sep 2011 – Jun 2014 Bachelor's degree in Science of Matter**, Specialty Chemistry, University of Tlemcen, ALGERIA. *Final Mark: 10.18/20*

EXPERIENCE

July 2022 – Present, SALES MANAGER & BUSINESS DEVELOPER at Noble Chemical Materials LLC in Dubai. We supply a large range of chemicals and polymers, we provide technical services to our customers for any problem they face in their business when using our chemicals, from synthesis to characterization to the application of the final product. This position has greatly helped me gain a solid understanding of a wide range of chemicals and their use in the industry.

Jan 2022 – June 2022 I worked for The Lewis Brothers Real Estate, as a real estate consultant, and as part time chemistry teacher in Science Xplorers School.

Sep 2017 – July 2020, ASSISTANT LECTURER, I taught practical works of General Chemistry, Thermodynamics and Analytical Chemistry to the students of 1st and 2nd year of the Department of Sciences and to the students of 2nd and 3rd year of the Department of Pharmacy of the University of Abou Bekr Belkaid, ALGERIA.

July 2016 – Aug 2018, LABORATORY ANALYST at METIDJI GROUP.

In this group, I was part of a team as a research and development member for cornstarch production, Glucose syrup, Corn oil, and Gluten feed designed for dairy cows, horses, and sheep.

• My Job Responsibilities include

- Performing chemical analysis and physical property testing of materials and products.

- Research, design, and developing new production processes.

- Communicate results of analysis and research.

- Coordinate and perform tests.

- Analyze data to develop conclusions.
- Evaluate current processes and develop improvements to safety, quality, and efficiency.
- Assist in the establishment of timelines and budgets.
- Install, maintain, and inspect equipment and facilities.
- Perform routine calibration and troubleshooting of instruments.
- Provide training and mentorship to technical staff.

Nov 2014 – May 2016, LABORATORY TECHNICIAN

I spent two years as a Laboratory Technician at the Laboratory of Application of Electrolytes and Polyelectrolytes Organic (LAEPO).

- My duties and responsibilities include
 - Good Knowledge of the safety operations guidelines of handling chemicals and laboratory maintenance
 - Planning, setting up and undertaking controlled experiments and trials.
 - Stringently followed lab protocols, sanitation standards and testing procedures
 - Maintaining, calibrating, cleaning, and testing sterility of the equipment.
 - Presenting results to senior staff.
 - Broad knowledge of chemical laboratory operating procedures.
 - Ordering and maintaining stock and resources.

PUBLICATIONS & CONFERENCES

• ARTICLES

- **Baouch, Z.**, Benabadji K.I., Bouras, B. (2020). Adsorption of Different Dyes from Aqueous Solutions Using Organo-clay Composites. *Physical Chemistry Research*, 8(4), 767–787. <https://doi.org/10.22036/pcr.2020.234691.1787>
- Benabadji, K.I., **Baouch, Z.**, Bouras, B. (2021) Adsorption of Industrial Dye BzR from Aqueous Solution Using Local Modified Clay. *Environmental Science and Engineering. Springer, Cham.* https://doi.org/10.1007/978-3-030-51210-1_5.
- **Baouch, Z.**, Benabadji K.I., Bouras, B. Effect of the Amount of Surfactant Loaded In Bentonite on the Intercalation Of Carboxymethyl Cellulose. (To be submitted).
- **Baouch, Z.**, Benabadji K.I., Bouras, B. Removal of three textile dyes in single, binary and mixed systems on Organobentonite/Carboxymethylcellulose composites using the COD method. (To be submitted).

• INTERNATIONAL CONFERENCES

- **Baouch. Z.**, Benabadji. K. I., Bouras. B. Synthesis and characterization of CarboxymethylCellulose organic montmorillonite nanocomposites and its adsorption behavior for cationic and anionic dyes. *International Workshop on Polymeric Materials 2019 (IWPM'2019)*, University Ferhat Abbas, Setif, ALGERIA.
- **Baouch. Z.**, Benabadji. K. I., Bouras. B. Adsorption Of Industrial dye BzR From Aqueous Solution Using Local Modified Clay. *2nd Euro-Mediterranean Conference for Environmental Integration* 10 13 October 2019, Sousse, TUNISIA.
- **Baouch. Z.**, Benabadji. K. I., Bouras. B. Adsorption of Telon Blue on Modified Bentonite. *1st Eurasia Environmental Chemistry Congress*, 1- 4 November 2018. Side Antaliya, TURKEY.
- **Baouch. Z.**, Mansri. A., Bouras. B. Activation de l'amidon par un chlorure d'acide Application a l'adsorption des colorants. *Polymer Materials and their Composites (CIMCP'17)* University of Abou Bekr Belkaid, Tlemcen ALGERIA. 2017.

PROCESSING AND CHARACTERIZATION SKILLS

- **XRD** (X-Ray Diffraction) Bruker D8 & Rigaku ULTIMA IV.
- **TGA** (ThermoGravimetric Analysis) Q Series Q600 SDT.
- **DSC** (Differential Scanning Calorimeters) TA Instruments Q20.
- **XRF** (X-ray fluorescence) Thermo Fisher Niton XRF XL3T.
- **FT-IR** Agilent Technologies Cary 600 Series
- **Viscosimetry** Ubbelohde Capillary viscometer.
- **UV-visible, Potentiometry, and Conductimetry.**

SOFT SKILLS

- Critical Thinking & Problem Solving.
- Time Management and Organization, Teamwork & Attention to Details.
- Monitoring/Maintaining records & data.
- Preparation of reports, writing of publication and participation in international events.
- Adaptability in the workplace.
- Finally yet importantly, my greatest talent is my ability to learn quickly.

LANGUAGES

- **ARABIC:** Native Arabic speaker (Speaking, reading, and writing).
- **ENGLISH:** Professional Working Proficiency (Speaking, reading, and writing).
- **FRENCH:** Full Professional Proficiency (Speaking, reading, and writing), TCF-SO score 418/600.

GRANTS, HONOR AND AWARDS

- My greatest accomplishment at the university was graduating as valedictorian of my master's degree with an annual grade of 15.55/20.
- Obtaining the highest academic distinction awarded in my Ph.D., which is, "very Honorable, with Committee Praise".

TRAININGS

- **2022** Security, Safety, and Enterprise Risk Management « INTERSEC, Dubai UAE.
- **2019** a Practical Internship in the Algerian Company Of Industrial Textiles (EATIT).
- **2018** a Training on Thermal analysis TGA (TA Instruments Q Series Q600 SDT).
- **2017** a Training on X-Ray Diffraction WAXD & SAXS, (Bruker D8 & Rigaku ULTIMA IV XRD).
- **2017** a Practical Internship in National Company of Non-Ferrous Mining Products and Useful Substances.
- I had several other practical internships in many fields to open my mind to the world of chemistry such as Public Hospital Establishment 2016. Milk Company and its Derivatives, 2015.

RESEARCH EXPERIENCES

- **Ph.D. Project**

The overall objective of the present research is to synthesize a **cost-effective, environmentally friendly** and **sustainable** adsorbents based on **Clay** and **Biopolymers** and to evaluate its effectiveness for the **removal** of **industrial** dyes from aqueous solutions by adsorption in single and mixed systems. Optimization of the adsorption conditions was possible by investigating the influence of different parameters. In my thesis, I studied the following three main topics.

- The First and Second topics present the synthesis and characterization of Organobentonite (BAS) and Organo-bentonite/CarboxymethylCellulose (BAS/CMC) materials and their adsorptive removal of three kinds of dyes, namely Methylene Blue (MB), Telon Blue (TB), and Bezathren Red (BzR) from aqueous solutions by adsorption. It also provides the detailed experimental and data analysis results on the adsorption kinetics equilibrium, thermodynamics, and process design under various physico-chemical process parameters.
- The third topic evaluates the effectiveness of the prepared adsorbents (BAS / CMC) in the removal of organic dyes (MB, BzR and TB) in a mixed dye system from an aqueous solution under various conditions such as pH and the initial concentration of each dye by batch adsorption using UV-visible and DCO (Chemical oxygen demand) methods. The data analysis and mechanism of adsorption also presented here. In this work, I adopted many Physicochemical Characterization techniques such as XRD, XRF, TGA, FT-IR, BET, UV-visible, Potentiometric Titration...

- **Master Project**

The objective of this work was to study the properties of a Biopolymer “**Starch**” modified with acid chloride and its **adsorptive** behavior towards **Cationic Dyes**. The removal of these dyes from the aqueous solution was monitored by UV-Visible spectrophotometry. We studied the influence of experimental parameters such as pH, temperature, amount of modified starch and initial dye concentration on the absorption rate.

REFERENCE CONTACTS

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