CURRICULUM VITAE

Nabil Tabaja

A. PERSONAL INFORMATION

✉ Doctor in Physical-Chemistry

00.961.70.792.016

- 37 years old - Married
- Nationality: Lebanese

nabil-tabaja@hotmail.fr

B. UNIVERSITY COURSE

2012– 2015 - **PhD in Materials Chemistry**:
From **Pierre and Marie Curie University (Sorbonne University – Paris, France),** Doctoral School of Physics and Materials Chemistry (ED397), very honorable mention.

- **PhD in Nanosciences**:
From **Lebanese University,** Doctoral School of Sciences and Technologies (EDST), very honorable mention.

2010 - 2011 **Master II research in Chemistry,** from **Lebanese University,** Doctoral School of Science and Technology.

2009 - 2010 **Master I in Chemistry,** from **Lebanese University,** Faculty of Sciences, section I.

2006 -2009 **Bachelor's Degree in Chemistry,** from **Lebanese University,** Faculty of Sciences, section V.

2003 **Lebanese Baccalaureate** in Life Sciences (official certificate).

C. EXPERIENCE AND TECHNIQUE

Pedagogical Skills

Since 2022 **Al-Ayen University, Faculty of Health and Medical Technology**

Taught Courses in Clinical Chemistry Laboratory for 3rd year and General Chemistry for 1st year, at the department of Health and Medical Laboratory.

Since 2015 **Lebanese University, Faculty of Sciences**

Taught course in Physical-Chemistry for Master II, Physical Chemistry, Materials and Catalysis.

Since 2017 **University of Sciences and Arts of Lebanon (USAL)**

Taught courses in Organic Chemistry, General Chemistry, Industrial Process Instrumentations and Petroleum Data Management, for Oil and Gas Technologies and Techniques Senior Technicians.

2016-2018 **American University of Technology (AUT)**

Taught the following courses: Soil Science, Environmental Hydrology, Environmental Modeling (MATLAB), Environmental Impact Assessment, for water sciences and environmental assessment.

Since 2021 **University of Arts, Sciences and Technology of Lebanon (AUL), Faculty of**

Engineering

Taught courses in Dynamics, Calculus II, Industrial Control and Automation, Digital Control Systems, Control Systems, Microcontroller Systems, for Mechanical Engineering and Mechatronics Engineering

2016-2018 **Stars College High School**

Taught courses in Chemistry and Physics for the secondary level

Industrial Experiences

Since 2016 Provided supervision for PhD and Master II research projects in the field of nanomaterial synthesis and their application in various reactions (such as photocatalytic reactions for water treatment, synthesis of petroleum additives, etc.) at the Research Laboratory of Materials, Catalysis, Environment and Analytical Methods (MCEMA) in the Faculty of Science, Lebanese University.

2021-2022 Directed and managed the automation of production lines for toothpaste, mouthwash, face, and body creams, which included the design, material selection, and programming aspects of the process, while serving as Manager of Target Manufacturing Company.

2020-2021 Managed the development of production lines and the research and development of new formulas for detergents, shampoo, liquid soap, and beauty products at Sparky Industry, holding the positions of Production Manager and Research and Development Manager.

2017-2022 Headed the Industrial Control and Automation Laboratory at USAL University, providing leadership for senior technicians in oil and gas techniques and technologies.

Laboratory

- **Industrial:**

  Control loops based on programmable logic controllers (PLC), programming in LADDER diagram.

- **Physico-Chemical Techniques:**

  UV-Visible-NIR spectroscopy (study of optical properties), X-ray diffraction (XRD) (structural study), atomic absorption spectroscopy, ICP-MS and X-ray fluorescence (elementary study), scanning electron microscopy and electron microscopy transmission (SEM and TEM) (morphological study), Physisorption of nitrogen and argon (BET, study of surface and porosity), XPS.

- **Analytical techniques:**

  Gas chromatography coupled with mass spectroscopy (GC-MS), HPLC high performance liquid chromatography, and COT-TON measurement, NMR (liquid and solid).

D. LIST OF PUBLICATIONS

1. **Nabil Tabaja,**Ahmad Kassas, Soumaya Hamieh, Rana Haidar, Maria-Laura Foddis, Joumana Toufaily, T. Jean Daou, and Tayssir Hamieh, High quality bio-oil obtained from catalyzed pyrolysis of olive mill solid wastes in a bi-functional reactor, Journal of Materials Sciences and Applications (MSA), 12, 1, (2021) 52-77

2. **N.Tabaja**, D. Brouri , S. Casale, S. Zein , M. Jaafar, M. Selmane, J. Toufaily, A. Davidson, T. Hamieh, Use of SBA-15 silica grains for engineering mixtures of oxides CoFe and NiFe for Advanced Oxidation Reactions under visible and NIR, Applied Catalysis B: Environmental 253, (2019) 369-378.

3. **N.Tabaja,** S. Casale, D. Brouri, A. Davidson, H. Obeid, J. Toufaily, T. Hamieh, "Quantum-dots containing Fe/SBA-15 silica as "green" catalyst for the selective photocatalytic oxidation of alcohol (methanol, under visible light)", CR Chimie, 18, 3 (2015) 358-367.

4. Mouhamad Rachini, Mira Jaafar, **Nabil Tabaja,** Sami Tlais, Rasha Hamdan, Fatima Al Ali, Ola Haidar, Christine Lancelot, Mohammad Kassem, Eugene Bychkov, Lucette Tidahy, Renaud Cousin, Dorothée Dewaele, Tayssir Hamieh, Joumana Toufaily, Comparative study between supported bimetallic catalysts for nitrate remediation in water, Open Chemistry, 21, 1, (2023) 20220303

5. Mouhamad Rachini, Mira Jaafar, **Nabil Tabaja,** Sami Tlais, Rasha Hamdan, Fatima Al Ali, Ola Haidar, Ali Jaber, Mohammad Kassem, Eugene Bychkov, Lucette Tidahy, Renaud Cousin, Dorothée Dewaele, Tayssir Hamieh, Joumana Toufaily, Activity and Selectivity of Bimetallic Catalysts Based on SBA-15 for Nitrate Reduction in Water, Materials Sciences and Applications, 14, 2, (2023) 78-93

6. Tayssir Hamieh, Fatima Al-Ali, Ali Ali-Ahmad, Khaled Chawraba, Joumana Toufaily, Zahraa Youssef, **Nabil Tabaja,** Thibault Roques-Carmes, Jacques Lalevée, New methodology to determine the surface energy, specific interactions and acid-base properties of titanium dioxide by inverse gas chromatography, Int. J. Chem. Sci, 19, 3, (2021) 1-17

7. Ali Hayek, Samir Abbad Andaloussi, **Nabil Tabaja,** Joumana Toufaily, Evelyne Garnier-Zarli, Tayssir Hamieh, Multivariate Spatial and Temporal Analysis to Study the Variation of Physico-Chemical Parameters in Litani River, Lebanon, American Journal of Analytical Chemistry, 11, (2021) 373-391.

8. Ali Hayek, **Nabil Tabaja,** Samir Abbad Andaloussi, Joumana Toufaily, Evelyne Garnier-Zarli, Abbas El Toufaili, Tayssir Hamieh, Evaluation of the Physico-Chemical properties of the waters on the Litani River station Quaraoun, American Journal of Analytical Chemistry, 11, (2020) 90-103.

9. Ali Hayek, **Nabil Tabaja,** Zaher Khraibeni, Dana Radwan, Samir Abbad Andaloussi, Joumana Toufaily, Evelyne Garnier-Zarli, Tayssir Hamieh, Analysis of the extreme and records values for temperature and precipitation in Lebanon, Journal of Communication in Statistics: Case Studies, Data Analysis and Applications, Taylor and Francis Group, 6, 4, (2020) 411-428.

10. Ali Hayek, **Nabil Tabaja,** Zaher Khraibani, Samir Abbad Andaloussi, Joumana Toufaily, Mohamad Mrad, Evelyne Garnier-Zarli, Tayssir Hamieh, Modeling of runoff as a function of temperature and precipitation: Application to the Litani River in Lebanon, Water and Environmental Journal , 10, 9, (2019), WEJ-9574-19, 2019-01-24.

E.COMMUNICATIONS

1. **N.Tabaja,** S. Casale, D. Brouri, A. Davidson, H. Obeid, J. Toufaily, T. Hamieh, "Depollution of water with nanoparticles of iron oxides and ferrites", 31st Annual Meeting of the French group of zeolites (GFZ), Cap Hornu, St Valery Sur Somme, 25-27 March 2015.
2. **N.Tabaja,** S. Abramson, S. Casale, D. Brouri, A. Davidson, J. Toufaily, T. Hamieh, "Photocatalytic water depollution with iron oxides and ferrites quantum dots", Day of the doctoral school of physics and chemistry of materials (ED397 – UPMC), 2015.
3. **N.Tabaja,** S. Abramson, S. Casale, A. Davidson, J. Toufaily, T. Hamieh, "Nanoparticles of iron oxide and ferrites obtained by nano-replication, application in water pollution control", GECat congress, Domaine Saint-Jacques (Obernai-Bas Rhin-France), 26-29 May 2015.
4. **N.Tabaja,** S. Abramson, D. Brouri, A. Davidson, H. Obeid, M. El-Roz, J. Toufaily, T. Hamieh, "SBA-15 type porous silicas for dispersing iron, chemical reactivity and application in photocatalytic oxidation methanol", GECat conference, Cluny (Saone et Loire, France), May 12-15, 2014.
5. **N.Tabaja,** S. Abramson, D. Brouri, A. Davidson, H. Obeid, M. El-Roz, J. Toufaily, T. Hamieh, "Nanoparticles of iron oxide and ferrites obtained by nano-replication, application in depollution of waters", Day of the doctoral school Engineering of Processes and Advanced Technologies (ED390 – UPMC), 2013.
6. **N.Tabaja,** S. Abramson, D. Brouri, A. Davidson, H. Obeid, M. El-Roz, J. Toufaily, T. Hamieh, "Nanoparticles of iron oxide and ferrites obtained by nano-replication, chemical reactivity and application in water depollution", Day of the doctoral school in science and technology (Lebanese university), 2013
7. **N.Tabaja,** S. Casale, D. Brouri, A. Davidson, J. Toufaily, T. Hamieh, R. Cole, S. Sladkevich, "Visible light to activate catalysts based on Fe-species", Materials Research Express , submitted, ID: MRX2 -100514.

F. LANGUAGES AND PROGRAMMING

Arab	○ Native language
English	○ Excellent (oral, comprehension, written)
French	○ Excellent (oral, comprehension, written)
Programming, software, office automation	♦ **Programming:** LADDER programming for PLC controllers, Assembly for microcontrollers, C++ language, and database. ♦ **Physico-Chemical Properties Analysis Software**:

EVA and FullProf for the XRD study, "dmfit" for the NMR, Scan and Deconvolution Gravs for the UV-Visible-NIR spectroscopy.

- **Microsoft Office:**
  Word, Excel, PowerPoint, Access, Outlook, Publisher, Origin, SPSS

G.REFERENCES

1. **Anne Davidson,**HDR from Sorbonne University, Surface Reactivity Laboratory.

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   Telephone: +33 6 66 71 93 22 and +33 1 44 27 42 96.

2. **Joumana Toufaily,**Professor at the Lebanese University, Faculty of Sciences, Laboratory of Materials, Catalysis, Environment, and Analytical Methods.

   💻 joumana.toufaily@ul.edu.lb

   Telephone: +961 70 72 15 10.

3. **Tayssir Hamieh,**Professor at the Lebanese University, Faculty of Sciences, Laboratory of Materials, Catalysis, Environment, and Analytical Methods.

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