

Name Dr. Jalal Isaad
Title PhD in Chemical Sciences from Florence University - Italy
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Date of Birth October 27, 1979
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Jalal ISAAD is born in Mohammedia - Morocco on October 27th, 1979. 1998 he graduated and received her Baccalaureates (general qualification for university entrance). In the same year he took up chemistry studies at the Faculty of Sciences and techniques – Mohammedia - Morocco. In 2004, Jalal Isaad joined the group of Prof Denis Sinou for her Diploma thesis at Lyon 1 university - France. After graduation as “Diplôme d'études approfondies” in fine organic chemistry (Master of Science), in September 2005, he joined the group of Prof Roberto Bianchini as young researcher and a PhD student at Florence University - Italy. Her work was focused on the synthesis and study of naturalized and multipurpose dyes for textile industry. The new dyes are able to dye different fabrics (naturals and synthetics) in the same dyeing bath without the use of the chemical additives, to reduce the environmental impact of the dyeing process. In 2009, he is associate research professor of chemistry at École nationale supérieure des arts et industries textile (ENSAIT) - France. His research interests revolve around the chemistry of water and chemosensing of anions and heavy metals with applications in the domain of polymers / materials chemistry for wastewater treatments. Since octobre 2011, Dr isaad is Researcher at *GENIE et Matériaux* TEXTiles (GEMTEX). Jalal isaad editorial board member of some international journals of chemistry and has more than 25 publications in international refereed conferences and journals.

EDUCATION AND QUALIFICATIONS

01/2010	<p>Qualified to the functions of Senior Lecturer at the French Universities.</p> <ul style="list-style-type: none"> ◆ Section 32 (organic chemistry, mineral and industrial). Qualification Number 10232205924. ◆ Section 33 (material chemistry). Qualification Number 10233205924.
2006/2009	<p>PhD in Chemical Sciences (Dottorato di Ricerca in Scienze Chimiche). Florence University. ITALY</p> <ul style="list-style-type: none"> ◆ Title: «Naturalized, Multipurpose Dyes » ◆ Supervisor: Prof Roberto BIANCHINI ◆ Date of defence: February 24, 2009 at Florence University. <p><u>Jury:</u></p> <ul style="list-style-type: none"> ✓ Prof. Luca Banfi –Genoa University ✓ Prof. Giorgio Catelani – Pisa University ✓ Prof. Guiseppe Bartoli – Bologna University
2003/2004	<p>Master of Science in Fine Organic Chemistry (Diplôme d'Etudes Approfondies) from Claude Bernard Lyon 1 University – Villeurbanne. France, under the supervision of the prof. Denis Sinou, Director of the Laboratory of Asymmetric Synthesis.</p> <ul style="list-style-type: none"> ◆ Thesis title: «The study of 1-4 addition reaction catalyzed by a rhodium complex in micellar medium» ◆ Date of defence: July 2004.
2001/2003	<p>University degree awarded after four-year course of study in Analysis Technical's and Quality Control (Maîtrise és Sciences et Techniques), with distinction, from Sciences and Technology Faculty of Mohammédia. MOROCCO.</p>
1999/2001	<p>University degree awarded after two-year course of study in Life and earth Sciences (Diplôme d'Etudes Universitaires Générales), with distinction, from Sciences and Technology Faculty of Mohammédia. MOROCCO.</p>

SKILLS

- **Separation techniques** and **physico-chemical** and **thermal analysis**
- **Polymers / Organic Chemistry** / Chemical of **dyes - Pigments / Glyco-chemistry**
- **water Analytical chemistry**
- **Textiles / Technical Materials, Fibrous materials Functionalization.**

ACADEMIC AND RESEARCH POSITIONS

Since 10/2011	Researcher (DEPOLTEX projet) at <i>GEIE et Matériaux</i> TEXTiles laboratory (GEMTEX), Roubaix - France. Funding 3.3 M euros.
09/2009 – 08/2011	Associate research professor of Chemistry at École Nationale Supérieure des Arts et Industries Textiles – Roubaix. FRANCE.
03/2009 – 06/2009	Postdoctoral Research Fellow at Florence University - Italy, under the supervision of the prof. Roberto Bianchini. Funded by ITALVELLUTI spa (Italian industry). 18 K euros/ year.
01/2006 – 02/2009	PhD student. Florence University - Italy, under the supervision of the prof. Roberto Bianchini. Funded by ITALVELLUTI spa. 15 K euros/ year.
09/2003 – 07/2004	Research Assistant. Claude Bernard Lyon 1 University – Villeurbanne. FRANCE, under the supervision of the professor Denis Sinou.
04/2003 – 05/2003	Application Engineer Assistant. GOURVENEC Spa Company – Mohammedia. MOROCCO

RESEARCH INTERESTS

- Current research interests focus upon design and synthesis of inorganic and organic photoactive supramolecular systems based anion receptors and sensing applications with different polluting agents through the ¹H-NMR, UV-Visible and Fluorescence spectrophotometric titrations. Systems under investigation include: nanoparticles, heavy metals, anions (cyanide, fluoride) and organic solvents
- Development of functionalized textile materials to remove heavy metals from water (DEPOLTEX project).
- Design, synthesis, structural characterization and dyeing capacities study of new eco-friendly green synthetic dyes / pigments based on biosourced molecules (ACVTEX project).

RESEARCH PROJECTS

- Participation as researcher in DEPOLTEX project (collaborative project, funding 3.3 M euro)
- Participation in ACVTEX projects as PhD co-supervisor (project which is financed by European union, Interreg and FEDER, Conseil Régional du Nord – Pas-de- Calais, ADEME, DIRECCTE and Région Wallone).

INTERNATIONAL SCIENTIFIC COLLABORATIONS

to have an internationally renowned, I developed the following scientific collaborations:

◆ **Professor Fouad Malek.**

Faculty of Science - University Mohamed First, Department of Chemistry, Macromolecular and Natural Products - URAC 25. Bd Mohamed VI, BP: 717 - 60 000 Oujda – Morocco

◆ **Dr. Abdelkhalek Riahi.**

University of Reims Champagne-Ardenne, Institute of Molecular Chemistry, Reims (ICMR) - Group Methodology in Organic Synthesis, CNRS UMR 6229, Bât. Europol'Agro - Moulin de la Housse - BP 1039 - 51687 Reims cedex 2- France.

LANGUAGE COMPETENCY

- ◆ **Arabic:** Native,
- ◆ **French:** Fluent
- ◆ **English:** Fluent,
- ◆ **Italian:** Fluent

TEACHING ACTIVITIES (academic years 2009/2011)

As an Associate research professor of Chemistry at École Nationale Supérieure des Arts et Industries Textiles – ENSAIT Roubaix. FRANCE. (ENSAIT is Graduate School of Engineering, the duration of studies is 3 years), I assume the following teaching activities:

	1 st year	2 nd year	3 rd year	bachelor	Master's
Physical Chemistry	54 H – PW		-	-	-
Water chemistry	15 H – L 24 H – PW	16 H – L 6 H – PW	-	-	-
Polymères	162 H – PW	-	-	-	-
Physicochemical analysis of textile fibers	48 H – PW 12 H – L	-	-	4 H – L 8 H – PW	4H – L 8 H – PW
Colloid and surface property	-	-	60 H – PW	-	-

PW: Pratical works, **L:** Lectures

SUPERVISION/ CO-SUPERVISION OF RESEARCH PROJECTS

- Co-supervision with A. Peruwelz (Professor of the Universities at ENSAIT - Roubaix) and Dr. Usha Massika Behary (Lecturer at ENSAIT - Roubaix) of **Vanessa Pasquet**, since October 2010.
Thesis title: Study of the textile treating methods with low environmental impact.
- Co-supervision with Dr. Phillipe Vromon (Lecturer at ENSAIT Roubaix) of **Lei Xu** and **Fatima Boui**. Students in 2nd year engineering cycle of ENSAIT. (February-May 2010).
Project: Study and realisation of fiber "island-in-the-sea" bi-components for the aerosols filtration.
- Supervision of **Françoise Charlotte**. Student in 2nd year engineering cycle of ENSAIT (July-October 2010).
Project: Preparation and commissioning of an atomic absorption spectrometer.
- Supervision of **Somya Bhatnagar**. Student in 2nd year engineering cycle of ENSAIT (February-May 2011).
Project: Development of a functionalized material based on polyester for water treatment.
- Co-supervision of **Sabella otero-Camano**. Student in 2nd year engineering cycle of ENSAIT (February-May 2011).
Project: Improvement by chemical treatment of the vegetable fibers properties for the development of green composites.
- Project Supervisor of **Agathe Lefebvre, Charlotte Fosse, Irene Harle, Tessnim Sghaier**. Students in 1st year engineering cycle of ENSAIT (February-May 2011).
Project: Development of photo - luminescent material.
- Project Supervisor of **Hajar Jabrazko, Alexander Bucher, Bridon Bertrand, Maxime Bernamont, Quentin André**. Students in 1st year engineering cycle of ENSAIT (February-May 2011).
Project: Synthesis and encapsulation of a cyanides chemodosimeter and functionalization of a fibrous material by the formed microcapsules.

INTERNATIONAL SCIENTIFIC RESPONSABILITIES

- ♦ Nominated as Editorial board member for the following journals:
 - ✓ International journal of chemistry - since November 2010.
 - ✓ International journal of organic chemistry - since February 2011
 - ✓ Journal of Chemical Science and Technology – since February 2012.
- ♦ Nominated as reviewer for the following journals:
 - ✓ Chemical Communications, international journal of chemistry, international journal of organic chemistry, Tetrahedron Letters, International Journal of Environmental Analytical Chemistry, Fibbers and polymers. Dyes and Pigments, Talana, The Analyst, Journal of Chemical Science and Technology.

COLLECTIVES RESPONSABILITIES

- ♦ Vice-president of the friendly staff of the École Nationale Supérieure des Arts et Industries Textiles at Roubaix

PATENTS

1. "Disperse dyes water soluble in water"

Roberto Bianchini*, Giorgio Catelani*, Felicia D'Andrea, Jalal Isaad Massimo Rolla, Tiziano Nocentini, Filippo Bonacorsi.
European Patent Application, **2009**. EP08425016.6 – 2103.

SCIENTIFIC PUBLICATIONS

2. "Lactose to naturalize a textile dyes"

Roberto Bianchini, Giorgio Catelani, Elena Frino, Jalal Isaad, Massimo Rolla.
BioResources. **2007**, 2(4), 630-637

3. "Ethereal glycoconjugated azadyes (GADs), a new group of water soluble naturalised dyes"

Roberto Bianchini, Giorgio Catelani, Riccardo Cecconi, Felicia D'Andrea, Lorenzo Guazzelli, Jalal Isaad, Massimo Rolla.
European Journal of Organic Chemistry. **2008**, (3), 444-454.

4. "Naturalization of textile disperse dyes through glycoconjugation: the case of a diolic azadye"

Roberto Bianchini, Giorgio Catelani, Riccardo Cecconi, Felicia D'Andrea, Elena Frino, Jalal Isaad, Massimo Rolla.
Carbohydrate Research. **2008**, 343(12), 2067-2074.

5. "Synthesis of water soluble Large Naturalised Dyes through double glycoconjugation"

Jalal Isaad, Massimo Rolla, Roberto Bianchini.
European Journal of Organic Chemistry. **2009**. 2748–2764

6. "New color chemosensors for cyanide based on water soluble azo dyes"

Jalal Isaad, Anne Perwuelz.

Tetrahedron Letters. **2010**. 51 (44), 5810-5814.

7. "Simple route to a novel class of pyrazolidine-3,5-dione based azo dyes"

Jalal Isaad, Anne Perwuelz.

Tetrahedron Letters. **2010**. 51 (40), 5328-5332.

8. "Functionalized Poly (vinyl alcohol) polymers as Chemodosimeter material for the colorimetric sensing of cyanide in pure water"

Jalal Isaad, Fabien salaun.

Sensors and Actualitors B. **2011**. 157 (1), 26-33.

9. "A novel glycoconjugated N-acetylamino aldehyde hydrazone azo dye as colorimetric chromogenic probes for cyanide detection in water"

Jalal Isaad, Ahmida El achari

Analytica chimica acta. **2011**. 694 (1-2), 120-127.

10. "A novel cyanide chemodosimeter based on on trifluoroacetamide benzhydrol -2 as binding motif: Importance of substituent positioning on intra -molecular charge transfer"

Jalal Isaad, Ahmida El Achari

Tetrahedron. **2011**. 67 (23), 4196-4201

11. "Colorimetric sensing of cyanide anions in aqueous media based on functional surface modification of natural cellulose material"

Jalal Isaad, Ahmida El Achari

Tetrahedron. **2011**. 67 (26), 4939-4947.

12. "Biosourced 3-Formyl Chromenyl -Azo Dye as Michael Acceptor Type of Chemodosimeter for Cyanide in Aquous Environment"

Jalal Isaad, Ahmida El achari

Tetrahedron. **2011**. 67 (31), 5678-5685.

13. "A Facile Route to the New Triazene Dyes Based on Substitued Pyrazolidin - 3, 5 dione Derivatives"

Jalal Isaad, Fouad Malek, and Ahmida El Achari

Dyes and pigments. **2012**. 92 (3), 1212-1222

14. "Efficient double glycoconjugation to naturalize high molecular weight disperse dyes"

Roberto Bianchini, Massimo Rolla, Jalal Isaad, Giorgio Catelani, Lorenzo Guazzelli, Massimo Corsi, Marco Bonanni

Carbohydrate Research. **2012**. In Press. doi.org/10.1016/j.carres.2011.10.036

15. "New generation of functionalized bipyrazolic tripods: synthesis and study of their coordination properties towards metal cations"

Tarik Harit, Mounir Cherfi, Jalal Isaad, Abdelkhalek Riahi and Fouad Malek

Tetrahedron. **2012**, 68, 4037-4041

16. "Excellent dye fixation on synthetic Fabrics dyed in water using azoic dyes based on boronic acid derivatives"

Vanessa Pasquet, Nemeshwaree Behary, Anne Perwuelz and Jalal Isaad

Fibers and Polymers. **2012**. Submitted (revise).

17. Vanillin, a potential carrier for low temperature dyeing of polyester fabrics

Vanessa Pasquet, Nemeshwaree Behary, Anne Perwuelz and Jalal Isaad*

Journal of Cleaner Production. **2012**. Submitted

ORAL COMMUNICATIONS

• **Naturalization of Textile Aza dyes through Glycoconjugation"**

Bianchini Roberto, Catelani Giorgio, Isaad Jalal, D'Andrea Felicia, Guazzelli Lorenzo, Rolla Massimo. "XIV European Carbohydrate Symposium, Lubeck (Germany). September, 2-7. **2007**. Book Abstract - OP91.

- **"Naturalized dyes for textile industry"**

Bianchini Roberto, Catelani Giorgio, Isaad Jalal, D'Andrea Felicia, Guazzelli Lorenzo, Rolla Massimo. Interuniversity consortium 'chemistry for the environment' IX annual congress. Pise (Italy), Match, 1-2. **2007**. Book Abstract - p-O.6.

- **Bionaturalization of dyes with Lactose using tartaric acid as bridge**

Massimo Rolla, Jalal Isaad, Nicolas Alexandris, Roberto Bianchini. XI-Convegno Scuola Sulla Chimica dei Carboidrati. Siene (Italy). June, 22-26. **2008**. Book Abstract - p. CO-7.

POSTER COMMUNICATIONS

- **"Lactose To Naturalize Textile Dyes"**

Jalal Isaad, Roberto. Bianchini, Giorgio. Catelani*, Elena. Frino, Massimo. Rolla. *Italic 4: Science & Technology of Biomasses: Advances and Challenges*. Roma (Italy). Match 08-10. **2007**. Book Abstract - p. 223-227.

- **"Naturalized pyrazolin-5-one dyes"**

Jalal Isaad, Massimo Rolla, Roberto Bianchini. XI-Convegno Scuola sulla Chimica dei Carboidrati. Siene (Italie). June, 22-26. **2008**. Book Abstract - CP-47.

- **"Hydrosolubility and multipurposity of textile dyes through glycoconjugation – New dyes pyrazolinone based"**

Jalal Isaad, Massimo Rolla, Roberto Bianchini. 2nd EuCheMS Chemistry Congress. Turin (Italy), 16-20 Septembre **2008**. DVD of abstracts: Greening Chemistry section, abstract number 82.

- **"Overview of ecodesign in textile dyeing & finishing industry"**

Vanessa Pasquet, Anne Perwuelz, Usha Massika Behary, Jalal Isaad. 3ème journée des doctorants du domaine "Mécanique, Génie Civil, Matériaux, Énergétique" de l'école doctorale Science pour l'ingénieur du PRES Lille Nord de France, june 23, **2010**

- **"Environmental comparison of the polyester dyeing processes**

Vanessa Pasquet, Usha Massika Behary, Anne Perwuelz, Jalal Isaad. XIIIème Congrès bisannuel de la Société Française de Génie des Procédés. 29 /11 – 01/12. **2011**