



Abdelaziz El Jazouli

Professor of Chemistry and Materials Science.

<https://orcid.org/0000-0002-1242-8595>

<https://scholar.google.com/citations?user=0nr9YOYAAAAJ&hl=fr>

E-mail: eljazouli_abdelaziz@yahoo.fr

Phone: +212 616848890.

Home address : 20, Lotissement Ibn Al Haitam, Bouskoura, Casablanca, Morocco.

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1. Short biography

Abdelaziz El Jazouli is a Professor of Chemistry and Materials Science. He began his career at Mohamed V University, Faculty of Sciences, in Rabat (Morocco) as an Assistant, in 1980. After obtaining of his first Thesis (3rd Cycle Doctorate, Solid State Chemistry, 1981), he was promoted to Assistant Professor (Maître Assistant) position. In 1983, he moved to University of Bordeaux (France) where he obtained his PhD in Materials Sciences (Doctorat d'Etat Es Sciences, Materials Sciences, 1986). He joined Faculty of Sciences Ben M'Sik, University Hassan II, Mohammedia/Casablanca (Morocco), in 1986 and was appointed as Professor (Maître de Conférences), then Full Professor (Professeur de l'Enseignement Supérieur - PES) in 1990.

Abdelaziz's research focuses on the synthesis, structural characterization and properties of inorganic materials, in particular phosphate-based materials, in both crystalline and vitreous forms. He uses numerous techniques, including X-ray and neutron diffraction methods, DSC, DTA, TGA, Dilatometry, Raman, FTIR, UV-visible, EPR, NMR, and Mössbauer to characterize materials and improve the understanding of structure-property relationships, particularly in the areas of ionic conductivity, electrochemistry, optics, magnetism, pigments and biomaterials. He supervised 21 PhD students and 37 Master students. He published around 90 papers and contributed more than 200 communications/lectures. He is the Associate Editor of Mediterranean Journal of Chemistry for "Inorganic Chemistry - Materials Science" section.

Abdelaziz was the founding Director of "Laboratoire de Chimie des Matériaux Solides" (1987-2014), Head of Chemistry Department (1993-1994), the founding Director of the "Research and Education Unit "Science des Matériaux Solides" (1997-2007), and the founding Director of the Research Unit "Environnement, Ressources Naturelles et Matériaux : ERNAM", associated to CNRST (URAC17, 2010-2011). He was a Professor of Chemistry at ISFORT (Institut Supérieur

de Formation en Technologie Agroalimentaire, Casablanca, 1998 - 2000) and at UM6SS (Université Mohamed VI des Sciences de la Santé, Biomedical Engineering School, Casablanca, 2015-2017), Associate Professor at University of Bordeaux, France (1992; 2014), CNRS Fellow at ICMCB (Institut de Chimie de la Matière Condensée de Bordeaux, 2008), Visiting Professor at UCLA (University of California Los Angeles, USA, 2008), and Fulbright Fellow at Wake Forest University, North Carolina, USA (2015).

Abdelaziz is the co-founder and active member of several scientific societies and networks: REMCES (Moroccan Meetings on Solid State Chemistry), REMAT (Moroccan Materials Network), AMC (Moroccan Association of Crystallography), African-MRS (African Materials Research Society), RECHERPHOS (Réseau des Chercheurs sur les Phosphates : Phosphate Researchers Network), MEHERE initiative (Materials for Energy Health and Environment: Research and Education), and MAMS (Moroccan Association of Materials Science). He organized several international meetings in the field of Solid State Chemistry, Crystallography, Materials Science, Glasses, and Phosphates. He gave numerous talks at international meetings and at several universities in Africa, Europe, Middle East and USA.

Abdelaziz taught many courses at Bachelor, Master and Doctoral levels: 1) General Chemistry, 2) Mineral Chemistry, 3) Inorganic Chemistry, 4) Solid State Chemistry, 5) Physical Chemistry, 6) Electronic Transitions in Solids, 7) Inorganic Phosphates Chemistry, 8) Glasses and their Applications, 9) Pigments, 10) Electronic Paramagnetic Resonance Spectroscopy, 11) Optical Properties, 12) Magnetic Properties, 13) Electrical Properties, 14) Introduction to Nano-Materials, and 15) Introduction to Bio-Glasses.

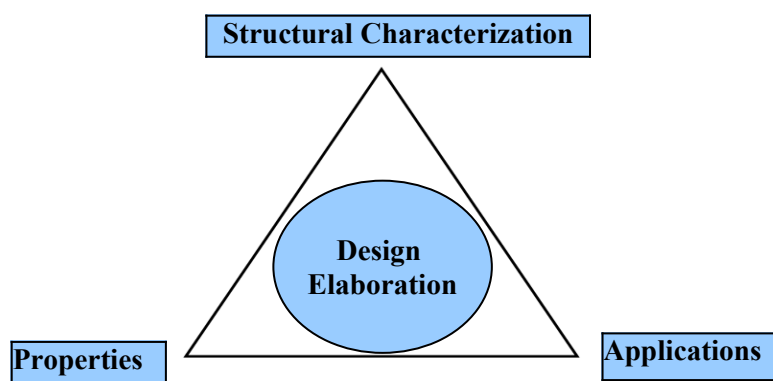
Abdelaziz speaks Arabic (Fluent), French (Fluent) and English (Advanced).

2. Research themes

- Crystallochemistry.
- Glasses.
- Bioglasses.
- Pigments.
- Luminescence - Magnetism - Ionic Conductivity.
- Relationship's study: Composition - Structure - Properties.

Keywords:

- Phosphates - Arsenates - Sulfates - Vanadates - Nasicon - Electrode Materials - Intercalation.
- Alkali Metals - Alkaline Earth Metals – d/f Transition Elements.
- Solid State Chemistry.
- Inorganic Materials.
- Materials Science.
- Crystallography.
- DSC/DTA/TGA - Dilatometry - Raman - FTIR - UV-visible - EPR - NMR - Mössbauer.



3. Education and diploma

- **Doctorat d'Etat Es Sciences (PhD)**, Materials Sciences. Laboratoire de Chimie du Solide, LCS-CNRS (former name of ICMCB-CNRS), University of Bordeaux, France, 27 October 1986.

Subject: Elaboration and properties of new phosphates materials: **i)** Glasses of $M_2O - Nb_2O_5 - P_2O_5$ ($M = Li, Na$) systems. **ii)** Copper phosphates with Nasicon structure.

Supervisor: Gilles Le Flem, «Directeur de Recherche au CNRS»

Thesis defended in front of the examination board formed of Professors/Doctors: Paul Hagenmuller (President), Jean Michel Dance, Claude Delmas, Abdellah El Maslout, Jean Etourneau, Claude Parent, Michel Tournoux, Gilles Le Flem.

Abstract:

i) The conditions of glass formation and the vitreous domain limits of $\text{Li}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ and $\text{Na}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ systems were determined. Raman, optic and EPR spectroscopies and the methods using Nd^{3+} and Eu^{3+} as local structural probes showed that niobium occupy octahedral sites in these materials.

ii) During the perspective of development of new catalysts for oxidative dehydrogenation reaction, new copper phosphates with Nasicon-type structure have been characterized. The interest of these phosphates results in the conservation of their three-dimensional skeleton during the $\text{Cu}^{2+} + \text{e}^- \rightleftharpoons \text{Cu}^+$ oxydo-reduction process.

Keywords:

Phospho-niobate glasses, Nasicon, copper phosphates, ionic conductivity, local structural probes, crystallochemistry, magnetic properties, intercalation.

- **Diplôme d'Etudes Supérieures de 3^{ème} cycle (DES)** - 3rd Cycle Thesis, Solid State Chemistry. Faculty of Sciences, Mohamed V University, Rabat, Morocco, 7 December 1981.

Subject: Elaboration and, electrical and optical properties of phosphate glasses of $\text{M}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ ($\text{M} = \text{Li}, \text{Na}$) systems.

Supervisor: Professor Robert Brochu

Thesis defended in front of the examination board formed of Professors: Abdelhamid Daoudi (President), Paul Hagenmuller, Robert Brochu, Abdellah El Maslout, Brahim Elouadi, Abdelmjid Kadiri, Gilles Le Flem.

Abstract:

The vitreous domain limits of $\text{Li}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ and $\text{Na}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ systems have been determined respectively at 1350 °C and 1100 °C. Ionic conductivity measurements showed that lithium glasses are more efficient. The conductivity increases and the activation energy decreases with increasing rate of lithium and niobium, to achieve the following values: $\sigma = 10^{-2} \Omega^{-1} \text{cm}^{-1}$ at 300 °C; $E_a = 0.45 \text{ eV}$. These variations are in agreement with the increase of the number of charge carriers (Li^+) and their facility of displacement when PO_4 groups are replaced by larger NbO_6 groups, as shown by Raman spectroscopy. The optical characteristics of $0.50\text{Na}_2\text{O-0.125Nb}_2\text{O}_5\text{-0.375P}_2\text{O}_5$ glass composition, doped with neodymium, were obtained by applying the Judd-Ofelt theory. It has, in particular, a large cross section ($\sigma_p = 3.26 \cdot 10^{-20} \text{ cm}^2$) and a Ω_4/Ω_6 ratio = 0.78, lower than that usually observed in glassy materials, which is a favorable factor in achieving high power lasers. The study of the $^4\text{F}_{3/2} \rightleftharpoons ^4\text{I}_{11/2}$ emission, versus Nd^{3+} ions concentration, shows that the self-quenching is due mainly to the cross-relaxation phenomenon.

- **Certificat d'Etudes Approfondies (CEA); Master in Solid State Chemistry.** Mohamed V University, Faculty of Sciences, Rabat, Morocco, June 1979.

Subject: i) Synthesis attempts of Nasicon-type phospho-vanadates. ii) Glasses in the $\text{Na}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ system.

Abstract:

i) In this work, we tried first to substitute, in $\text{NaZr}_2(\text{PO}_4)_3$ and $\text{Na}_3\text{Cr}_2(\text{PO}_4)_3$ Nasicon-type phosphates, VO_4 groups for PO_4 groups. The synthesis was done by solid state reaction. X-ray diffraction analysis of different compositions of " $\text{NaZr}_2(\text{PO}_4)_{3-x}(\text{VO}_4)_x$ " and " $\text{Na}_3\text{Cr}_2(\text{PO}_4)_{3-x}(\text{VO}_4)_x$ " systems shows the presence of mixture of phases.

ii) We then tried the synthesis of new phosphates. Obtaining a glass for " $\text{Na}_4\text{Nb}(\text{PO}_4)_3$ " composition led us to extend our study to other vitreous compositions of the $\text{Na}_2\text{O-Nb}_2\text{O}_5\text{-P}_2\text{O}_5$ ternary system, and start their ionic conductivity measurements. We thus determined the vitreous domain. Glasses exist within the following limits: $0 \leq \text{mol\% Na}_2\text{O} < 60$; $0 \leq \text{mol\% Nb}_2\text{O}_5 \leq 25$; $0 \leq \text{mol\% P}_2\text{O}_5 \leq 95$. The values of the ionic conductivity at 300 °C and the activation energy, for vitreous " $\text{Na}_4\text{Nb}(\text{PO}_4)_3$ ", are respectively $\sigma_{300^\circ\text{C}} = 10^{-3} \Omega^{-1} \text{cm}^{-1}$ and $E_a = 14 \text{ Kcal/mole}$. These values are comparable to those reported for the glasses of $\text{Li}_2\text{Si}_2\text{O}_5\text{-Li}_2\text{SO}_4$ system. We introduced rare earth ions (Nd^{3+} , Eu^{3+}) in vitreous " $\text{Na}_4\text{Nb}(\text{PO}_4)_3$ ", by doping with Nd_2O_3 and Eu_2O_3 oxides, in order to study the optical properties of the obtained glasses.

- **Bachelor of Sciences; Chemistry.** Mohamed V University, Faculty of Sciences, Rabat, Morocco, June 1978.

- **Diplôme d'Etudes Universitaires Générales (DEUG) in Physics and Chemistry,** Mohamed V University, Faculty of Sciences, Rabat, Morocco, June 1976.

- **Baccalaureate - Mathematical Sciences,** Lycée Ibn Sina, Béni Mellal, Morocco, 1974.

- **Secondary Education:** Lycées Ibn Sina / Hassan II, Béni Mellal, Morocco (1967-1974).

- **Primary Education:** Assemsil School, Ait Attab, Azilal (1962-1966) and Bab Ftouh School, Béni-Mellal (1966-1967), Morocco.

4. Career

2015 - 2024: Volunteer Professor at Hassan II University of Casablanca, working with PhD students to achieve their theses.
 2015 - 2017: Professor of Chemistry at Mohammed VI University of Health Sciences (UM6SS), Casablanca.
 1990 - 2014: Full Professor at Faculty of Sciences Ben M'Sik, Hassan II University of Casablanca.
 1998 - 2000: Professor of Chemistry at Institut Supérieur de Formation en Technologie Agroalimentaire (TSFORT), Casablanca.
 1992 and 2014: Associate Professor at University of Bordeaux, France.
 1986 - 1990: Maître de Conférences (Professor) at Faculty of Sciences Ben M'Sik, Hassan II University, Casablanca.
 1983 - 1986: Detachment to prepare PhD "Doctorat d'Etat" at University of Bordeaux, France.
 1981 - 1986: Maître-Assistant (Assistant Professor) at Faculty of Sciences, Mohammed V University, Rabat, Morocco.
 1980 - 1981: Assistant at Faculty of Sciences, Mohammed V University, Rabat, Morocco.
 1978 - 1979: Lab Instructor, at Faculty of Sciences, Mohammed V University, Rabat, Morocco.

Some achievements:

Teaching:

Course Title	Keywords / Chapters
General Chemistry / Mineral Chemistry	Atomistic – Thermochemistry – Acid-Base Reactions – Oxidation-Reduction Reactions – Kinetic - Notions of Crystallography – Chemical Bonds (Ionic, Covalent, Metallic) - Chemistry of s and p elements.
Inorganic Chemistry / Solid State Chemistry	Synthesis methods – Characterization Methods – Crystallography – X Ray Diffraction – Crystal structures – Solid Solutions – Phase Diagrams - 3d Transition Element Complexes – Electronic Transitions - Magnetic Properties – Electrical Properties - 4f Elements – Optical Properties.
Glasses and their Applications	Definition – Glass Transition Phenomenon – Elaboration Methods - Characterization Methods – Classification – Properties (Optical – Electrical – Mechanical - Chemical Durability) - Phosphate Glasses – Applications.
Inorganic Phosphates Chemistry	Synthesis Methods – Structures – Properties and Applications.
Pigments	Color Concepts – Absorption Properties of Transition Ions – Pigments and Dyes – Inorganic Pigments – Phosphate Pigments.
Electronic Paramagnetic Resonance Spectroscopy - EPR	Principle of EPR – EPR Parameters – Nuclear Spin-Electronic Spin Interactions – Spin-Orbit Coupling – EPR spectra.

Research:

- Supervisor of 21 PhD students (2 in progress), 37 Master students and 15 B.S. students.
- 94 scientific papers in the field of structure and properties of inorganic materials in both crystalline and vitreous forms.
- 193 communications at national and international conferences.
- 30 invited talks.
- Organization of 34 scientific meetings and more than 40 seminars.
- Edition of 11 scientific books/journals/Proceedings.
- 18 grants and awards.

Training courses

- Laboratory Design, Security and Management. Brookhaven National Laboratory, Upton, New York, May 2017.
- Coatching: Writing Papers and Proposals. Casablanca, March 2014.
- Rietveld Method and Use of FullProf Suite. Grenoble, February 2008.
- New Technologies for Education. Marsa, Tunisia, November 1999.
- Glassboaling. Casablanca, May 1999.

5. Visiting professorship

2015 : Fulbright Follow, Wake Forest University, North Carolina, USA. Invited by Prof Abdessadek Lachgar.
 2013 : Wake Forest University, North Carolina, USA. Invited by Prof Abdessadek Lachgar (WFU Awards).
 2012 : ICMCB-CNRS, University of Bordeaux, Invited by Dr Mathias Velazquez (Research group : Crystal Growth).
 2012 : University of Oviedo, Spain. Invited by Prof Santiago-Garcia Granda.

2012 : ICMCB – CNRS, University of Bordeaux, France. Invited by Dr Alain Demourgues (Research group: Chemistry for Nanomaterials).

2011 : KAUST- King Abdullah University for Science and Technology, Thuwal, Saudi Arabia. Invited by Prof Mohamed Eddaoudi.

2008: UCLA - University of California Los Angeles, Invited by Prof Omar Yaghi.

2008 : Institut de Chimie de la Matière Condensée de Bordeaux (ICMCB-CNRS), University of Bordeaux. Invited by Dr Claude Delmas and Dr Jean Pierre Chaminade.

2002 : University of Pretoria, Invited by Prof Danita de Waal.

1998: University of Pretoria, Invited by Prof Danita de Waal.

1994 : Laboratoire de Chimie du Solide (LCS-CNRS), University of Bordeaux. Invited by Dr Claude Delmas.

1992: Laboratoire de Chimie du Solide (LCS-CNRS), University of Bordeaux. Invited by Prof Jean Etourneau and Dr Gilles Le Flem.

1989 : Laboratoire de Chimie du Solide (LCS-CNRS), University of Bordeaux. Invited by Dr Gilles Le Flem.

6. Responsibilities and other scientific activities

- Founding Director of “Laboratoire de Chimie des Matériaux Solides - LCMS” (1987-2014)
- Co-founder and Executive Board member of the African Material Research Society: 2002 - .
- Member of the American Material Research Society (MRS): 2002 - .
- Co-founder and Directing Committee member of RECHERPHOS (Réseau des Chercheurs sur les Phosphates) : 2002 - 2010.
- Co-founder and organizing committee member of COVAPHOS “Conferences sur la Valorisation des Phosphates”: 2002-2010.
- Member of the European Crystallographic Association - ECA: 2000 - .
- Co-founder and Executive Committee member of the Moroccan Crystallographic Association: 2000-2010.
- Founding member and co-responsible of Master “Physics and Chemistry of Materials and Nanomaterials”: 2010-2013.
- Founding member of the Moroccan Material Network – REMAT: 2000-2012.
- Founding member of the Moroccan Association of Materials Science – MAMS: 2018 - .
- Founding Director of “Unité de Recherche Associée au CNRST”-URAC17: 2010-2011.
- Member of the Advisory Committee of “Rencontres Marocaines sur la Chimie de l'Etat Solide - REMCES: 1986-2012.
- Founder and Responsible of “Certificat d'Etudes Approfondies de Chimie Appliquée” (Master of Applied Chemistry): 1993 - 1994.
- President of Examination Board, Bachelor of Science (Chemistry), Faculty of Sciences Ben M'Sik: 1988-2007.
- Member of the Advice Committee of the Faculty of Sciences Ben M'Sik: 1990-2003
- Member of the Directing Committee of the Chemistry Department: 1988, 1991, 1995, 1996, 2007.
- Head of Chemistry Department: 1993 - 1994.
- Associate Editor of Mediterranean Journal of Chemistry (Inorganic Chemistry - Materials Science Section) : 2017 - .
- Referee for several journals (Journal of Solid State Chemistry, Journal of Non-Crystalline Solids,...)
- Expert evaluator (CNRST, UM6P,...)

7. Direction of student research projects.

7-1. Doctorate – PhD.

21. Etude structurale et thermochimique de phosphates vitreux ou cristallisés.

Abdeltif Kaoutar. Thèse de Doctorat (In progress), Faculté des Sciences Ain Chock-Casablanca.

20. Elaboration et caractérisation de nouveaux phosphates d'éléments de transition 3d et 4f pour des applications optiques.

Ahmed Nazih. Thèse de Doctorat (In progress), Faculté des Sciences Ain Chok-Casablanca.

19. Elaboration, caractérisation physico-chimique et évaluation catalytique et biologique de nouveaux verres du système $\text{Na}_2\text{O-MgO-NiO-P}_2\text{O}_5$.

Laila Lamrous. Thèse de Doctorat, Faculté des Sciences Ben M'Sik-Casablanca (16 Avril 2019).

18. Etude structurale et conductivité ionique de nouveaux matériaux vitreux ou cristallisés à base de phosphates de titane, germanium ou gallium.

Fatima Ezzahraa Dardar. Thèse de Doctorat, Faculté des Sciences Ben M'Sik-Casablanca (26 Décembre 2018).

17. Les verres du système $\text{Na}_2\text{O/Ag}_2\text{O-CaO/MnO-TiO}_2\text{-P}_2\text{O}_5$: Elaboration, caractérisation physico-chimique et spectroscopique, et évaluation catalytique et biologique.

Samiha Lamrhari. Thèse de Doctorat, Faculté des Sciences Ben M'Sik-Casablanca (28 Décembre 2017).

- 16.** Cristallogenèse exploratoire, structure cristalline et propriétés physiques des deux nouveaux composés $\text{PbFe}_3(\text{PO}_4)_3$ et $\text{Pb}_3\text{Fe}_4(\text{PO}_4)_6$ - Propriétés physiques des composés frittés $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Sr}, \text{Pb}$).
Hassan El Hafid. Thèse de Doctorat, ICMCB- University of Bordeaux (27 octobre 2013)
- 15.** Synthèse, étude structurale et physico-chimique de nouveaux phosphates vitreux et cristallisés à base de métaux de transition.
Saida Kaoua. Thèse de Doctorat, Faculté des Sciences Ain Chok-Casablanca (27 novembre 2010).
- 14.** Elaboration, structures cristallines et étude par spectroscopies infrarouge, Raman et UV-visible des sulfates $\text{Na}_x\text{Mg}_y\text{Cr}_z(\text{SO}_4)_3$ et arsénates $\text{M}_x\text{Zr}_2(\text{AsO}_4)_3$ ($x = 0.5$; $\text{M} = \text{Ca}, \text{Sr}, \text{Cd}$; $x=1/3$; $\text{M} = \text{Y}, \text{Nd}$) de type structural Nasicon.
Abderrahim Jriifi. Thèse de Doctorat, Faculté des Sciences Ben M'Sik-Casablanca (27 novembre 2008)
- 13.** Etude structurale et caractérisations physico-chimiques de quelques phosphates cristallisés ou vitreux :
i) Les phosphates $\text{Na}_2\text{FeSn}(\text{PO}_4)_3$, $\text{Na}_3\text{CoZr}(\text{PO}_4)_3$ et $\text{M}_{0.5}\text{Ti}_2(\text{PO}_4)_3$ ($\text{M} = \text{Mg}, \text{Ca}, \text{Co}, \text{Zn}, \text{Sr}, \text{Cd}, \text{Pb}$).
ii) Les verres du système $\text{Na}_2\text{O}-\text{WO}_3-\text{P}_2\text{O}_5$.
Abdeslam El Bouari. Thèse d'Etat, Faculté des Sciences Ben M'Sik-Casablanca (15 février 2005).
- 12.** Elaboration, structure et propriétés des oxyphosphates $\text{M}_{0.5}\text{TiO}(\text{PO}_4)$ ($\text{M} = \text{Mg}, \text{Co}, \text{Fe}, \text{Cu}$) et $\text{Ti}_2\text{O}(\text{H}_2\text{O})(\text{PO}_4)_2$ et de l'oxyvanadate $\text{BiMgO}(\text{VO}_4)$.
Said Benmokhtar. Thèse d'Etat, Faculté des Sciences Ben M'Sik-Casablanca (14 février 2005).
- 11.** Elaboration et études structurales et spectroscopiques des nouveaux oxyphosphates de titane $\text{M}_{0.5}\text{TiO}(\text{PO}_4)$ ($\text{M} = \text{Co}, \text{Cu}, \text{Zn}$) et $\text{Li}_{(1-2x)}\text{M}_x\text{TiO}(\text{PO}_4)$ ($0 \leq x \leq 0,25$) ($\text{M} = \text{Co}, \text{Zn}$).
Hassan Belmal. Thèse de Doctorat, Faculté des Sciences Ben M'Sik-Casablanca (19 avril 2004).
- 10.** Etude du stockage de certains éléments lourds (W et Bi) dans des matrices phosphatées vitreuses et cristallisées.
Aicha Raki. Thèse de Doctorat, Faculté des Sciences Ain Chok-Casablanca (28 janvier 2004).
- 09.** Etude structurale et spectroscopique de nouveaux phosphates et arsénates de type structural Nasicon ou à squelette KTP.
Mohamed Chakir. Thèse de Doctorat, Faculté des Sciences Ben M'Sik-Casablanca (16 mai 2003).
- 08.** Les phosphates de titane vitreux ou cristallisés $\text{Na}_{(5-2x)}\text{L}_x\text{Ti}(\text{PO}_4)_3$ ($\text{L} = \text{Mg}, \text{Ca}, \text{Co}, \text{Cd}, \text{Sr}$): Etudes structurales, spectroscopiques et électriques.
Saida Krimi. Thèse d'Etat, Faculté des Sciences Ben M'Sik – Casablanca (19 juin 2000).
- 07.** Caractérisation structurale et étude électrochimique de quelques matériaux de structure Nasicon appartenant aux diverses solutions solides entre $\text{Mn}_{0.5}\text{Ti}_2(\text{PO}_4)_3$, $\text{MnCrTi}(\text{PO}_4)_3$ et $\text{LiTi}_2(\text{PO}_4)_3$ et leurs dérivées lithiées.
Abderrahim Aatiq. Thèse d'Etat, Faculté des Sciences Ben M'Sik-Casablanca (13 décembre 1997).
- 06.** Elaboration et études structurale, magnétique, optique et par spectroscopie Raman des oxyphosphates ABPO_5 ($\text{A}, \text{B} = \text{Li}, \text{Ni}, \text{Cr}, \text{Ti}$).
Bouchaib Manoun. Thèse de 3^{ème} Cycle (DES), Faculté des Sciences Ben M'Sik-Casablanca (6 décembre 1997).
- 05.** Etude structurale et propriétés optiques de nouveaux phosphates de titane de type structural Nasicon : $\text{Na}_{1-2x}\text{Mn}_x\text{Ti}_2(\text{PO}_4)_3$, $\text{Na}_{1-3x}\text{Eu}_x\text{Ti}_2(\text{PO}_4)_3$ et $\text{Mn}_{0.5-3x}\text{Eu}_{2x}\text{Ti}_2(\text{PO}_4)_3$.
Hamid Fakrane. Thèse de 3^{ème} Cycle (DES), Faculté des Sciences Ain Chok-Casablanca (28 octobre 1996).
- 04.** Nouveaux phosphates $\text{M}_{0.5}\text{FeNb}(\text{PO}_4)_3$ ($\text{M} = \text{Cd}, \text{Ca}, \text{Sr}, \text{Pb}, \text{Ba}$) de type structural Nasicon : études structurale et dilatométrique.
Abdelkader Housni. Thèse de 3^{ème} Cycle (DES), Faculté des Sciences Ain Chok-Casablanca (28 octobre 1996).
- 03.** - Etudes structurale, spectroscopique, magnétique et dilatométrique des phosphates $\text{M}_{0.5}\text{Ti}_2(\text{PO}_4)_3$ ($\text{M} = \text{Co}, \text{Ca}$).
Abdeslam El Bouari. Thèse de 3^{ème} Cycle (DES), Faculté des Sciences Ben M'Sik-Casablanca (14 décembre 1994).
- 02.** Nouveaux phosphates de thallium cristallisés ou vitreux:
A) Etude cristallographique, spectroscopique et électrique des phases $\text{Na}_{1-x}\text{Tl}_x\text{Zr}_2(\text{PO}_4)_3$ ($0 \leq x \leq 1$).
B) Caractérisation et approche structurale des verres du système $\text{Tl}_2\text{O} - \text{TiO}_2 - \text{P}_2\text{O}_5$.
Khadija Nadi. Thèse de 3^{ème} Cycle (DES), Faculté des Sciences Ben M'Sik-Casablanca (14 mai 1994).

01. Etude structurale des matériaux vitreux et cristallisés du système $\text{Na}_2\text{O}-\text{TiO}_2-\text{P}_2\text{O}_5$.
Saida Krimi. Thèse de 3^{ème} Cycle (DES), Faculté des Sciences Ain Chok-Casablanca (18 janvier 1992).

7-2. Master / DESA / CEA.

(DESA: Diplômes d'Etudes Supérieures Approfondies; CEA : Certificat d'Etudes Approfondies)

37. Les phosphates vitreux ou cristallisés $\text{Na}_x\text{Ca}_y\text{Mn}_z\text{Ti}(\text{PO}_4)_3$: Elaboration et caractérisation structurale.
Zahira El Khalidi, Master (2014).

36. Elaboration et caractérisation structurale des verres $\text{Na}_3\text{Mg}_{1-x}\text{M}_x\text{P}_3\text{O}_{10}$ ($\text{M} = \text{Co}, \text{Ni}, \text{Cu}, \text{Zn}$) et de quelques phosphates de fer.
Redouane Farid, Master (2014).

35. Elaboration et caractérisation physico-chimique des verres du système $\text{Na}_2\text{O}-\text{MgO}-\text{P}_2\text{O}_5$.
Hicham El Ghouzouani, Master (2013).

34. Nouveaux pigments à base de phosphates : Elaboration et étude cristallographique et uv-visible.
Bouazza Tbib, Master (2012).

33. Elaboration et étude radiocristallographique des phosphates $\text{A}_x\text{Fe}_y\text{M}_z\text{O}(\text{PO}_4)_3$ et $\text{Na}_x\text{Ti}_y\text{A}_z\text{M}_t(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Cd}, \text{Pb}$; $\text{M} = \text{Ti}, \text{Cr}, \text{Fe}, \text{Zr}$).
Fatima Ezzahraa Dardar, Master (2012).

32. Etude comparative des techniques d'analyse des ciments.
Fatima-Zahra Enatij, Master (2012).

31. Elaboration et caractérisation physico-chimique de nouveaux phosphates d'argent vitreux et cristallisés.
Samiha Lamrhari, Master (2011).

30. Elaboration et caractérisation physico-chimique de quelques phosphates de niobium vitreux et cristallisés.
Khadija Habib Allah, Master (2011).

29. Elaboration et caractérisation des matériaux à charpente 3D :
i) Elaboration et caractérisation des sulfates $\text{M}^{\text{II}}_{1,5}\text{M}^{\text{III}}(\text{SO}_4)_3$ ($\text{M}^{\text{II}} = \text{Mg}^{2+}, \text{Ni}^{2+}, \text{Zn}^{2+}$; $\text{M}^{\text{III}} = \text{Cr}, \text{Al}, \text{Fe}$);
 $\text{Mg}_{3x}\text{Cr}_{2-2x}(\text{SO}_4)_3$ ($0 \leq x \leq 0,5$) et $(\text{NH}_4)_2(\text{Mg}_x\text{Cr}_y)(\text{SO}_4)_2(\text{H}_2\text{O})_6$.
ii) Elaboration et caractérisation des arsénates $\text{M}_{0,5}\text{Zr}_2(\text{AsO}_4)_3$ ($\text{M} = \text{Ca}, \text{Sr}, \text{Pb}$).
Mohamed Naji, Master (2009).

19. Elaboration et caractérisation de quelques phosphates d'aluminium (MAlPO_5 ; $\text{M} = \text{Mg}, \text{Zn}, \text{Ni}$) et de fer (MFePO_5 ; $\text{M} = \text{Mg}, \text{Zn}, \text{Ni}, \text{Co}, \text{Cu}$).
El Mostafa Sabir, Master (2008).

18. Elaboration et caractérisation par diffraction des rayons X des composés $\text{MAlO}(\text{PO}_4)$ ($\text{M} = \text{Mg}, \text{Co}, \text{Ni}, \text{Cu}, \text{Zn}$) et $\text{MFeO}(\text{PO}_4)$ ($\text{M} = \text{Mg}, \text{Ni}, \text{Cu}, \text{Zn}$).
Abdellatif Kaoutar, Master (2008).

20. Elaboration et caractérisation de quelques phosphates:
i) Essais de synthèse des phosphates $\text{Li}_x\text{M}_{0,5}\text{Fe}_x\text{Ti}_{1-x}\text{PO}_5$ ($\text{M} = \text{Mg}, \text{Ni}$; $x=0,5$; 1).
ii) Etude des phosphates vitreux et cristallisés $\text{Na}_y\text{Ca}_z\text{Al}_p\text{Ti}_q(\text{PO}_4)_3$.
Ahmed Nazih, DESA (2007).

27. Elaboration et étude cristalochimique des oxyphosphates de titane $\text{Li}_{1-2x}\text{Mg}_x\text{TiO}(\text{PO}_4)$ et $\text{Mg}_{0,5-x}\text{Cu}_x\text{TiO}(\text{PO}_4)$ ($0 \leq x \leq 0,5$).
Kenza Barnace, DESA (2006).

26. Elaboration et caractérisation de quelques phosphates au molybdène.
Aicha Faresse, DESA (2005).

- 25.** Elaboration et caractérisation des phosphates de type structural Nasicon $[\text{Na}_x\text{Ca}_{(0.5+0.5x)}\text{Fe}_{1+x}\text{Nb}_{1-x}(\text{PO}_4)_3]$, ($0 \leq x \leq 1$) et Langbeinite $[\text{KBaFeM}(\text{PO}_4)_3]$ ($\text{M} = \text{Nd, Gd, Yb}$).
Hanane Attachi, DESA (2005).
- 24.** Elaboration et caractérisation de quelques silicates et phosphates de lithium : $\text{Li}_x\text{A}_y\text{B}_z\text{XO}_5$ ($\text{A} = \text{Mg, Ca, Ni}$; $\text{B} = \text{Al, Fe, Ti, Ge}$; $\text{X} = \text{Si, P}$).
Najatt Benmansour (2005).
- 23.** Elaboration et caractérisation de nouveaux matériaux vitreux ou cristallisés.
 $\text{Na}_4\text{M}^{\text{II}}_3(\text{PO}_4)_2\text{P}_2\text{O}_7$ ($\text{M}^{\text{II}} = \text{Zn, Ca, Cd}$) et $\text{Na}_{4-x}\text{Mg}_{3-x}\text{M}^{\text{III}}_x(\text{PO}_4)_2\text{P}_2\text{O}_7$ ($\text{M}^{\text{III}} = \text{Cr, Fe, In}$).
Khadija Mejjati, DESA (2005).
- 22.** Elaboration et caractérisation de quelques phosphates de type structural Nasicon : $\text{Na}_{1-3x}\text{Bi}_x\text{M}_2(\text{PO}_4)_3$ ($\text{M} = \text{Zr, Ti}$), $\text{M}_x\text{AX}(\text{PO}_4)_3$ ($\text{M} = \text{Mg, Co, Cu, Na, Li}$; $\text{A} = \text{Fe, Sn, Cr}$; $\text{X} = \text{Ta, Ge}$).
Etibaria Belghalia, DESA (2005).
- 21.** Essais de synthèse de quelques phosphates et sulfophosphates d'éléments de transition.
Kenza Maher, DESA (2005).
- 28.** Elaboration et études cristallographiques et par spectroscopie Raman et infrarouge de nouveaux phosphates de zirconium de type structural Nasicon.
Faik Abdessamad, DESA (2004).
- 17.** Phosphates cristallisés et vitreux du système $\text{Na}_2\text{O-MgO-P}_2\text{O}_5$: Elaboration et caractérisation par diffraction des rayons X et par DSC.
Rachid Essehli, DESA (2002).
- 16.** Elaboration et analyse par diffraction des rayons X de quelques vanadates et phosphates.
Aouatif Sabbar, DESA (2002).
- 15.** Elaboration et analyse radiocristallographique de quelques vanadates.
Hicham Amza, DESA (2002).
- 14.** Synthèse et analyse par diffraction des rayons X de quelques phosphates de lithium.
Ahmed Hader, DESA (2002).
- 13.** Etude structurale de quelques phosphates vitreux ou cristallisés :
i) Les verres du système $\text{Na}_2\text{O-Al}_2\text{O}_3\text{-TiO}_2\text{-P}_2\text{O}_5$;
ii) Les phosphates de type Nasicon : $\text{Na}_x\text{A}_y\text{Cr}_z(\text{PO}_4)_3$ ($\text{A} = \text{Ca, Co}$).
Hakima El Kinani, DESA (2000).
- 12.** Les phosphates d'aluminium.
Radouane Belmourida, DESA (1999).
- 11.** Elaboration, cristallographie et étude par spectroscopie Raman et infrarouge des sulfates $\text{M}_x\text{Mg}_x\text{Cr}_{2-x}(\text{SO}_4)_3$ ($\text{M} = \text{Li, Na}$; $0 \leq x \leq 1$).
Abderrahim Jrfi, DESA (1999).
- 10.** Elaboration et étude cristallographique et optique de nouveaux phosphates NiAlPO_5 et BiCoPO_5 . Verres du système $\text{Na}_2\text{O-Mg-P}_2\text{O}_5$.
Naïma Bensassi, CEA (1997).
- 09.** Elaboration et étude cristallographique de nouveaux phosphates de type structural Nasicon.
Brahim Chaker, CEA (1996).
- 08.** Elaboration et étude par diffraction des rayons X et par spectroscopie Raman de nouveaux phosphates $\text{Na}_4\text{M}_{0.5}\text{Zr}(\text{PO}_4)_3$ ($\text{M} = \text{Cd, Ca, Sr, Pb}$).
Mohammed Chakir, CEA (1996).

07. Elaboration et étude cristallographique, optique et par spectroscopie Raman de nouveaux oxyphosphates de titane $\text{Li}_{1-2x}\text{Co}_x\text{TiPO}_5$ ($0 \leq x \leq 0,5$) et $\text{Zn}_{0,5}\text{TiPO}_5$. Hassan Belmal, CEA (1996).

06. Nouveaux phosphates de titane vitreux ou cristallisés. Bouchaib Manoun, CEA (1994).

05. Les verres du système $\text{Na}_4\text{Nb}(\text{PO}_4)_3\text{-Na}_5\text{Ti}(\text{PO}_4)_3\text{-Na}_3\text{Cr}_2(\text{PO}_4)_3$. Les phosphates $\text{Na}_{4-3x}\text{Cr}_x\text{Nb}(\text{PO}_4)_3$ et $\text{Na}_{4-x}\text{Nb}_{1-x}\text{Cr}_{2x}(\text{PO}_4)_3$. Abdelkader Housni, CEA (1992).

04. Préparation et caractérisation des verres du système $\text{Na}_2\text{O} - \text{WO}_3 - \text{P}_2\text{O}_5$. Essais de préparation de la solution solide $\text{NaTi}_{2-x}\text{Mn}_x(\text{PO}_4)_3$. Hamid Fakrane, CEA (1992).

03. Essais d'élaboration de nouveaux matériaux phosphatés cristallisés ou vitreux à base de titane ou d'aluminium. Abdeslam El Bouari, CEA (1990).

02. Les phosphates Nasicon $\text{Na}_{5-y}\text{L}_x\text{Zr}(\text{PO}_4)_3$ ($\text{L} = \text{Tl}, \text{Sr}, \text{Nd}$). Khadija Nadi, CEA (1989).

01. Nouveau matériaux vitreux et cristallisés du système ternaire $\text{Na}_2\text{O} - \text{TiO}_2 - \text{P}_2\text{O}_5$. Saïda Krimi, CEA (1988).

7-3. Bachelor of Science

- Elaboration et étude structurale des verres $\text{Na}_2\text{Mg}_{(1-x)}\text{M}_x\text{P}_2\text{O}_7$ ($\text{M} = \text{Co}, \text{Cu}$).

Amal Bassam, Soukaina Marouf, Soukaina Belguiz, Ayoub Ferhan, Said Benayad (Juin 2014).

- Elaboration et caractérisation de quelques verres à base de phosphates d'éléments de transition. Laila Ahachim, Abdelfattah Bennani, Houria Jabha (Juin 2013).

- Les phosphates de type structural langbeinite. Sanaa Charaf (Juin 2012).

- Les phosphates de niobium. Soukaina El Hadoui (Juin 2011).

- Elaboration et étude des verres $\text{NaMg}_{1-x}\text{M}_x(\text{PO}_3)_3$ ($\text{M} = \text{Co}, \text{Ni}, \text{Cu}$). Ahlam Ettoulaly (Juin 2009).

- Les matériaux «Metal Organic Frameworks : MOFs». Karima Idsaid (Juin 2007).

- Les matériaux «Zeolitic Imidazolate Frameworks : ZIFs». Elmehdi Ouaalla (Juin 2007).

- Les bioverres. Hamid El Ouindi (2007).

- Elaboration et caractérisation des phosphates de titane. Ludovic Arendo, LCS-CNRS, Université de Bordeaux (Juin 1992).

8. Member of Examination Board for doctoral theses

01 - Rachida Nachit (Thèse de 3^{ème} Cycle), 28 novembre 1990, Faculté des Sciences, Rabat.

02 - Nourddine Bensaid (Thèse de 3^{ème} Cycle), 24 avril 1991, Faculté des Sciences Ain Chock, Casablanca.

03 - Mohamed El Guendouzi (Thèse d'Etat), 30 avril 1991, Faculté des Sciences Ben M'sik, Casablanca.

04 - Saïda Krimi (Thèse de 3^{ème} Cycle), 8 janvier 1992, Faculté des Sciences Ain Chock, Casablanca.

05 - Ismael Saadoun (Doctorat), 1^{er} avril 1992, Université Bordeaux I, France.

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- 06 - Mohamed Mesnaoui (Thèse d'Etat), 29 avril 1993, Faculté des Sciences Semlalia, Marrakech.
- 07 - Abdelmajid Bouaggad (Thèse d'Etat), 10 septembre 1993, Faculté des Sciences, Oujda.
- 08 - Samia Yousfi (Thèse de 3^{ème} Cycle), 10 mai 1994, Faculté des Sciences, Rabat.
- 09 - Khadija Nadi (Thèse de 3^{ème} Cycle), 14 mai 1994, Faculté des Sciences Ben M'sik, Casablanca.
- 10 - Abdeslam El Bouari (Thèse de 3^{ème} Cycle), 14 décembre 1994, Faculté des Sciences Ben M'sik., Casablanca.
- 11 - Mohamed Tachihante (Thèse d'Etat), 16 septembre 1994, Faculté des Sciences, El Jadida.
- 12 - Khalid Brouzi (Thèse de 3^{ème} Cycle), 19 octobre 1995, Faculté des Sciences Ben M'sik, Casablanca.
- 13 - Mohammed Al Qaraoui (Thèse de 3^{ème} Cycle), 28 février 1996, Faculté des Sciences, Rabat.
- 14 - Ismael Saadoun (Thèse d'Etat), 13 avril 1996, Faculté des Sciences Semlalia, Marrakech.
- 15 - Abdesselam Daoudi (Thèse d'Etat), 19 juillet 1996, Faculté des Sciences Ain Chock, Casablanca.
- 16 - Abdeslam Chagraoui (Thèse d'Etat), 1996, Faculté des Sciences Ben M'sik, Casablanca.
- 17 - Hamid Fakrane (Thèse de 3^{ème} Cycle), 28 octobre 1996, Faculté des Sciences Ain Chock, Casablanca.
- 18 - Abdelkader Housni (Thèse de 3^{ème} Cycle), 28 octobre 1996, Faculté des Sciences Ain Chock, Casablanca.
- 19 - Driss Zakaria (Thèse d'Etat), 27 septembre 1997, Faculté des Sciences, El Jadida.
- 20 - Mohamed El Azhari (Thèse d'Etat), 30 octobre 1997, Faculté des Sciences Semlalia, Marrakech.
- 21 - Bouchaib Manoun (Thèse de 3^{ème} Cycle), 6 Décembre 1997, Faculté des Sciences Ben M'sik, Casablanca.
- 22 - Abderrahim Aatiq (Thèse d'Etat), 13 décembre 1997, Faculté des Sciences Ben M'sik, Casablanca.
- 23 - Mohamed Daoud (Thèse d'Etat), 23 décembre 1997, Faculté des Sciences Semlalia, Marrakech.
- 24 - Mohammed Chbihi (Thèse d'Etat), 13 avril 1999, Faculté des Sciences Ben M'sik, Casablanca.
- 25 - Abdelali Hanfaoui (Thèse de 3^{ème} Cycle), 15 mai 1998, Faculté des Sciences Ben M'sik, Casablanca.
- 26 - Malika Tridane (Thèse de 3^{ème} Cycle), 10 mars 1999, Faculté des Sciences Ben M'sik, Casablanca.
- 27 - Omar Ait Sidi Ahmed (Doctorat), 2 octobre 1999, Faculté des Sciences Ben M'sik, Casablanca.
- 28 - Ahmed Azzou (Doctorat), 20 octobre 1999, Faculté des Sciences Ben M'sik, Casablanca.
- 29 - Karima Bakhous (Doctorat), 4 décembre 1999, Faculté des Sciences, Rabat.
- 30 - Driss Boudlich (Doctorat), 4 mars 2000, Faculté des Sciences, Meknès.
- 31 - Saida Krimi (Thèse d'Etat), 19 juin 2000, Faculté des Sciences Ben M'sik, Casablanca.
- 32 - Abdelaziz El Abiad (Doctorat), 20 juin 2000, Faculté des Sciences Semlalia, Marrakech.
- 33 - Aziz Fanid (Doctorat), 3 juillet 2000, Faculté des Sciences Ben M'sik, Casablanca.
- 34 - Khadija El Kababi (Doctorat), 3 juillet 2000, Faculté des Sciences Ben M'sik, Casablanca.
- 35 - M. Idder (Doctorat), 6 juillet 2000, Faculté des Sciences Ben M'sik, Casablanca.
- 36 - Imad El-Harrad (Doctorat d'Etat), 17 mars 2001, Faculté des Sciences Ben M'sik, Casablanca.
- 37 - Hakima Aouad (Doctorat d'Etat), 2001, Faculté des Sciences Semlalia, Marrakech.
- 38 - Mohamed Chakir (Doctorat), 16 mai 2003, Faculté des Sciences Ben M'sik, Casablanca.
- 39 - Hassan Belmal (Doctorat), 19 avril 2004, Faculté des Sciences Ben M'sik, Casablanca.
- 40 - Khadija El Ataoui (Doctorat), 2004, Faculté des Sciences Semlalia, Marrakech.
- 41 - Said Benmokhtar (Thèse d'Etat), 14 février 2005, Faculté des Sciences Ben M'sik, Casablanca.
- 42 - Abdeslam El Bouari (Thèse d'Etat), 15 février 2005, Faculté des Sciences Ben M'sik, Casablanca.
- 43 - Abdelkrime Chahine (Thèse d'Etat), 2005, Faculté des Sciences, Kénitra.
- 44 - Aicha Raki (Doctorat), 28 janvier 2006, Faculté des Sciences Ain Chock, Casablanca.
- 45 - Soumia Belouafa (Doctorat), 2006, Faculté des Sciences et Techniques, Mohammedia.

- 46 - Abderrahim Jrifi (Doctorat), 27 novembre 2008, Faculté des Sciences Ben M'sik, Casablanca.
- 47 - Mohamed El Masloumi, (Doctorat), 15 décembre 2008, Faculté des Sciences Semlalia, Marrakech.
- 48 - Youness Benjalal (Doctorat), 21 novembre 2009, Faculté des Sciences Ben M'sik, Casablanca.
- 49 - Fatima Ezzohra Mouahid (Thèse d'Etat), 27 mai 2010, Faculté des Sciences, El Jadida.
- 50 - Abdelghani Oudahmane (Doctorat), 5 juillet 2010, Faculté des Sciences Semlalia, Marrakech.
- 51 - Saida Kaoua (Doctorat), 27 novembre 2010, Faculté des Sciences Ain Chock, Casablanca.
- 52 - Fatima Salhamen (Thèse d'Etat), 18 juin 2012, Faculté des Sciences, Rabat.
- 53 - El Hassan El Hafid (Doctorat), 27 octobre 2013, ICMCB, Université de Bordeaux, France.
- 54 - Hugo Ronald Ramanarivo (Doctorat) 15 novembre 2013, Faculté des Sciences, Rabat.
- 55 - Moctar Ould Abba (Doctorat), 27 décembre 2013, Faculté des Sciences Ben M'sik, Casablanca.
- 56 - Samiha Lamrhari (Doctorat), 28 décembre 2017, Faculté des Sciences Ben M'sik, Casablanca.
- 57 - Fatima Ezzahraa Dardar (Doctorat) 26 décembre 2018, Faculté des Sciences Ben M'sik, Casablanca.
- 58 - Laila Lamrous (Doctorat), 16 avril 2019, Faculté des Sciences Ben M'sik, Casablanca.

9. Grants - Awards

18. U. S. Department of State's Chemical Security Program - CRDF Global and Brookhaven National Laboratory (BNL). Upton, New York, USA, May 2017.

17. Outreach Lecturing Awards. Institute of International Education (IIE) - Council for International Exchange of Scholars (CIES), USA.

- Project : Crystalline and Vitreous Metal Phosphates.
- Period : June 2015.

16. Fulbright Awards. Moroccan-American Commission for Educational and Cultural Exchange - MACECE, 2014/2015.

- Project: Phosphate based Materials for Energy, Biomedical and Environmental Applications.
- Period: January-July 2015

15- Provost Awards, Wake Forest University, Winston-Salem, USA.

- Project: Catalyzing scholarship and educational collaborations between Wake Forest University and University of Casablanca,
- Period : July 2013.

14- Coopération maroco-tunisienne, recherche scientifique et technologie.

- Project : Matériaux phosphates vitreux ou cristallisés : Etude structurale, thermochimique et optique
- Period : 2013-2014.

13- Projet de coopération inter-universitaire AUF- N° PSCI59113PS024.

- Project : Nouveaux matériaux phosphates pour l'énergie et la santé.
- Period : 2011-2012.

12- Convention de coopération CNRST/Maroc - INSERM/France.

- Project : Bioverres et biocéramiques à base de phosphates: du développement à leur évaluation biologique.
- Period : 2011-2012.

11- Fincome - CNRS Awards, 2011.

- Project : Advanced materials including the Moroccan phosphate for rechargeable lithium ion batteries
- Period : December 2011.

10- MINECO MAT2010-15094. University of Oviedo.

- Project : Functional materials : From inorganic compounds to metal organic frameworks.
- Period : 2010-2013.

09- Coopération maroco-tunisienne, recherche scientifique et technologie.

- Project: Etude structurale et thermochimique des phosphates vitreux ou cristallisés des systèmes $M^I_2O-M^{II}O-P_2O_5$ et $M^I_2O-M^{II}O-TiO_2-P_2O_5$ ($M^I = Li, Na$; $M^{II} = Mg, Ca, Fe$).
- Period : 2010-2011.

08- Convention CNRST/Maroc - CSIC/Espagne.

- Project : Matériaux, nanomatériaux et verres à base de phosphates d'éléments de transition pour des applications énergétiques et médicales : élaboration et caractérisations structurales et physico-chimiques.
- Period : 2010-2011.

07- Convention de Coopération CNRST/Maroc - CNRS/France.

- Project : Nouveaux phosphates d'éléments de transition 3d et 4f pour des applications magnéto-optiques.
- Period : 2010-2012.

06- Fincome - CNRS Awards, 2010.

- Project : Materials for Energie, Healt and Environment : Research and Education; MEHERE Initiative.
- Period : November 2010.

05- Action Intégrée - Programme Volubilis - Coopération maroco-française.

- Project : Valorisation des phosphates en électrochimie et en optique.
- Période : 2010-2013.

04- PICS (Programme International de Coopération Scientifique), CNRST/Maroc - CNRS/France.

- Project : Recherche Intégrée Franco-Maghrébine : Nouveaux matériaux phosphatés pour l'optique et l'électrochimie.
- Period : 2004-2006.

03- PARS (Programme d'Appui à la Recherche Scientifique), CNRST/Maroc.

- Project : Recherche de nouveaux verres et pigments à base de phosphates d'éléments de transition.
- Period : 1998-2001.

02- Action intégrée n° 91/566 : Universités Rabat – Casablanca – Bordeaux.

- Project : Recherche de nouvelles céramiques et vitrocéramiques de faible dilatation thermique et à propriétés optiques spécifiques.
- Period : 1991-1995.

01- Convention CNR/Maroc – CNRS/France. LCMS-LPCMI/Casablanca - LSC/Bordeaux.

- Project : Les phosphates de titane.
- Period : 1989 – 1992.

10. Organization of scientific meetings

34. COACh Workshop: Professional Career Development “Empowering Women in Africa to be Leaders in Science and Technology through Career Advancement Opportunities” At 11th African Materials Research Society Conference Dakar, Senegal, December 10-15, 2022.

33. US-Morocco Workshops: Leadership and Career Development - Empowering Women in Morocco to be Leaders in Science and Technology through Career Advancement Opportunities. Marrakech/Rabat/Casablanca, April 7-9, 2014.

32. Workshop of Crystallography at the 7th International Conference of the African Materials Research Society, Addis Ababa, Ethiopia, December 2013.

31. Atelier “Etat des lieux et perspectives de la recherche autour des phosphates : Matériaux, Corrosion et Catalyse”. Assises Nationales de la Recherche autour des Phosphates. Skhirat, September 12-13, 2013.

30. Networking Event and Career Workshops for Women Researchers in Morocco. Casablanca, March 8, 2013.

29. US-Morocco Workshop: Empowering Women in North Africa (Morocco, Algeria and Tunisia) to be Leaders in Science and Technology through Career Advancement Opportunities in Water, Energy and the Environment with Focus on Materials. Casablanca, March 5-7, 2013.

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28. 3^{ème} Colloque sur la Physico-Chimie des Matériaux - Casablanca, December 2013 (Chair).
27. Cycle des Cours et Conférences sur la Chimie du Solide (II), Casablanca, December 2011 (Chair).
26. International Workshop on Phosphate based Materials for Energy Storage, Environment, and Biological Applications: Better Phosphates for a Better World. El Jadida, September 19-22, 2012.
25. Workshop of Crystallography at the 6th African MRS Conference, Victoria Falls-Zimbabwe, December 2011 .
24. Cycle des Cours et Conférences sur la Chimie du Solide (I), Casablanca, December 2011.
23. First North African Crystallographic Conference - NACC1, Casablanca, November 2010.
22. MEHERE Initiative : Materials for Energy, Health and Environment: Research and Education, 3rd Edition, Casablanca, November 2010.
21. First Moroccan FullProf School, Casablanca, June 2010 (Chair).
20. 2^{ème} Colloque sur la Physico-Chimie des Matériaux - Casablanca, December 2009 (Chair).
19. MEHERE Initiative : Materials for Energy, Health and Environment: Research and Education, 2nd Edition, Marrakech, March 2009.
18. Second International Conference on the Valorisation of Phosphates and Phosphorus Compounds (COVAPHOS 3), Marrakech, March 2009.
17. Workshop on Crystallography at the 4th African-MRS Conference, Dar Es Salam, Tanzania, December 2007 .
16. 24th European Crystallographic Meeting-ECM24, Marrakech, August 2007.
15. First African Summer School on Materials: Tutorials on Chemistry and Physics of Inorganic and Nanostructured Materials, Casablanca – Morocco, May 2007 (Chair).
14. US/Africa Workshop on Frontiers in Materials Research and Education. Abuja, Nigeria, January 2007.
13. MEHERE Initiative : Materials for Energy, Health and Environment: Research and Education, 1st Edition, Marrakech, October 2006.
12. Second International Conference on the Valorization of Phosphates and Phosphorus Compounds (COVAPHOS 2), Marrakech, October 2006.
11. Third International Conference of the African Materials Research Society, Marrakech, December, 2005 (Chair).
10. Symposium: New Materials for the Twenty-First Century (A. K. Cheetham and A. El Jazouli).
09. Workshop: "ABCs of Nanotechnology: Atoms, Bits and Civilization". Marrakech, December 2005.
08. US-Africa Workshop on Nanoscience and Nanotechnology. Marrakech, December 2005.
07. Course on Surface and Thin Film Analysis. Marrakech, December 2005.
05. First Conference on the Valorization of Phosphates and Phosphorus Compounds (COVAPHOS 1) Marrakech, October 2004.
04. Second Moroccan School on Glasses, Casablanca, May 1999 (Chair).
03. 1^{er} Colloque sur la Physico-Chimie des Matériaux - Casablanca, June 1998 (Chair).
02. First Moroccan School on Glasses, Casablanca, June 1995 (Chair).

01. 5th Moroccan Meeting on Solid State Chemistry (5^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide : REMCES 5), Casablanca, October 1991 (Co-chair).

Abdelaziz El Jazouli also organized more than 40 seminars, in the area of chemistry and physics of materials, at University Hassan II - Casablanca, during the period 1986-2014. The invited speakers were:

- Gilles Le Flem, Claude Delmas, Jean Etourneau, Claude Parent, Jean Marc Heintz, Roger Olazcuaga, Jean Pierre Chaminade, Jean Jacques Videaux, Jacques Darriet, François Guillen, Yvon Joyeux, Matias Velazquez, Benoit Glorieux, Stanislas Pechev: University of Bordeaux, Centre National de la Recherche Scientifique - CNRS, France.
- Joelle Amédée, Jean-Christophe Fricain, Reine Bareille : University of Bordeaux, Institut National de la Santé et de la Recherche Médicale - INSERM, France.
- El Kébir Hlil : University of Grenoble, France.
- Mohamed Chakir : Renault, Paris, France.
- Hakim Faquir. : MANAGEM, Morocco.
- Ilias Belharouak : Argonne National Laboratory, Chicago, USA / Qatar Environment and Research Institute, Doha, Qatar.
- Abdelkader Kara : University of Florida, USA.
- Abdessadek Lachgar : Wake Forest University, USA.
- Santiago Garcia-Grande, Ruben Garcia, Jose Manuel Montejo : University of Oviedo, Spain.
- Juan Manuel Garcia Ruiz : University of Granada, Spain.
- Mohamed Eddaoudi : King Abdullah University for Science and Technology - KAUST, Saudi Arabia.
- Danita de Waal : University of Pretoria, South Africa.
- Younes Ballim : University of the Witwatersrand, Johannesburg, South Africa.
- Mohamed Jemal : University of Tunis, Tunisia.
- Mongi Ben Amara : University of Monastir, Tunisia.

11. Collaboration.

Institutions	Collaborators (past and present)
University Hassan II, Casablanca, Morocco.	I. Mansouri, M. Lamire, S. Krimi, A. Ridah, S. Sebti.
University Mohamed V, Rabat, Morocco.	R. Brochu, A. Serghini, M. Alami.
University My Ismail, Meknes, Morocco.	M. Haddad.
University of Tunis, Tunisia.	M. Jemal, I. Khattech.
University of Pretoria, South Africa.	D. de Waal.
Institut de Chimie de la Matière Condensée de Bordeaux (ICMCB), CNRS - University of Bordeaux, France.	G. Le Flem, C. Delmas, J.M. Dance, C. Parent, R. Olazcuaga, J.P. Chaminade, P. Graveriau, S. Pechev, J.C. Grenier, J.J. Videau, A. Wattiaux, B. Glorieux, M. Velazquez, T. Cardinal, A. Demourgues, M. Gaudon.
Institut des Sciences Moléculaires (ISM), CNRS-University of Bordeaux, France.	M. Couzi
Laboratoire de Bioingénierie Tissulaire, INSERM-University of Bordeaux, France.	J. Amédée.
Institut de Chimie de Clermont-Ferrand (ICCF), CNRS-University Blaise Pascal, France.	D. Avignant.
Laboratoire des Eléments de Transition dans les Solides, CNRS, Meudon, France	J. Derouet.
Laboratoire Léon Brillouin - Commissariat à l'Energie Atomique (LLB - CEA), Saclay, France.	F. Bourée.
Institut Laue-Langevin (ILL), Grenoble, France.	J. Rodriguez-Carvajal.
Institut Néel, CNRS-University J. Fourier, Grenoble, France.	E. K. Hlil.
University of Rennes, France.	H. Oudadesse, T. Roisnel.
University of Malaga, Spain.	J. R. Ramos-Barrado.
University of Oviedo, Spain.	S. Garcia-Granda, R. Garcia, A. Espina, Z. Amghouz.
Wake Forest University, North Carolina, USA.	A. Lachgar, C. Day, M. Gross.

12. Scientific Production

12-1. Publications

2023

94. Crystalline and vitreous $\text{Na}_{3.89}\text{Ca}_{0.67}\text{Al}_{0.23}\text{Ti}_{0.77}(\text{PO}_4)_3$: Synthesis, crystal structure, vibrational and UV–Visible spectra.

A. Nazih, S. Krimi, S. Pechev, M. Velazquez, M. Couzi, **A. El Jazouli**.

Journal of Molecular Structure, 1281 (023), 135129.

2019

93. Elaboration and structural characterization of phosphate glasses with composition: $37.5\text{Na}_2\text{O}-25[(1-x)\text{MgO}-x\text{NiO}]-37.5\text{P}_2\text{O}_5$ ($0 \leq x \leq 1$).

L. Lamrous, R. Farid, **A. El Jazouli**, S. Krimi, M. Haddad, H. Oudadesse, S. Sebti and M. Couzi.

Mediterranean Journal of Chemistry 2019, 7(6), 416-422

92. Synthesis and characterization of a new layered gallium phosphonate oxalate: $\text{Ga}_3(\text{PO}_3\text{CH}_3)_4(\text{C}_2\text{O}_4)(\text{H}_2\text{en})0.5(\text{H}_2\text{O})$.

F. E. Dardar; A. Lachgar; **A. El Jazouli**; S. Sebti

Journal of Chemical Crystallography, 49 (2019) 44-51.

2018

91. Synthesis, structural characterization and ionic conductivity of mixed alkali titanium phosphate glasses

F. E. Dardar, M. Gross, S. Krimi, M. Couzi, A. Lachgar, S. Sebti, and **A. El Jazouli**.

Mediterranean Journal of Chemistry, 7 (2018) 328-336.

90. Synthesis and structural characterization of phosphate-based Nasiglasses $\text{Na}_3\text{Ca}_{1-x}\text{Mn}_x\text{Ti}(\text{PO}_4)_3$ ($0 \leq x \leq 1$).

S. Lamrhari, Z. El Khalidi, S. Krimi, M. Haddad, M. Couzi, A. Lachgar, **A. El Jazouli**.

Journal of Materials and Environmental Sciences, 9 (2018) 3009 – 3018.

2016

89. Structural characterization and calorimetric dissolution behavior of $\text{Na}_2\text{O}-\text{CuO}-\text{P}_2\text{O}_5$ glasses.

R. Aït Mouss, S. Krimi, B. Glorieux, I. Khattech, M. Couzi, T. Cardinal and **A. El Jazouli**.

Journal of Non-Crystalline Solids 452 (2016) 144-152.

88. Structure and thermochemical study of strontium sodium phosphate glasses.

M. A. Cherbib, S. Krimi, **A. El Jazouli**, I. Khattech, L. Montagne, M. Jemal.

Journal of Non-Crystalline Solids 447 (2016) 59-65.

2015

87. Structural and thermochemical properties of sodium magnesium phosphate glasses.

R. Oueslati-Omrani, A. Kaoutar, **A. El Jazouli**, S. Krimi, I. Khattech, M. Jemal, J. J. Videau and M. Couzi.

Journal of Alloys and Compounds 632 (2015) 766-771.

2014

86. Vitreous and Crystalline Phosphates : Elaboration and Electrical Properties.

F.E. Dardar, **A. El Jazouli**, A. Lachgar, M. Gross and C. Day.

Acta Crystallographica, Section A 70 (a1) (2014) C1766.

85. Magnetic, Mössbauer and optical spectroscopic properties of the $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Sr}, \text{Pb}$) series of powder compounds.

H. El Hafid, M. Velázquez, **A. El Jazouli**, A. Wattiaux, D. Carlier, R. Decourt, M. Couzi, Ph. Goldner and C. Delmas.

Solid State Sciences 36 (2014) 52-61.

84. Structural investigations and calorimetric dissolution of manganese phosphate glasses.

R. Oueslati Omrani, S. Krimi, J. J. Videau, I. Khattech, **A. El Jazouli** and M. Jemal.

Journal of Non-Crystalline Solids 389 (2014) 66-71.

83. Structural and thermochemical study of $\text{Na}_2\text{O}-\text{ZnO}-\text{P}_2\text{O}_5$ glasses.

R. Oueslati Omrani, S. Krimi, J.J. Videau, I. Khattech, **A. El Jazouli** and M. Jemal.

Journal of Non-Crystalline Solids 390 (2014) 5-12.

82. Structure and color of diphosphate pigments with square pyramid environment around chromophore ions (Co^{2+} , Ni^{2+} , Cu^{2+}).

A. El Jazouli, B. Tibi, A. Demourgues and M. Gaudon.
Dyes and Pigments 104 (2014) 67-74.

2013

81. Preface du livre "Les phosphates à l'aube du XXIème siècle".

A. Lachgar and A. El Jazouli.

Livre collectif. Enseignement universitaire, 2ème et 3ème cycle et équivalent. Coordination G. Le Flem. 2013.

80. On the synthesis, characterization and magnetic properties of two new phases discovered in the $\text{PbO-Fe}_2\text{O}_3\text{-P}_2\text{O}_5$ system.

H. El Hafid, O. Pérez, A. El Jazouli, A. Pautrat, R. Decourt, E. Véron, O. Viraphong and C. Delmas.
Journal of Solid State Chemistry 202 (2013) 85-92.

79. Synthesis, crystal structure, and vibrational spectroscopic and UV-visible studies of $\text{Cs}_2\text{MnP}_2\text{O}_7$

S. Kaoua, S. Krimi, S. Pechev, P. Gravereau, J.-P. Chaminade, M. Couzi and A. El Jazouli.
Journal of Solid State Chemistry 198 (2013) 379-385.

2011

78. Crystal growth and structure of the new ferromagnetic oxyphosphate $\text{PbFe}_3\text{O}(\text{PO}_4)_3$.

H. El Hafid, M. Velázquez, O. Pérez, A. El Jazouli, A. Pautrat, R. Decourt, P. Veber, O. Viraphong and C. Delmas.
Eur. J. Inorg. Chem. 36 (2011) 5486-495.

77. Crystal structure of new alkaline diphosphates in the $\text{A}_2\text{MnP}_2\text{O}_7$.

S. Péchev, S. Kaoua, S. Krimi, P. Gravereau, J.P. Chaminade and A. El Jazouli.
Acta Cryst. A67 (2011) C398-399.

2010

76. Synthesis, structure, magnetic, optical and Mössbauer properties of $\text{Na}_2\text{FeSn}(\text{PO}_4)_3$.

A. El Bouari, A. El Jazouli, S. Benmokhtar, P. Gravereau and A. Wattiaux.
Journal of Alloys and Compounds 503 (2010) 480-484.

2009

75. Synthesis, crystal structure and vibrational and optical spectra of $\text{Sr}_{0.5}\text{Zr}_2(\text{AsO}_4)_3$.

A. Jriif, A. El Jazouli, J. P. Chaminade and M. Couzi.
Powder Diffraction 40 (2009) 200-205.

74. Syntheses and crystal structures of new vanadium (IV) oxyphosphates $\text{M}(\text{VO})_2(\text{PO}_4)_2$ with $\text{M} = \text{Co}, \text{Ni}$.

S. Kaoua, P. Gravereau, J. P. Chaminade, S. Pechev, S. Krimi and A. El Jazouli.
Solid State Sciences 11 (2009) 628-634.

73. Structural filiation in $\text{M}^{\text{II}}(\text{M}^{\text{IV}}\text{O})_2(\text{PO}_4)_2$ oxyphosphates with $\text{M}^{\text{IV}} = \text{Ti}, \text{V}$.

P. Gravereau, S. Kaoua, J. P. Chaminade, S. Krimi, S. Benmokhtar and A. El Jazouli.
Acta Cryst. A65 (2009) S194.

2008

72. Magnetic structure and analysis of the exchange interactions in $\text{BiMO}(\text{PO}_4)$ ($\text{M} = \text{Co}, \text{Ni}$).

O. Mentre, F. Bouree, J. Rodriguez-Carvajal, A. El Jazouli, N. El Khayati and M. Ketatni.
J. Phys.: Condens. Matter 20 (2008) 415211-415222.

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71. Jahn-Teller phase transition in $\text{Cu}_{0.5}\text{TiO}(\text{PO}_4)$: powder structural characterization of the β -variety and thermal study.

P. Gravereau, S. Benmokhtar, J.P. Chaminade, A. El Jazouli, E. Lebraud, D. Denux.
Solid State Sciences 9 (2007) 258-266.

70. Synthesis, structure and physicochemical investigations of the new $\alpha\text{-Cu}_{0.5}\text{TiOPO}_4$ oxyphosphate.

S. Benmokhtar, H. Belmal, A. El Jazouli, J.P. Chaminade, P. Gravereau, S. Pechev and J.C. Grenier.

Journal of Solid State Chemistry 180 (2007) 772-779.

69. Synthesis, structure refinement and characterization of new oxyphosphate $\text{Mg}_{0.5}\text{TiOPO}_4$.
S. Benmokhtar, **A. El Jazouli**, S. Krimi, J.P. Chaminade, P. Gravereau, M. Menetrier and D. de Waal.
Journal of Solid State Chemistry 180 (2007) 2004-2012.

68. Synthesis, structure and characterization of $\text{Fe}_{0.50}\text{Ti}_2(\text{PO}_4)_3$: A new material with Nasicon-like structure.
S. Benmokhtar, A. El Jazouli, A. Aatiq, J.P. Chaminade, P. Gravereau, A. Wattiaux, L. Fournes and J.C. Grenier.
Journal of Solid State Chemistry 180 (2007) 2004-2012.

2006

67. Synthesis, structure, magnetic susceptibility and, Mössbauer and Raman spectroscopies of the new oxyphosphate $\text{Fe}_{0.5}\text{TiO}(\text{PO}_4)$.
S. Benmokhtar, **A. El Jazouli**, J. Chaminade, P. Gravereau, A. Wattiaux, L. Fournès, J.C. Grenier, D. de Waal.
Journal of Solid State Chemistry 179 (2006) 3709-3717.

66. Preparation and characterization of phosphate glasses containing titanium and vanadium.
S. Kaoua, S. Krimi, **A. El Jazouli**, E. K Hlil and D. de Waal.
Journal of Alloys and Compounds 429 (2006) 276-279.

65. Synthesis and crystal structure of $\text{Na}_{3.5}\text{Cr}_{1.5}\text{Co}_{0.5}(\text{PO}_4)_3$ phosphate.
M. Chakir, **A. El Jazouli** and J. P. Chaminade.
Powder diffraction 21 (2006) 210-213.

64. Synthesis and X-ray characterization of $\text{Li}_{0.5}\text{M}_{0.25}\text{TiO}(\text{AsO}_4)$ (M=Mg, Co, Ni, Zn) oxyarsenates.
M. Chakir, **A. El Jazouli** and J. P. Chaminade.
Powder diffraction, 21 (2006) 229-235.

63. Synthesis, crystal structure and spectroscopy properties of $\text{Na}_3\text{AZr}(\text{PO}_4)_3$ (A=Mg, Ni) and $\text{Li}_{2.6}\text{Na}_{0.4}\text{NiZr}(\text{PO}_4)_3$ phosphates.
M. Chakir, **A. El Jazouli** and D. de Waal.
Journal of Solid State Chemistry 179 (2006) 1883-1891.

62. New process of preparation, X-ray characterization, structure and vibrational studies of a solid solution $\text{LiTiOAs}_{1-x}\text{P}_x\text{O}_4$ ($0 \leq x \leq 1$).
M. Chakir, **A. El Jazouli**, J.P. Chaminade, F. Bouree and D. de Waal.
Journal of Solid State Chemistry 179 (2006) 18-28.

61. Etude structurale de quelques phosphates de titane des systèmes $\text{M}^{\text{II}}\text{O}-\text{TiO}_2-\text{P}_2\text{O}_5$ (M^{II} = ions divalents).
A. El Jazouli, A. El bouari, A. Belmal, S. Benmokhtar, J.P. Chaminade, P. Gravereau, E. Bekaert, M. Menetrier and D. de Wwaal.
Proceedings COVAPHOS II Volume 4 (2006) 41-50, ISBN: 9954-8734-1-4. Dépôt légal 2008/0308.

2005

60. Rietveld refinements of the solid solution $\text{Li}_{1-2x}\text{Ni}_x\text{TiO}(\text{PO}_4)$ ($0 \leq x \leq 0.50$).
B. Manoun, **A. El Jazouli**, P. Gravereau and J.P. Chaminade.
Material Research Bulletin 40 (2005) 229-238.

2004

59. Synthesis and crystallochemistry of $\text{Na}_4\text{CrNi}(\text{PO}_4)_3$.
B. Manoun, **A. El Jazouli**, S. Krimi, and A. Lachgar.
Powder Diffraction 19 (2004) 162-164.

58. Synthesis, crystal structure and optical properties of BiMgVO_5 .
S. Benmokhtar, **A. El Jazouli**, J.P. Chaminade, P. Gravereau; F. Guillen; and D. de Waal.
Journal of Solid State Chemistry 177 (2004) 4175-4182.

2003

57. Synthesis and X-ray characterization of $\text{Li}_{1-2x}\text{Ni}_x\text{TiOPO}_4$ ($0 \leq x \leq 0.5$).
B. Manoun, **A. El Jazouli**, P. Gravereau and J. P. Chaminade.

Powder Diffraction, 18 (4) (2003) 301-305.

56. Structural and vibrational studies of $\text{NaZr}_2(\text{AsO}_4)_3$.

M. Chakir, **A. El Jazouli** and D. de Waal.

Materials Research Bulletin 38 (2003) 1773-1779.

55. Glass-crystal transformation of $\text{Na}_3\text{MgTi}(\text{PO}_4)_3$.

S. Krimi, **A. El Jazouli**, A. Lachgar and J.R. Ramos-Barrado.

Phosphorus Research Bulletin 15 (2003) 142-145.

54. Crystal structure of $\text{Pb}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.

A. El Bouari and **A. El Jazouli**.

Phosphorus Research Bulletin 15 (2003) 123-126.

53. Elaboration and characterization of two new iron titanium phosphates $\text{Fe}_{0.5}\text{TiO}(\text{PO}_4)$ and $\text{Fe}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.

S. Benmokhtar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau, A. wattiaux, L. Fournès and J. C. Grenier.

Phosphorus Research Bulletin 15 (2003) 127-129.

52. Crystal structure of $\text{Li}_{0.5}\text{Co}_{0.25}\text{TiO}(\text{PO}_4)$.

H. Belmal, **A. El Jazouli** and J. P. Chaminade.

Phosphorus Research Bulletin 15 (2003) 118-122.

51. A new nasicon-like cobalt(II) zirconium phosphate $\text{Na}_3\text{CoZr}(\text{PO}_4)_3$.

A. El Bouari and **A. El Jazouli**.

Proceedings of the 2nd International Conference of the African Materials Research Society, Johannesburg, South Africa, 9-11 December 2003. Edited by Y. Ballim et al., University of Witwatersrand, ISBN: 0-620-31513-X (2003) 156-157.

50. On a new oxyarsenate $\text{Li}_{0.5}\text{Ni}_{0.25}\text{TiO}(\text{AsO}_4)$.

M. Chakir, **A. El Jazouli**, J. P. Chaminade and F. Bouree.

Proceedings of the 2nd International Conference of the African Materials Research Society, Johannesburg, South Africa, 9-11 December 2003. Edited by Y. Ballim et al., University of Witwatersrand, ISBN: 0-620-31513-X (2003) 55-56.

49. X-ray and Raman spectroscopy of BiMgVO_5 .

S. Benmokhtar, **A. El Jazouli**, J.P. Chaminade, P. Gravereau and D. de Waal.

Proceeding of the 2nd International Conference of the African Materials Research Society, Johannesburg, South Africa, 9-11 December 2003. Edited by Y. Ballim et al., University of Witwatersrand, ISBN: 0-620-31513-X (2003) 53-54.

48. Structural characterization of $\text{NaPO}_3\text{-WO}_3$ glasses.

A. Raki, M. Lamire, **A. El Jazouli**, J.J. Videau, D. de Waal and L. Montagne.

Proceedings of the 2nd International Conference of the African Materials Research Society, Johannesburg, South Africa, 9-11 December 2003, ISBN: 0-620-31513-X (2003) 51-52.

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47. Les phosphates : matériaux d'électrodes pour batteries au lithium.

C. Delmas, A. Aatiq and **A. El Jazouli**.

Proceedings de l'Ecole Franco-Maghrébine sur les phosphates. Monastir (2002) 195-206.

46. Determination and Rietveld refinement of the crystal structure of $\text{Li}_{0.50}\text{Ni}_{0.25}\text{TiOPO}_4$ from powder X-ray and neutron diffraction.

B. Manoun, **A. El Jazouli**, J. P. Chaminade, P. Gravereau and F. Bouree.

Powder Diffraction 17 (2002) 290-294.

45. Structural and lithium intercalation of $\text{Mn}_{(0.5-x)}\text{Ca}_x\text{Ti}_2(\text{PO}_4)_3$ phases ($0 \leq x \leq 0.5$).

A. Aatiq, M. Ménétrier, **A. El Jazouli** and C. Delmas.

Solid State Ionics 150 (2002) 391-405.

44. Glass-Crystal Transformation of $\text{Na}_{5-2x}\text{M}_x\text{Ti}(\text{PO}_4)_3$ ($\text{M} = \text{Mg}, \text{Ca}, \text{Cd}, \text{Sr}$).

S. Krimi, **A. El Jazouli**, D. de Wall and J. R. Barrado.

Proceedings of the sixth Conference of the European Society of Glass Science and Technology (Glass Odyssey). Montpellier, 2-6 June 2002. Editor : Université Montpellier II.

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A. Aatiq, C. Delmas, and **A. El Jazouli**.

Journal of Solid State Chemistry 1006 (2001) 169-174.

2000

42. Glass formation in the $\text{Na}_2\text{O}-\text{WO}_3-\text{P}_2\text{O}_5$ system.

A. Raki, H. Fakrane, M. Lamire, **A. El Jazouli** and D. de Waal.

Annales de Chimie Science des Matériaux 25 Supp.1 (2000) S283-287.

41. Preparation and structural study of $\text{Mn}_{0.5-3x}\text{Eu}_{2x}\text{Ti}_2(\text{PO}_4)_3$ phosphates ($0 \leq x \leq 0.1$).

H. Fakrane, M. Lamire, **A. El Jazouli**, R. Olazcuaga and G. Le Flem.

Annales de Chimie Science des Matériaux 25 Supp.1 (2000) S83-87.

40. Preparation and characterization of phosphate glasses containing niobium and Titanium.

B. Chaker, A. Housni, I. Mansouri, D. de Waal, **A. El Jazouli**.

Annales de Chimie Science des Matériaux 25 Supp.1 (2000) S289-292.

39. Structural and magnetic study of $\text{Ni}_{1-x}\text{Cr}_{1-2x}\text{Ti}_{2x}\text{O}(\text{PO}_4)_3$.

B. Manoun, **A. El Jazouli**, P. Gravereau, J.P. Chaminade, J.C. Grenier.

Annales de Chimie Science des Matériaux 25 Supp.1 (2000) S71-74.

38. Glass – crystal transformation of $\text{Na}_{5-2x}\text{Ca}_x\text{Ti}(\text{PO}_4)_3$ phosphates.

S. Krimi, **A. El Jazouli**, A. Lachgar, L. Rabardel, D. de Waal, J. R. Ramos-Barrado.

Annales de Chimie Science des Matériaux 25 Supp.1 (2000) S75-78.

37. Structure of $\text{Na}_2\text{CrTi}(\text{PO}_4)_3$ from powder X ray diffraction.

S. Krimi, S. Benmokhtar, **A. El Jazouli**.

Annales de Chimie Science des Matériaux 25 Supp.1 (2000) S79-82.

1999

36. La viscosité du maltitol.

A. Nakheli, **A. El Jazouli**, M. Elmorabit, E. Ballouki, J. Fornazero and J. Huck.

J. Phys. Condens Matter **11**, 7977-7994, (1999).

35. A new Nasicon-like phosphate $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$. II. Simulation of optical and magnetic properties.

J. Derouet, L. Beaury, P. Porcher, R. Olazcuaga, J. M. Dance, G. Le Flem, A. El Bouari and **A. El Jazouli**.

J. Solid State Chem. 143 (1999) 230-238.

34. A new Nasicon-like phosphate $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$. I. Elaboration, optical and magnetic properties.

R. Olazcuaga, J. M. Dance, G. Le Flem, J. Derouet, L. Beaury, P. Porcher, A. El Bouari, and **A. El Jazouli**.

J. Solid State Chem. 143 (1999) 224-229.

33. Ab initio determination and Rietveld refinement of the crystal structure of $\text{Ni}_{0.5}\text{TiOPO}_4$.

P. Gravereau, J. P. Chaminade, B. Manoun S. Krimi and **A. El Jazouli**.

Powder Diffraction **14** (1999) 10-15.

1998

32. Chemical, structural and magnetic studies of $\text{Mn}_{0.50}\text{Ti}_2(\text{PO}_4)_3$ and its solid solution with $\text{NaTi}_2(\text{PO}_4)_3$.

H. Fakrane, A. Aatiq, M. Lamire, **A. El Jazouli**, C. Delmas.

Annales de Chimie Science des Matériaux 23 (1998) 81-84.

31. Vibrational spectra and factor group analysis of $\text{Mn}_{0.5+x}\text{Ti}_{2-2x}\text{Cr}_{2x}(\text{PO}_4)_3$ ($0 \leq x \leq 0.50$).

R. Pikel, D. de Waal A. Aatiq and **A. El Jazouli**.

Vibrational Spectroscopy 16 (1998) 137-143.

30. Vibrational spectra and factor group analysis of $\text{Li}_{2x}\text{Mn}_{0.5-x}\text{Ti}_2(\text{PO}_4)_3$ ($x = 0, 0.25, 0.50$).

R. Pikel, D. de Waal A. Aatiq and **A. El Jazouli**.

Materials Research Bulletin 33 (1998) 955-961.

29. Crystal structure of $\text{MnTiCr(PO}_4)_3$ and $\text{LiMn}_{0.5}\text{TiCr(PO}_4)_3$.

A. Aatiq, C. Delmas, **A. El Jazouli** and P. Gravereau.

Annales de Chimie Science des Matériaux 23 (1998) 121-124.

28. Preparation and structural study of $\text{Na}_{1-3x}\text{Eu}_x\text{Ti}_2(\text{PO}_4)_3$ phosphates.

H. Fakrane, M. Lamire, **A. El Jazouli**, G. Le Flem and R. Olazcuaga.

Annales de Chimie Science des Matériaux 23 (1998) 77-80.

27. Crystal structure, magnetic and mössbauer investigation of a new Nasicon-type phosphate $\text{Ba}_{0.5}\text{FeNb(PO}_4)_3$.

A. Housni, I. Mansouri, **A. El Jazouli**, R. Olazcuaga and G. Le Flem.

Annales de Chimie Science des Matériaux 23(1998) 73-76.

26. Preparation and structural characterization of two new titanium phosphates $\text{Na}_4\text{Ca}_{0.5}\text{Ti(PO}_4)_3$ and $\text{Ni}_{0.5}\text{TiOPO}_4$.

A. El Jazouli, S. Krimi, B. Manoun, J. P. Chaminade, P. Gravereau and D. De Waal.

Annales de Chimie Science des Matériaux 23(1998) 7-10.

25. Glass-Crystal transformation of $\text{Na}_4\text{Ca}_{0.5}\text{Ti(PO}_4)_3$.

S. Krimi, **A. El Jazouli** and D. de Waal.

Proceedings of the XVIth International Conference on Raman Spectroscopy (ICORS), Cape Town, South Africa, 6-11 September 1998. Edited by A.M. Heyns, Wiley, ISBN 0471 98361 6- (1998) 680-681.

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R. Pikel, D. de Waal, A. Aatiq and **A. El Jazouli**.

Proceedings of the XVIth International Conference on Raman Spectroscopy (ICORS), Cape Town, South Africa, 6-11 September 1998. Edited by A.M. Heyns, Wiley, ISBN 0471 98361 6- (1998) 212-213.

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1981

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A. El Jazouli

Diplôme d'Etudes Supérieures de 3^{ème} cycle (3rd Cycle Doctorate), Solid State Chemistry. Faculty of Sciences, Mohamed V University, Rabat, december 1981.

1979

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Certificat d'Etudes Approfondies (Master). Faculty of Sciences, Mohamed V University, Rabat, june 1979.

12-2. Communications – Talks

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1st Seminar on Materials and Industrial Innovation (SM2I-1), Casablanca, 15-16 Mars 2023.

2022

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A. El Jazouli.

COACH Workshop: Professional Career Development “Empowering Women in Africa to be Leaders in Science and Technology through Career Advancement Opportunities”, 11th African Materials Research Society Conference Dakar, Senegal, December 10-15, 2022.

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S. Kaoua, A. Nazih, S. Krimi, A. El Jazouli, M. Haddad, J.J. Videau and M. Couzi.

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2021

190. Synthesis and physico-chemical characterization of glasses containing cobalt

A. Kaoutar, S. Krimi, **A. El Jazouli**, M. Couzi.

2nd International Congress of Chemical Engineering, Settat, Morocco, 22-23 June, 2021.

189. Elaboration and structure of new Nasicon-type phosphates in $Na_2O-MgO-In_2O_3-Ln_2O_3-P_2O_5$ ($Ln = Eu, Yb$) systems.

A. Nazih, S. Krimi, **A. El Jazouli**, M. Velazquez.

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A. Nazih, S. Krimi, **A. El Jazouli**, M. Velazquez.

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2019

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A. Nazih, S. Krimi, **A. El Jazouli**.

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184. Elaboration and structural characterisation of a new vitreous and crystalline phosphate $\text{Na}_{3.89}\text{Ca}_{0.67}\text{Fe}_{0.23}\text{Ti}_{0.77}(\text{PO}_4)_3$.
A. Nazih, S. Krimi, **A. El Jazouli**, M. Velazquez.

6ème Conférence Internationale de Recherche Scientifique et d'Etudes Doctorales, Ecole Nationale des Sciences Appliquées, Fès, Maroc, 30-31 Juillet 2019.

183. Synthesis and physicochemical characterization of $\text{Na}_2\text{O-MgO-P}_2\text{O}_5$ glasses.

A. Kouatar, **A. El Jazouli**, J.J. Videau, S. Krimi.

6ème Conférence Internationale de Recherche Scientifique et d'Etudes Doctorales, Ecole Nationale des Sciences Appliquées, Fès, Maroc, 30-31 Juillet 2019.

2018

182. Etude structurale et spectroscopique de nouveaux sulfates de fer de type Nasicon.

M. Lamdaouar, **A. El Jazouli**, J.P. Chaminade, P. Graveriau, A. Wattiaux, F. Bourée and M. Couzi.

40^{èmes} Journées du Groupe Francophone de Spectrométrie Mössbauer (GFSM2018), ICMCB, Bordeaux, 17-18 Mai 2018.

2017

181. Synthèse et caractérisation de quelques phosphates à base d'éléments de transition.

F. E. Dardar, M. Gross, S. Krimi, M. Couzi, A. Lachgar, S. Sebti and **A. El Jazouli**.

2ème Rencontre Nationale sur les Phosphates, Matériaux et Environnement (RNPME-2), Casablanca, 2017.

180. Synthèse, caractérisation structurale et stabilité chimiques des verres $\text{Na}_2\text{Mg}_{1-x}\text{M}_x\text{P}_2\text{O}_7$ ($\text{M} = \text{Co}, \text{Ni}, \text{Cu}$).

L. Lamrous, R. Farid, **A. El Jazouli**, S. Krimi, M. Haddad, H. Oudadesse, S. Sebti and M. Couzi.

2ème Rencontre Nationale sur les Phosphates, Matériaux et Environnement (RNPME-2), Casablanca, 2017.

2016

179. Application dans la catalyse hétérogène d'un nouveau matériau NaCaTiP

S. Lamrhari, A. Hassine, S. Krimi, **A. El Jazouli**, S. Sebti

Rencontre Eau, Energie et Matériaux, Casablanca, Mai 2016

178. Elaboration and structural characterization of vitreous $\text{Na}_3\text{Mg}_{1-x}\text{M}_x\text{P}_3\text{O}_{10}$ ($\text{M} = \text{Co}, \text{Cu}; 0 \leq x \leq 1$).

L. Lamrous, R. Farid, **A. El Jazouli**, M. Haddad and M. Couzi.

Journée Scientifique sur les Phosphates et l'Environnement. Faculté des Sciences Ben M'sik. Casablanca 23 mars 2016.

177. Synthesis and structural characterization of $\text{Na}_2\text{O-MO-TiO}_2\text{-P}_2\text{O}_5$ glasses ($\text{M} = \text{Mn}, \text{Ni}, \text{Cu}$).

S. Lamrhari, S. Krimi, M. Haddad, M. Couzi and **A. El Jazouli**.

Journée Scientifique sur les Phosphates et l'Environnement. Faculté des Sciences Ben M'sik. Casablanca 23 mars 2016.

2015

176. New crystalline and vitreous compounds belonging to $\text{Na}_2\text{O-CaO/MnO-TiO}_2\text{-P}_2\text{O}_5$ system.

S. Lamrhari, Z. El Khalidi, **A. El Jazouli**, E. Lebraud, S. Pechev, S. Krimi, M. Haddad, M. Couzi and A. Lachgar.

8th International Conference of the African Materials Research Society. Accra, Ghana, 7-10 December 2015.

175. Synthesis and physicochemical characterization of $\text{Na}_2\text{O-MgO-P}_2\text{O}_5$ Glasses.

L. Lamrous, A. Kaoutar, **A. El Jazouli**, J. J. Videau, S. Krimi, A. Espina, I. Khattech and M. Couzi.

8th International Conference of the African Materials Research Society. Accra, Ghana, 7-10 December 2015.

174. New crystalline and vitreous compounds belonging to $\text{Na}_2\text{O-CaO/MnO-TiO}_2\text{-P}_2\text{O}_5$ system.

S. Lamrhari, Z. El Khalidi, **A. El Jazouli**, E. Lebraud, S. Pechev, S. Krimi, M. Haddad, M. Couzi, A. Lachgar. Rencontre : Phosphates, Matériaux et Environnement. Faculté des Sciences Ben M'sik, Casablanca 27/10/2015.

173. Synthesis and physicochemical characterization of $\text{Na}_2\text{O-MgO-P}_2\text{O}_5$ glasses.

L. Lamrous, A. Kaoutar, **A. El Jazouli**, J.J. Videau, S. Krimi, A. Espina, Khattech and M. Couzi.

Rencontre : Phosphates, Matériaux et Environnement. Faculté des Sciences Ben M'sik, Casablanca 27/10/2015.

172. Vitreous Phosphates in the System $\text{Na}_2\text{O-Li}_2\text{O-CaO-TiO}_2\text{-P}_2\text{O}_5$: Elaboration and Electrical Properties.

F. E. Dardar, **A. El Jazouli**, A. Lachgar, M. Gross and C. Day.

ChemKrist workshop: Powder diffraction of organic compounds, Goethe University, Frankfurt am Main, Germany; 6-8 October 2015

171. Crystal chemistry, properties and applications of phosphates (Plenary Talk).

A. El Jazouli

Crystallography for the next generation: The Legacy of the International Year of Crystallography. Rabat, 22-24 April 2015

170. Crystalline and vitreous $\text{Na}_3\text{Ca}_{1-x}\text{Mn}_x\text{Ti}(\text{PO}_4)_3$ ($0 \leq x \leq 1$): synthesis and structural characterization.

S. Lamrhari, Z. El Khalidi, **A. El Jazouli**, E. Lebraud, S. Pechev, S. Krimi, M. Haddad, M. Couzi, A. Lachgar. 13th International Conference on Frontier of Polymers and Advanced Materials (ICFPAM 2015) - Marrakech, Morocco, 30 March - 02 April, 2015.

169. Synthesis and physicochemical characterization of $(50-x)\text{Na}_2\text{O}-x\text{MgO}-50\text{P}_2\text{O}_5$ ($0 \leq x \leq 50$) Glasses.

A. Kaoutar, L. Lamrous, **A. El Jazouli**, J. J. Videau, S. Krimi, A. Espina, I. Khattech and M. Couzi. 13th International Conference on Frontier of Polymers and Advanced Materials (ICFPAM 2015) - Marrakech, Morocco, 30 March - 02 April, 2015.

2014

168. Role of Bi^{3+} on physical properties of phosphate glass $\text{Na}_5\text{Ti}(\text{PO}_4)_3$.

R. Aït Mouss, S. Krimi, **A. El Jazouli**, G. Benoit, T. Cardinal and M. Couzi. Conférences Matériaux 2014. Montpellier, 24-28 Novembre 2014.

167. Bioverres à base de phosphates du système $\text{Na}_2\text{O}-\text{CaO}-\text{TiO}_2-\text{P}_2\text{O}_5$: Elaboration, caractérisation et évaluation biologique.

S. Lamrhari, R. Siadous, S. Catros, R. Bareille, J-Ch Fricain, J. Amédée and **A. El Jazouli**. Conférences Matériaux 2014. Montpellier, 24-28 Novembre 2014.

166. Vitreous and crystalline phosphates in the $\text{Na}_2\text{O}-\text{Li}_2\text{O}-\text{CaO}-\text{TiO}_2-\text{P}_2\text{O}_5$ system: Elaboration, structural characterization, and electrical and optical properties.

F. Dardar, **A. El Jazouli**, A. Lachgar, M. Gross and C. Day. 23rd Congress of the International Union of Crystallography (IUCr). Montréal, 5-12 August 2014.

165. Copper and silver phosphate glasses: relation between structure and physico-chemical properties.

R. Ait Mouss, S. Krimi, B. Glorieux, T. Cardinal, Y. Petit, I. Khattech, M. Jemal, **A. El Jazouli** and M. Couzi. 23rd International Congress on Glass. Prague, Czech Republic, July 1-5, 2014.

164. Synthèse et étude structurale de quelques phosphates.

F. Dardar, **A. El Jazouli** and A. Lachgar. 5èmes Journées Scientifiques du CEDoc, Facultés des Sciences Ben M'Sik, Casablanca, 26 Juin 2014.

163. Elaboration, caractérisation structurale et étude thermochimique de nouveaux phosphates vitreux ou cristallisés à base d'éléments de transition.

L. Lamrous and **A. El Jazouli**. 5èmes Journées Scientifiques du CEDoc, Facultés des Sciences Ben M'Sik, Casablanca, 26 Juin 2014.

162. The crystal structure of the new $\text{Rb}_2\text{MnP}_2\text{O}_7 \cdot \text{H}_2\text{O}$ diphosphate - *ab initio* determination from X-ray powder diffraction data.

S. Péchev, S. Kaoua, S. Krimi, P. Gravereau, J-P Chaminade and **A. El Jazouli**. 14th European Powder Diffraction Conference (EPDIC14). Aarhus-Danemark, 15-18 June 2014.

2013

161. Structural investigations and calorimetric dissolution of manganese phosphate glasses.

R. Oueslati Omrani, S. Krimi, J. J. Videau, I. Khattech, **A. El Jazouli** and M. Jemal. 6èmes Journées de Chimie de l'Etat Solide, Hammamet, 16-18 Décembre 2013.

160. Synthesis, structure and in vitro behavior of $\text{Na}_2\text{O}-\text{CaO}-\text{TiO}_2-\text{P}_2\text{O}_5$ bioglasses.

S. Lamrhari, R. Siadous, S. Catros, R. Bareille, J. Ch. Frican, J. Amédée, and **A. El Jazouli**. 7th International Conference of the African Materials Research Society. Addis Ababa, Ethiopia, December 8-13, 2013.

159. Structure and color of diphosphate pigments with square pyramid environment around chromophore ions (Co^{2+} , Ni^{2+} ,

Cu²⁺).

A. El Jazouli, B. Tbib, A. Demourgues and M. Gaudon.

7th International Conference of the African Materials Research Society. Addis Ababa, Ethiopia, December 8-13, 2013.

158. Crystal structure of solids (Plenary Talk).

A. El Jazouli.

Crystallography workshop at the 7th International Conference of the African Materials Research Society. Addis Ababa, Ethiopia, December 8-13, 2013.

157. Structure determination from powder diffraction data.

H. El Hafid and **A. El Jazouli.**

Crystallography workshop at the 7th International Conference of the African Materials Research Society. Addis Ababa, Ethiopia, December 8-13, 2013.

156. Synthesis and structural characterization of a new phosphate: Na_{3.89}Ca_{0.67}Al_{0.23}Ti_{0.77}(PO₄)₃.

A. Nazih, S. Péchev, S. Krimi, M. Velazquez, M. Couzi and **A. El Jazouli.**

Crystallography workshop at the 7th International Conference of the African Materials Research Society. Addis Ababa, Ethiopia, December 8-13, 2013.

155. Synthesis, characterization and magnetic properties of two new discovered phases in the PbO-Fe₂O₃-P₂O₅ pseudo-ternary system and of AFe₃O(PO₄)₃ (A = Ca, Sr, Pb) powder compounds.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, E. Véron, M. Couzi, Ph. Goldner, C. Delmas

14th European Conference on Solid State Chemistry (ECSSC-14). Bordeaux, 7-10th July 2013.

154. Crystal growth, structure and magnetic properties of the new ferrimagnetic phosphate PbFe₃O(PO₄)₃.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Weber, O. Viraphong and C. Delmas.

14th European Conference on Solid State Chemistry (ECSSC-14), Bordeaux (France), 7-10th July 2013.

153. Bioverres à base de phosphates du système Na₂O-CaO-TiO₂-P₂O₅ : Elaboration, caractérisation et évaluation biologique.

S. Lamrhari, A. El Jazouli and J. Amédée.

4^{èmes} Journées Scientifiques du CEDoc Sciences et Applications (JSCEDoc-4), Casablanca, 6 Juin 2013.

152. Synthesis, structural characterization and properties of novel inorganic materials phosphates in both crystalline and vitreous forms (Oral).

A. El Jazouli

US-North Africa Workshop: Empowering Women in North Africa to Be Leaders In Science and Technology through Career Advancement. Opportunities in Water, Energy and the Environment with focus on Materials. Casablanca, March 5-8, 2013.

2012

151. Etude thermochimique et structurale des phosphates vitreux appartenant aux systèmes ternaires Na₂O-MnO-P₂O₅ et Na₂O-ZnO-P₂O₅.

R. Oueslati, S. Krimi, J. J. Videau, I. Khattech, **A. El Jazouli** and M. Jemal.

Colloque sur la Chimie du Solide et les Biomatériaux, Casablanca, 6 décembre 2012.

150. Etude structurale d'un nouveau phosphate de titane et d'aluminium.

A. Nazih, **A. El Jazouli**, S. Krimi, S. Pechev and M. Velazquez.

Colloque sur la Chimie du Solide et les Biomatériaux. Casablanca, 6 décembre 2012.

149. Photoluminescence des phosphates NZP : Ln³⁺ (Ln = Sm, Eu, Tb).

A. Assadiki, **A. El Jazouli**, S. Krimi and B. Glorieux.

Colloque sur la Chimie du Solide et les Biomatériaux. Casablanca, 6 décembre 2012.

148. Elaboration, structures, spectroscopic characterization and properties of some crystalline and vitreous metal phosphates (Plenary Talk).

A. El Jazouli.

12^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-12). Casablanca, 21-23 Novembre 2012.

147. Crystal growth, structure and magnetic properties of the new ferrimagnetic phosphate $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A}=\text{Ca}, \text{Sr}, \text{Pb}$) series of compounds.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Veber, O. Viraphong, E. Véron, and C. Delmas.

12ème Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCE-12). Casablanca, 21-23 Novembre 2012.

146. Structural and thermochemical study of phosphate glasses in the ternary systems: $\text{Na}_2\text{O}-\text{MO}-\text{P}_2\text{O}_5$ ($\text{M} = \text{Mn}$ or Zn).

R. Oueslati, S. Krimi, J. J. Videau, I. Khattech, **A. El Jazouli** and M. Jamel.

12ème Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCE-12). Casablanca, 21-23 Novembre 2012.

145. Relation cristallographie – luminescence appliquée aux phosphates.

B. Glorieux, A. Assadiki, A. Boukhris, A. Kanunnov, S. Krimi, A. El Jazouli, H. Jebri, M. Ben Amara, D. Milkhaïlov and A. Orlova.

12ème Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCE-12). Casablanca, 21-23 Novembre 2012.

144. Crystal growth, structure and magnetic properties of the new ferrimagnetic phosphate $\text{PbFe}_3\text{O}(\text{PO}_4)_3$.

H. El Hafid, M. Velázquez, **A. El Jazouli**, E. Véron, O. Pérez, A. Pautrat, A. Wattiaux, Ph. Veber, O. Viraphong, R. Decourt and C. Delmas.

Meeting "Journées Cristech 2012". Carry-le-Rouet (France), 15-17th october 2012.

143. Crystalline and vitreous transition metal phosphates: Elaboration, structure, characterization and properties.

A. El Jazouli

Indaba 7, South African Crystallographic Society School, Skukuza Kruger National Park, South Africa, September 2-7, 2012.

142. Structure cristalline et propriétés magnétiques d'une nouvelle série d'oxyphosphates ferrimagnétiques $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Sr}, \text{Pb}$).

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Veber, O. Viraphong, E. Véron, and C. Delmas.

13èmes Journées de la Matière Condensée (JMC-13), Montpellier, 27-31 août 2012.

141. Structure and magnetic properties of the new ferrimagnetic $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Sr}, \text{Pb}, \text{Cd}$) compounds.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Veber, O. Viraphong and C. Delmas.

19th International Conference on Magnetism with Strongly Correlated Electron System. Bexcon, Busan, South Korea, 8-13 July 2012.

140. Crystal growth, structure and magnetic properties of the new ferrimagnetic oxyphosphate $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Sr}, \text{Pb}$) series of compounds.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Veber, O. Viraphong, E. Véron, and C. Delmas.

4th International Symposium on Structure-Property Relationships in Solid State Materials (SPSSM 4), Bordeaux, 24-29 June 2012.

139. Structural and photoluminescence characterization of rare earth doped $\text{NaZr}_2(\text{PO}_4)_3$.

A. Assadiki, **A. El Jazouli**, S. Krimi and B. Glorieux.

4th International Symposium on Structure-Property Relationships in Solid State Materials. Bordeaux, June 24 - 29, 2012.

138. Structural characterization, chemical durability and thermochemical study of $\text{Na}_2\text{O} - \text{MO} - \text{P}_2\text{O}_5$ glasses ($\text{M} = \text{Mg}, \text{Mn}, \text{Zn}$).

R. Oueslati, A. Kaoutar, **A. El Jazouli**, S. Krimi, I. Khattech, M. Jemal, J.J. Videau and M. Couzi

4th International Symposium on Structure-Property Relationships in Solid State Materials, Bordeaux, France, 24–29 June 2012.

2011

137. Ferrimagnetism in a new family of transition metal phosphate compounds.

H. El Hafid, M. Velázquez, **A. El Jazouli**, O. Pérez, R. Decourt, Ph. Weber, O. Viraphong and C. Delmas

Rencontre Nationale des Chercheurs en Chimie (RN2C), Casablanca, Morocco, 25-26 mai 2011.

136. Les phosphates pour l'éclairage : Exemple d'utilisation de la richesse des phosphates.

B. Glorieux, A. Boukhris, A. Assadiki, A. Kanunnov, H. Jerbi, M. Hidouri, M. Ben Amara, D. Mikhailov, **A. El Jazouli**, A. Orlova.

5^{èmes} Journées de la Chimie du Solide (Société Chimique de Tunisie). Zarsis, 18-22 décembre 2011

1365 Etude thermochimique et structurale des phosphates vitreux appartenant aux systèmes ternaires : $\text{Na}_2\text{O}-\text{MnO}-\text{P}_2\text{O}_5$ et $\text{Na}_2\text{O}-\text{ZnO}-\text{P}_2\text{O}_5$.

R. Oueslati, S. Krimi, **A. El Jazouli**, J. J. Videau and M. Jemal.

5^{èmes} Journées de Chimie de l'Etat Solide (Société Chimique de Tunisie). Zarzis, 19-22 Décembre 2011.

134. Christallochemistry of Materials (Plenary).

A. El Jazouli

Crystallography Workshop at the 6th International Conference of the African Materials Research Society, Victoria Falls, Zimbabwe, December 10-16, 2011.

133. Synthesis and structural characterization of glasses belonging to the $\text{Na}_2\text{O}-\text{MnO}-\text{TiO}_2-\text{P}_2\text{O}_5$ system.

S. Kaoua, S. Krimi, **A. El Jazouli**, M. Haddad, J. J. Videau and M. Couzi.

6th International Conference of the African Materials Research Society. Victoria Falls, Zimbabwe, December 10-16, 2011.

131. Crystallographic structure determination and magnetic characterization of the new ferrimagnetic oxyphosphate $\text{PbFe}_3\text{O}(\text{PO}_4)_3$.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Veber, O. Viraphong and C. Delmas.

6th International Conference of the African Materials Research Society. Victoria Falls, Zimbabwe, December 10-16, 2011.

130. Syntheses, crystal structures and properties of some transition metal phosphates (Plenary Talk).

A. El Jazouli, S. Kaoua, S. Krimi, S. Pechev, P. Gravereau, J. P. Chaminade and M. Couzi.

7th International Symposium on Inorganic Phosphate Materials ISIPM-7, Argonne National Lab, Chicago, November 8-11, 2011.

129. Crystal structure of new alkaline diphosphates in the $\text{A}_2\text{Mn}^{\text{II}}\text{P}_2\text{O}_7$ family.

S. Péchev, S. Kaoua, S. Krimi, P. Gravereau, J. P. Chaminade and **A. El Jazouli**

22nd Congress and General Assembly of the International Union of Crystallography. Madrid, Spain, August 2011.

2010

128. Contribution à l'étude thermochimique et structurale de verres phosphates appartenant au système ternaire : $\text{Na}_2\text{O} - \text{MgO} - \text{P}_2\text{O}_5$.

A. Kaoutar, R. Oueslati, **A. El Jazouli** and M. Jemal

16^{èmes} Journées Nationales de Chimie (Société Chimique de Tunisie), Hammamet, 19-22 Décembre 2010.

127. Verres phosphates à base d'élément de transition $\text{Na}_2\text{O} (\text{MO}) - \text{TiO}_2 (\text{V}_2\text{O}_5) - \text{P}_2\text{O}_5$.

S. Krimi, S. Kaoua and **A. El Jazouli**.

16^{èmes} journées Nationales de Chimie (Société Chimique de Tunisie). Hammamet, 19-22 Décembre 2010.

126. Phosphates Materials Research in Morocco (Plenary).

A. El Jazouli

Second Meeting on Materials for Energy, Health and Environment: Research and Education (MEHERE-II). Casablanca, 23-26 November 2010 .

125. Elaboration and structural characterization of some transition metal phosphates and sulfates (Plenary Talk).

A. El Jazouli

First North African Crystallographic Conference (NACC1). Casablanca, 23-26 November 2010

124. Synthesis and crystal structure of $\text{Cs}_2\text{MnP}_2\text{O}_7$.

S. Kaoua, S. Krimi, S. Pechev, P. gravereau, J. P. Chaminade and A. El Jazouli.

First North African Crystallographic Conference (NACC1). Casablanca, 23-26 November 2010.

123. Etude structurale, thermochimique et optique des phosphates vitreux ou cristallisés des systèmes $\text{Na}_2\text{O}-\text{MO}-\text{P}_2\text{O}_5$ (M=Mg, Co, Ni, Cu).

A. Kaoutar et **A. El Jazouli**.

1^{ères} Journées Scientifiques du CEDoc Sciences et Applications (JSCEDoc-1). Casablanca, 22-23 Juin 2010.

122. Bioverres et biocéramiques à base de phosphates de calcium et de titane.

A. Nazih et **A. El Jazouli**.

1^{ères} Journées Scientifiques du CEDoc Sciences et Applications (JSCEDoc-1). Casablanca, 22-23 Juin 2010.

121. Crystal growth, structure and magnetic properties of the new ferrimagnetic oxyphosphate $\text{AFe}_3\text{O}(\text{PO}_4)_3$ ($\text{A} = \text{Ca}, \text{Sr}, \text{Fe}$) series of compounds.

H. El Hafid, M. Velázquez, O. Pérez, **A. El Jazouli**, A. Pautrat, R. Decourt, Ph. Veber, O. Viraphong, E. Veron and C. Delmas.

Rencontre Nationale des Chercheurs en Chimie (RN2C), Casablanca, May 2010.

2009

120. Les Phosphates de Métaux de Transition Vitreux ou Cristallisés : Elaboration, Structure et Propriétés (Plenary Talk).

A. El Jazouli

4^{ème} Journées de Chimie du Solide, Zarzis, Tunisie, 21-24 Décembre 2009.

119. $\text{Li}_{0.25}\text{M}_{0.25}\text{TiO}(\text{AsO}_4)$ ($\text{M}=\text{Co}, \text{Ni}, \text{Zn}$) arsenates : crystal structure, vibrational and optical properties.

M. Chair, **A. El Jazouli**, J. P. Chaminade, F. Bourée and D. de Wall.

5th International Conference of the African Materials Research Society. Abuja, Nigeria, December 14-18, 2009.

118. Crystal Structure of Phosphates (Plenary Talk).

A. El Jazouli and G. Le Elem

5th International Conference of the African Materials Research Society. Abuja, Nigeria, December 14-18, 2009.

117. Phosphates de Métaux de Transition Cristallisés ou Vitreux: Elaboration, Structure et Propriétés (Plenary).

A. El Jazouli

2^{ème} Colloque sur la Physico-Chimie des Matériaux. Casablanca, 8 Décembre 2009.

116. Crystal structure of $\text{Na}_3\text{MgTi}(\text{PO}_4)_3$.

S. Krimi, **A. El Jazouli** and A. Lachgar.

25th European Crystallographic Meeting. Istanbul, August 16-19, 2009.

115. Synthesis, crystal structure and vibrational and optical spectra of $\text{Sr}_{0.5}\text{Zr}_2(\text{AsO}_4)_3$.

A. El Jazouli, A. Jriji, J. P. Chaminade and M. Couzi.

25th European Crystallographic Meeting. Istanbul, August 16-19, 2009.

114. Crystal structure of $\text{Zn}(\text{TiO})_2(\text{PO}_4)_2$.

A. El Jazouli, H. Belmal and J. P. Chaminade.

25th European Crystallographic Meeting. Istanbul, August 16-21, 2009.

113. Structural filiation in $\text{M}^{\text{II}}(\text{M}^{\text{IV}}\text{O})_2(\text{PO}_4)_2$.

P. Graveriau, S. Kaoua, J. P. Chaminade, S. Krimi, S. Benmokhtar and **A. El Jazouli**.

25th European Crystallographic Meeting, Istanbul, August 16-19, 2009.

112. Elaboration and Structural Characterization of Functional Phosphates (Invited Talk).

A. El Jazouli

Morocco-Spanish Workshop on Materials, Rabat, May 11-12, 2009.

111. Crystal structure of $\text{Zn}(\text{TiO})_2(\text{PO}_4)_2$.

H. Belmal, **A. El Jazouli** and J. P. Chaminade.

11^{ème} Rencontre Procaine sur la Chime des Phosphates (REMCES-XI). Kénitra, 16-18 Avril 2009.

110. Synthesis, crystal structure and thermal study of the oxyphosphates $\text{M}(\text{VO})_2(\text{PO}_4)_2$ ($\text{M} = \text{Co}, \text{Ni}$).

S. Kaoua, S. Krimi, J. P. Chaminade, P. Graveriau, S. Pechev and **A. El Jazouli**.

Third Conference on the Valorization of Phosphates and Phosphorus Compounds (COVAPHOS-III). Marrakech, 18th-20th March 2009.

109. Preparation et caractérisation des verres phosphates $\text{Na}_{5-2x}\text{Mn}_x\text{Ti}(\text{PO}_4)_3$.

S. Krimi, S. Kaoua, **A. El Jazouli** and J.J. Videau.

Third Conference on the Valorization of Phosphates and Phosphorus Compounds (COVAPHOS-III). Marrakech, 18th-20th March 2009.

2008

108. Préparation et caractérisation physico-chimique du nouveau sulfate $\text{Li}_{0.25}\text{Cu}_{0.25}\text{Cr}_{1.75}(\text{SO}_4)_3$.

M. Lamdaouar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau and M. Couzi.

XI^{èmes} Journées Maghrébines des Sciences des Matériaux; JMSM-2008. Mahdi, Tunisie, 04-08 novembre 2008.

107. Study of vitreous and crystalline $\text{Na}_{5-2x}\text{Cd}_x\text{Ti}(\text{PO}_4)_3$ phosphates ($0 \leq x \leq 0.5$).

S. Krimi, **A. El Jazouli**, J. P. Chaminade, A. Lachgar, D. de Waal and J. R. Ramos-Barrado.

XI^{èmes} Journées Maghrébines des Sciences des Matériaux; JMSM-2008. Mahdia, Tunisie, 04-08 novembre 2008.

106. Elaboration and Structural Characterization of Functional Phosphates (Plenary Talk).

A. El Jazouli

First Health Brokerage Event Under FP7. Cooperation between the EU and the Mediterranean Partners. Cairo, Egypt, October 29-31, 2007.

2007

105. Synthesis, characterization and ionic conductivity of a new lithium sulfate: $\text{Li}_{0.25}\text{Co}_{0.25}\text{Fe}_{1.75}(\text{SO}_4)_3$.

M. Lamdaouar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau, M. Couzi, F. Mauvy and A. Wattiaux.

Fourth International Conference of the African Material Research Society. Dar Es Salaam, Tanzania, December 10-14, 2007.

104. Synthesis and structural resolution of a new titanium oxyphosphate: $\text{Mg}_{0.125}\text{Cu}_{0.375}\text{TiO}(\text{PO}_4)$.

K. Barnace, S. Benmokhtar, **A. El Jazouli**, J. P. Chaminade and P. Gravereau.

Fourth International Conference of the African Material Research Society. Dar Es Salaam, Tanzania, December 10-14, 2007.

103. Synthesis and crystal structure of a new cobalt vanadium (IV) oxyphosphate, $\text{Co}(\text{VO})_2(\text{PO}_4)_2$.

S. Kaoua, P. Gravereau, J. P. Chaminade, S. Pechev, S. Krimi, and **A. El Jazouli**.

Fourth International Conference of the African Material Research Society. Dar Es Salaam, Tanzania, December 10-14, 2007.

102. Structural determination by Rietveld method from powder diffraction data (Invited Talk).

A. El Jazouli

Crystallography Workshop at the Fourth International Conference of the African Material Research Society. Dar Es Salaam, Tanzania, December 10-14, 2007.

101. Introduction à la RPE (Plenary Talk).

A. El Jazouli

First African Summer School on Materials: Tutorials on Chemistry and Physics of Inorganic and Nanostructured Materials. Casablanca, May 28-31, 2007.

100. Introduction aux Méthodes d'Elaboration des Matériaux Polycristallins (Plenary Talk).

A. El Jazouli

First African Summer School on Materials: Tutorials on Chemistry and Physics of Inorganic and Nanostructured Materials. Casablanca, May 28-31, 2007.

099. Phosphate Materials Research in Morocco (Plenary Talk).

A. El Jazouli

US/Africa Workshop on Frontiers in Materials Research and Education. Abuja, Nigeria, January 21-25, 2007.

2006

098. On a new oxyarsenate $\text{Li}_{0.5}\text{Co}_{0.25}\text{TiO}(\text{AsO}_4)$.

M. Chakir, **A. El Jazouli**, J. P. Chaminade, F. Bourée and D. de Waal.

Xèmes Journées Maghrébines des Sciences des Matériaux (JMSM-2006), Meknès, 24-26 novembre 2006.

097. Synthesis and structure of $\text{Ca}_{0.5}\text{Zr}_2(\text{AsO}_4)_3$

A. Jriif, **A. El Jazouli** and J. P. Chaminade.

Xèmes Journées Maghrébines des Sciences des Matériaux (JMSM-2006), Meknès, 24-26 novembre 2006.

096. Structure et caractérisations physico-chimiques du sulfate $\text{Li}_{0.25}\text{Zn}_{0.25}\text{Fe}_{1.75}(\text{SO}_4)_3$.

M. Lamdaour, **A. El Jazouli**, J. P. Chaminade, P. Gravereau, M. Couzi and A. Wattiaux.

Xèmes Journées Maghrébines des Sciences des Matériaux (JMSM-2006), Meknès, 24-26 novembre 2006.

095. Etude vibrationnelle infrarouge et Raman des phosphates $\text{Na}_{1+x}\text{M}_{x/2}\text{Zr}_{2-x/2}(\text{PO}_4)_3$ ($\text{M}=\text{Mg, Mn, Co, Ni}$).

M. Chakir, A. Faik, **A. El Jazouli** and D. De Waal.

Xèmes Journées Maghrébines des Sciences des Matériaux (JMSM-2006), Meknès, 24-26 novembre 2006.

094. Etude magnétique et RPE des verres $\text{Na}_{5-x}\text{Ti}_{1-x}\text{V}_x(\text{PO}_4)_3$ ($0 \leq x \leq 1$).

S. Kaoua, S. Krimi, **A. El Jazouli** and E. K. Hlil.

Xèmes Journées Maghrébines des Sciences des Matériaux (JMSM-2006), Meknès, 24-26 novembre 2006.

093. Transition de phases et études structurales de $\text{Zn}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.

A. El Bouari, J. P. Chaminade, S. Pechev, E. Lebraud, P. Gravereau and **A. El Jazouli**.

2nd International Conference on the Valorization of Phosphates and Phosphorus "COVAPHOS-II", Marrakech, 9-11 November 2006.

092. Structural study of some titanium phosphates of the $\text{M}^{\text{II}}\text{O}-\text{TiO}_2-\text{P}_2\text{O}_5$ systems, M^{II} = divalent ions (Plenary).

A. El Jazouli, A. El Bouari, H. Belmal, S. Benmokhtar, J. P. Chaminade, P. Gravereau, M. Ménétrier and D. de Waal.

2nd International Conference on the Valorization of Phosphates and Phosphorus "COVAPHOS-II", Marrakech, 9-11 November 2006.

091. Etude structurale et spectroscopique des arsénates $\text{Li}_{0.5}\text{M}_{0.25}\text{TiOAsO}_4$ ($\text{M} = \text{Co, Ni, Zn}$).

M. Chakir, **A. El Jazouli**, J. P. Chaminade, F. Bourée and D. de Waal.

Colloque de l'Association Française de Cristallographie (AFC 2006), Toulouse 10-13 July 2006.

090. Structure and Phase Transition Phase of $\text{Cu}_{0.5}\text{TiO}(\text{PO}_4)$.

J. P. Chaminade, P. Gravereau, S. Benmokhtar, **A. El Jazouli**, E. Lebraud and S. Pechev.

IVème Rencontre Franco-Espagnole sur la Chimie et la Physique de l'Etat Solide, Bilbao, Espagne, 4-6 avril 2006.

2005

089. On a new series of titanium oxyphosphates.

A. El Jazouli, S. Benmokhtar, B. Manoun, H. Belmal, J. P. Chaminade, P. Gravereau, M. Ménétrier, D. de Waal and F. Bourée.

Third International Conference of the African Materials Research Society, Marrakech, 8-10 December 2005.

088. Preparation and Characterization of Phosphate Glasses Containing Titanium and Vanadium.

S. Kaoua, S. Krimi, **A. El Jazouli**, E. K. Hlil and D. de Waal.

Third International Conference of the African Materials Research Society, Marrakech, December 2005.

087. Synthesis and structural characterization of the new $\text{Ti}_2\text{O}(\text{OH}_2)(\text{PO}_4)_2$ oxyphosphate.

S. Benmokhtar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau, M. Ménétrier, F. Bourée and D. de Waal.

2nd IMPHOS Workshop : "International Workshop on Phosphorus and Phosphate Compounds", Kasugai, Japon, 6-8 septembre 2005.

086. Structure and, optical, magnetic and Mössbauer properties of $\text{Na}_2\text{FeSn}(\text{PO}_4)_3$.

A. El Bouari, **A. El Jazouli**, A. Wattiaux and P. Gravereau.

2nd IMPHOS Workshop : "International Workshop on Phosphorus and Phosphate Compounds", Kasugai, Japon, 6-8 septembre 2005.

085. Jahn Teller transition phase in the oxyphosphate $\text{Cu}_{0.5}\text{TiO}(\text{PO}_4)$.

J. P. Gravereau, S. Benmokhtar, J. P. Chaminade, **A. El Jazouli**, E. Lebraud and S. Pechev.

XXth Congress of the International Union of Crystallography, Florence, Italie, 23-31 August 2005.

084. Phase transition and structure of $\text{Zn}_{0.5}\text{Ti}_2(\text{PO}_4)_3$ phosphate.

J. P. Chaminade, A. El Bouari, **A. El Jazouli**, E. Lebraud, S. Pechev and P. Gravereau.

XXth Congress of the International Union of Crystallography, Florence, Italie, 23-31 August 2005.

083. Conception et utilisation des verres (Plenary Talk).

A. El Jazouli

Journée Scientifique, Faculté des Sciences Ben M'Sik, Casablanca, July 8, 2005.

082. Propriétés et approche structurale des verres issus du système $\text{Na}_2\text{WO}_4\text{-WO}_3\text{-WOP}_2\text{O}_7$.

A. El Bouari, **A. El Jazouli** et J. J. Videau.

REMCES 10, Séminaire International sur la Physico-Chimie des Matériaux, Meknès, Maroc, 7-29 avril 2005.

081. Structure et caractérisations physicochimiques de $\text{Cu}_{0.5}\text{TiOPO}_4$.

S. Benmokhtar, H. Belmal, J. P. Chaminade, P. Gravereau, G. Villeneuve, J. C. Grenier, D. de Waal and **A. El Jazouli**.

REMCES 10, Séminaire International sur la Physico-Chimie des Matériaux, Meknès, Maroc, 27-29 avril 2005.

2004

080. Structural study of some titanium phosphates nasiglass.

A. El Jazouli, S. Krimi, A. Lachgar, D. de Waal and J. R. Berrado.

First Conference on the Valorisation of Phosphates and Phosphorus Compounds, COVAPHOS-I, Marrakech, October 2004

079. Etude cristallographique de quelques phosphates de la famille Nasicon.

M. Chakir, A. Faik and **A. El Jazouli**.

First Conference on the Valorization of Phosphates and Phosphorus Compounds, COVAPHOS-I, Marrakech, October 2004

078. Absorbeurs UV à base de phosphates de titane.

A. El Jazouli, H. Belmal, A. El Bouari, S. Krimi et S. Benmokhtar.

First Conference on the Valorisation of Phosphates and Phosphorus Compounds, COVAPHOS-I, Marrakech, October 2004.

077. Synthesis and X-ray characterization of $\text{Na}_{(1+x)}\text{M}_{x/2}\text{Zr}_{(2-x/2)}(\text{PO}_4)_3$ ($\text{M} = \text{Mg, Mn, Co, Ni}$; $0 \leq x \leq 3$) phosphates.

M. Chakir, A. Faik and **A. El Jazouli**.

Journée Matériaux, FST, Mohammedia, 4 Juin 2004.

2003

076. The new oxyvanadate BiMgVO_5 : synthesis, structure, vibrational spectra and optical properties.

S. Benmokhtar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau, F. Guillen and D. de Waal.

2nd International Conference of the African Materials Research Society (MRS-Africa), Johannesburg, South Africa, 8-11 december 2003.

075. On a new oxyarsenate $\text{Li}_{0.5}\text{Ni}_{0.25}\text{TiO}(\text{AsO}_4)$.

M. Chakir, **A. El Jazouli**, J. P. Chaminade and F. Bourée.

2nd International Conference of the African Materials Research Society (MRS-Africa), Johannesburg, South Africa, 8-11 december 2003.

2002

074. Synthesis and crystal structure of the new vanadate BiMgVO_5 .

S. Benmokhtar, **A. El Jazouli**, S. Krimi, J. P. Chaminade and P. Gravereau.

1st Conference of the African Materials Research Society, Africa-MRS, Dakar, Sénégal, 10-17 december 2002.

073. Synthesis, structure and characterisation of the new oxyphosphate $\text{Mg}_{0.5}\text{TiO}(\text{PO}_4)$.

S. Benmokhtar, **A. El Jazouli**, S. Krimi, J. P. Chaminade and P. Gravereau.

1st Conference of the African Materials Research Society, Africa-MRS, Dakar, Sénégal, 10-17 december 2002.

072. Structure and vibrational study of $\text{Na}_3\text{NiZr}(\text{PO}_4)_3$.

M. Chakir, **A. El Jazouli**, J. P. Chaminade and D. de Waal.

1st Conference of the African Materials Research Society, Africa-MRS, Dakar, Sénégal, 10-17 december 2002.

071. Structural and vibrational study of $\text{Li}_{0.5}\text{Zn}_{0.25}\text{TiO}(\text{AsO}_4)$.

M. Chakir, **A. El Jazouli**, J. P. Chaminade and D. de Waal.

1st Conference of the African Materials Research Society, Africa-MRS, Dakar, Sénégal, 10-17 december 2002.

070. Structural study of $\text{Cu}_{0.5}\text{TiO}(\text{PO}_4)$.

H. Belmal, S. Benmokhtar, **A. El Jazouli**, J. P. Chaminade and P. Gravereau.

REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.

069. Crystal structure of $\text{Na}_{3+x}\text{Cr}_{2-x}\text{Co}_x(\text{PO}_4)_3$ ($0 \leq x \leq 1$).

- M. Chakir, H. El Kinani, **A. El Jazouli**, A. Lachgar and J. P. Chaminade.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 068.** Structural study of the oxyphosphates $\text{Li}_{1-2x}\text{Ni}_x\text{TiO}(\text{PO}_4)$ ($0 \leq x \leq 0.5$).
B. Manoun, H. Belmal, **A. El Jazouli**, P. Gravereau, J. P. Chaminade, D. de Waal, F. Bouree and T. Roisnel.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 067.** Crystal structure of $\text{Na}_{0.25}\text{Bi}_{0.75}\text{Ti}_2(\text{PO}_4)_3$.
A. Raki, S. Krimi, M. Lamire, **A. El Jazouli** and R. Olazcuaga.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 066.** Glass-crystal transformation of $\text{NaWO}_2(\text{PO}_4)$.
A. Raki, H. Fakrane, M. Lamire, **A. El Jazouli**, D. de Waal and J. J. Videau.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 065.** Crystallochemistry and thermal dilatation of $\text{M}_{0.5}\text{FeNb}(\text{PO}_4)_3$ ($\text{M} = \text{Cd}, \text{Ca}, \text{Sr}, \text{Pb}, \text{Ba}$).
A. Housni, I. Mansouri, **A. El Jazouli**, R. Olazcuaga and G. Le Flem.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 064.** Crystal structure of $\text{Pb}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.
A. El Bouari and **A. El Jazouli**.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 063.** Crystal structure and vibrational spectra of $\text{LiTiO}(\text{P}_{1-x}\text{As}_x\text{O}_4)$ ($0 \leq x \leq 1$).
M. Chakir, **A. El Jazouli**, J.P. Chaminade, D. de Waal and F. Bourée.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 062.** Structural study of $\text{Na}_x\text{Mg}_x\text{Cr}_{2-x}(\text{SO}_4)_3$ ($0 \leq x \leq 1$).
A. Jriifi, **A. El Jazouli**, F. Bourée, R. Llustar and D. de Waal.
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 061.** Vers une nouvelle application des phosphates : les pigments (Plenary Talk).
A. El Jazouli
REMCES 9, Séminaire International sur la Physico-Chimie des Matériaux, Agadir, 30 octobre-1er novembre, 2002.
- 060.** Vitreous and crystalline titanium phosphates: elaboration, structure and properties (Plenary Talk).
A. El Jazouli.
IMPHOS Workshop "Phosphates: New uses - New technologies", Jena, Germany, July 10-13, 2002.
- 059.** Crystal structure of $\text{Li}_{0.50}\text{Co}_{0.25}\text{TiO}(\text{O}_4)$.
H. Belmal, **A. El Jazouli** and J. P. Chaminade.
IMPHOS Workshop "Phosphates: New uses - New technologies", Jena, Germany, July 10-13, 2002.
- 058.** Crystal structure of $\text{Pb}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.
A. El Bouari and **A. El Jazouli**.
IMPHOS Workshop "Phosphates: New uses - New technologies", Jena, Germany, July 10-13, 2002.
- 057.** Elaboration and characterization of two new titanium phosphates $\text{Fe}_{0.5}\text{TiO}(\text{PO}_4)$ and $\text{Fe}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.
S. Benmohktar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau, A. Wattiaux, L. Fournes and J. C. Grenier.
IMPHOS Workshop "Phosphates: New uses - New technologies", Jena, Germany, July 10-13, 2002.
- 056.** Glass crystal transformation of $\text{Na}_3\text{MgTi}(\text{PO}_4)_3$ phosphate.
S. Krimi, **A. El Jazouli**, A. Lachgar and J. R. Ramos-Barrado.
IMPHOS Workshop "Phosphates: New uses, New technologies", Jena, Germany, July 10-13, 2002.
- 055.** Glass - Crystal Transformation of $\text{Na}_{5-2x}\text{M}_x\text{Ti}(\text{PO}_4)_3$ ($\text{M} = \text{Mg}, \text{Ca}, \text{Cd}, \text{Sr}$).
S. Krimi, **A. El Jazouli**, D. de Wall and J. R. Ramos-Barrado.
6th Conference of the European Society of Glass Science and Technology, Montpellier, France, 2-6 June 2002.

054. Lithium intercalation in the $\text{Mn}_{0.5}\text{Ti}_2(\text{PO}_4)_3$ Nasicon-type phase.

C. Delmas, A. Aatiq, M. Ménétrier and **A. El Jazouli**.

International Conference on Solid State Ionics (SSI 2001) Cairns, Australia, July 18-13, A-PO-05 (2001) 58.

2000

053. Elaboration, étude radiocristallochimique et par spectroscopie Raman du germanate $\text{Li}_2\text{TiGeO}_5$.

M. Chakir, **A. El Jazouli** et D. de Waal.

1^{ère} Rencontre Marocaine de Spectroscopie et d'Optique, Casablanca, 10 Juin 2000.

052. Etude structurale et spectroscopique de l'oxyphosphate $\text{Co}_{0.5}\text{TiOPO}_4$.

H. Belmal, S. Benmokhtar, **A. El Jazouli**, J. P. Chaminade, P. Gravereau et D. de Waal.

1^{ère} Rencontre Marocaine de Spectroscopie et d'Optique, Casablanca, 10 Juin 2000.

051. Etude structurale et spectroscopique des phosphates $\text{Na}_3\text{AZr}(\text{PO}_4)_3$ (A=Mg, Ni)

M. Chakir, **A. El Jazouli** et D. de Waal.

1^{ère} Rencontre Marocaine de Spectroscopie et d'Optique. Casablanca, 10 Juin 2000.

1999

050. Les phosphates de titane : élaboration, structures et propriétés (Plenary Talk).

A. El Jazouli.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES VIII), Tetouan, Octobre 1999.

049. Transition verre - cristal des phosphates $\text{Na}_{5-2x}\text{Ca}_x\text{Ti}(\text{PO}_4)_3$ ($0 \leq x \leq 1$).

S. Krimi, **A. El Jazouli**, A. Lachgar, L. Rabardel, D. de Waal and J. R. Ramos-Barrado.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

048. Etude structurale des phosphates $\text{Na}_{5-3x}\text{M}_x\text{Ti}(\text{PO}_4)_3$ (M = Al, Cr, Fe).

S. Benmokhtar, S. Krimi, **A. El Jazouli** and D. de Waal.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES VIII), Tetouan, Octobre 1999.

047. Etude structurale et magnétique des oxyphosphates $\text{Ni}_{1-x}\text{Cr}_{1-2x}\text{Ti}_{2x}\text{O}(\text{PO}_4)$.

B. Manoun, **A. El Jazouli**, P. Gravereau, J. P. Chaminade and J. C. Grenier.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

046. Elaboration et étude structurale et électrique des verres du système $\text{Na}_2\text{O} - \text{Al}_2\text{O}_3 - \text{P}_2\text{O}_5$.

A. El Bouari, **A. El Jazouli**, D. de Waal and J. R. Ramos-Barrado.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

045. Etude par spectroscopie vibrationnelle des verres du système $\text{Na}_2\text{O} - \text{WO}_3 - \text{P}_2\text{O}_5$.

H. Fakrane, A. Raki, M. Lamire, **A. El Jazouli** et D. de Waal.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

044. Preparation and structural study of $\text{Mn}_{0.5-3x}\text{Eu}_{2x}\text{Ti}_2(\text{PO}_4)_3$ phosphates ($0 \leq x \leq 0.1$).

H. Fakrane, M. Lamire, **A. El Jazouli**, R. Olazcuaga and G. Le Flem.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

043. On the structure and electrochemical study of $\text{Li}_{0.5}\text{Mn}_{0.5}\text{Ti}_{1.5}\text{Cr}_{0.5}(\text{PO}_4)_3$.

A. Aatiq, C. Delmas and **A. El Jazouli**.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

042. Simulation des propriétés optiques et magnétiques de Ni^{2+} ($3d^8$) dans $\text{Ni}_{0.50}\text{TiO}(\text{PO}_4)$. Application à un ion $4d^2$: Mo^{4+} dans CaMoF_6 .

J. Derouet, L. Beaury, P. Porcher **A. El Jazouli**, B Manoun and S. Llorente.

8^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VIII), Tetouan, Octobre 1999.

1998

041. Glass - Crystal transformation of $\text{Na}_4\text{Ca}_{0.5}\text{Ti}(\text{PO}_4)_3$.

S. Krimi, **A. El Jazouli** and D. de Waal.

XVIth International Conference on Raman Spectroscopy (ICORS), Cape Town, South Africa, 6-11 September 1998.

040. Vibrational spectra of $\text{Ni}_{0.5}\text{TiO}(\text{PO}_4)$ B. Manoun, **A. El Jazouli**, D. de Waal and R. Pikel16th International Conference on Raman Spectroscopy (ICORS), Cape Town, South Africa, 6-11 September 1998.**039.** Vibrational spectra of $\text{Li}_{1-2x}\text{Mn}_x\text{Ti}_2(\text{PO}_4)_3$.R. Pikel, D. de Waal, A. Aatiq and **A. El Jazouli**16th International Conference on Raman Spectroscopy (ICORS), Cape Town, South Africa, 6-11 September 1998.**038.** Vibrational spectra of $\text{Ca}_x\text{Mn}_{0.5-x}\text{Ti}_2(\text{PO}_4)_3$.R. Pikel, D. de Waal, A. Aatiq and **A. El Jazouli**.16th International Conference on Raman Spectroscopy (ICORS), Cape Town, South Africa, 6-11 September 1998.**037.** Les verres phosphatés : quelles applications ? (Plenary Talk).**A. El Jazouli**

Colloque sur la Physico-Chimie des Matériaux – Casablanca, 9 Juin 1998.

036. Structure cristalline de $\text{Na}_3\text{CaTi}(\text{PO}_4)_3$.S. Krimi, **A. El Jazouli** and A. Lachgar.

Colloque sur la Physico-Chimie des Matériaux – Casablanca, 9 Juin 1998.

035. Nouveaux oxyphosphates de titane.B. Manoun, **A. El Jazouli**, J. P. Chaminade and P. Gravereau.

Colloque sur la Physico-Chimie des Matériaux- Casablanca, 9 Juin 1998.

1997**034.** Contribution of Raman spectroscopy to the investigation of the $\text{Na}_{1-3x}\text{Eu}_x\text{Ti}_2(\text{PO}_4)_3$ ($0 \leq x \leq 0.25$) and $\text{Mn}_{0.5-3x}\text{Eu}_{2x}\text{Ti}_2(\text{PO}_4)_3$ ($0 \leq x \leq 0.1$) systemsH. Fakrane, M. Lamire, **A. El Jazouli** and D. de Waal.3rd International Conference on f-Elements, Paris, France, September 1997.**033.** Two examples of “ab-initio” structure determination from conventional X-ray powder diffraction data.P. Gravereau, B. Essakhi, C. Fouassier, J. P. Chaminade, **A. El Jazouli**, S. Krimi and B. Manoun.

17th European Crystallography Meeting, Lisboa, Portugal, August 1997.

032. Crystallochemistry and structural study of some Nasicon-like phosphates (Oral).**A. El Jazouli**, A. El Bouari, H. Fakrane, A. Housni, M. Lamire, I. Mansouri, R. Olazcuaga and G. Le Flem.12th International Conference on Solid Compounds of Transition Elements, Saint-Malo, France, April 1997.**031.** Préparation et étude structurale des phosphates $\text{Mn}_{0.5-3x}\text{Eu}_{2x}\text{Ti}_2(\text{PO}_4)_3$.H. Fakrane, M. Lamire et **A. El Jazouli**12th International Conference on Solid Compounds of Transition Elements, Saint-Malo, France, April 1997.**030.** Crystallization of the $\text{Na}_4\text{M}_{0.5}\text{Ti}(\text{PO}_4)_3$ phosphate glasses (M = Mg, Co, Cd, Ca, Sr).S. Krimi, **A. El Jazouli** and D. De Waal.12th International Conference on Solid Compounds of Transition Elements, Saint-Malo, France, April 1997.**029.** New titanium oxyphosphates $\text{M}_{0.5}\text{TiOPO}_4$ (M = Co, Ni and Zn).**A. El Jazouli**, H. Belmal, S. Krimi, B. Manoun, J. P. Chaminade, P. Gravereau and D. de Waal.

12th International Conference on Solid Compounds of Transition Elements, Saint-Malo, France, April 1997.

028. Vibrational spectra and factor group analysis of $\text{Li}_{2x}\text{Mn}_x\text{Ti}_2(\text{PO}_4)_3$ ($x = 0; 0.25; 0.5$).R. Pikel, D. de Waal, and **A. El Jazouli**.30th Colloquium Spectroscopium Internationale, Melbourne, Australia, 1997.**1996****027.** Synthèse, structure et dilatométrie de nouveaux phosphates $\text{M}_{0.5}\text{FeNb}(\text{PO}_4)_3$ (M = Cd, Ca, Sr, Pb, Ba).A. Housni, I. Mansouri, **A. El Jazouli**, R. Olazcuaga et G. Le Flem.5^{èmes} Journées Maghrébines des Sciences des Matériaux (JMSM-96), Hammamet, Tunisie, Novembre 1996.**026.** Etude des verres du système $\text{Na}_2\text{O} - \text{WO}_3 - \text{P}_2\text{O}_5$.

H. Fakrane, M. Lamire, **A. El Jazouli** et J. M. Dance.

5^{èmes} Journées Maghrébines sur les Sciences des Matériaux (JMSM 96), Hammamet, Tunisie, Novembre 1996.

025. Préparation et caractérisation des verres du système $\text{Na}_4\text{Nb}(\text{PO}_4)_3 - \text{Na}_5\text{Ti}(\text{PO}_4)_3 - \text{NaTi}_2(\text{PO}_4)_3$.

A. Housni, I. Mansouri, **A. El Jazouli**, R. Olazcuaga et G. Le Flem.

5^{èmes} Journées Maghrébines des Sciences des Matériaux (JMSM-96), Hammamet, Novembre 1996.

024. Preparation and structural characterization of new titanium phosphates (PlenaryTalk).

A. El Jazouli, A. Aatiq, S. Krimi, B. Manoun, C. Delmas, J. P. Chaminade, P. Gravereau and D. De Waal.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

023. Céramiques phosphatées à faible coefficient de dilatation thermique.

A. Alami Tabli, M. Alqaraoui, R. Brochu, **A. El Jazouli**, J. M. Heintz, L. Rabardel et G. Le Flem.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

022. Détermination structurale d'un nouveau phosphate $\text{Ba}_{0.5}\text{FeNb}(\text{PO}_4)_3$.

A. Housni, I. Mansouri, **A. El Jazouli**, R. Olazcuaga et G. Le Flem.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

021. Préparation et étude structurale des phosphates $\text{Na}_{(1-3x)}\text{Eu}_x\text{Ti}_2(\text{PO}_4)_3$.

H. Fakrane, M. Lamire, **A. El Jazouli**, G. Le Flem et R. Olazcuaga.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

020. Etudes cristallographique, magnétique et optique de la solution solide $\text{Na}_{(1-2x)}\text{Mn}_x\text{Ti}_2(\text{PO}_4)_3$ ($0 \leq x \leq 0.5$).

H. Fakrane, M. Lamire, **A. El Jazouli**, A. Aatiq et C. Delmas.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

019. Corrélation entre cristallographie et les propriétés optiques et magnétiques de $\text{Co}_{1/2}\text{Ti}_2(\text{PO}_4)_3$.

J. Derouet, L. Beaury, P. Porcher, R. Olazcuaga, J. M. Dance, G. Le Flem, A. El Bouari and **A. El Jazouli**.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

018. Crystal structure of $\text{MnTiCr}(\text{PO}_4)_3$ and $\text{LiMn}_{0.50}\text{TiCr}(\text{PO}_4)_3$.

A. Aatiq, C. Delmas, **A. El Jazouli** and P. Gravereau.

7^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VII), Marrakech, Octobre 1996.

017. Elaboration, optical and magnetic properties of $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.

J. Derouet, L. Beaury, P. Porcher, R. Olazcuaga, J. M. Dance, G. Le Flem, A. El Bouari and **A. El Jazouli**.

VIth European Conference on Solid State Chemistry, Montpellier, September 1996.

1995

016. Structure et propriétés magnétiques des phosphates Nasicon à base d'éléments de transition.

A. El Bouari, A. El Jazouli et G. Le Flem.

Journées sur l'utilisation des faisceaux de neutrons en physique et chimie du solide, CNESTEN, Rabat, Avril 1995.

1994

015. Etude cristallographique, spectroscopique et électrique de la solution solide $\text{Na}_{1-x}\text{Ti}_x\text{Zr}_2(\text{PO}_4)_3$ ($0 \leq x \leq 1$).

K. Nadi, **A. El Jazouli**, I. Mansouri, M. El Ghazzi, C. Latouche, D. Avignant et J. Dupuis.

4^{èmes} Journées Maghrébines des Sciences des Matériaux (JMSM-94), Casablanca, Novembre 1994.

014. Caractérisation et approche structurale des verres du système $\text{Ti}_2\text{O} - \text{TiO}_2 - \text{P}_2\text{O}_5$.

K. Nadi, **A. El Jazouli**, I. Mansouri et D. Avignant.

4^{èmes} Journées Maghrébines des Sciences des Matériaux (JMSM-94), Casablanca, Novembre 1994.

1993

013. Vittrification des phosphates de type structural Nasicon (Plenary Talk).

A. El Jazouli.

6^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES VI), El Jadida, Octobre 1993.

012. Préparation et caractérisation d'un nouveau phosphate $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$.

A. El Bouari, **A. El Jazouli**, J. M. Dance, R. Olazcuaga and G. Le Flem.

6^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VI), El Jadida, Octobre 1993.

011. Etude cristallographique de nouveaux phosphates de zirconium de type structural Nasicon.

K. Nadi, **A. El Jazouli**, I. Mansouri, D. Avignant et J. C. Cousseins.

6^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VI), El Jadida, Octobre 1993.

010. Etude des verres du système $Ti_2O - TiO_2 - P_2O_5$.

K. Nadi, **A. El Jazouli**, I. Mansouri, D. Avignant et J. C. Cousseins.

6^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VI), El Jadida, Octobre 1993.

009. Préparation et caractérisation des verres phosphatés de tungstène.

H. Fakrane, M. Lamire, **A. El Jazouli**, et J. M. Dance.

6^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-VI), El Jadida, Octobre 1993.

008. Etude cristallographique, par spectroscopies vibratoires infrarouge et Raman et par RMN de la solution solide $Na_{1-x}Ti_xZr_{2-x}(PO_4)_3$ ($0 \leq x \leq 1$).

K. Nadi, **A. El Jazouli**, I. Mansouri, M. El Ghazzi, C. Latouche, D. Avignant et J. Dupuis.

Journées de la division "Chimie du Solide" Société Française de Chimie. Montpellier, France, 13-14 Mai 1993.

1991

007. Intercalation du lithium dans $Cu_{0.5}Ti_2(PO_4)_3$.

I. Bussereau, R. Olazcuaga, J.M. Dance, C. Delmas, G. Le Flem and **A. El Jazouli**.

5^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES V), Casablanca, Octobre 1991.

006. Etude de la transition verre - cristal du phosphate $Na_5Ti(PO_4)_3$.

S. Krimi, I. Mansouri, **A. El Jazouli**, J.P. Chaminade, P. Gravereau and G. Le Flem.

5^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-V), Casablanca, Octobre 1991.

1989

005. Etude des matériaux cristallisés et vitreux du système $Na_2O - TiO_2 - P_2O_5$ par diffraction des rayons X et spectroscopie infrarouge.

A. El Jazouli, S. Krimi, I. Mansouri, and G. Le Flem.

4^{ème} Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES-IV), Fès, Novembre 1989.

004. Les verres phosphatés : aspect structural et propriétés physiques (Plenary Talk).

A. El Jazouli.

Deuxième Ecole Maroco-Française sur la Chimie des Phosphates. Les matériaux phosphatés pour les technologies avancées, Marrakech, Juin 1989.

003. Les phosphates de cuivre de type «Nasicon»: matériaux à multiples facettes.

I. Bussereau, R. Olazcuaga, C. Parent, **A. El Jazouli**, G. Le Flem, R. Brochu, A. Serghini, A. Lamzibri, M. Alami and M. Ziad.

Deuxième Ecole Maroco-Française sur la Chimie des Phosphates. Les matériaux phosphatés pour les technologies avancées. Marrakech, Juin 1989.

002. Sur de nouveaux matériaux vitreux et cristallisés du système $Na_2O - TiO_2 - P_2O_5$.

S. Krimi, I. Mansouri, **A. El Jazouli** and G. Le Flem.

Deuxième Congrès National de Chimie, Marrakech, Janvier 1989.

1987

001. Spectroscopie des terres rares dans les verres : aspect fondamental et dynamique.

C. Parent, C. Lurin, **A. El Jazouli** et G. Le Flem.

Colloque interne du Greco Verre, Paris, France, Mars 1987.

12-3. Lectures and seminars outside conferences

2015

22. Crystalline and Vitreous Metal Phosphates: Elaboration, Structural Characterizations and Properties.

A. El Jazouli

Wake Forest University, Winston-Salem, North Carolina, USA. 24 June 2015. Invited by Professor Abdou Lachgar.

21. Crystalline and Vitreous Metal Phosphates: Elaboration, Structural Characterizations and Properties

A. El Jazouli

Lehigh University, Bethlehem, Pennsylvania, USA. 12 June 2015. Invited by Professor Himanshu Jain.

20. Crystalline and Vitreous Metal Phosphates: Elaboration, Structural Characterizations and Properties

A. El Jazouli

Rutgers University, Piscataway, New Jersey, USA, 11 June 2015. Invited by Professor Eric Grunfekel.

2013

19. Crystalline and Vitreous Metal Phosphates: Elaboration and Structural Characterizations.

A. El Jazouli

Wake Forest University – Winston-Salem, USA, May 2, 2013. Invited by Professor Abdou Lachgar.

18. Glasses and their applications.

A. El Jazouli

Wake Forest University – Winston-Salem, USA, May 2, 2013. Invited by Professor Abdou Lachgar.

17. Introduction to Electronic Paramagnetic Resonance Spectroscopy – Short Course.

A. El Jazouli

Wake Forest University, Winston-Salem, USA, May 2, 2013. Invited by Professor Abdou Lachgar.

2012

16. Les verres et leurs applications : cas des bioverres.

A. El Jazouli

Master Professionnel Biomatériaux et Dispositifs Médicaux (BiDiM). Laboratoire de Bioingénierie Tissulaire, INSERM, Université Bordeaux Segalen, France, November 29, 2012. Invited by Doctor Joëlle Amédée.

2011

15. Les verres et leurs applications

A. El Jazouli

Master Professionnel Biomatériaux et Dispositifs Médicaux (BiDiM). Laboratoire de Bioingénierie Tissulaire, INSERM, Université Bordeaux Segalen, France, November 23, 2011. Invited by Doctor Joëlle Amédée.

14. Transition Metal Phosphates and Sulfates: Elaboration and Structural Characterizations.

A. El Jazouli

University of Oviedo, Spain, July 21, 2011. Invited by Professor Santiago Garcia-Granda.

13. Introduction to Electronic Paramagnetic Resonance (EPR).

A. El Jazouli

University of Oviedo, Spain, July 21, 2011. Invited by Professor Santiago Garcia-Granda.

12. Transition Metal Phosphates: Elaboration and Structural Characterizations.

A. El Jazouli

King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, April 20, 2011. Invited by Professor Mohamed Eddaoudi.

11. Vitreous and Crystalline Titanium Phosphates: Elaboration and Structural Characterizations.

A. El Jazouli

King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, April 25, 2011. Invited by Professor Mohamed Eddaoudi.

10. Introduction to Electronic Paramagnetic Resonance (EPR).

A. El Jazouli

King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, April 25, 2011. Invited by Professor Mohamed Eddaoudi.

2010

09. Transition Metal Phosphates and Sulfates: Elaboration and Structural Characterizations.

A. El Jazouli

Institut de Chimie de la Matière Condensée de Bordeaux, ICMCB-CNRS, Université Bordeaux I, France. July 7, 2010.
Invited by Doctor Claude Delmas.

2009

08. Crystalline and Vitreous Transition Metal Phosphates: Elaboration, Structure and Properties.

A. El Jazouli

INANOTECH, Rabat, October 2, 2009. Invited by Professors Mohamed Balaiche and Mostafa Bousmina.

2008

07. Crystalline and Vitreous Transition Metal Phosphates: Elaboration, Structure, Characterization and Properties.

A. El Jazouli

University of California Los Angeles – UCLA, August 26, 2008. Invited by Professor Omar Yaghi.

06. Phosphates de titane vitreux ou cristallisés: Elaboration et caractérisations structurales.

A. El Jazouli

Laboratoire de Bioingénierie Tissulaire, INSERM, Université Bordeaux Segalen, France, 11 May, 2009. Invited by Doctor Joëlle Amédée.

2000

05. Titanium Phosphates: Elaboration, Structure and Properties.

A. El Jazouli

University of Pretoria, South Africa, August 2000. Invited by Professor Danita de Waal.

1997

04. Titanium Phosphates with Nasicon-like Structure.

A. El Jazouli

University of Malaga, Spain, December 1997. Invited by Professor J. R. Ramos-Berrado.

1998

03. Titanium Phosphates: Glasses and Crystals.

A. El Jazouli

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