Yasser AHMAD, PhD in Materials Science

Married, Nationality: French, yahmad@fbsu.edu.sa, Astra Compound, Tabuk, KSA

Scientific skills

Nanomaterials, Energy storage (Fuel Cells, Lithium ion batteries), Electrochemistry, Materials characterisation techniques *(NMR, EPR, XRD, TEM, SEM, IRATR, UV-V, TGA),*

Professional skills

Autonomy, reliable, motivated, communication skills, trilingual (Arabic, French, and English), student's supervision, international collaborations (**USA**: California Institute of Technology, **France**: SAFT, Mines ParisTech, Joseph Fourier University, Blaise Pascal University).

Research Experience

Oct 2015-Oct-2016 **Assistant Professor**

The National Center for Scientific Research, CNRS – France
Project: Corrosion resistant carbons as catalytic cathodic support materials for Fuel Cells PEMFC

Oct 2013-Sep 2015 **Postdoctoral Research Associate**
The National Center for Scientific Research, CNRS – France
Project: Nanomaterials and Ionic liquids: from fundamentals to applications in sustainable technologies.

Oct 2010-Oct 2013 **Doctoral Researcher**

Blaise Pascal University – Institute of Clermont Ferrand – France
Project: Synthesis of fluorinated nanocarbon for electrochemical energy storage (defended on Oct 4, 2013)

Jan 2009-June 2010 **Post-Graduate Internship**

Claude Bernard University – Institute of research on catalysis and the environment of Lyon – France
Project: Biomaterials obtained by gelation of silica precursor with carbon dioxide saturated water

Teaching and Advising

Sep 2016-Present **Assistant Professor**
Fahad Bin Sultan University–College of Engineering – Mechanical Engineering Department – Tabuk.
Courses taught: Thermodynamics (I and II), Engineering Materials, Heat Transfer and Engineering Ethics

Oct 2015-Sep-2016 **Assistant Professor**
Blaise Pascal University – Institute of Clermont Ferrand – France
Courses in Materials Science (1st, 2nd and 3rd year undergraduates and Master's graduates)

Oct 2013-Sep 2016 **Internship Leader for College students**
Blaise Pascal University – Institute of Clermont Ferrand – France

- Planned and led required training research session for college students and new composition teachers
- Helped to mentor new hires to the department staff to ensure their engagement and professional development.
- Planned and taught how to write final report for internship students
- Planned and led outside visits and events

Oct 2010-Oct 2013 **Graduate Teaching Assistant**
Blaise Pascal University – Institute of Clermont Ferrand – France
Materials Science and Engineering courses (1st, 2nd and 3rd year undergraduates)

Education

2010-2013	**PhD in Materials Science**	Blaise Pascal University – Clermont Ferrand – France
2009-2010	**Master 2 in Inorganic Materials**	Claude Bernard University of Lyon – France
2008-2009	**Master 1 in Industrial Sciences**	Holy Spirit University of Kasslik – Beyrouth – Lebanon
2005-2008	**Bachelor in General Sciences**	Lebanese University Branch 3 – Tripoli – Lebanon

Patent: No. 12/61927 "Using sub-fluorinated carbon nano-objects as electrode materials in lithium primary battery for high capacity" December 12, 2012.

Publications (11)

1. "Biomaterials obtained by gelation of silica precursor with CO_2 saturated water containing a carbonic anhydrase enzyme" N. Favre, **Y.Ahmad**, A. C. Pierre. **The Journal of Sol-Gel Science and Technology.58 (2011), 442–451**. IF: 1,53

2."Tuning the discharge potential of fluorinated carbon used as electrode in primary lithium battery" M.Dubois, K.Guérin, **Y.Ahmad** et al. **Electrochimica acta, 59 (2012),485-491**. IF: 4,5

3."The synthesis of multilayer graphene materials by the fluorination of carbon nanodiscs/nanocônes" **Y. Ahmad**, E. Disa, M. Dubois et al. **Carbon,50,(2012),3897-3908**. IF: 6,20

4."NMR and NEXAFS Study of Various Graphite Fluorides" **Y. Ahmad**, M. Dubois, K. Guérin, et al. **The Journal of Physical Chemistry C, 117,(2013),13564-13572**. IF: 4,77

5. "Enhanced performances in primary lithium batteries of fluorinated carbon nanofibres through static fluorination'' **Y. Ahmad**, K. Guérin, M. Dubois, et al**. Electrochimica Acta,114, (2013),142-151**. IF: 4,086

6. "Thermal exfoliation of fluorinated graphite" M. Dubois, K. Guérin, **Y. Ahmad**, et al. **Carbon 77 (2014), 688-704**. IF: 6,20

7. "Dual C-F bonding in fluorinated exfoliated graphite" M. Mar, **Y. Ahmad**, M. Dubois, et al. **Journal of Fluorine Chemistry 174 (2015), 36-41** IF: 1,95

8. "Structure control at the nanoscale in fluorinated graphitized carbon blacks through the fluorination route" **Y. Ahmad**, E. Disa, K. Guérin, et al. **Journal of Fluorine Chemistry, vol. 168 (2014), 163-172**. IF: 1,95

9. "First Insight into Fluorinated Pt/Carbon Aerogels as More Corrosion-Resistant Electrocatalysts for Proton Exchange Membrane Fuel Cell Cathodes". S. Berthon-Fabry, L. Dubau, **Y. Ahmad**, K.Guerin, M. Chatenet. **Electrocatalysis 6(2015), 521-533** IF: 2,37

10. "Pushing the theoretical limit of Li-CFx batteries using fluorinated nanostructured carbon nanodiscs" **Y.Ahmad**, M.Dubois, K. Guérin, A.Hamwi, W. Zhang. **Carbon 94 (2015), 1061-1070**. IF: 6,20

11. "High energy density of primary lithium batteries working with sub-fluorinated few walled carbon nanotubes cathode." **Y. Ahmad**, M. Dubois, K. Guerin, A. Hamwi, E. Flahaut . **Journal of Alloys and Compounds 726, 852-859**. IF: 3.133

Conference Oral Presentations

1."Xenon difluoride: an efficient fluorinating agent for reactive precursors (polymers, graphene, carbon Nanotubes"; M. Dubois, K. Guérin, P. Bonnet, W. Zhang, **Y. Ahmad**, F. Withers, A. K. Savchenko, A.P. Kharitonov, A. Hamwi, ACS Fall meeting, 2011, Denver, Colorado, USA.

2."Structure and Properties of SWCNTs and Graphenes fluorinated by xenon difluoride";M. Dubois, P. Bonnet, W.Zhang, K.Guérin, **Y.Ahmad,** F.Withers, A.Savchenko, S.Russo, M.F. Craciun, C.P.Ewels, F.Masin, A.Hamwi, GDR-i "graphenes and nanotubes",2012, Ecully, France

3."Xenon difluoride as fluorinating agent for SWCNTS and graphene"; M. Dubois, P. Bonnet, W. Zhang, K. Guérin, **Y. Ahmad,** F. Withers, A. Savchenko, S. Russo, M. F. Craciun, C. P. EWELS, F. Masin, A. Hamwi. Chemontubes, 2012, Arcachon, France

4."The synthesis of multilayer graphene materials by the fluorination of carbon nanodiscs/nanocônes";**Y.Ahmad**, E. Disa, M. Dubois, K. Guérin, V.Dubois, W. Zhang, P. Bonnet, F. Masin, L. Vidal, D.A.Ivanov, A. Hamwi, 20th International Symposium on Fluorine Chemistry, 2012 Kyoto, Japan

5."Comparative performances in primary lithium batteries of fluorinated carbon nanofibres according to the fluorination method"; **Y. Ahmad**, M. Dubois, K. Guérin, W. Zhang, A. Hamwi, 9th France-Japan Meeting on Lithium Batteries, Saint-Rémy-les-Chevreuse, 2012, France.

6."Controlled and catalytic fluorination to prepare graphene and fluorinated graphene"; **Y. Ahmad**, M. Dubois, K.Guérin, F.Withers, S. Russo, M.F. Craciun, A.Hamwi, Carbon, Copacabana, Rio de Janeiro, 2013, Brazil

7."Extracapacities in primary lithium batteries using carbon fluorides cathode material"; **Y. Ahmad**, M. Dubois, K. Guérin, W. Zhang, A. Hamwi; Carbon, Copacabana, 2013, Brazil

8."Controlled and catalytic fluorinations to prepare graphene and fluorinated graphene"; **Y. Ahmad**, M. Dubois, K.Guérin, F. Withers, S. Russo, M.F. Craciun, A. Hamwi, CESEP 2013, Mülheim a.d. Ruhr – Germany

9. "The comparaison of electrochemical performances in primary lithium batteries of fluorinated carbon nanofibers according to the fluorination method" **Y. Ahmad**, M. Dubois, K. Guérin, A. Hamwi, GFEC 2012, Houffalize - Belgium

10."Controlled and catalytic fluorinations for the synthesis of grapheme" **Y. Ahmad**, M. Dubois, K. Guérin, A. Hamwi, GFECI 2013, Chambon sur Lac – France

11."Fluorination for the synthesis of Graphene" **Y. Ahmad**, M. Dubois, K. Guérin, A. Hamwi, GFEC 2013, Voreppe – France.

Conference Poster Presentations

1.“Effect of curvature on C-F bonding in fluorinated carbons: from fullerenes and derivates to graphite”, **Y.Ahmad**, M. Dubois, K. Guérin, W. Zhang, P. Bonnet, H. Kharabache, F. Masin, A. P. Kharitonov, A. Hamwi, CESEP 2011, Vichy, France.

2.“Towards the synthesis of multilayer graphene materials via fluorination of carbon nanodiscs/nanocones", **Y.Ahmad**, E. Disa, M. Dubois, K. Guérin, V.Dubois, W. Zhang, P. Bonnet, F. Masin, L. Vidal, D.A.Ivanov, A. Hamwi, Carbon 2012, Krakow, Poland.

3.“Fluoride - Graphite intercalation compound as a precursor for the preparation of graphene” , **Y. Ahmad**, M. Dubois, K. Guérin, A. Hamwi, 17th International Symposium on Intercalation Compounds, 2013, Sendai, Japan

4.“Electrochemical discharge mechanism of commercial graphite fluoride used as electrode in primary lithium batteries”, K.Guérin, Z. Karkar, **Y. Ahmad**, E. Petit, M. Dubois, A. Hamwi, P. Bernard, B. Simon, 17th International Symposium on Intercalation Compounds, 2013, Japan

5.“Electrochemical properties of fluorinated graphitized carbon blacks”, **Y. Ahmad**, E. Disa, K. Guérin, M. Dubois, E. Petit , L. Frezet, A. Hamwi; Carbon 2013, Rio de Janeiro, 2013, Brazil

6.“NMR and NEXAFS study of various graphite fluorides”, **Y. Ahmad**, M. Dubois, K. Guérin, A. Hamwi, Z. El-Fawal, A.P. Kharitonov, A.V. Generalov, A.Yu. Klyushin, K.A. Simonov, N.A. Vinogradov, I.A. Zhdanov, A.B. Preobrajenski, and A.S Vinogradov; Carbon 2013, Brazil