



First and Last name: **Mohyeddin Assali**

Academic degree and position: **PhD, Assistant Professor**

Specialty: **Medicinal chemistry-Nanomedicine**

Institution: **An-Najah National University - School of Medicine and Health Sciences - Department of Pharmacy**

City and Country: **Nablus - Palestine**

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### **Biography:**

- 2008-2012** PhD. degree with honor “cum laude” in medicinal chemistry-nanomedicine. CSIC-Seville University-Spain
- 2007-2008** Master degree “Advances studies in chemistry”, (molecular chemistry: synthesis and applications) at Seville University-Spain
- 2002-2006** B.Sc. Pharmacy with honor with Accum. Average 90.4% “my rank was the first of the graduates”. Faculty of Pharmacy, An Najah National University, Nablus, Palestine.
- 2001-2002** High school exam “Tawjihi”  
Qadri Tuqan Secondary School-Nablus, Palestine. Accum. Average: 93,8% (excellent).

**Work Experience:**

- May 2013- Present**                      **Assistant professor**  
Pharmacy department at An-Najah National University-Nablus, Palestine
- Sep 2012-Jan 2013**                      **Research assistant**  
Centro de investigaciones cientificas isla de cartuja-Consejo superior de investigaciones cientificas “CSIC” Seville-Spain.
- July 2011**                                      **Short stay**  
Prof. Patrick Schultz at Institute of Genetics, Molecular and Cellular Biology (IGBMC)-Strasbourg-France.  
- Training at Transmission electron microscope “TEM”.
- Aug 2006-July 2007**                      **Teaching & Research assistant**  
Pharmacy department at An-Najah National University-Nablus, Palestine.
- Jun 2006-Jul 2007**                        **Pharmacist**  
Al-Dahyaa pharmacy-Nablus-Palestine.
- 2005-2006**                                      **Training Pharmacist**  
Hasan pharmacy-Nablus-Palestine  
Rafidia hospital pharmacy-Nablus-Palestine

**Teaching courses:**

- Medicinal chemistry
- Organic chemistry
- Organic chemistry Lab

**Research interests:**

- Pharmaceutical nanotechnology “nanomedicine”:
- Biofunctionalizations and coating of nanomaterials “carbon nanotubes, gold nanoparticles, graphene, and other metal nanoparticles” for biomedical applications in cancer and infectious diseases.
  - Sythesis of supramolecular compounds such as liposomes, lipid nanotubes and nanogels and their applications in biology and medicine.

- Characterization of nanomaterials by adequate techniques such as TEM, SEM, AFM, TGA, RAMAN, UV-VIS, FTIR, SAXS, .....
- Organic and medicinal chemistry
  - Organic synthesis of biological molecules especially carbohydrate chemistry for their applications in viral and bacterial therapies.
  - Analyzing bioorganic compounds by HPLC, NMR, column chromatography, mass spectroscopy, FTIR, elemental analysis.
- Molecular modeling in designing new therapeutic drugs.
  - Using different software programs in quantum chemistry like AUTODOCK, CHEM DRAW 3D, HYPERCHEM, SYPYL.

### Publications:

- **Mohyeddin Assali**, Juan-José Cid, Inmaculada Fernández and Noureddine Khiar. Supramolecular Diversity through Click Ligation: Switching from Self-Assembled Spherical Nanomicelles to 1D-Tubular Nanostructures and Tridimensional Gels *Chemistry of Materials*, **2013**, DOI: 10.1021/cm4022613. (impact factor: 8.24).
- **Mohyeddin Assali**, Juan-José Cid, Manuel Pernía Leal, Miguel Muñoz-Bravo, Inmaculada Fernández, Ralf E. Wellinger, Noureddine Khiar. Glyconanosomes: Disc-shaped Nanomaterials for the Water Solubilization and Controlled Delivery of Hydrophobic Molecules *Acs nano*, **2013**, 7, 2145. (impact factor: 11.4).

(Highlighted as the article of the month of May 2013 of ciccartuja)

- **Mohyeddin Assali**, Manuel Pernía-Leal, Inmaculada Fernández and Noureddine Khiar. Synthesis and biofunctionalization of carbon nanotubes rings. *Nanotechnology*, **2013**, 24, 085604. (impact factor: 3.98)
- Manuel Pernia Leal, **Mohyeddin Assali**, Inmaculada Fernandez, and Noureddine Khiar. Copper-Catalyzed Azide–Alkyne Cycloaddition in the Synthesis of Polydiacetylene: “Click Glycoliposome” as Biosensors for the Specific Detection of Lectins. *Chemistry- a European journal*, **2011**, 17, 1828. (impact factor: 5.9)

(Highlighted as the article of the month of March 2011 of ciccartuja)

- **Mohyeddin Assali**, Manuel Pernía Leal, Inmaculada Fernández, Pablo Romero-Gomez, Rachid Baati, and Noureddine Khiar. Improved Non-Covalent Biofunctionalization of MWCNTs using Carbohydrates Amphiphiles with a Butterfly-like Polyaromatic Tail, *Nano research*, **2010**, 3, 764. (impact factor: 6.97).

(Highlighted as the article of the month of December 2010 of Ciccartuja).

- **Assali, M.;** Pernía Leal, M.; Fernández, I.; Baati, R.; Mioskowski, C.;Khiar, N. Non-covalent functionalization of carbon nanotubes with glycolipids: Glyconanomaterials with specific lectin-affinity. *Soft Matter* **2009**, 5, 948. (impact factor: 4.39).
- **Mohyeddin Assali,** Juan-José Cid, Manuel Pernía-Leal, Inmaculada Fernández and Nouredine Khiar. An Efficient Route to S-linked Glycoconjugates. Submitted.
- **Mohyeddin Assali,** Manuel Pernia Leal, Miguel Muñoz-Bravo, Ralf E Wellinger, Inmaculada Fernandez, Nouredine Khiar. Improvement of the non-covalent functionalization of SWNTs by photopolymerized glyconanorings with specific interaction with E. coli. *In preparation*.
- Juan-José Cid, **Mohyeddin Assali,** Inmaculada Fernández and Nouredine Khiar. Synthesis of Water-Soluble SWCNTs Covalently-Functionalized with Carbohydrates through Diazonium Coupling of Amino-substituted Sugars. *In preparation*.

#### Congress & conferences:

- **Authors:** Juan-José Cid, **Mohyeddin Assali,** Manuel Pernía-Leal, Inmaculada Fernández, Miguel Muñoz, Ralf Wellinger and Nouredine Khiar.  
**Title:** Sweet Nanomaterials: Carbohydrate-Coated Carbon Nanotubes and Glyconanosomes as Advanced Nanovectors for Drug Delivery.  
**Congress:** Nanobiomed  
**Date:** 23-26 April 2013  
**Type:** Poster  
**Place:** Bilbao, Spain
- **Authors:** Nouredine Khiar, **Mohyeddin Assali,** Manuel Pernía-Leal, Inmaculada Fernández, Miguel Muñoz, Ralf Wellinger, and Juan-José Cid.  
**Title:** SWCNTs/Glycolipids: New Biologically-active Supramolecular Assemblies.  
**Congress:** XXIV Reunión Bienal De Química Orgánica.  
**Date:** 11-13 July 2012  
**Type:** Poster flash (oral communication).  
**Place:** San Sebastián, Spain.
- **Authors:** N. Khiar, **M. Assali,** M. Pernía Leal, J.J. cid, I. Frenández.  
**Title:** Sweet Nanotubes: New Biologically active Nanosystems.  
**Congress:** Challenges in Bioorganic & Organic Medicinal Chemistry: 13th Tetrahedron Symposium.  
**Date:** 26-29 June 2012.  
**Type:** Poster.  
**Place:** Amsterdam, Netherlands.

- Authors:** Mohyeddin Assali, Manuel Pernía Leal, Inmaculada Fernández, Miguel Muñoz, Ralf Wellinger, Noureddine Khiar.

**Title:** Sweet Carbon Nanotubes: New biologically active Glyconanosystems

**Congress:** VIII Simposio de Jóvenes Investigadores-RSEQ.

**Date:** 25-28 October 2011.

**Type:** oral communication

**Place:** Malaga, Spain
- Authors:** Noureddine Khiar, Mohyeddin Assali, Manuel Pernía Leal, Inmaculada Fernández, Rachid Baati, Miguel Muñoz, Ralf Wellinger

**Title:** Supramolecular Self-Organization of Neoglycolipids on Carbon Nanotubes: New Bioactive Glyconanosystems.

**Congress:** 17th European Symposium of Organic Chemistry (ESOC 2011)

**Date:** 10-15 July 2011.

**Type:** Poster

**Place:** Crete (Greece).
- Authors:** Assali, M, Fernández, I, Muñoz, M, Wellinger, R, Khiar, N.

**Title:** Carbon Nanotubes-Carbohydrates: New Functional Nanosystems Against Bacterial Infections.

**Congress:** III Reunión de Jóvenes Farmacólogos de Andalucía

**Date:** 16-17 June 2011

**Type:** Poster

**Place:** Sevilla, Spain.
- Authors:** Navas, R.; Assali M.; Fernandez, I. ; Rotello, V.M.; Khiar, N.

**Title:** Nanopartículas De Oro Y Quantum Dots: Nuevas Nanosistemas Para El Transporte De Fármacos.

**Congress:** III Reunión de Jóvenes Farmacólogos de Andalucía

**Date:** 16-17 June 2011

**Type:** Poster

**Place:** Sevilla, Spain.
- Authors:** N. Khiar, M. Assali, M. Muñoz Bravo, I. Fernández.

**Title:** Carbohydrates Amphiphiles for Non-Covalent Functionalization of MWCNTs: Biocompatible Nanoglycoarrays.

**Congress:** X Jornadas de carbohidratos.

**Date:** 15-18 September 2010

**Type:** Poster

**Place:** Granada, Spain.

- **Authors:** N. Khiar, **M. Assali**, M. Pernía, R. Recio, I. Fernández, R. Baati.  
**Title:** Supramolecular Self-Organization of Neoglycolipids on Carbon Nanotubes: Glyconanoabacus with Biomimetic Multivalent Display of Carbohydrates.  
**Congress:** Challenges in Organic Chemistry and Chemical Biology (ISACS1).  
**Date:** 6-9 July 2010  
**Place:** San Francisco, USA.
- **Authors:** N. Khiar, **M. Assali**, M. Pernía, R. Baati, R. Recio, I. Fernández, and C. Mioskowski.  
**Title:** Bioengineering of Carbon Nanotubes: Glyconanoabacus with Biomimetic Display of Carbohydrates.  
**Congress:** Nanospain 2010  
**Date:** 23-26 march 2010  
**Place:** Malaga, Spain.
- **Authors:** N. Khiar, **M. Assali**, R. Navas, J.F Moya, I. Fernández, R. Baati.  
**Title:** A Butterfly-like model for non-covalent functionalization of MWCNTs as a biocompatible nanoglycoarrays  
**Congress:** Nanospain 2010  
**Date:** 23-26 march 2010  
**Place:** Malaga, Spain.
- **Authors:** N. Khiar, M. Pernia Leal, **M. Assali**, R. Baati, I. Fernandez Fernandez, C. Mioskowski  
**Title:** Self-Assembly and Photopolymerization of Diacetylene-Based Glycolipids on Carbon Nanotubes: Glyconanoabacus With Biomimetic Display of Carbohydrates  
**Congress:** 16th European Symposium on Organic Chemistry.  
**Date:** 12-16 july 2009  
**Place:** Prague, Czech Republic.
- **Authors:** **M. Assali**, M. Pernía Leal, I. Fernández, R. Baati, C. Mioskowski and N. Khiar.  
**Title:** Non-covalent functionalization of carbon nanotubes with glycolipids: glyconanomaterials with specific lectin-affinity  
**Congress:** Nanospain 2009  
**Date:** 9-12 March 2009  
**Place:** Zaragoza, Spain.

## References:

Available upon request