Curriculum Vitae

Personal details

Name	**Ben-Shahar Yuval**
Address	**Shachal 48, Jerusalem, Israel**
Telephone number	**972-2--5829790**
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E-mail	yuval.ben-shahar@mail.huji.ac.il
Year of Birth	**1981**

Education

2013-Present **Ph.D student in Chemistry (Direct),** The Hebrew University of Jerusalem, Israel
Hybrid Metal-Semiconductor Nanorods as Photocatalysts; Synthesis and Study of Photocatalytic Properties.
Supervisors: Prof. Banin Uri.

2011-2012 **Master of Science in Chemistry** with specialization in Nanoscience and Nanotechnology, The Hebrew University of Jerusalem, Israel
Photo-Catalytic Properties of Hybrid CdS-Au Nanorods.
Supervisors: Prof. Banin Uri.

2007-2010 **Bachelor of Science in Biology and Chemistry**.
The Hebrew University of Jerusalem, Israel

Technical skills in the following science fields

- Synthesis, surface engineering and characterization of nanoparticles.
- Hybrid nanoparticles synthesis; structural and composition design and control.
- Advanced characterization techniques, including optical, electrical and electron-microscopy characterization (TEM, HR-TEM, SEM).
- Analytical methods for purification and quantification, including GC, ICP-MS..
- Ultrafast transient absorption spectroscopy measurements.
- Development and introduction of novel assays and procedures and planning protocols.
- Designed and preparation of electrodes and bio-sensors with electrochemical methods.
- Enzymes substitution, characterization and combination in nanoparticles matrix
- Electropolymerizatiom of nanoparticles and enzymes (Potentiostat)
- Electrocatalytic measurements of biosensors
- Programming skills: Matlab, Origin, Photoshop, Illustrator

Experience

2017- Teaching assistant in the course, “Thermodynamics”, for Advanced Materials and Pharmaceutical Engineering, Azrieli College of Engineering Jerusalem, Israel.

2011-2017 Teaching assistant in the courses, “Concepts of Green and Sustainable Chemistry”, “Introduction to Chemistry of Materials” and in the physical chemistry lab, The Hebrew University of Jerusalem, Israel.

2009-2010 Researcher in the laboratory of Prof. Itamar Wilner lab of Nano-biotechnology, Institute of chemistry The Hebrew University of Jerusalem, Israel.

Publications

1. Cohen YS., **Ben-Shahar Y**., Vinokurov K., Leiter M., Banin U. (2017) "Photoelectrochemistry of Colloidal Cu_2O Nanocrystal Layers: The Role of Interfacial Chemistry", submitted to Journal of Materials Chemistry A.
2. Pawar AA., Halivni S., Waiskopf N., **Ben-Shahar Y.**, Soreni-Harari M., Bergbreiter S., Banin U., Magdassi S. (2017) "Rapid 3D printing in Water using Semiconductor-Metal Hybrid Nanoparticles as Photo-initiators",Nano Letters, 17 (7), 4497–4501 (Editors' Choice).
3. **Ben-Shahar Y.**, Banin, U. (2016) "Hybrid Semiconductor-Metal Nanorods as Photocatalysts" Topics in Current Chemistry, 54 ,(4) 374.
4. **Ben-Shahar Y.**, Waiskopf N., Galchenko M., Carmel I., Moshitzky G., Soreq H., Banin U. (2016) "Photocatalytic reactive oxygen species formation by semiconductor-metal hybrid nanoparticles; towards light-induced modulation of biological processes" Nano Letters, 16 (7), 4266–4273.
5. **Ben-Shahar Y.**, Scotognella F., Kriegel I., Moretti L., Cerullo G., Rabani E., Banin U. (2016) "Optimal metal domain size for photocatalysis with hybrid semiconductor-metal nanorods" Nature Communications, 7 , 10416.
6. **Ben-Shahar Y.**, Scotognella F., Waiskopf N., Kriegel I., Dal Conte S., Cerullo G., Banin U. (2015) "Effect of Surface Coating on the Photocatalytic Function of Hybrid CdS–Au Nanorods" Small 11(4), 462–471.
7. **Ben-Shahar Y.,** Vinokurov K., Banin, U. (2014) "Hybrid Semiconductor-Metal Nanoparticles: From Architecture to Function" Chemistry of Materials, 26(1), 97-110.
8. Kraus-Ophir S., **Ben-Shahar Y.**, Banin U., Mandler D. (2014) "Perpendicular Orientation of Anisotropic Au-Tipped CdS Nanorods at the Air/Water Interface" Adv. Mater. Int., 1(1), 1300030.

Patents

Hybrid nanoparticles as photoinitiators, 2016, PCT/IL2016/050693 application

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Academic Scholarships and Awards

Prize for excellent graduate student in Nanoscience and Nanotechnology (2017)
ICS excellent graduate student (2017)
Best poster award, The Nanoscience and Nanotechnology center conference (2015, 2016)
Best poster award, The Mathematics & Sciences Faculty day (2016)
Israel Ministry of Science and Technology. Scholarship for alternative energy sources for PhD students (2015-)
Best poster award, The 33rd Israel Vacuum Society conference (2015)
Camber scholarship for Excellent Students (2013-2015)
Israel Ministry of Science and Technology and Keren Hayesod Appeal. Scholarship for alternative energy sources for M.Sc students (2012-2013)
The Harvey M. Krueger Family, Nanoscience and Nanotechnology center for M.Sc scholarship for Excellent Students (2011-2012)
Dean list excellence (2011,2012)
Applied chemistry scholarship in the name of Kathleen Casali, Casali Institute, HUJI (2011)
Air force foundation scholarship (2007)

Selected Presentations

The Israel Vacuum Society conference (Oral presentation 2017, Poster 2015)
The Nanoscience and Nanotechnology center conference (Oral presentation 2017, Poster 2012-2016)
ICS 82nd Annual Meeting (Poster 2017)
MOST conference (Poster 2017)
NaNaInt conference (Poster 2017)
Colloidal Semiconductor Nanocrystals (GRC) (Poster 2016)
Nano Israel Conference (Poster, 2012, 2014, 2016)

Military Service

2007-Current Full reserve duty in the Special Air Service unit
2004-2006 Standing army service in the Special Air Service unit
2000-2003 Full service in the Special Air Service unit

Personal Skills

Quick learner, open minded, big header, responsible and highly motivated team player.

Recommendations will be provided upon request.