

**Curriculum Vitae-Daniel Nir Bloch**

**Personal**

**Daniel Nir Bloch (ID: 026558668)**

**Date of birth:** 17.07.1986

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**Available for work starting this October**

**Education:**

**2017-Current:** Ph.D. Chemistry, Ben-Gurion University in the Negev, Israel

Advisor: Prof. Raz Jelinek. Thesis: The effect of carbon dots synthesized from small molecules on amyloids.

**Currently, I am in the final stages of research work.**

During my graduate and Ph.D. studies I gained experience in the design and execution of complex experiments.

My research experience includes working with a variety of advanced chemical and biochemical methods such as TEM, FTIR, FTIR microscope, circular dichroism, ITC, DSC, Fluorimeter (fluorescence), plate reader (fluorescence and absorption), ESR and Zetasizer (DLS and Zeta).

**2015- 2017:** MSc, Chemistry, Ben-Gurion University in the Negev, Israel

Advisor: Prof. Yifat Miller. Thesis: Investigating the structures of  $\text{Cu}^{2+}$ - $\alpha$ -synuclein oligomers: Insight into the aggregation mechanisms in Parkinson's diseases.

In my master's studies I gained knowledge and experience working with a variety of tools in the field of computational chemistry.

**2011 - 2015:** BSc, Chemistry, Ben-Gurion University of the Negev, Israel

**2004-2006:** Practical Electronics, ORT Hermelin College, Israel

**Work experience:**

**2018-current:** Teaching assistant, Ben-Gurion University of the Negev, introduction to Analytical Chemistry for chemistry and chemical engineering students.

**2015-current:** Teaching assistant, Ben-Gurion University of the Negev, Lab of General and Analytical Chemistry instructor.

**2014-2015:** Research Assistant in Dr. Iris Visoly-Fisher Lab, Dept. of Solar Energy and Environmental Physics, Ben-Gurion University of the Negev, Sede Boqer campus

**2006-2010:** Army Service as an electronic practical engineer in the Intelligence Corps.

#### Publications:

1. **Daniel Nir Bloch**, Shani Ben Zichri, Sofiya Kolusheva and Raz Jelinek, "Tyrosine carbon dots inhibit fibrillation and toxicity of the human islet amyloid polypeptide" **2020 *Nanoscale Advance***
2. **Daniel Nir Bloch**, Paulina Kolkowska, Isabella Tessari, Maria Camilla Baratto, Adalgisa Sinicropi, Luigi Bubacco, Stefano Mangani, Pozzi, Daniela Valensin, and Yifat Miller "Fibrils of  $\alpha$ -Synuclein abolish the affinity of  $\text{Cu}^{2+}$ -binding site to His50 and induce hopping of  $\text{Cu}^{2+}$  ions in the termini" 2019 ***Inorganic Chemistry***. (Ranking: Q1, 4/45, IF: 4.825).
3. **Daniel Nir Bloch**, Yifat Miller "A study of molecular mechanisms of  $\alpha$ -synuclein assembly: Insight into a cross- structure in the N-termini of new  $\alpha$ -synuclein fibrils" **2017 *ACS Omega***. Volume 2 Pages 3363–3370 (Ranking: Q2, 81/177, IF: 2.870).
4. Sudipta Mondal, Maxim Varenik, **Daniel Nir Bloch**, Yoav Atsmon-Raz, Guy Jacoby, Lihi Adler-Abramovich, Linda J.W. Shimon, Roy Beck, Yifat Miller, Oren Regev and Ehud Gazit., "A minimal length rigid helical peptide motif allows rational design of modular surfactants". **2016 *Nature Comm***, DOI: 10.1038/ncomms14018 (Ranking: Q1, 6/71, IF: 12.121).
5. Vered Wineman-Fisher, **Daniel Nir Bloch** and Yifat Miller. "Challenges in studying the structures of metal-amyloid oligomers related to Type 2 diabetes, Parkinson's disease, and Alzheimer's disease" **2016 *Coord. Chem. Rev.*** Volumes 327–328 Pages 20–26 (Ranking: Q1, 1/45 , IF: 4.298).

#### Oral Presentations:

1. **Daniel Nir Bloch** and Raz Jelinek "Investigating the effect of carbon dots presence on amyloid aggregation" IVS-MRS 2019 Student Conference. BGU Beer Seva Israel, June 27<sup>th</sup>, 2019
2. **Daniel Nir Bloch**, Sofiya Kolusheva and Raz Jelinek "Preparation and Characterization of Lipid Coated Silica Nanoparticles" CATCH-U-DNA meeting, December 1<sup>st</sup>, Madrid, Spain

#### Poster Presentations:

1. **Daniel Nir Bloch** and Raz Jelinek "Amino acid based carbon dots influence on amyloid aggregation" The 85<sup>th</sup> annual meeting of the Israel Chemical Society, Jerusalem Israel, February 18th-19th, 2020.
2. **Daniel Nir Bloch** and Raz Jelinek "Carbon dots effect on amyloid aggregation in presence and absence of metal ions" 8<sup>th</sup> Scandinavian Conference Amyloid Diseases and Amyloid Mechanisms, Lund Sweden, 28-30 August 2019
3. **Daniel Nir Bloch** and Raz Jelinek "The Effect of different carbon dots on amyloid aggregation" The 84<sup>rd</sup> annual meeting of the Israel Chemical Society, Tel Aviv Israel, February 12<sup>nd</sup>, 2019.
4. **Daniel Nir Bloch** and Raz Jelinek "The Effect of Tyrosine and Phenylalanine Based Carbon Dots on IAPP Aggregation" Nano.il.2018 , Jerusalem Israel, October 10<sup>th</sup>, 2018.

5. **Daniel Nir Bloch** and Raz Jelinek "The Effect of Tyrosine and Phenylalanine Based Carbon Dots on Amyloid Aggregation" Current Challenges in Amyloid Diseases: From Molecular Mechanisms to the Cell and Clinics, Eyn Bokek, Ded Sea Israel, September 2<sup>th</sup>-6<sup>th</sup>, 2018.
6. **Daniel Nir Bloch** and Yifat Miller "The Effect of Copper on the Self-Assembly of  $\alpha$ -Synuclein Oligomers in Parkinson's Disease" The 83<sup>rd</sup> annual meeting of the Israel Chemical Society, Tel Aviv Israel, February 13<sup>th</sup>, 2018.
7. **Daniel Nir Bloch** and Yifat Miller "The effect of  $cu^{2+}$  on the self-assembly of  $\alpha$ -Synuclein in Parkinson's Disease" IBS-Israeli Bioinformatics Symposium, Weizmann Institute May Rehovot Israel 15<sup>th</sup>, 2017.
8. **Daniel Nir Bloch** and Yifat Miller "Investigating the stability of  $\alpha$ -synuclein (30-95) oligomers". The Graduate Students' Chemistry Symposium, BGU Beer Seva Israel, December 8<sup>th</sup>, 2016.
9. **Daniel Nir Bloch** and Yifat Miller "Insight into the self-assembly of  $\alpha$ -synuclein oligomers in Parkinson's disease". The Israeli Biophysical Society, BGU Beer Seva Israel,, October 27<sup>th</sup> 2016
10. **Daniel Nir Bloch** and Yifat Miller "Investigating the polymorphism in the self-assembly of  $\alpha$ -synuclein(30-95)". IBS-Israeli Bioinformatics Symposium, Haifa Israel, May 18<sup>th</sup>, 2016.

**Awards:**

**2017-** Bio-tech scholarship for Ph.D. students, Kreitman School of Advanced Graduate Studies, BGU

**2017-** Dean Excellence in studies and research for 2017, Faculty of Natural Science, BGU.

**2016-** ADAMA award for academic achievement

**Miscellaneous:**

**2000-2004:** Establishing and activation in a new Scouts (Hatsofim) youth movement for special needs kids.

**Languages:**

Hebrew, English, Spanish