**Ayala Lampel**

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| **ACADEMIC APPOINTMENTS:** |
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| **Assistant Professor, Tel Aviv University**School of Molecular Cell Biology and Biotechnology | July 2019 |
| **Postdoctoral Research Associate**Nanoscience Initiative, Advanced Science Research CenterCity University of New York | 2015-2019 |

E**DUCATION** |
| **Ph.D., Biotechnology, Tel Aviv University**Direct Track for Distinguished StudentsAdvisor: Prof. Ehud GazitDissertation: “Molecular Studies of HIV Capsid Assembly: Biophysical Characterization and Antiviral Design Tools”.  | 2009-2014 |
| **B.Sc. in Neuroscience, Tel Aviv University**Interdisciplinary Program in Neuroscience for Distinguished Students  | 2005-2008 |
| **AWARDS** |
| Postdoctoral Travel Award, CUNYPostdoctoral Fellowship, the Israeli Council for Higher Education  | 20162015-2017 |
| Katzir Training Fellowship, Israel Academy of Sciences and Humanities | 2014 |
| Research & Training Doctoral Fellowship, Naomi Prawer Kadar Foundation  | 2014 |
| Best Poster Award, Functional Peptide and Protein Nanostructures Seminar | 2014 |
| Travel Fellowship, Joan and Jaime Constantiner Institute for Molecular Genetics  | 2011 |
| Travel Fellowship, Manna Institute for Plant BioScience  | 2011 |
| Doctoral Scholarship, Tel Aviv University Ph.D. Neuroscience Program | 2009 |

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| **RESEARCH AND PROFFESIONAL EXPERIENCE** |
| **Advanced Science Research Center CUNY,** Nanoscience Initiative, New York, NY, USA*Postdoctoral Research Advisor: Prof. Rein Ulijn*Investigate sequence to structure relationship in peptide self-assembly and develop bio-inspired materials design approach utilizing supramolecular peptide nanostructures **Scientific advisor** *Seed Inc*. LA, CA USA | 2015-2019 2019-present |
| **Reviewer,** *Chem* (Cell Press), *Chemistry of Materials*, *Macromolecules,* *ACS Applied Biomaterials*, *The Journal of Physical Chemistry* (American Chemical Society), *Soft* *Matter* (Royal Society of Chemistry) | 2018-present |
| **Hunter College, CUNY,** New York, NY, USATeaching Assistant, Chem 36000: Introduction to Nanotechnology | 2016-2019 |
| **NSF NYCRIN Regional I-Corps Cohort,** New York, NY, USAEntrepreneurial Lead | 2016 |
| **Tel Aviv University,** The Department of Molecular Microbiology and Biotechnology Tel Aviv, Israel*Graduate Research Advisor: Prof. Ehud Gazit* | 2009-2015 |
| Investigated the biophysical properties of HIV-1 capsid self-assembly and develop novel antiviral design tools  |  |
| **The Center for Educational Technology,** Tel Aviv, IsraelHead of Biotechnology Final Exams Committee Structuring and compositing the Israeli high-school final exams in biotechnology. | 2011-2013 |
| **Tel Aviv University,** Tel Aviv, Israel*Undergraduate Research Advisor: Prof. Ehud Gazit*Studied the potential of short aromatic peptides as inhibitors of β-amyloid self-assembly | 2006-2008 |
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| **ACTIVITIES AND ORGANIZATION OF INTERNATIONAL CONFERENCES****Co-organizer**, EMBO conference “Designing Functional Biomolecular Assemblies: Beyond Biology”, September 2021. **Discussion Leader** of the session “Biological systems chemistry”,Gordon Research Conference (GRC) in Systems Chemistry, Maine, US, June 2020. [Meeting postponed to 2022 due to COVID19].**Co-organizer** of the Power Hour, Gordon Research Conference (GRC) in Systems Chemistry, Maine, US, June 2020. [Meeting postponed to 2022 due to COVID19].**Chair** the session “Polymeric Biopolymers”. 30th Annual Conference of the European Society for Biomaterials (ESB), Dresden, Germany, September 2019.**Session Chair,** the Italy-Israel Binational Meeting onNanomedicine and Nanotechnology for Medical Applications**,** Tel Aviv, Israel, October 2019.**PUBLICATIONS** |
| **PEER-REVIEWED PUBLICATIONS** |
| 1. Massarano, T., Baruch Leshem, A., Weitman, M., & **Lampel, A**. “Spatiotemporal Control of Melanin Synthesis in Liquid Droplets”. ***ACS Applied Materials & Interfaces***, 2022, 14, 20520-20527.
* Selected to feature as the **Supplementary Cover** of ACS Applied Materials & Interfaces.
1. Brito, A., Dave, D., **Lampel, A**., Castro, V.I., Kroiss, D., Reis, R.L., Tuttle, T., Ulijn, R.V., Pires, R.A. and Pashkuleva, I., 2021. “Expanding the conformational landscape of minimalistic tripeptides by their O-glycosylation”. ***JACS*,** 2021,143,19703-19710.
2. Sloan-Dennison, S., **Lampel, A**., Raßlenberg, E., Ulijn, R. V., Smith, E., Faulds, K., & Graham, D. "Elucidation of the structure of supramolecular polymorphs in peptide nanofibres using Raman spectroscopy". ***Journal of Raman Spectroscopy***, 2021, 52, 1108-1114.
3. **Lampel, A**\*., McPhee, S. A., Kassem, S., Sementa, D., Massarano, T., Aramini, J. M., ... & Ulijn, R. V\*. "Melanin-Inspired Chromophoric Microparticles Composed of Polymeric Peptide Pigments". ***Angew. Chem***., 2021. 60, 7564-7569. \* co-correspondending author. ***Selected as a Research Highlight in Nature.***
4. Reddy, S.M.M., Raßlenberg, E., Sloan-Dennison, S., Hesketh, T., Silberbush, O., Tuttle, T., Smith, E., Graham, D., Faulds, K., Ulijn, R.V., and Ashkenasy, N., **Lampel, A\***. "Proton-Conductive Melanin-Like Fibers through Enzymatic Oxidation of a Self-Assembling Peptide" ***Adv. Mater***., 2020, 32, 2003511.
5. **Lampel, A**. “Biology-inspired supramolecular peptide systems”. ***Chem*** 2020, 6, 1222-1236. \*Invited Perspective.
6. Pappas, C., Wijerathne, N., Sahoo J. K., Jain, A., Kroiss, D., Sasselli, I. R., Pina, A. S., **Lampel, A**., and Ulijn, R. V. "Spontaneous aminolytic cyclization and self‐assembly of dipeptide methyl esters in water." ***ChemSystemsChem****,* 2020.
7. Ulijn, R.V. and **Lampel, A**. “Order/disorder in protein and peptide-based biomaterials”. ***Israel Journal of Chemistry***, 2019, 60, 1129-1140. (Invited review in the special issue ‘Young Israelis Stars’).
8. **Lampel, A**., Tuttle, T., Ulijn, R.V. “Guiding principles for peptide nanotechnology through directed discovery”. ***Chemical Society Reviews***. 2018, *47*, 3737-3758.
9. Zhang, C., Shafi, R., **Lampel, A**., MacPherson, D., Pappas, C. G., Wang, T., Maldarelli C., Ulijn, R. V. “Switchable Hydrolase Based on Reversible Formation of Supramolecular Catalytic Site Using a Self‐Assembling Peptide”. ***Angewandte Chemie International Edition****.* 2017, *129*, 14703-14707.
 |
| 1. **Lampel, A**., McPhee S. A., Park, H.-A. Scott, G. G., Humagain, S., Hekstra, D. R., Yoo, B., Frederix P. W. J. M., Li, T.-D., Abzalimov R. R., Greenbaum S. G., Tuttle, T., Chunhua H., Bettinger, C. J., Ulijn, R. V. “Polymeric peptide pigments with sequence-encoded properties”. ***Science*** 2017, *356*, 1064-1068.
 |
| * Highlighted in *Chem* and *Science,* Major media coverage: WYNC Science Friday, Science Daily, Materials Today, MRS Bulletin, Chemical & Engineering News, Cosmos.
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| 1. Alakpa, E. V., Jayawarna, V., **Lampel, A**., Burgess, K. V., West, C. C., Bakker, S. C.J, Roy, S., Javid, N., Fleming, S., Lamprou, D. A., Yang, J., Miller, A., Urquhart, A. J, Frederix,P. W.J.M., Hunt, N. T, Péault, B., Ulijn, R. V., Dalby, M. J. “Tunable supramolecular hydrogels for selection of lineage guiding metabolites in stem cell cultures”. ***Chem*** 2016, *1*, 298-319.
 |
| * Highlighted in *Cell Stem Cell*:  Stem Cell Fate Is a Touchy Subject, *Cell Stem Cell.* 19, 289-290, 2016.
 |
| 1. Mondal, S\*., Adler-Abramovich, L\*., **Lampel, A**., Bram, Y., Lipstman, S., Gazit, E. “Formation of functional super-helical assemblies by constrained single heptad repeat”. ***Nature Communications***2015*, 6.*

\*Authors equally contributed*.*1. **Lampel, A**., Bram, Y., Ezer, A., Shaltiel-Kario, R., Saad, J.S., Bacharach, E. and Gazit, E., “Targeting the early step of building block organization in viral capsid assembly”. ***ACS chemical biology***, 2015, *10*, 1785-1790.
2. **Lampel, A**., Varenik M., Regev O., Gazit, E. “Hierarchical multi-step organization during viral capsid assembly”. ***Colloids and Surfaces B: Biointerfaces*** 2015, 136, pp. 674-677.
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| 1. **Lampel, A**., Elis E., Guterman, T., Shapira S., Marco, P., Bacharach, E., Gazit, E. “α-Aminoisobutyric acid incorporation induces cell permeability and antiviral activity of HIV-1 major homology region fragments”. ***Chemical Communications*** 2015, *51*, 12349-12352.
* Front cover of Chem. Comm. 62nd issue.
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| 1. Bram, Y., **Lampel, A**., Shaltiel-Karyo, R., Ezer, A., Scherzer-Attali, R., Segal, D., Gazit, E. “Monitoring and targeting the initial dimerization stage of amyloid self-assembly”. ***Angewandte Chemie International Edition*** 2014, *54*, 2062-2067*.*
 |
| * Highlighted in *Nature Materials*:  Dimer Detection, *Nat. Mater.* 2015, *14*, 134.
1. **Lampel, A**., Yaniv, O., Berger, O., Bacharach, E., Gazit, E., Frolow, F. A triclinic crystal structure of the carboxy-terminal domain of HIV-1 capsid protein with four molecules in the asymmetric unit reveals a novel packing interface. **Acta Crystallographica Section F**. 2013, *F69*, 602-606.
2. **Lampel, A**., Bram, Y., Levy-Sakin, M., Bacharach, E., Gazit, E. The effect of chemical chaperones on the assembly and stability of HIV-1 capsid protein. **PLOS ONE**. 2013, *8*, e60867.
3. Frydman-Marom, A., Convertino, M., Pellarin, R., **Lampel, A**., Shaltiel-Karyo, R., Segal, D., Caflisch, A., Shalev, D.E. and Gazit, E., Structural basis for inhibiting β-amyloid oligomerization by a non-coded β-breaker-substituted endomorphin analogue. ***ACS Chemical Biology***, 2011, *6*, 1265-1276.
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| **PATENTS**Ulijn, R. V., Lampel, A., Tuttle, T., Scott, G., McPhee, S. and Bettinger, C. “Self-assembling peptide polymer”. US Provisional Patent: 16/332,231, 2019. |