BIOGRAPHICAL SKETCH

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NAME: Binshtein, Elad

eRA COMMONS USER NAME (credential, e.g., agency login): BINSHTE

POSITION TITLE: Senior Staff Scientist (Cryo-EM)

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Ben Gurion University of the Negev, Beer Sheva, ISRAEL	BS	09/2002	Biochemistry
Ben Gurion University of the Negev, Beer Sheva, ISRAEL	MS	09/2006	Biochemistry and Structure biology
Ben Gurion University of the Negev, Beer Sheva, ISRAEL	PHD	09/2010	Biochemistry and Structure biology
Vanderbilt University, Nashville, TN	Postdoctoral Fellow	08/2016	Structure biology

A. Personal Statement

Structural biologist and biochemist with strong expertise in protein expression (bacteria and insects cell), protein purification and cryo-EM. Experience in structure determination, protein analytic characterization using calorimetry and other analytical techniques and biochemical assays for enzyme kinetics.

Cryo-EM: 9 years of single particle (SPA) negative stain and cryo-EM experience. I have mastered all aspects of structure determination by single particle cryo-EM. I have obtained 3.2Å map of "realy" sample by cryo-EM on Polara/K2 and 2A for Apoferritin on Krios/Falcon. Set up the pipelines from sample preparation to EM auto-data collection, and processing. I had been worked on a variety of samples including macro-molecule complex, membrane proteins, toxins, viruses and Fab-proteins complexes. I had supervised and trained graduate students, postdocs and PI from various backgrounds on their cryo-EM projects.

1. Mousa J, Binshtein E, Human S, Fong R, Alvarado G, Doranz B, Moore M, Ohi M, Crowe J. Human antibody recognition of antigenic site IV on Pneumovirus fusion proteins. PLOS Pathogens. 2018; 14(2):e1006837-.
2. Binshtein E, Ohi M. Cryo-Electron Microscopy and the Amazing Race to Atomic Resolution. Biochemistry. 2015 May 14; 54(20):3133-3141.
3. Nemeria N, Binshtein E, Patel H, Balakrishnan A, Vered I, Shaanan B, Barak Z, Chipman D, Jordan F. Glyoxylate Carboligase: A Unique Thiamin Diphosphate-Dependent Enzyme That Can Cycle between the 4′-Aminopyrimidinium and 1′,4′-Iminopyrimidine Tautomeric Forms in the Absence of the Conserved Glutamate. Biochemistry. 2012 September 25; 51(40):7940-7952.
4. Kaplun A, Binshtein E, Vyazmensky M, Steinmetz A, Barak Z, Chipman D, Tittmann K, Shaanan B. Glyoxylate carboligase lacks the canonical active site glutamate of thiamine-dependent enzymes. Nature Chemical Biology. 2008; 4(2):113-118.

B. Positions and Honors

Positions and Employment

2005 - 2010 Teaching assistant and laboratory instructor in Microbiology, Ben Gurion University, Beer

	Sheva
2005 - 2010	Teaching assistant and laboratory i nstructor in Microbiology, Achva Academic College
2011 - 2016	Research fellow, Department of cell and Development, Vanderbilt University, Nashville, TN
2016 - 2019	Cryo-EM specialist - Senior Staff Scientist, Vanderbilt University Center for Structure Biology (CSB), Nashville , TN
2019 -	Senior Staff Scientist (Cryo-EM), Vanderbilt University Medical Center, Vanderbilt Vaccine Center (vvc), Nashville, TN

Other Experience and Professional Memberships

Honors

1999	Israeli Defense Force Scholarship for Outstanding Officers, IDF
2001	Scholarship for excellence in academic achievements, Achva Academic College
2002	Scholarship for excellence in academic achievements, Ben Gurion University
2008	Best Poster Presentation Award, 7th International Conference on Mechanisms and Physiology of Thiamine
2009	Young Scientist Forum (YSF) , FESB

C. Contribution to Science

D. Additional Information: Research Support and/or Scholastic Performance