September 3, 2023

RESUME

Full name: Noam Simcha Adir
Date and place of birth: July 29, 1957; Zefat, Israel.
Marital status: Married, two children
Web site https://chemistry.technion.ac.il/en/team/noam-adir/;
https://nadir.net.technion.ac.il/

ACADEMIC DEGREES

1. 1984 Chemistry, The Hebrew University, Jerusalem, Israel, B.Sc.
2. 1990 Biochemistry, The Hebrew University, Jerusalem, Israel Ph.D.

ACADEMIC APPOINTMENTS

1. **2017 - present, Bertha Axel-Hertz Chair in Chemistry**
2. **2012- present, Professor, Schulich Faculty of Chemistry, Technion- Israel Institute of Technology, Haifa, Israel**
3. 2011-2012, Visiting Professor, Department of Structural Biology, Stanford School of Medicine, Stanford University, USA
4. 2004 – 2012, Associate Professor, Schulich Faculty of Chemistry, Technion- Israel Institute of Technology, Haifa, Israel
5. 2001-2004, Senior Research Associate, Department of Chemistry, Technion- Israel Institute of Technology, Haifa, Israel
6. 1995-2001, Senior Lecturer, Department of Chemistry, Technion- Israel Institute of Technology, Haifa, Israel

PROFESSIONAL EXPERIENCE

1. 1990-1995, Postdoctoral Fellow in the laboratory of Prof. George Feher, Department of Physics, The University of California, San Diego.

RESEARCH INTERESTS

X-ray crystallographic determination of biologically relevant macromolecular structures. Structure and function of photosynthetic reaction centers and antennas. Study of energy and electron transfer processes in biological systems. Direct use of photosynthetic systems for solar energy conversion to electrical current and storable fuels. Stress related proteins. Enzymes: structures, mechanisms of function and development of inhibitors. Development of novel anti-microbial compounds. Homology-based modeling of medically important proteins.

TEACHING EXPERIENCE

1. 1985-1990, Teaching and Advanced Teaching Assistant, Department of Biochemistry, The Hebrew University, Jerusalem, Israel

a) Biochemistry (Undergraduate)

b) Protein Isolation (Undergraduate)

2. 1995-present, Professor, Schulich Faculty of Chemistry, Technion

a) General Chemistry (Undergraduate)

b) Principles of Chemistry (Undergraduate)

c) Laboratory in Principles of Chemistry (Undergraduate)

d) Structure and Function of Macromolecules (Graduate/Undergraduate)

e) Selected Topics in Structural Biology (Graduate/Undergraduate)

f) Biological Photochemistry (Graduate/Undergraduate)

TECHNION ACTIVITIES

1. 1997, tour of United States as keynote speaker at ATS fundraising meetings.
2. 1998-2001, Dept. of Chemistry representative for Technion Open House organization committee.
3. 2001-2005, Dept. of Chemistry representative of the Committee for Interdepartmental Biotechnology Studies.
4. 2003-present Schulich Faculty of Chemistry representative of the Committee for Bioinformatics.
5. 2004-2007, Head of Analytical, General and Physical Chemistry Laboratory, Schulich Faculty of Chemistry.
6. 2006, Faculty Participant in "Dean of Student ATS tour" member.
7. 2007-present, Schulich Faculty of Chemistry representative on the steering committee of the Lorry Lokey Interdisciplinary Center for Life Science and Engineering.
8. 2008-2009, Head of Analytical, General and Physical Chemistry Laboratory, Schulich Faculty of Chemistry.
9. 2012 – present, Member of Technion Senate
10. 2012 – present, member Technion committee for promotions for non-tenure track senior faculty.
11. 2013 – 2015, Deputy Executive Vice President for Research, Technion.
12. 2016-2019, Dean of the Schulich Faculty of Chemistry, Technion.
13. 2020 – 2021, Deputy Vice President for Safety, Technion.
14. **2022- present, Dean of the Schulich Faculty of Chemistry, Technion.**

PUBLIC PROFESSIONAL ACTIVITIES

1. 1998, Member of Israel Science Foundation Grants Professional Judgment Committee (Biochemistry/Biophysics/Biotechnology)
2. 1999-2011, Member of the Israel National Committee on Synchrotron Radiation.
3. 1999-2010, public lecturer for "Bashaar - Academic Community for the Israeli Society".
4. 2000, Member of Israel Science Foundation Grants Professional Judgment Committee (Biochemistry/Biophysics/Biotechnology)
5. 2001, Member of Israel Science Foundation Grants Professional Judgment Committee (Institutional Equipment)
6. 2003, Member of Israel Science Foundation Grants Professional Judgment Committee (Biochemistry/Biophysics/Biotechnology)
7. 2003-2009, Chairman, Israel Crystallographic Association

8. 2007, Member of US-Israel Binational Science Foundation Grants Professional Judgment Committee.
9. 2007-2010, member of editorial board of for "The Open Structural Biology Journal" and "Open Structural Biology Reviews" Bentham Science Publishers Ltd.
10. 2009-2016, permanent representative of Israel and the Israel Science Foundation on the European Synchrotron Research Facility Council.
11. 2011-2016, Chairman of the Israel National Committee on Synchrotron Radiation.
12. **2016-present, Member of the Israel National Committee on Synchrotron Radiation.**
13. 2016-2020, member of Scientific Advisory Committee, SESAME (Synchrotron light for Experimental Science and Applications in the Middle East), Jordan.
14. 2017, Member of US-Israel Binational Science Foundation Grants Professional Judgment Committee (Chemistry).
15. 2017-8, Section chair of Israel Science Foundation Grants Professional Judgment Committee
16. 2019-2020, Guest Editor, Photochemical & Photobiological Sciences.
17. 2020-2021, member of Scientific Advisory committee and Executive committee of the European Society for Photobiology
18. **2021-2, Section chair of Israel Science Foundation Grants Professional Judgment Committee**

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1. The Israel Chemical Society
2. The Israel Crystallography Association
3. International Society of Photosynthesis Research
4. International Union of Crystallography
5. Research Affiliate of PARC - the Photosynthetic Antenna Research Center, Washington University, St. Louis, MO USA.

HONORS

1. 1987, Golda Meir Fellowship
2. 1990-1991, University of California/Hebrew University Reciprocity Grant.
3. 1992-1993, NIH Postdoctoral Training Grant
4. 1996, The Siegl Research Prize, The Israel National Science Foundation.
5. 1997, The Henri Gutwirth Fund for the Promotion of Science.
6. 1997, Stanley Imerman Memorial Academic Lectureship
7. 2010, Schulich Award for Excellence in Teaching: for the development and integration of new curriculum into large undergraduate chemistry courses.
8. 2013, The Herschel Rich Innovation Award

9. 2019, Technion Excellence in Teaching award (הצטיינות יתרה אביב תשע"ט)
10. 2023 Uzi and Michal Halevi Fund for Innovative Applicative Research.

GRADUATE STUDENTS

Completed Theses

1. 2000- M. Sc. Valeria Rukhman, primary advisor, Characterization and Study of the Crystallized RCII
2. 2000 - M. Sc. Elena Dobrovetsky, primary advisor, Isolation, Crystallization and Crystallographic Characterization of Cytochrome b559 of Photosystem II
3. 2001- M. Sc. Ludmilla Abazgaoz, primary advisor, the Role of Detergents in Crystallization of Membrane Proteins
4. 2001- Ph.D. Rina Anati, primary advisor, Progress in Determination of 3D structures of Proteins Involved in Manganese Functions in Photosynthetic Organisms
5. 2002- M. Sc. Radion Vainer, primary advisor, Crystallization and Determination of the Structure of KDO8Psynthase with Competitive Inhibitors
6. 2002 - Ph.D. Miri Barak, co-advisor, (primary advisor - Yehudit Dori - Science and Technology Education), A Model for a Web-Based Community of Chemistry Learners in Higher Education
7. 2003 – M. Sc. Boaz Pokroy, co-advisor (primary advisor –Emil Zolotoyabko - Materials Engineering). Microstructure of the Strombus Decorus Persicus Seashell
8. 2004 – M. Sc. Meirav Abdales, co-advisor, (primary advisor Zeev Gross - Chemistry). Interactions of Metals Corroles with Human Serum Albumin
9. 2005 – M. Sc. Anat Shahar, primary advisor, 3D Structure Determination of the Heat Shock Protein Cpn60.2 From Mycobacterium tuberculosis
10. 2005 – Ph. D. Valeria Rukman, primary advisor, Determination of the Three Dimensional Structure of MntC: A Periplasmic Manganese Transport Protein from Synechocystis sp. PCC 6803
11. 2006 - Ph.D. Monica Dines, primary advisor, Structure Determination of Proteins Involved in the Stability of the Phycobilisomes during Environmental Stress
12. 2006 – M. Sc. Ailie McGregor, primary advisor, Crystallization and Structure Determination of Phycobilisome Components
13. 2007 – M. Sc. Margarita Kanteev, primary advisor, Structure-Function Investigation of a Manganese Transporter The Role of the Disulfide Bond in the MntC Protein
14. 2008 – M. Sc. Merav Klartag, primary advisor, Investigating the Core Components of the Phycobilisome of the Thermophilic Cyanobacterium Termosynechoccus Vulcanus
15. 2009 – M. Sc. Tali Schwartzman, primary advisor, Structural Investigations of the MntB Protein The Transmembrane Unit of an ABC-Type Manganese Transport System in Cyanobacteria

16. 2009 - M. Sc. Avital Lahav, primary advisor, Structure-Function Investigations of the MntA and MntC Proteins from Mesophilic and Thermophilic Cyanobacteria
17. 2010 – Ph. D. Anat Shahar, primary advisor. Structural Studies on Protein Involved in Human Health: The M. tuberculosis Cpn60.2 Chaperonin and the Mitochondrial TSPO Receptor Protein
18. 2011 - Ph. D. Ailie Marx (McGregor), primary advisor. Elucidation of Phycobilisome Functionalities Using High Resolution Structures of Phycobiliproteins
19. 2011 - Ph.D. Margarita Kanteev, primary advisor. Structure-Function Investigation of Metal Ion Binding Proteins
20. 2012 - Ph.D. Sharon Navon, primary advisor. Short peptide sequences inhibit prokaryotic translation: A new way of looking at Biological information.
21. 2012 – Ph.D. Liron David, primary advisor. Structure Determination of the Phycobilisome Complex.
22. 2012 – M.Sc. Yigal Linkovsky, primary advisor. Structural and Functional Investigation of the Mitochondrial TSPO Receptor.
23. 2013 – Ph. D. Moran Shalev, co-advisor (Timor Baasov, Chemistry). Elucidation of aminoglycosides modes of activity in eukaryotes: towards improved therapeutic derivatives.
24. 2013 – Ph. D. Ofir Tal, primary advisor. Investigation of the interactions leading to Phycobilisome assembly.
25. 2014 – Ph.D. Mor Sendovski-Goldfeder, co-advisor (Ayelet Fishman, Biotechnology and Food Engineering). Rational Design and Structure Based Investigation of Tyrosinase from *Bacillus megaterium*.
26. 2014 - M.Sc. Roy Ben Harosh, primary advisor. Energy Transfer and Charge Separation in Phycocyanin: Developing a Bio-DSSC.
27. 2014 – Ph. D. Avital Lahav, primary advisor. Structural investigations of proteins involved in the COPI complex.
28. 2015 – Ph. D. Faris Salama, primary advisor. Engineering a Photosystem II dependent Bio-generator and the X-ray structure of HspA, which protects PSII from thermal damage
29. 2015 - Ph.D. Roy Pinhassi, joint advisor (Gadi Schuster - Biology and Avner Rothschild - Material Engineering, Technion Grand Energy Program). Engineering of a green system for the production of photocurrent and hydrogen through photosynthesis
30. 2015 – M.Sc. Dvir Harris, Determination of the precise interaction between the Phycobilisome (PBS) light harvesting antenna and the Orange Carotenoid Protein (OCP), primary advisor.
31. 2016 – M.Sc. Shiri Katzir (Yamin), primary advisor. Toward structure determination of Rbt5, a heme and hemoglobin receptor from *Candida albicans.*
32. 2016 - Ph.D. Sivan Perl, Self-Assembling Spherical Proteins for Chemical Applications, co-advisor (Ehud Keinan, Chemistry).
33. 2017 – Ph.D. – Dan Kol-Kalman joint advisor (Gadi Schuster - Biology and Avner Rothschild - Material Engineering, Technion Grand Energy Program)**.** Photocurrents from photosynthesis: exogenous and endogenous electron transfer mechanisms using spinach thylakoids and cyanobacteria.

34. 2017 – Ph.D. Gadiel Saper, joint advisor (Gadi Schuster - Biology and Avner Rothschild - Material Engineering, Technion Grand Energy Program). Harnessing photosynthesis for H_2 production.
35. 2019 - Ph.D. Shira Bar Zvi, primary advisor. Structure – function analysis of the phycobilisome complex of the cyanobacterium *Acaryochloris marina.*
36. 2019 – MSc – Tarek Tarabeh, primary advisor.
37. 2019 – Ph.D. Dvir Harris, primary advisor (GTEP). Cyanobacterial photosynthesis – from photoprotection to solar cells.
38. 2019 – MSc – Maayan Suissa-Szlejf, primary advisor. Structural and Functional Characterization of Terminal Subunits of Cyanobacterial Phycobilisomes.
39. 2020 – MSc – Hagit Shoyhet, primary advisor. Coupling Photosystem II with Nano-photocatalysts for overall water splitting (RBNI).
40. 2021 – MSc – Jenia Sklyar, primary advisor.
41. 2022 – Ph.D. – Yaniv Shlosberg, primary advisor (GTEP)

Theses in Progress

1. 2023 – PhD – Tarek Tarabeh, primary advisor
2. 2025 – Ph.D. – Jenia Sklyar, primary advisor
3. 2024 – PhD – Maayan Suissa-Szleif, primary advisor
4. 2024 – MSc – Berta Haimov, primary advisor
5. 2026 – Ph.D. – Ranin Hijazi, primary advisor
6. 2024 – MSc – Guy Lutzki, primary advisor

Post-Doctoral Researchers and Research Associates

1. 2002 - 2006 Dr. Meira Melamed-Frank
2. 2006 – 2008 Dr. Miri Bidder
3. 2014 – 2016 Dr. Sudeshna Ghosh
4. 2014 – 2020 Dr. Avital Lahav
5. 2017 – 2019 Dr. Tunde Toth
6. 2023 – present Dr. Chittran Roy

RESEARCH GRANTS

1. US Department of Agriculture (USDA), National research Initiative Competitive Grants Program, Crystallization of the Reaction Center of Photosystem II, with Dr. M.Y. Okamura, 1993-1994, $100,000.
2. Israel Academy of Sciences and Humanities Bat-Sheva de-Rothschild fund for Synchrotron experiments 1996, $4,000.
3. The Israel Science Foundation Competitive grant, 1996-1999, $150,000
4. The Israel Science Foundation Competitive grant (Cooperating investigator), with Prof. I. Ohad, 1997-2000, $118,500.

5. The German-Israel Foundation for Scientific Research and Development Competitive grant, with Prof. W. Lubitz, 1998-2001, DM214,000.
6. Israel Academy of Sciences and Humanities Bat-Sheva de-Rothschild fund for Synchrotron experiments 1998, $4,000.
7. The Israel Science Foundation Competitive grant, 1999-2001, $90,000
8. The Israel Science Foundation Competitive grant, Structural analysis of proteins involved in the function of Photosystem II by X-ray crystallography. Structural, biochemical and functional analysis of the Phycobilisome, a dynamic photosynthetic antenna system. 2002-2006, $247,000
9. The Technion Vice-President for Research (Manlam) Grant for Interdisciplinary Studies (with Prof. Zolotoyabko). Elucidation of the structure and function of SGAP40 – a mollusk derived Shell Growth Assisting Protein involved in the CaCO3 polymorph. 2004, $12,000
10. The Israel Science Foundation Competitive grant. Structural, biochemical and functional analysis of the Phycobilisome, a dynamic photosynthetic antenna system. 2006-2010, $254,000
11. The Israel Science Foundation Bikura grant (with Prof. Schuster, Technion). Bio-energy generators (BioGen) for the future. 2006-2009, $170,000
12. The US-Israel Bi-National Science Foundation (BSF) Competitive grant (with Prof. Merchant, UCLA), Genetic, Biochemical and Structural investigations of metal ion uptake systems in microorganism. 2006-2010, $168,000
13. The Technion Vice-President for Research (Manlam) Grant for Interdisciplinary Studies (with Prof. Schuster). Bio-energy generators (BioGen) for the future. 2007, $32,000
14. Israel Ministry of Science Grant (with Prof. Schuster, Technion). Bio-energy generators (BioGen) for the future. 2007-2008, $42,000.
15. McDonnell Academy Global Energy and Environment Partnership grant (with Prof. R. Blankenship, Washington University, St. Louis USA). Exploring the structure and function of a minimal, soluble photosynthetic antenna complex. 2007-2008 $23,500
16. ISF Institutional Equipment Grant (with Prof. Kaftory and Dr. Gandelman) 2009, $185,000
17. The Technion Vice-President for Research (Manlam) Israel-Mexico Grant (with Prof. Schuster). A new Bio-energy generator using genetic engineering and a photoelectric cell. 2009, $8,000
18. The US-Israel Bi-National Science Foundation (BSF) Competitive grant (with Prof. Blankenship, Washington University). “Exploring the structure and function of the Phycobilisome: a giant photosynthetic antenna complex” 2010-2014, $176,000
19. I-CORE Program: Israel Solar Fuels Consortium (with 11 additional researchers from the Technion). “Renewable and Sustainable Sources of Energy” 2011-2016, 12,000,000 NIS.
20. The US-Israel Bi-National Science Foundation (BSF) special “Transformative Sciences” grant (with Prof. Schuster and Prof. Rothschild, Technion and Prof. Gray, California Inst. of Technology and Prof. Stern, Boyce Thompson Inst.). “The

Greenest Energy": Coupling Electron Transfer from a biological photosynthetic system to Hydrogen Production. 2012-2015, $300,000.

21. I-CORE research grant: Direct production of energy from cyanobacteria: a biogenerator (group head, along with Prof. Schuster (Technion) and Profs. Scherz and Noy (WIS)). 2012-2013, 100000 NIS.
22. The Israel Science Foundation Competitive grant. Elucidation of the structural characteristics that determine energy transfer pathways in the Phycobilisome 2012-2016, $220,000
23. DIP - Deutsche Forschungsgemeinschaft. Nanoengineered optobioelectronics with biomaterials and bioinspired assemblies. Israeli Principle Investigator, along with 7 others. 2014-2019, 1,655,000 Euro
24. The US-Israel Bi-National Science Foundation (BSF) Competitive grant (with Prof. Blankenship, Washington University). "Exploring and utilizing the remarkable energy transfer characteristics of the Phycobilisome". 2015-2019, $180,000
25. The Israel Science Foundation Competitive grant. A multi-level study of the extraordinary energy transfer capabilities of the Phycobilisome 2016-2021, $365,000.
26. GTEP-Technion Nevet Program Grant (with Prof. Gadi Schuster). "Harnessing Photosynthesis: A source of clean energy to green fuels". 2019-2020, $25,000.
27. ISF-NSFC Joint Research Program (with Prof. Nir Keren and Prof. Yossi Paltiel). "Developing a structure based high-resolution description of the dynamic response of marine light harvesting systems. 2019-2021, $245,000.
28. The Technion Vice-President for Research (Manlam) Berman-Shane Grant for Energy Research (with Prof. Schuster). "Harnessing Photosynthesis: A source of clean energy to green fuels". 2019, $25,000
29. Israel Innovation Authority – Kamin grant 66771 "A novel platform against disease-causing resistant bacteria" (with Prof. Sima Yaron). 2019, 372166 NIS.
30. The Israel Science Foundation Competitive grant. Minding the Gap: Studying the crucial energy transfer step between antennas and reaction centers in Photosynthesis. 2021-2026, $415,000.

Patents

1. 2009, Engineering of a non-lethal novel electron transfer pathway into PSII as a step towards biological energy production from photosynthetic organisms. Accepted by Technion Patent Committee – 1191. (20140223610). Submitted with Prof. Gadi Schuster, Ms. Shirley Larom and Mr. Faris Salama. Published - August 7th 2014.
2. 2009, Invention of a method for the development of a novel class of antibiotics based on lethal peptide sequences. Accepted by Technion Patent Committee -1192. (US20140087997 A1). Submitted with Ms. Sharon Navon and Ms. Tali Schwartzman. Published - March 27th, 2014.
3. 2022, US Provisional Application No. 63/384,485 "Live Organism-Based Bio-Generators" - TRDF reference: 2022002-00- Our ref: TEC-P-08305US. Submitted with Gadi Schuster, Yaniv Shlosberg and Alvaro Israel.

CONFERENCES

Plenary or invited lecture

1. **4th International Congress of Plant Molecular Biology**, Amsterdam, Netherlands 1994. Crystallization of the Reaction Center of Photosystem II. Invited lecture.
2. **Gordon Conference on Biophysical Aspects of Photosynthesis**, New Hampton, New Hampshire, USA 1994. Co-Crystallization of the Reaction Center and Cytochrome c_2 of *Rhodobacter sphaeroides.* Invited lecture.
3. **3rd Workshop on Photosystem II**, Shluchot, Israel 1997. Progress in the crystallization of Photosystem II. Invited lecture.
4. **The 62nd Meeting of the Israel Chemical Society**, Haifa, Israel 1997. Metal-cofactor interactions in Photosystem II. Invited lecture.
5. **The 63rd Meeting of the Israel Chemical Society**, Tel-Aviv, Israel 1998. Progress in the Determination and Characterization of the Reaction Center of Photosystem II. Invited lecture.
6. **"From Photosynthesis to Molecular Cell Biology",** Jerusalem, Israel 1999. The structure of Photosystem II: Do we need it? Invited lecture.
7. **Pigment -Protein Complexes of Thylakoids from Oxygenic Organisms: Isolation, Purification, Structural and Functional Analysis, Berlin, Germany** 1999. Photosystem II - Crystallization and Structural Analysis. Invited lecture.
8. **The Annual meeting of the Israel Crystallographic Association**, Jerusalem, Israel 2000. Crystallization of the reaction center of Photosystem II and of Reaction center components. Invited lecture.
9. **The 19th European Crystallographic Meeting**, Nancy, France 2000. Crystallization of the reaction center of Photosystem II and of Reaction center components. Invited lecture.
10. **The 67th Meeting of the Israel Chemical Society**, Jerusalem, Israel Jan. 29-30 2002. Insights into Photosystem II structure N. Adir, R. Anati, V. Rukhman, Y. Dobrovetski, N. Lerner. Invited lecture.
11. **The 3rd Federation of Israel Societies for Experimental Biology Congress**, Eilat Israel Feb. 4-7 2002. Insights into Photosystem II function via structure determination. N. Adir, R. Anati, V. Rukhman, Y. Dobrovetski, N. Lerner. Invited lecture.
12. **The XIX Congress and General Assembly of the International Union of Crystallography**, Geneva Switzerland Aug. 6-15, 2002. Membrane Protein Crystallography. N. Adir Invited lecture.
13. **The Annual meeting of the Israel Crystallographic Association.** The crystal structure of a novel unmethylated form of C-phycocyanin, a possible connector between cores and rods in phycobilisomes. Adir, N. and Lerner, N., Beer Sheva, Israel May 20th 2003. Invited lecture.
14. **The Israel Society for Microbiology Annual Meeting** – 2004, Haifa, Israel, Feb 9-10, 2004. Crystal structure analysis of KDO8P synthase from *E. Coli* in binary complexes with PEP, *E*

and *Z* Isomers of 3-Fluoro-PEP AND 1-Deoxy-A5P. Adir, N., Belakhov, V., Rabkin, E., Sau, A., Furdui, C., Anderson, K.S., Baasov, T. and R. Vainer. Invited lecture.

15. **The 4th Federation of Israel Societies for Experimental Biology Congress**, Eilat Israel Feb. 7-10 2005. Crystallographic analysis of initial modes of ligand binding in KDO8P synthase Adir, N., Vainer, R., Belakhov, V., Rabkin, E., Sau, A. Furdui, C., Anderson, K. S., and Baasov, T. Invited lecture.
16. **The 70th Meeting of the Israel Chemical Society**, Tel-Aviv, Israel Feb. 15-16 2005.The MntC Crystal Structure Suggests That Import of Mn^{2+} in Cyanobacteria is Redox Controlled. Rukhman, V., Anati, R., Melamed-Frank M. and Adir, N. Invited lecture.
17. **The Annual meeting of the Israel Crystallographic Association**, May 25th 2005 Rehovot, Israel. The 3D structure of the MntC solute Binding Protein: Is the destiny of imported Mn^{2+} in Cyanobacteria Redox Controlled? Rukhman, V., Anati, R., Melamed-Frank M. and Adir, N. Invited lecture.
18. **Gordon Research Conference on Photosynthesis**, July 2-8 2005, Bryant University, Rhode Island USA. The 3D structure of the MntC solute Binding Protein: Is the destiny of imported Mn^{2+} in Cyanobacteria Redox Controlled? Rukhman, V., Anati, R., Melamed-Frank M. and Adir, N. Invited lecture.
19. **The 14th International Congress on Photosynthesis.** July 22-27, 2007, Glasgow, UK. Structural Aspects of the Assembly and Disassembly of the Phycobilisome. Adir, N., Dines, M., Klartag, M., McGregor, A., Melamed-Frank, M., Sendersky, E., and Schwarz, R. Invited lecture.
20. **The 5th Federation of Israel Societies for Experimental Biology Congress**, Eilat Israel Jan. 28-31 2008. Crystal structures of the Cyanobacterial Phycobilisome Antenna complex: Assembly and Disassembly of a Giant. Adir, N., Dines, M., David, L., Klartag, M., McGregor, A., Melamed-Frank, M., Sendersky, E. and Schwarz, R. Invited lecture.
21. **The 2008 Annual Meeting of the Israel Society for Human Genetics**, Haifa, Israel Oct. 23-35 2008. Computational and experimental tools can reveal structural details of proteins of medical and genetic interest. Adir, N. Invited lecture.
22. **2009 Fall workshop of the Israel Society for Microbiology**, Ein Gedi, Israel Nov. 27-28 2009. Where do cyanobacteria go when they're hungry? Insights into pigment disassembly. Adir, N. Invited lecture.
23. **The 75th Meeting of the Israel Chemical Society**, Tel-Aviv, Israel Jan. 25-26 2010. What do cyanobacteria do when they get hungry? Structural insights into physiological responses to nutrient and Mn deficiencies. Adir, N. Invited lecture.
24. **The Photosynthetic Light-Harvesting Satellite Meeting to the 15th International Congress of Photosynthesis**, Nankai University, Tianjin China, August 18th-22nd 2010. Functional aspects of Phycobilisome architecture: understanding the blueprints of assembly and disassembly. Adir, N. David, L., Dines, M., Klartag, M., Marx-McGregor, A., Sendersky, E. and Schwarz, R. Invited lecture.

25. **Light-driven Bioprocesses: from Basics to Applications.** Weizmann Institute of Science, Rehovot, Israel. October 11-12, 2010. Engineering of an alternative electron transfer pathway in Photosystem II. Adir, N., Salama, F., Larom, S. and Schuster, G. Invited lecture.
26. **International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO)**, Berlin, Germany July 24-28 2011. Functional aspects of Phycobilisome architecture: Revealing protein directed spectral tuning. Adir, N. David, L., Klartag, M., Marx-McGregor, A. Invited lecture.
27. **Photoprotection in Cyanobacteria,** Paris, France June 14-15, 2012. The Phycobilisome: Assembly and functionality. Adir, N., David, L. Klartag, M. and Marx-McGregor, A. Invited lecture.
28. **International Conference on Porphyrins and Phthalocyanins - 7**. Jeju Island, Korea July 1-6, 2012 . Revealing structural facets that enable chromophore spectral tuning and energy pathways in the Phycobilisome. Adir, N. Invited lecture.
29. **Gordon Research Conference on Photosynthesis**, July 8-13 2012, Davidson College, North Carolina, USA. Progress in the engineering of Photosystem II for clean energy production. Adir, N. Invited lecture.
30. **Production of Liquid Fuels from renewable sources: 1st I-Core Solar fuels workshop.** February 25-27, 2013 Dead Sea, Israel. Adir, N. Progress in the engineering of Photosystem II for clean energy production. Invited lecture.
31. **The Photosynthetic Light-Harvesting Satellite Meeting to the 16th International Congress of Photosynthesis**, Washington University, St. Louis, USA, August 8-11, 2013. X-ray crystallographic and cryo-TEM structures of the phycobilisome photosynthetic antenna complex indicate functional plasticity N. Adir, L. David, A. Marx, O. Tal, D. A. Elmlund, M. Prado and R.E. Blankenship. Invited lecture.
32. **International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO)**, Wuhan, China September 11-15 2013. Deciphering the structure of the Phycobilisome photosynthetic antenna complex indicates functional plasticity Adir, N. David, L, Marx, A., Tal, O., Elmlund, D.E., Prado, M. and Blankenship, R.E. Keynote Lecture.
33. **2nd Meeting of the Israel Society for Biotechnology Engineering.** Tel Aviv, Dec. 1st 2013. Progress in the engineering of Photosystem II for clean energy production. **N. Adir**, S. Larom, R. Pinhassi, F. Salama and G. Schuster. Invited lecture.
34. **The 79th Meeting of the Israel Chemical Society**, Tel-Aviv, Israel Feb. 4-5 2014. Utilizing photosynthetic complexes for solar energy conversion: Building a Bio-generator. **N. Adir**, S. Larom, R. Pinhassi, D. Kol-Kalman, G. Saper, R. Ben Harosh, A. Rothschild and G. Schuster. Invited lecture.
35. **Biomaterials and Bioinspired Assemblies for Nanoengineered Optobioelectronic Systems**, Berlin, Germany Dec. 14-16 2014. Bio-electrochemical devices based on crude photosynthetic material. **N. Adir**. Invited lecture.
36. **The 6th Peter Brojde Center Conference – Quantum Biology**, Neve Ilan, Israel June 16th 2015. Does the structure of the

Phycobilisome photosynthetic antenna complex help decipher its energy transfer properties? N. Adir Invited lecture.

37. **3rd International Symposium on Energy Challenges and Mechanics**. Aberdeen, Scotland UK. July 7-9 2015. Utilizing photosynthetic complexes for solar energy conversion: Building a Bio-generator. **N. Adir,** S. Larom, R. Pinhassi, D. Kol-Kalman, G. Saper, R. Ben Harosh, H. Dotan, A. Rothschild and G. Schuster. Invited lecture.
38. **Biomaterials and Bioinspired Assemblies for Nanoengineered Optobioelectronic Systems** II, Jerusalem, Israel October 6-7 2015. Hybrid Bio-Photo-Electro-Chemical Cells for Solar Water Splitting. N. Adir. Invited lecture.
39. **International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO).** Kibbutz Hagoshrim, Israel. October 12-15, 2015. The extraordinary energy transfer capabilities of the phycobilisome. N. Adir, Invited lecture.
40. **Israel Sustainable Energy Society Annual Meeting 2016.** Tel Aviv, Israel April 19th 2016. Utilizing photosynthetic complexes for solar energy conversion: building a bio-generator. N. Adir. Invited Lecture.
41. **International Conference on Porphyrins and Phthalocyanins 9**. Nanjing, China, July 3-8 2016. The extraordinary energy transfer capabilities of the phycobilisome. N. Adir, Shira Bar Zvi, Roy Ben Harosh, Liron David, Sudeshna Ghosh, Dvir Harris, Ofir Tal, Ido Eisenberg, Nir Keren, Yossi Paltiel, Collins Nganou, Martin Mkandawire, Robert E. Blankenship. Invited lecture.
42. **The Photosynthetic Light-Harvesting Satellite Meeting to the 17th International Congress of Photosynthesis**, Egmond aan Zee, Netherlands, August 4-7, 2016. Deciphering the remarkable functionalities of the phycobilisome. N. Adir, D. Harris, O. Tal, S. Bar Zvi, A. Lahav, L. David, R. Ben Harosh, D. Jallet, A. Wilson, D. Kirilovsky, R.E. Blankenship, I. Eisenberg, N. Keren, Y. Paltiel and C. Nganou. Invited lecture.
43. **The 3rd Solar Fuels Workshop.** Nahsholim, Israel September 12-15 2016. Harnessing photosynthesis for green energy and hydrogen production. N. Adir. Invited lecture.
44. **The 81st Meeting of the Israel Chemical Society**, Tel-Aviv, Israel Feb. 13-14 2017. Deciphering the Extraordinary Energy Transfer Capabilities of the Phycobilisome Photosynthetic Light Harvesting Complex. N. Adir. Keynote lecture.
45. **International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO) 2017**. Chicago USA. July 9-13, 2017. Deciphering the structural sources of phycobilisome functionalities N. Adir, Invited lecture.
46. **International Conference on Porphyrins and Phthalocyanins 10**. Munich, Germany July 1-6 2018. Phycocyanin can serve as the terminal emitter in the absence of allophycocyanin in A. marina. N. Adir, S. Bar-Zvi, A. Lahav, D. Harris, D.M. Niedzwiedzki and R.E. Blankenship. Invited lecture.
47. **ESP-IUPB World Congress on *Light and Life***. Barcelona Spain Aug. 25-30 2019. Phycocyanin can be significantly red-shifted in *A. marina* Phycobilisomes N. Adir, S. Bar Zvi, M. Suissa, A. Lahav,

D. Harris, D.M. Niedzweidzki, and R.E. Blankenship. Invited lecture.

48. **237th Electrochemical Society Meeting.** Montreal Canada, 10-15 May 2020. Engineering Cells, Membranes and Light Harvesting/Photosystem II Super-Complexes in Bio-Photoelectrochemical Cells. N. Adir. Invited lecture. *Cancelled due to COVID-19*
49. **238th Electrochemical Society Meeting.** Chicago, USA, 30 May – 3 June 2021. Engineering Cells, Membranes and Light Harvesting/Photosystem II Super-Complexes in Bio-Photoelectrochemical Cells. N. Adir. Invited Lecture.
50. **19th Congress of the European Society for Photobiology** Salzburg Austria (virtual). Engineering Cells, Membranes and Light Harvesting/Photosystem II Super-Complexes in Bio-Photoelectrochemical Cells. 30.8-3.9 2021. N. Adir. Invited Lecture.
51. **Nanomeet 2021.** Porto Portugal. Engineering Photosystem II with Nanomaterials in BioPhotoelectrochemical Cells for Clean Solar Energy Conversion. September 13-15 2021.
52. **Bioderived Electronics 2022.** Ein Gedi, Israel 15.5.2022-19.5.2022. N. Adir. Invited Lecture.
53. **Journées de la Société Française de Photosynthèse.** Harvesting electrical current from live photosynthetic organisms: The greenest of all green energy.9-10 June 2022 Gif sur Yvette, France. N. Adir Invited Lecture.
54. **Diana Kirilovsky's Day: Workshop on the Orange Carotenoid Protein**. From not enough to way too much: Different ways the Phycobilisome deals with light intensity. French Society for Photobiology. Paris France (Hybrid) January 25th 2023. N. Adir Invited Lecture
55. **243th Electrochemical Society Meeting.** Live Cell and Hybrid Material Based Bio-Photoelectrochemical Cells for Clean Solar Energy Conversion. Boston, USA, 28 May – 2 June 2023. N. Adir. Invited Lecture.
56. **2023 Annual Meeting of the Israel Crystallographic Association.** The amazing Phycobilisome. Tel Aviv University, Tel Aviv Israel. June 7th 2023 N. Adir. Invited Lecture.
57. **20th Congress of the European Society of Photobiology.** Enhancing Photosystem II driven photocurrent in a hybrid nano-bio-photoelectrochemical cells. Lyon France, 27-31 August 2023. N. Adir. Invited Lecture.
58. **20th Congress of the European Society of Photobiology.** Extreme heterogeneity in the A. marina Phycobilisome. Lyon France, 27-31 August 2023. N. Adir. Invited Lecture.
59. **International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO) 2023.** Extreme heterogeneity in the A. marina Phycobilisome. Shizuoka, Japan. 19-22 September 2023. N. Adir Invited Lecture.

Contributed Lectures

1. **EMBO Workshop on Photosystem II**, Jerusalem, Israel 1987. The D1 protein of Photosystem II.
2. **2nd International Congress of Plant Molecular Biology**, Jerusalem, Israel 1988. Steps in the turnover process of the D1 protein of Photosystem II.
3. **VIII International Congress on Photosynthesis**, Stockholm, Sweden 1989. Turnover of the D1 protein.
4. **1st Western Regional Meeting on Photosynthesis**, Tempe, Arizona USA1991. The Mechanism of D1 turnover.
5. **IX International Congress on Photosynthesis**, Nagoya, Japan 1992. Crystallization of the Reaction Center of Photosystem II.
6. **5th International Conference on the Crystallization of Biological Macromolecules**, San Diego, California, USA 1993. Co-Crystallization of the Reaction Center and Cytochrome c_2 of *Rhodobacter sphaeroides.*
7. **Biophysical Society Meeting**, New Orleans, Louisiana, USA 1994. Co-Crystallization of the Reaction Center and Cytochrome c_2 of *Rhodobacter sphaeroides.*
8. **The 7th Federation of Israel Societies for Experimental Biology Congress**, Eilat Israel Feb. 10-13 2014. Crystallographic visualization of an initial stage of protein denaturation. **N. Adir**, A. Marx, M. Dines and F. Salama.
9. **The Photosynthetic Light-Harvesting Satellite Meeting to the 17th International Congress of Photosynthesis.** Maastricht, Netherlands Aug. 7-12 2016. Utilizing photosynthetic complexes for solar energy conversion: Building a Bio-generator. **N. Adir**, R. I. Pinhassi, D. Kallmann, G. Saper, H. Dotan, A. Linkov, A. Rothschild and G. Schuster.
10. **The Photosynthetic Light-Harvesting Satellite Meeting to the 18th International Congress of Photosynthesis**, New Zealand July 31-August 2, 2020. Cancelled due to COVID-19 crisis.
11. **EuroTech Seminar Series – virtual 2021.** Engineering Cells, Membranes and Super-Complexes in Bio-Photoelectrochemical Cells. **N. Adir**, April 28th 2021.
12. **Novel approaches against emerging antimicrobial resistance – Keystone Symposia**. Banff, Canada, February 13-17, 2022. Lethal Sequences: Development of a platform for novel peptide antibiotics **N. Adir**. Postponed to Dec. 4-7, 2022 due to COVID-19.
13. **10th FISEB (Ilanit) meeting.** Live Cell and Hybrid Material Based Bio-Photoelectrochemical Cells for Clean Solar Energy Conversion. Eilat, Israel February **N. Adir**, Y. Shlosberg and G. Schuster. 20-23 2023. Flash-Talk.

Participation in organizing conferences

1. The XIX Congress and General Assembly of the International Union of Crystallography, Geneva Switzerland Aug. 6-15, 2002. Chair of symposia on Structure and Function of Membrane Proteins.

2. The 68th Meeting of the Israel Chemical Society, Tel Aviv Israel, Jan. 26-7 2003. Organizing Committee.
3. The 68th Meeting of the Israel Chemical Society, Tel Aviv Israel, Jan. 26-7 2003. Chair of symposia on Physical and Computational Characterization of Biological Systems.
4. International Symposium on Bio-inspired Engineering, Haifa Israel Dec. 8-9, 2003. Session Chair.
5. Workshop on Synchrotron-based Research in Israel, Jerusalem Israel Jan. 20th, 2004. Session Chair.
6. The Israel Society for Microbiology Annual Meeting – Haifa, Israel, Feb. 9-10, 2004. Chair of symposia on Structural Biology.
7. The First International Schulich Symposium Honoring the Laureates of the 2007 Wolf Prize in Chemistry – Haifa, Israel, May 17th 2007. Chairman of Organizing Committee.
8. The Annual Meeting of the Israel Crystallographic Association, Haifa, Israel, May 29th 2007. Head of Organizing Committee.
9. The 74th meeting of the Israel Chemical Society, Tel Aviv, Israel, Feb. 8-9th, 2009. Chairman of Organizing Committee.
10. The Annual Meeting of the Israel Crystallographic Association, Haifa, Israel, May 25th 2013. Head of Organizing Committee.
11. Israel and Synchrotron Radiation – present and future, Jerusalem, Israel, June 6th 2013. Head of Organizing Committee.
12. The 80th meeting of the Israel Chemical Society, Tel Aviv, Israel, Feb. 17-18th, 2015. Member of Organizing Committee.
13. 3rd International Symposium on Energy Challenges and Mechanics. Aberdeen, Scotland UK. July 7-9 2015. Session Chair.
14. Biomaterials and Bioinspired Assemblies for Nanoengineered Optobioelectronic Systems II, Jerusalem, Israel October 6-7 2015. Member of Organizing Committee.
15. International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO). Kibbutz Hagoshrim, Israel. October 12-15, 2015. Member of Organizing Committee and session chair.
16. 1st BioStruct-X Mediterranean Macromolecular Crystallography Workshop, Technion Israel January 4-6 2016. Chair of organizing committee.
17. 9th Workshop on Quantum Effects in Biological Systems (QuEBS) 2017, Hebrew University in Jerusalem, Jerusalem, Israel. March 26-29 2017. Member of organizing committee.
18. The Annual Meeting of the Israel Crystallographic Association, Haifa, Israel, May 30th 2019. Organizing Committee.
19. ESP-IUPB World Congress on *Light and Life.* Barcelona Spain Aug. 25-30 2019. Session Chair: Light Harvesting Complexes.
20. European Society for Photobiology Salzburg Austria (virtual). 30.8-3.9 2021. Session Chair – Solar Fuels.
21. The 86th meeting of the Israel Chemical Society, Tel Aviv, Israel, Sept. 12-13, 2022. Member of Organizing Committee.
22. 10th FISEB Meeting, Eilat Israel, February 20-23, 2023. Session co-chair – Synthetic Biology.
23. 20th Congress of the European Society for Photobiology. August 27-31, 2023. Session Co-chair - Photosystem II.

Active Participation in International and National Conferences

1. Use of Cross-Linkers for the Identification and Isolation of the Herbicide-Binding Q_B Protein; N. Adir and I. Ohad; VIIth International Congress on Photosynthesis, Brown University, USA August 10-15, 1986.
2. Modification of the D1 Protein Induced by Light; An Essential Step in its Degradation Process; N. Adir, S. Shochat and I. Ohad; VIIIth International Congress on Photosynthesis, Stockholm, Sweden, August 6-11, 1989.
3. The Rate of Synthesis of the D1 Protein is Determined by the Availability of RCII in the Stroma Lamellae; S. Shochat, N. Adir and I. Ohad, VIIIth International Congress on Photosynthesis, Stockholm, Sweden, August 6-11, 1989.
4. Crystallization of the Oxygen Evolving Reaction Center of Photosystem II; N. Adir, M.Y. Okamura and G. Feher; 15th International Congress of Biochemistry, Jerusalem, Israel, August 4-8, 1991.
5. Crystallization of the Reaction Center of Photosystem II; N. Adir, M.Y. Okamura and G. Feher; Biophys. J. (Abstracts) 61, 101a; ASBMB/ Biophysical Society Meeting, Houston, Texas, USA February 9-13, 1992.
6. Crystallization of the PSII-Reaction Center; N. Adir, M.Y. Okamura and G. Feher; IXth International Congress on Photosynthesis, Nagoya, Japan, August 30-September 5, 1992.
7. Co-crystallization of the Photosynthetic Reaction Center and Cytochrome c_2 from Rb. sphaeroides. N. Adir, H. Axelrod, D.C. Rees, M.Y. Okamura and G. Feher; Fifth International Conference on Crystallization of Biological Macromolecules; San Diego, California, USA August 8-13 1993.
8. Co-crystallization and Preliminary Structure Determination of the Photosynthetic Reaction Center and Cytochrome c_2 from Rb. sphaeroides. N. Adir, M.Y. Okamura and G. Feher; Biophys. J. 63, A127 (1994). 38th Annual Meeting of the Biophysical Society, New Orleans, Louisiana, USA, March 6-10, 1994.
9. Crystallization of the Reaction Center of Photosystem II; N. Adir, M.Y. Okamura and G. Feher; 4th International Congress of Plant Molecular Biology, Amsterdam, Netherlands June 19-24, 1994.
10. Co-Crystallization of the Reaction Center and Cytochrome c_2 of Rhodobacter sphaeroides. N. Adir, H. Axelrod, S. Rongey, M.Y. Okamura and G. Feher; Gordon Conference on Biophysical Aspects of Photosynthesis, New Hampton, New Hampshire, USA August 8-14, 1994.
11. Co-Crystallization of the Reaction Center and Cytochrome c_2 of Rhodobacter sphaeroides; N. Adir, H.L. Axelrod, P. Beroza, R.A. Isaacson, S.H. Rongey, M.Y. Okamura and G. Feher; Xth International Congress on Photosynthesis; Montpellier, France August 20-25 1995.
12. EPR/ENDOR studies of the water oxidizing complex in Photosystem II. R. Fiege, W. Zweygart, K.-D. Irrgang, N. Adir, B. Geiken, G. Renger and W. Lubitz; Xth International Congress on Photosynthesis; Montpellier, France August 20 - 25 1995.
13. EPR, ENDOR and ESEEM investigation of the electron acceptor radical anion Q_A^- in Photosystem II (PSII) reaction centers. F.

MacMillan, J. Kurreck, N. Adir, F. Lendzian, H. Kas, F. Reifarth, G. Renger and W. Lubitz; Xth International Congress on Photosynthesis; Montpellier, France August 20-25 1995.

14. Crystallization of the Reaction Center of Photosystem II. **N. Adir**; XVII International Union of Crystallography Congress and Assembly; Seattle, USA August 8 - 17, 1996.
15. Progress in the crystallization of Photosystem II. **N. Adir**; 3rd Workshop on Photosystem II, Shluchot, Israel 1997.
16. Metal-cofactor interactions in Photosystem II. **N. Adir**; The 62nd Meeting of the Israel Chemical Society, Haifa, Israel, Feb. 3-5, 1997.
17. Progress in the Determination and Characterization of the Reaction Center of Photosystem II. **N. Adir**; The 63rd Meeting of the Israel Chemical Society, Tel Aviv Israel, Feb. 9-11, 1998.
18. Progress in the Crystallization of the Reaction Center of Photosystem II, the 33kDa protein, cytochrome b_{559} and CP29. **N. Adir**, R. Anati, V. Cheredman, Y. Dobrovetzki and N. Lerner; NATO Advanced Research Workshop on the Chloroplast: From Molecular Biology to Biotechnology, Crete Greece, August 10 -16 1998.
19. Progress in the Crystallization of the Reaction Center of Photosystem II. **Adir, N**., Cheredman, V. and Lerner, N; The XI International Congress on Photosynthesis, Budapest Hungary, August 17-23 1998.
20. Crystallization of the Reaction Center of Photosystem II and of Isolated Reaction Center components. **N. Adir**, R. Anati, V. Cheredman, Y. Dobrovetzki and N. Lerner; The XVIIIth International Union of Crystallography Congress, Glasgow, U.K. August 4-13 1999.
21. Crystallization of the reaction center of Photosystem II and of Reaction center components. **N. Adir**, R. Anati, V. Cheredman, Y. Dobrovetzki and N. Lerner. The Annual meeting of the Israel Crystallographic Association, Jerusalem, Israel 1 June 2000.
22. Crystallization of the reaction center of Photosystem II and of Reaction center components. **N. Adir**, R. Anati, V. Ruhkman, Y. Dobrovetzki and N. Lerner. The 19th European Crystallographic Meeting, Nancy, France 25-31 August 2000.
23. Overproduction, Characterization and X-ray analysis of Seleno-methionine-labeled KDO8P Synthase. V. Belakhov, O. Asojo, J. Friedman, A. Mechaly, Y. Shoham, **N. Adir** and T. Baasov. 2000, The Era of Biotechnology, Beer-Sheva, Israel 24-27 October 2000.
24. Crystallization of the reaction center of Photosystem II and of Reaction center components. **N. Adir**, R. Anati, V. Ruhkman, Y. Dobrovetzki and N. Lerner. Conference Jacques Monod, Roscoff, France 18-22 November 2000.
25. Crystal Structures of KDO8P Synthase in its binary complexes with the substrate PEP and with a Mechanism-based inhibitor. O. Asoko, J. Friedman, **N. Adir**, V. Belakhov, Y. Shoham and T. Bassov. The 66th Meeting of the Israel Chemical Society, Tel-Aviv, Israel, Feb. 5-6, 2001.
26. Structural and Mechanistic Investigation of KDO8P Synthase by Solid State REDOR NMR and X-Ray Crystallography. L. Kaustov, S. Kababya, S. Du, S. Grooper, Y. Shoham, A. Schmidt, O. Asojo,

J. Friedman, **N. Adir**, V. Belakhov, Y. Shoham and T. Bassov. Gordon Conference on Enzymes, Coenzymes & Metabolic Pathways, Kimball Union Academy, Meriden N.H. USA, July 22-27 2001.

27. Crystallization and structure determination of Photosystem II components **N. Adir**, R. Anati, V. Rukhman, Y. Dobrovetski, N. Lerner, M. Bhattacharyya- Pakrasi and H. Pakrasi, The XII International Congress on Photosynthesis, Brisbane Australia, August 18-25 2001.
28. Crystallization and structure determination of Photosystem II components **N. Adir**, R. Anati, V. Rukhman, Y. Dobrovetski, N. Lerner, Sequence, Structure and Function in Membrane Protein Systems, Zichron Yaakov, Israel November 4-8,2001.
29. Insights into Photosystem II function via structure determination. **N. Adir**, R. Anati, V. Rukhman, Y. Dobrovetski, N. Lerner, The 3rd Federation of Israel Societies for Experimental Biology Congress, Eilat Israel Feb. 4-7 2002.
30. Determination of the structure of KDO8Psyntase with the natural substrate A5P, Z-FPEP and E-FPEP. Vainer, R., **Adir, N**., Rabkin, E., Belakhov, V. and Baasov, T. XIX Congress and General Assembly of the International Union of Crystallography, Geneva Switzerland Aug. 6-15, 2002.
31. Crystallization and X-Ray Analysis of Mycobacterium tuberculosis HSP65 **Adir N**, Dobrovetsky, E. and Kashi, Y. XIX Congress and General Assembly of the International Union of Crystallography, Geneva Switzerland Aug. 6-15, 2002.
32. X-ray Analysis of MntC, a Mn-Transporter Periplasmic Protein in the Synechocystis sp. PCC 6803 Rukhman, V., Anati, R., Brumshtein, B., Bhattacharyya-Pakrasi, M., Pakrasi, H.B. and **Adir, N.** XIX Congress and General Assembly of the International Union of Crystallography, Geneva Switzerland Aug. 6-15, 2002.
33. Engaging freshman students in a Web-enabled project-based general chemistry courses. M. Barak, Y. J. Dori, and **N. Adir**. 224th American Chemical Society Meeting, Boston MA, USA Aug. 18-24, 2002.
34. The Ribonuclease H Activity of the Reverse Transcriptase of Human Immunodeficiency Viruses Type 1 and Type 2 is modulated by Residue 294 of the Small Subunit. Sevilya, Z., Loya, S., **Adir, N.** and Hizi, A. RNase H 2002, Tsuruoka Town Campus of Keio, Japan Sep.24-27, 2002.
35. X-ray Analysis of MntC, a Mn-Transporter Periplasmic Protein in the Synechocystis sp. PCC 6803 Rukhman, V., Anati, R., Brumshtein, B., Bhattacharyya-Pakrasi, M., Pakrasi, H..B. and **Adir, N**. The 68th Meeting of the Israel Chemical Society, Tel Aviv Israel, Jan26-7 2003.
36. Crystallization and Determination of the Structures of KDO8P syntase with competitive inhibitors. Vainer, R., Rabkin, E., Belakhov, V., Baasov, T. and **Adir, N**. The 68th Meeting of the Israel Chemical Society, Tel Aviv Israel, Jan 26-7 2003.
37. Crystallographic analysis of the Eschericia coli KDO8P synthase active site in the presence of the substrate PEP and the substrate analogs 1-Deoxy-A5P, Z-FPEP and E-FPEP. Vainer, R., Rabkin, E., Belakhov, V., Baasov, T. and **Adir, N**. Annual meeting of the

Israel Crystallographic Association, Beer Sheva, Israel May 20th 2003.

38. X-ray analysis of MntC, Mn-transporter periplasmic protein in the Synechocystis sp. PCC 6803 Rukhman, V., Anati, R., Bhattacharyya-Pakrasi, M., Pakrasi, H.B. and **Adir, N**. The Annual meeting of the Israel Crystallographic Association, Beer Sheva, Israel May 20th 2003.
39. The crystal structure of a novel unmethylated form of C-phycocyanin, a possible connector between cores and rods in phycobilisomes. **Adir, N**. and Lerner, N. The Annual meeting of the Israel Crystallographic Association, Beer Sheva, Israel May 20th 2003.
40. Crystal structures of methylated and a novel unmethylated form of C-phycocyanin: Insights into phycobilisome assembly, stability and function. **N. Adir**, Dobrovetsky, E., Vainer, R. and Lerner N., Gordon Research Conference on Biophysical aspects of Photosynthesis, Bristol R.I. USA June 22-27, 2003
41. Protein Induced Phase Transformation of $CaCO_3$ Pokroy, B., Zolotoyabko E. and **Adir N.** International Symposium on Bio-inspired Engineering, Haifa Israel Dec 8-9, 2003.
42. Crystal structure analysis of the PEP binding site from E. Coli KDO8P synthase: binary complexes with PEP, E and Z isomers of the 3-fluoro-PEP and 1-deoxy-A5P reveal the unusual flexibility in ligand binding. Vainer, R., Rabkin, E., Belakhov, V., Rabkin, E., Sau, A., Furdui, C., Anderson, K.S., Bassov, T. and **Adir N**. International Symposium on Bio-inspired Engineering, Haifa Israel Dec 8-9, 2003.
43. Crystal structure analysis of the PEP Binding site from *E. Coli* KDO8P synthase: binary complexes with PEP, E and Z isomers of the 3-fluoro-PEP and 1-deoxy-A5P reveal the unusual flexibility in ligand binding. Vainer R., Belakhov V., Rabkin E., Sau A., Furdui C., Anderson, K. S., Baasov, T. and **Adir, N**. Annual Meeting of the Israel Crystallography Association, Tel-Aviv University July 26th 2004.
44. Towards determination of the structure of sHSP-16 from cyanobacteria Dines , M., Dobrovetsky, E., Frank, M., and **Adir, N**. Annual Meeting of the Israel Crystallography Association, Tel-Aviv University July 26th 2004.
45. Progress in the determination of the 3D Structure of the Cpn60-2 protein from *Mycobacterium tuberculosis*. Shachar, A., Dobrovetsky, E., Kashi, Y. **Adir, N**. and Annual Meeting of the Israel Crystallography Association, Tel-Aviv University July 26th 2004.
46. Structural and kinetic studies reveal the molecular basis of stereoselective preference for the *E* versus *Z* geometric isomer of 3-fluorophosphoenol-pyruvate by KDO8P synthase. Vainer R., Belakhov V., Rabkin E., Sau A., Furdui C., Anderson, K. S., Baasov, T. and **Adir, N.** The 4th Federation of Israel Societies for Experimental Biology Congress, Eilat Israel Feb. 7-10 2005.
47. Structure Determination of proteins involved in the regulation of photosynthesis machinery during environmental stress. Dines, M., Dobrovetsky, E., Frank, M., Schwarz, R. and **Adir, N**. The 4th

Federation of Israel Societies for Experimental Biology Congress, Eilat Israel Feb. 7-10 2005.

48. Crystallographic analysis of initial modes of ligand binding in KDO8P synthase Vainer, R., Belakhov, V., Rabkin, E., Sau, A. Furdui, C., Anderson, K. S., Baasov, T. and **Adir, N**. The 70th Meeting of the Israel Chemical Society, Tel Aviv Israel, Feb. 15-16.
49. Structure Determination of proteins involved in the stability of phycobilisomes during environmental stress. Dines, M., Melamed-Frank, M., Schwarz, R. and **Adir, N**. XX Congress of the International Union of Crystallography, Firenze Italy, August 23-31 2005.
50. Structure of MntC from Cyanobacteria Melamed-Frank, M., Rukhman, V. and **Adir, N**. XX Congress of the International Union of Crystallography, Firenze Italy, August 23-31 2005.
51. 3D Structure Determination of the Cpn60-2 protein from *Mycobacterium tuberculosis.* Shahar, A., Dobrovetsky, E., Melamed-Frank, M., Kashi, Y., and **Adir, N**. XX Congress of the International Union of Crystallography, Firenze Italy, August 23-31 2005.
52. Structure of the MntC protein from *Synechocytis 6803* **Adir, N**., Rukhman, V., Anati, R. and Melamed-Frank, M. XX Congress of the International Union of Crystallography, Firenze Italy, August 23-31 2005.
53. Structural Studies of Phycobilisome Components. McGregor, A. and **Adir, N**., COMBIO 2005, Adelaide Australia, 25-29 September 2005.
54. Structures of components of a high-affinity Mn ABC-type transporter indicate that import of Mn^{2+} in cyanobacteria is redox controlled. **Adir, N**. Gordon Research Conference on Ion Channels, Tilton School, N.H. USA July 9-14 2006.
55. Tomato hexokinases and sugar signaling. Kandel- Kfir, M. ,Swartzberg, D., Damari-Weissler, H., German, M.A., Gidoni, D., Mett, A., Belausov, E., Veramendi, J., **Adir, N**. and Granot, D., Solanaceae 2006, Madison, Wisconsin USA, July 23-27 2006.
56. Exploring the structure of an antenna protein: High resolution crystal structures of Phycocyanin. McGregor, A. and **Adir, N**. 2007 Annual Meeting of the Israel Crystallographic Association, Haifa Israel, May29th 2007.
57. Structure and function of Cpn60.2 from *Mycobacterium tuberculosis*. Shahar, A., Kashi, Y. and **Adir, N**. 2007 Annual Meeting of the Israel Crystallographic Association, Haifa Israel, May29th 2007.
58. Exploring the structure of an antenna protein – High Resolution Crystal Structures of Phycocyanin. McGregor, A. David, L and **Adir, N**. 14th International Congress of Photosynthesis, Glasgow UK, July22-27, 2007.
59. Structure and function of Cpn60.2 from *Mycobacterium tuberculosis*. Shahar, A., Kashi, Y. and **Adir, N**. 2007 Annual Meeting of the Israel Society of Biochemistry and Molecular Biology, Haifa Israel, October 8th 2007.
60. Crystal structures of the Cyanobacterial Phycobilisome Antenna complex: Assembly and Disassembly of a Giant. **Adir, N**., Dines, M., David, L., Klartag, M., McGregor, A., Melamed-Frank, M.,

Sendersky, E. and Schwarz, R. Keystone Symposia on Frontiers of Structural Biology, Steamboat Springs, CO. USA Jan. 6-11 2008.

61. CRYSTALLIZATION AND STRUCTURE DETERMINATION OF THE PHYCOBILISOME COMPLEX , David, L. and **Adir, N**. The 5th Federation of Israel Societies for Experimental Biology Congress, Eilat Israel Jan. 28-31 2008.
62. STRUCTURE AND FUNCTION OF CPN60.2 FROM MYCOBACTERIUM TUBERCULOSIS. Shahar, A., Kashi, Y. and **Adir N**. The 5th Federation of Israel Societies for Experimental Biology Congress, Eilat Israel Jan. 28-31 2008.
63. Genetic modifications of photosystem II of *Synechocystis* PCC 6803 to promote electron transfer from the native electron-transfer chain to an electron acceptor molecule. Larom, S., Salama, F., **Adir, N**. and Schuster G. The 5th Federation of Israel Societies for Experimental Biology Congress, Eilat Israel Jan. 28-31 2008.
64. Progress in structure determination of the mitochondrial peripheral benzodiazepine receptor and the outer matrix Matrilin 3 protein. Shahar, A., Gavish, M., Adir, V., Borochowitz, Z.U. and **Adir, N**. MITOCHONDRIA: FUNCTION AND DYSFUNCTION Kibbutz Ein Gedi, Israel February 13-15, 2008**.**
65. Crystallization and structure determination of the phycobilisome complex. David, L., McGregor, A., and **Adir N**. XXI Congress of the International Union of Crystallography, Osaka, Japan, August 22-30 2008.
66. Crystallographic Analysis of the Phycobilisome Antenna Complex: Assembly and Disassembly of a Giant. **Adir, N**., David, L., Dines, M., Klartag. M., McGregor, A., Sendersky, E. and Schwarz, R. XXI Congress of the International Union of Crystallography, Osaka, Japan, August 22-30 2008.
67. Progress in structure determination of the 18kDa TSPO and the outer matrix Matrilin 3 protein Shahar, A., Gavish, M., Adir, V., Borochowitz, Z. and **Adir, N**. XXI Congress of the International Union of Crystallography, Osaka, Japan, August 22-30 2008.
68. Unique structural aspects of cyanobacterial photosynthesis: Insights into the Phycobilisome antenna and the MntABC import system. **Adir, N.**, David, L., Kanteev, R., Lahav, A., McGregor-Marx, A., Navon, S., Schwartzmann, T, and Tal, O. Keystone Symposia on Structural Biology, Breckenridge, CO. USA Jan. 8-12 2010.
69. Structural insights into the mechanism of aminoglicoside dependent stop-codon readthrough in human ribosomes. Shalev, M., Nudelman, I., Kondo, J. Westhof, E., **Adir, N**. and Baasov, T. The 75th Meeting of the Israel Chemical Society, Tel Aviv Israel, Jan. 25-26. 2010.
70. Crystallization and structure determination of tyrosinase from *Bacillus megaterium.* Sendovski, M., Kanteev, M., Shuster, V., **Adir, N**. and Fishman, A., The Israel Society for Microbiology Annual Meeting Bar Ilan University, Israel, Feb. 16-17 2010.
71. Biochemical and crystallographic analysis of the Phycobilisome and its rod and core substructures. David, L., Marx, A. and **Adir, N**. The Photosynthetic Light-Harvesting Satallite Meeting to the

15th International Congress of Photosynthesis, Nankai University, Tianjin China, August 18th-22nd 2010.

72. Biochemical and crystallographic analysis of the Phycobilisome and its rod and core substructures. David, L., Marx, A. and **Adir, N**. 15th International Congress of Photosynthesis, Beijing, China August 22-27, 2010.
73. Engineering of an alternative electron transfer path in Photosystem II. **Adir, N**., Salama, F., Larom, S. and Schuster, G. 15th International Congress of Photosynthesis, Beijing, China August 22-27, 2010.
74. Piecing together the phycobilisome: Elucidation of structural subtleties reveal essential phycobiliprotein functionalities. Marx, A., David, L., Klartag, M. and **Adir, N.** 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011. (Oral presentation by A. Marx)
75. Short peptide sequences inhibit prokaryotic translation. Navon-Penias, S., Schwartzman, T. and **Adir, N**. 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011.
76. Visualizing the phycobylisome: from EM micrographs to high resolution crystal structures. David, L., Marx, A. and **Adir, N**. 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011.
77. Degradation of the cyanobacterial light harvesting complex: david and goliath story. Sendersky, E., Amrani, S., David, D., **Adir, N**. and Schwarz, R. 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011.
78. Biochemical and structural investigation of MntB, the permease of high affinity MntABC transporter. Tal, O. and **Adir, N**. 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011.
79. Identification of the source of manganese specificity in the MntABC-transporter. Kanteev, M. and **Adir, N**. 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011.
80. First structures of an active bacterial tyrosinase reveal copper plasticity. Sendovski, M., Kanteev, M., Shuster Ben-Yosef, V., **Adir, N.** and Fishman, A. 6th FISEB (ILANIT) Meeting, Eilat, Israel February 7-10, 2011.
81. Structural Insights into the Mechanism of Aminoglycoside Dependent Stop-Codon Readthrough in Human Ribosomes. Shalev, M., Smolkin, B., Nudelman, I., Atia Glikin, D., **Adir, N**. and Baasov, T. The 76th Meeting of the Israel Chemical Society, Tel Aviv Israel, Feb. 9-10. 2011.
82. Crystallization and structure determination of the Phycobilisome and sub-complexes. David, L., Li, X., Marx, A., Blankenship R.E. and **Adir, N.** Gordon Research Conference on Photosynthesis, Davidson N.C. USA June 12-17, 2011.
83. Crystallization of a giant photosynthetic antenna complex – the Phycobilisome David, L., Li, X., Marx, A., Blankenship R.E. and **Adir, N.** XXII Congress and General Assembly of the Int. Union of Crystallography, Madrid Spain 22-30 August 2011 (Oral presentation by L. David)
84. Short Peptide Sequences Inhibit Prokaryotic Translation Penias-Navon, S., Schwartzman T. and **Adir, N.** VIII Parnas Conference, Warsaw Poland. 27-31 August 2011.
85. Progress in Obtaining the Structure of the Phycobilisome Photosynthetic Antenna Complex. **Adir, N.**, David, L., Marx, A.,

Tal, O., Elmlund, D.A., Prado, M. and Blankenship, R.E. Keystone Symposia on Structural Analysis of Supramolecular Assemblies by Hybrid Methods. Lake Tahoe CA USA. 2-6 March 2013.

86. Progress in the engineering of Photosystem II for clean energy production. Adir, N., Larom, S., Pinhassi, R., Salama, F. and Schuster, G. XVI Int. Congress on Photosynthesis. St. Louis, MO USA.11-16, August 2013.
87. Investigation of the Rod-Core interface of the Phycobilisome by coupled cross-linking/mass spectrometry. Tal, O.,Trabelsy, B., Gerchman, Y. and Adir, N. XVI Int. Congress on Photosynthesis. St. Louis, MO USA.11-16, August 2013.
88. Engineering of Electricity and Hydrogen Producing Photocell based on Photosynthesis. Pinhassi, R., Schuster, G., **Adir, N**. and Rothschild, A. 7th FISEB (ILANIT) Meeting, Eilat, Israel February 10-13, 2014. (Oral Presentation by R. Pinhassi)
89. NOVEL MUTATIONS TO OBTAIN LOWER POTENTIAL ELECTRONS FROM PHOTOSYSTEM II FOR CLEAN ENERGY PRODUCTION Kol-Kalman, D., **Adir, N.**, Rothschild, A. and Schuster, G. 7th FISEB (ILANIT) Meeting, Eilat, Israel February 10-13, 2014.
90. PROGRESS IN THE ENGINEERING OF PHOTOSYSTEM II FOR CLEAN ENERGY PRODUCTION. Saper, G., Larom, S., Kol-Kalman, D., **Adir, N.**, Rothschild, A. and Schuster, G. 7th FISEB (ILANIT) Meeting, Eilat, Israel February 10-13, 2014.
91. DECOMPOSITION OF A SUPRAMOLECULAR PIGMENT COMPLEX: DETACHMENT OF COVALENTLY BOUND CHROMOPHORES Levi, M., Sendersky, E., Moizik, M., **Adir, N.** and Rakefet Schwarz. 7th FISEB (ILANIT) Meeting, Eilat, Israel February 10-13, 2014.
92. IDENTIFICATION OF THE MOLECULAR ATTRIBUTES REQUIRED FOR AMINOGLYCOSIDE ACTIVITY AGAINST LEISHMANIA. Shalev Ben-Ami, M., Kondo, J., Kopelyanskiy, D., Jaffe, C., **Adir, N.** and Timor Baasov. 7th FISEB (ILANIT) Meeting, Eilat, Israel February 10-13, 2014.
93. COLE DISEASE RESULTS FROM MUTATIONS IN *ENPP1* Sarig O., Eytan O., Morice-Picard F., Nousbeck J., Ezzedine K., Isakov O., Li Q., Ishida-Yamamoto A., Shomron N., Goldsmith T., **Adir N.**, Uitto J., Orlow S.J., Taieb A. and Sprecher E. 4th Annual Euro-Asian Association of Dermatologists Meeting, Jerusalem Israel 9-11 April 2014.
94. Deciphering the quenching mechanism in cyanobacterial photosynthesis. 12th Nordic Photosynthesis Conference, Uppsala, Sweden. Harris, D. Kirilovsky, D. and **Adir, N.** October 2014
95. Unraveling the mechanism of tyrosinase: the enzyme that makes us colorful. Kanteev, M., Goldfeder, M., Isaschar-Ovdat, S. **Adir**, **N.** and Fishman, A. Biotrans-2015, Vienna Austria July26-30, 2015.
96. The Orange Carotenoid Protein burrows into the Phycobilisome to provide photoprotection. Harris, D. Kirilovsky, D. and **Adir N.**

International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO). Kibbutz Hagoshrim, Israel. October 12-15, 2015. Oral presentation.

97. Harris, D., Hartmann, V., Ruff, A., Nowaczyk, M.N., Schuhmann, W., Rögner, **Adir, N.** The Photosynthetic Light-Harvesting Satellite Meeting to the 17th International Congress of Photosynthesis, Egmond aan Zee, Netherlands, August 4-7, 2016.

98. A complete Bio-Photo-Electro-Chemical cell: From cyanobacteria to a hydrogenase thru an alternative Z scheme. Kallmann, D., Saper, G., Winkler, M., Adam, D., Happe, T., Rotschild, A., Schuster, G. and **Adir, N.** The 17th International Congress of Photosynthesis. Maastricht, Netherlands Aug. 7-12 2016. Oral Presentation.

99. The Orange Carotenoid Protein burrows into the Phycobilisome to provide photoprotection. Harris, D. Tal, O., Jallet, D., Wilson, A., Kirilovsky, D. and **Adir N.** The 17th International Congress of Photosynthesis. Maastricht, Netherlands Aug. 7-12 2016.

100. Harnessing photosynthesis for H2 production using altered cyanobacteria cells Saper, G., Kallmann, D., Conzuelo, F., Schuhmann, W., Rothschild, A., Schuster, G. and **Adir, N.** The 17th International Congress of Photosynthesis. Maastricht, Netherlands Aug. 7-12 2016.

101. 2.1Å structure of *Acaryochloris marina* phycocyanin exhibits an extraordinary cocrystallization of both isoforms. Bar-Zvi, S., Lahav, A., Harris, D., Blankenship, R.E., and **Adir, N.** The 17th International Congress of Photosynthesis. Maastricht, Netherlands Aug. 7-12 2016.

102. Under-Represented Amino Acid Sequences In The Bacterial Proteome Inhibit Translation. Penias Navon, S., Kornberg, G., Chen, J., Schwartzman, T., Tsai, A., Puglisi, J.D. and **Adir N.** 8th FISEB (ILANIT) Meeting, Eilat, Israel February 20-23, 2017.

103. Isolation and crystallization of core component of the *Synechococcus elongatus* PCC 7942 Olive Strain phycobilisome. Swissa, M. and **Adir N.** 1st European International Congress on Photosynthesis Research, ePS1, Uppsala, Sweden June 25-28, 2018.

104. Electron transfer via extracellular redox mediator synthetized by the cyanobacterial cells Toth, T., Shlosberg, Y., Rothschild, A., Schuster, G. and **Adir, N.** 1st European International Congress on Photosynthesis Research, ePS1, Uppsala, Sweden June 25-28, 2018.

105. Structural heterogeneity leads to functional homogeneity in *A. marina* phycocyanin. Bar-Zvi, S., Lahav, A., Harris, D., Niedzwiedzki, D.M., Blankenship R.E. and **Adir, N.** 1st European International Congress on Photosynthesis Research, ePS1, Uppsala, Sweden June 25-28, 2018.

106. Structural shifts in the C-terminal domain are crucial for carotenoid uptake and delivery in a homolog of Orange

Carotenoid Protein. Harris, D., Wilson, A., Muzzopappa, F., Sluchanko, N.N., Friedrich, T., Maksimov, E.G., Kirilovsky, D. and **Adir, N.** 1st European International Congress on Photosynthesis Research, ePS1, Uppsala, Sweden June 25-28, 2018.

107. Structural shifts in the C-terminal domain are crucial for carotenoid uptake and delivery in a homolog of Orange Carotenoid Protein. Harris, D., Wilson, A., Muzzopappa, F., Sluchanko, N.N., Friedrich, T., Maksimov, E.G., Kirilovsky, D. and **Adir, N.** The 43rd FEBS Congress, Prague, Czech Republic, July 7-12 2018.

108. Structural shifts in the C-terminal domain are crucial for carotenoid uptake and delivery in a homolog of Orange Carotenoid Protein. Harris, D., Wilson, A., Muzzopappa, F., Sluchanko, N.N., Friedrich, T., Maksimov, E.G., Kirilovsky, D. and **Adir, N.** 16th International Symposium of Photosynthetic Prokaryotes. Vancouver, Canada. August 5-9, 2018.

109. Structural shifts in the C-terminal domain are crucial for carotenoid uptake and delivery in a homolog of Orange Carotenoid Protein. Harris, D., Wilson, A., Muzzopappa, F., Sluchanko, N.N., Friedrich, T., Maksimov, E.G., Kirilovsky, D. and **Adir, N.** ISPR Conference on Microbial Photosynthesis. Vancouver, Canada August 9-12 2018.

110. Structural rearrangements in the C-terminal domain homolog of Orange Carotenoid Protein are crucial for carotenoid transfer. Harris, D., Wilson, A., Muzzopappa, F., Sluchanko, N.N., Friedrich, T., Maksimov, E.G., Kirilovsky, D. and **Adir, N.** 63rd Annual Meeting of the Biophysical Society, Baltimore MD. March 2-6 2019.

111. Expanding the clinical spectrum of erythrokeratolysis hiemalis. Ofer, S., Mohamad, J., Malki, L., Peled, A., Pavlovsky, Malovitski, K., Tiber, S., Adir, N., Rabinowitz T., Shomron N., Milner, J., Lestringant G., and Sprecher Eli. 40th Anniversary Meeting of the Israel Society of Dermatology and Venereology. Eilat, Israel May 15-17 2019

112. Deciphering the pathogenesis of central centrifugal cicatricial alopecia. Liron, M., Sarig, O., Romano, M.-T., Méchin, M.-C., Peled, A., Pavlovsky, M., Warshauer, E., Samuelov, L., Uwakwe, L., Briskin, V., Mohamad, J., Gat, A., Isakov, O., Rabinowitz, T., Shomron, N., **Adir, N.**, Simon, M., McMichael A., Dlova, N., Betz, R. and Sprecher E. 40th Anniversary Meeting of the Israel Society of Dermatology and Venereology. Eilat, Israel May 15-17 2019

113. Phycocyanin can be significantly red-shifted in Acaryochloris marina Phycobilisomes. **Adir, N.**, Bar Zvi, S., Suissa, M., Lahav, A., Harris, D., Niedzweidzki, D.M. and Blankenship, R.E., Gordon Research Conference on Photosynthesis, Newry, Maine USA July 21-26 2019.

114. Identification of native electron mediators secreted by cyanobacteria. Shlosberg Y. and **Adir, N**. Isranalytica 2020, Tel Aviv, Israel Jan. 21-22 2020.

115. Purification and Spectroscopic characterization of the Reaction Centers from drought resistant cyanobacterium *Leptolyngba ohadii.* Liu, H., Niedzwiedzki, D.M., Magdaong, N.C.M., Su, X., Keren, N. and **Adir, N**. Cyanocon14, Michigan University, June 16-19, 2022.

116. Development of a platform for novel ribosome peptide inhibitors. **Adir, N**., Tarabeh, T., Lahav, A., Yehuda, N., Merhav, R., Yaron, S., Matzov, D. and Shalev-Benami, M. Ribosomes 2022. Bordeaux, France. July 10-15 2022.
117. Photosynthetic Antenna Architecture and its impact on Energy Transfer. Suissa-Szlejf, M. and **Adir, N.** 17th International Symposium on Phototrophic Prokaryotes. Liverpool, UK. August 21-25 2022.
118. *CLDN1* is associated with autosomal recessive congenital ichthyosis. Mohamad, J., Samuelov, L., Assaf, S., Malki, L., Malovitski, K., **Adir, N.**, Granot, E., Pavlovsky, M., Sarig, O. and Eli Sprecher. ESDR 2022 Amsterdam, The Netherlands, September 28th – October 1st 2022.
119. URSs peptides may enable the development of a method to overcome inevitable resistance. Hijaze, R. Tarabeh, T., Yehuda, N. Merhav, R., Yaron, S. and **Adir N.** 10th FISEB Meeting, Eilat Israel, February 20-23, 2023.
120. Coupling isolated Photosystem II and Phycobilisomes to Nano-photocatalysts for overall water splitting. Haimov, B. and **Adir N.** 10th FISEB Meeting, Eilat Israel, February 20-23, 2023.
121. Photosynthetic Antenna Architecture and its impact on Energy Transfer. Suissa-Szlejf, M. and **Adir, N.** 10th FISEB Meeting, Eilat Israel, February 20-23, 2023.
122. Structural Characterization of carotenoid binding proteins and their role in carotenoid transport and uptake from membranes. Sklyar, J. and **Adir, N.** 10th FISEB Meeting, Eilat Israel, February 20-23, 2023.
123. Ribosomal stalling by short peptides targeting conserved sites in the ribosome: a new class of novel ribosomal antibodies. **T. Tarabeih,** R. Hijazi, N. Yehuda, R. Merhav, S. Yaron, D. Matzov, M. Shalev-Benami, and **N. Adir** 10th FISEB Meeting, Eilat Israel, February 20-23, 2023. Contributed lecture by student.

Protein Structures deposited in the Research Collaboratory for Structural Bioinformatics Protein Data Bank (PDB)

1. Crystal structure of KDO8P synthase in its binary complex with substrate phosphoenol pyruvate. Asojo, O.A., Friedman, J.M., Belakhov, V., Shoham, Y., Adir, N., Baasov, T. PDB code 1G7U (2000)
2. Crystal structure of KDO8P synthase in its binary complex with mechanism-based inhibitor. Asojo, O.A., Friedman, J.M., Belakhov, V., Shoham, Y., Adir, N., Baasov, T. PDB code 1G7V (2000)
3. Crystal structure of C-phycocyanin from *Synechococcus* vulcanus at 2.5 Å. Adir, N. Dobrovetsky, Y. and Lerner N. PDB code 1I7Y (2001)
4. Crystal structure of C-phycocyanin from *Synechococcus* vulcanus at 1.6 Å. Adir, N. Vainer R. and Lerner N. PDB code 1KTP (2002).
5. Crystal structure of a novel un-methylated form of C-phycocyanin from *Synechococcus* vulcanus at 2.7Å. Adir, N. and Lerner N. PDB code 1ON7 (2003).

6. Crystal structure of KDO8P synthase in its binary complex with substrate analog E-FPEP. Vainer, R., Baasov, T., Belakhov, V., Rabkin, E. and Adir, N. PDB code 1PHQ.
7. Crystal structure of KDO8P synthase in its binary complex with substrate analog Z-FPEP. Vainer, R., Baasov, T., Belakhov, V., Rabkin, E. and Adir, N. PDB code 1PL9.
8. Crystal structure of KDO8P synthase in its binary complex with substrate analog 1-deoxy-A5P. Vainer, R., Baasov, T., Belakhov, V., Rabkin, E. and Adir, N. PDB code 1PHW.
9. Crystal structure of KDO8P synthase in its binary complex with substrate phosphoenol pyruvate. Vainer, R., Baasov, T., Belakhov, V., Rabkin, E. and Adir, N. PDB code 1Q3N.
10. Crystal structure of KDO8P synthase in its binary complex with product KDO8P. Vainer, R., Baasov, T., Belakhov, V., and Adir, N. PDB code 1X6U.
11. Crystal structure of apo-KDO8P synthase Vainer, R., Baasov, T. and Adir, N. PDB code 1X8F.
12. The three-dimensional structure of MntC from Synechocystis 6803. Rukhman, V., Anati, R., Frank, M., Bhattacharyya-Pakrasi, M., Pakrasi, H.B., Adir, N. PDB code 1XVL
13. The Structure of the NblA protein from *T. vulcanus* crystallized in the presence of urea. Dines, M., Sendersky, E., Schwarz, R. and Adir, N. PDB code 2Q8V
14. NblA protein from *T. vulcanus*. Dines, M., Sendersky, E., Schwarz, R. and Adir, N. PDB code 2QDO
15. Allophycocyanin from *Thermosynechococcus vulcanus*. McGregor, A., Klartag, M., David, L., Adir, N. PDB code 3DBJ
16. NblA protein from *S. elongatus* PCC 7942. Dines, M., Sendersky, E., Schwarz, R. and Adir, N. PDB code 3CS5
17. Crystal structure of Tyrosinase from Bacillus megaterium. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 3NM8.
18. Crystal structure of Tyrosinase from Bacillus megaterium R209H mutant. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 3NQ5.
19. Crystal Structure of Tyrosinase from Bacillus megaterium crystallized in the absence of zinc, partial occupancy of CuB. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 3NTM.
20. Crystal Structure of Tyrosinase from Bacillus megaterium soaked in CuSO4. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 3NPY.
21. Crystal Structure of Tyrosinase from Bacillus megaterium crystallized in the absence of Zinc. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 3NQ0.
22. Crystal Structure of Tyrosinase from Bacillus megaterium in complex with inhibitor kojic acid. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 3NQ1.
23. Crystal structure of c-phycocyanin from Themosynechococcus vulcanus at 1.35 Å resolution. Marx, A., David, L., Adir, N. PDB code 3O18
24. Crystal structure of a rod form of c-phycocyanin from Themosynechococcus vulcanus at 1.5 Å David, L., Marx, A., Adir, N. PDB code 3O2C.

25. Crystal structure of Cpn60.2 from Mycobacterium tuberculosis at 2.8 Å. PDB code 3RTK.
26. Structure of the MntC protein at 2.7 Å. M., Kanteev, M., Adir, N. PDB code 3UJP.
27. Crystal Structure of Tyrosinase from Bacillus megaterium in complex with SDS. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4D87.
28. X-Ray Crystal Structure of Phycocyanin from Synechocystis sp. PCC 6803. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4F0T
29. X-Ray Crystal Structure of Allophycocyanin from Synechococcus elongatus PCC 7942. PDB code 4F0U
30. T. vulcanus Phycocyanin crystallized in 4M urea. PDB code 4GXE.
31. T. vulcanus Phycocyanin crystallized in 2M urea. PDB code 4GY3.
32. X-Ray Crystal Structure of Phycocyanin from Synechococcus elongatus PCC 7942. PDB code 4HOM.
33. Crystal Structure of MntC R116A mutant exhibits flexibility in the C-terminal domain. M., Kanteev, M., Adir, N. PDB code 4IRM.
34. Crystal Structure of Tyrosinase from Bacillus megaterium V218F mutant. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4HD4.
35. Crystal Structure of Tyrosinase from Bacillus megaterium V218F mutant soaked in $CuSO_4$. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4HD6.
36. Crystal Structure of Tyrosinase from Bacillus megaterium V218G mutant soaked in $CuSO_4$. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4HD7.
37. Crystal Structure of Tyrosinase from Bacillus megaterium N205D mutant. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4J6V.
38. Crystal Structure of Tyrosinase from Bacillus megaterium N205A mutant. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4J6U.
39. Crystal Structure of Tyrosinase from Bacillus megaterium F197A mutant. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4J6T.
40. Crystal Structure of Tyrosinase from Bacillus megaterium with tyrosine in the active site. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4P6R.
41. Crystal Structure of Tyrosinase from Bacillus megaterium with L-DOPA in the active site. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4P6S.
42. Crystal Structure of Tyrosinase from Bacillus megaterium with p-tyrosole in the active site. Sendovski, M., Kanteev, M., Adir, N., Fishman, A. PDB code 4P6T.
43. Crystal Structure of Apramycin bound to the leishmanial rRNA A-site. Shalev, M., Kondo, J., Adir, N. and Baasov, T. PDB code 4K31.
44. Crystal Structure of Geneticin bound to the leishmanial rRNA A-site. Shalev, M., Kondo, J., Adir, N. and Baasov, T. PDB code 4K32.

45. Crystals of cross-linked stabilized and functional Phycobilisomes: only phycocyanin rods contribute to diffraction. David, L. and Adir, N. 4N6S.
46. Crystal structure of bovine MHD domain of the COPI delta subunit at 2.15 Å resolution. Lahav, A., Rozenberg, H., Cassel, D., Adir, N. PDB code 4O8Q.
47. Paromomycin bound to a leishmanial ribosomal A-site. Shalev, M., Rozenberg, H., Jaffe, C.L., Adir, N., Baasov, T. PDB code 4ZC7.
48. Crystal Structure of 2-hydroxybiphenyl 3-monooxygenase from Pseudomonas azelaica with 2-hydroxybiphenyl in the active site. Kanteev, M., Bregman-Cohen, A., Deri, B. Adir, N. and Fishman, A. PDB code 5BRT.
49. Crystal Structure of tyrosinase from Bacillus megaterium with inhibitor kojic acid in the active site Kanteev, M., Goldfeder, M., Deri, B., Adir, N., Fishman, A. PDB code 5I38.
50. Crystal Structure of tyrosinase from Bacillus megaterium with configuration A of hydroquinone inhibitor in the active site Kanteev, M., Goldfeder, M., Deri, B., Adir, N., Fishman, A. PDB code 5I3A.
51. Crystal Structure of tyrosinase from Bacillus megaterium with configuration B of hydroquinone inhibitor in the active site Kanteev, M., Goldfeder, M., Deri, B., Adir, N., Fishman, A. PDB code 5I3B.
52. Structure of A. marina Phycocyanin contains overlapping isoforms. Bar-Zvi, S., Lahav, A., Blankenship, E.R., Adir, N. PDB code 5OOK.
53. Anabaena Apo-C-Terminal Domain Homolog Protein. Harris, D., Wilson, A., Muzzopappa, F., Kirilovsky, D., Adir, N. PDB code 6FEJ.
54. HspA from Thermosynechococcus vulcanus in the presence of 2M urea with initial stages of denaturation. Adir, N., Ghosh, S., Salama, F., Dines, M. PDB code 6EWN.
55. Anabaena Apo-C-Terminal Domain Homolog of The Orange Carotenoid Protein in Native Conditions. Harris, D., Muzzopappa, F., Kirilovsky, D., Adir, N.PDB code 6S5L.
56. Populus tremula stable protein 1 with an alternate crystal lattice. J. Sklyar, Y. Zeibaq, O. Bachar, O. Yehezkeli, Adir, N. PDB code 8OZ4.
57. Populus tremula stable protein 1 with N-terminal gold binding protein extension. J. Sklyar, Y. Zeibaq, O. Bachar, O. Yehezkeli, Adir, N. PDB code 8OZO.
58. Populus tremula stable protein 1 with N-terminal gold binding protein extension with hemine. J. Sklyar, Y. Zeibaq, O. Bachar, O. Yehezkeli, Adir, N. PDB code 8OZS.