

CURRICULUM VITAE

08/2017

NAME: Eugenia I. Mileykovskaya, PhD

TITLE: Associate Professor

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BIRTH DATE: December 19, 1948 (Leningrad in former Soviet Union; currently St. Petersburg, Russia)

CITIZENSHIP: USA

UNDERGRADUATE EDUCATION:

1966-1971 B.S. (with *Summa cum laude* honors) in Biochemistry. Department of Biology, Moscow State University, Moscow, Russia.
Faculty Thesis Advisor, Professor Vladimir. P. Skulachev

GRADUATE EDUCATION:

1971-1975 Graduate course in Bioenergetics. Department of Bioenergetics A. N. Belozersky Laboratory of Molecular Biology and Bioorganic Chemistry, Moscow State University.

1976 PhD in Biochemistry. Department of Bioenergetics A. N. Belozersky Laboratory of Molecular Biology and Bioorganic Chemistry, Moscow State University, Russia.
PhD Thesis: "Reversible H⁺-ATPase from aerobic bacteria *Micrococcus lysodeikticus*". Faculty Thesis Advisor, Professor Vladimir. P. Skulachev.

POSTGRADUATE TRAINING:

1976-1980 Research Fellow. A. N. Bach Institute of Biochemistry, Academy of Sciences of the USSR, Moscow, Russia.

ACADEMIC & ADMINISTRATIVE APPOINTMENTS:

- 1980-1992 Associate Researcher (permanent position) in the Laboratory of Biochemistry of Biological Membranes. A.N. Bach Institute of Biochemistry, Academy of Sciences, Moscow, Russia.
- 1983-1989 Group Leader in the Laboratory of Biochemistry of Biological Membrane A.N. Bach Institute of Biochemistry, Academy of Sciences, Moscow, Russia.
- 1989-1991 Visiting Associate Research Chemist, Chemistry Department of the University of California at San Diego, La Jolla, CA.
- 1991-2005 Assistant Professor, Department of Biochemistry and Molecular Biology, The University of Texas Medical School at Houston.
- 2003-2012 Associate Faculty Member, Graduate School of Biomedical Sciences, The University of Texas Health Science Center at Houston.
- 2005-2014 Associate Professor, Department of Biochemistry and Molecular Biology, The University of Texas Medical School at Houston.
- 2014-2016 Adjunct Associate Professor, Department of Biochemistry and Molecular Biology, The University of Texas, McGovern Medical School at Houston
- 2016-Present Associate Professor, Department of Biochemistry and Molecular Biology, The University of Texas, McGovern Medical School at Houston
- 2016-Present Faculty member of CARMiG - Center for Antimicrobial Resistance and Microbial Genomics. The University of Texas, McGovern Medical School at Houston.

OTHER PROFESSIONAL ACTIVITIES:

- 2002 - 2013 Collaborative project with Ben-Gurion University of Negev, Beer-Sheva, Israel
- 2005-2007 Collaborative project with the University of Rouen, Mont-Saint-Aignan Cedex, France

PROFESSIONAL ORGANIZATIONS:

- 1980-1991 Russian Bioenergetics Group of International Union of Biochemistry and Molecular Biology and International Union of Pure and Applied Biophysics, Member.
- 1995-present American Society for Biochemistry and Molecular Biology, Member

HONORS and AWARDS:

- 1999 Jump Start Program recipient for training in Atomic Force Microscopy in Digital Instruments (Santa Barbara CA).
- 2008 Certificate “In recognition of outstanding service to the 2007-2008 Faculty Senate” - Member of UT-Medical School Faculty Senate

EDITORIAL POSITIONS:

- 1996-present Reviewer for News in Physiological Sciences, Nature, Proceedings of the National Academy of Sciences, Cell, Journal of Biological Chemistry, European Biophysics Journal, Molecular Microbiology, EMBO Journal, Journal of Bacteriology, Microbiology (UK), BMC Microbiology, FEBS letters, Biophysical Chemistry, Biochimica et Biophysica Acta, (Biomembranes; Bioenergetics), Chemistry and physics of Lipids, Future Lipidology, Molecular Biology of the Cell (MBoC), Scientific Reports.
- 1999-2001 *Ad hoc* reviewer for U. S. Civilian Research and Development Foundation (CRDF) Cooperative Grant Program.
- 2002 *Ad hoc* Grant reviewer for Engineering and Physical Sciences Research Council (EPSRC), United Kingdom.
- 2009 *Ad hoc* grant reviewer for Czech Science Foundation
- 2005-2013 *Ad hoc* grant reviewer for Barth Syndrome Foundation

SERVICE ON THE UNIVERSITY OF TEXAS MEDICAL SCHOOL AT HOUSTON COMMITTEES:

- 2006-2012 Member of UT-Medical School Faculty Senate; Certificate “In recognition of outstanding service to the 2007-2008 Faculty Senate”.

SERVICE TO GRADUATE SCHOOL:

2003-2012 Associate faculty member of UT-Graduate School of Biomedical Sciences

SERVICE TO THE COMMUNITY:

2006-present I donate my artistic works to the UTMSH Art Wall's Silent Auction fund-raiser, which donates all proceeds to medical school student scholarships.

MENTORING ACTIVITIES:

1985 –1991 Research Mentor in the Master of Sciences / PhD Program, Institute of Biochemistry, Academy of Sciences, Moscow, Russia (totally: 4 M.S. students and 2 PhD students).

2003-present Research Mentor in UT-Medical School:
Xueyao Fu, PhD rotation student 2003;
Mei Zhang, PhD student 2001-2004;
Lucia Picotti, visiting PhD student 2003;
Yuan Wang, PhD rotation student 2004;
Catherine Srithong, undergraduate summer student 2004;
Xi Mo, PhD rotation student 2005;
Chun-Chieh Lin, summer student 2005;
Samita Das, undergraduate student 2005;
Khaled Khalaf, summer student 2006;
Lucia Picotti, postdoctoral fellow 2005-2007;
Lu Yang, summer student 2008;
Celso Duran, summer student 2009.
Soledad Bazan, postdoctoral fellow 2010-12;
Truc Tran, postdoctoral fellow 2011-14.
Aike Jeucken, visiting PhD student from Utrecht University, the Netherland, 2016
Truc Tran, Assistant professor starting 2015-present; I am a member of her Advisory Committee

2003-2004 Mentor “Gifted and Talented Mentorship Program”, Fort Bend, TX

RESEARCH SUPPORT

R01 GM115969-01A1 William Dowhan (PI) 12/02/2016 to 11/30/2020
National Institutes of Health General Medical Science
“The Role of Cardiolipin in Assembly and Function of the Mitochondrial Respirasome”
Role: Co-Investigator

Completed:

R37 GM20478 William Dowhan (PI) 7/1/1973 to 6/30/2016
National Institutes of Health General Medical Science
"Structure and Function of Membrane Proteins"
Period of support: 1991-2016

R01 AI093749 Cesar Arias (PI) 9/1/2011 to 8/31/2016
National Institutes of Health Allergy and Infectious
Disease "Molecular Mechanisms of Daptomycin
Resistance in Enterococci."
Period of support: 2015

R01 GM56389 William Dowhan (PI) 8/1/1998 to 12/31/2013
National Institutes of Health General Medical Science
"Role of Phospholipids in Mitochondrial Function "
Role: Co-Investigator

Research grant from United States-Israel 8/1/2008 to 7/31/2013
Binational Science Foundation
"Targeting of MinC to Z-ring"
(Multiple PIs: Itzhak Fishov, Eugenia Mileykovskaya, William Margolin, William
Dowhan).
Role: PI

SELECTED PUBLICATIONS:

ABSTRACTS

1. Tikhonova G.V., V.Yu. Arzatbanov, **E I. Mileykovskaya**, T. V. Sheiko, D.N. Ostrovsky "Studies on spectral and potentiometrical properties of cytochrome *b* and arrangement of factor BF₁ in *Micrococcus lysodeikticus* membrane." Short EBEC reports, (Bari, Italy) 1980, v 1, pp. 457-458.
2. **Mileykovskaya E.I.**, S.S. Kormer "Regulation of catalytic activity of *Micrococcus lysodeikticus* H⁺-ATPase" 14 International Congress of Biochemistry 1980 (Rome)
3. **Mileykovskaya E.I.**, S.S. Kormer "Bound nucleotides on the ATPase from aerobic acterium *Micrococcus lysodeikticus*." Short reports of 6-th European Bioenergetics Conference (The Netherlands), 1990, v. 6, p 62.
4. **Mileykovskaya E.I.** and W. Dowhan "The role of phosphatidylethanolamine in the catalytic activity of the respiratory chain of *E. coli*" FASEB J.1992 v.6, N 1, A196.

5. **Mileykovskaya E.I.** and W. Dowhan "Changes in the respiratory chain of *Escherichia coli* mutants with altered phospholipid composition." Short reports of 7-th European Bioenergetics Conference, 1992 (Helsinki, Finland), v. 7, p.59.
6. **Mileykovskaya, E.** and Dowhan, W.: "The Cpx Two-Component System Mediates Sensory Transduction of Envelope Stress in an *Escherichia coli* Mutant Lacking Phosphatidylethanolamine." American Society for Microbiology Meeting, New Orleans, LA, 1996.
7. **Mileykovskaya, E.**, Sun, Q., Margolin, W. and Dowhan, W., "Localization of FtsZ, FtsA, and ZipA division proteins in filamentous *Escherichia coli* cells lacking phosphatidylethanolamine.", FASEB J., 12: A1282, 1998.
8. **Mileykovskaya, E.** and W. Dowhan. "Evidence for phospholipid enriched domains in the *Escherichia coli* membranes." Abstracts of 99 American Society for Microbiology Meeting, 1999, Chicago, IL, p.426.
9. **Mileykovskaya, E.** and W. Dowhan. "Application of Atomic Force Microscopy to investigation of *Escherichia coli* cells and membranes." FASEB J. 2000, v.14, 8, Abstract 851.
10. **Mileykovskaya E.**, W. Margolin and W. Dowhan. Localization of cardiolipin in *Escherichia coli* Abstracts of EMBO Workshop on "Cell Cycle and Nucleoid Organization in Bacteria" 2001. Texel, The Netherlands.
11. Haines T.H., **E. Mileykovskaya**, and W. Dowhan. "*E. coli* contains cardiolipin patches; are they ox-phos units with a cardiolipin proton buffer? FASEB J. 2001, v. 15, 4, Abstract 13.25.
12. Ostrander D.B., M. Zhang, **E. Mileykovskaya** and W. Dowhan. "Role of anionic lipids in the stability of mitochondrial cytochrome oxidase." FASEB J. 2001, v. 15, 4, Abstract 13.30
13. **Mileykovskaya E.**, B.D. Corbin, W. Dowhan, W. Margolin. "Are Phospholipid Domains Important for Functioning of the Min System in *Escherichia coli*?" Abstracts of 102 American Society for Microbiology Meeting, 2002, Salt Lake City, UT
14. Xia J, M. Wikstrom, M. Bogdanov, **E. Mileykovskaya**, P. Heacock, Å. Wieslander, W. Dowhan. "Do Phosphatidylethanolamine (PE) and Monogalactosyldiacylglycerol (MGDG) have a Similar Role in Bacterial Membranes?" FASEB J. 2002, v. 16, n 5, Abstract 884.12.
15. **Mileykovskaya E**, Fishov I, Corbin BD, Margolin W, Dowhan W. "MinD binding and assembly on the surface of model membranes." Abstracts of Biophysical Society Meeting, 2003, San Antonio, TX.
16. **Mileykovskaya E**, Fishov I, Fu X, Corbin BD, Margolin W, Dowhan W. "Does MinD

- have any specific preference for the membrane phospholipid composition?" Abstracts of ASBMB Annual Meeting 2003, San Diego CA. FASEB J.
17. **Mileykovskaya E**, Corbin B, and Margolin W, Dowhan, W, Strockhin A, Gdalevsky, GY, Cohen-Luria R, Parola AH, and Fishov I. "Reversible membrane binding as a strategy for function regulation of the key *E. coli* cell cycle proteins, DnaA and MinD". The 48th Biophysical Society Annual Meeting, Baltimore, Maryland, Feb. 14-18, 2004. *Biophys. J.*, 1874-Plat.
 18. **Mileykovskaya, E.**, Zhang, M., and Dowhan, W. "Cytochrome *c* exhibits pool behavior in mitochondria of cardiolipin-lacking mutant of *Saccharomyces cerevisiae* 13th EBEC Meeting, Pisa, Italy 2004, *Biochim Biophys Acta* **13**, 260
 19. Piccotti, L., **Mileykovskaya, E.**, Haines, T. H., and Dowhan, W. "NAO is a probe for cardiolipin in mitochondria: study of changes in fluorescence emission spectra", 13th EBEC Meeting, Pisa, Italy 2004, *Biochimica et Biophysica Acta* **13**, 261
 20. **Mileykovskaya, E.**, Mo X., Das, S., Loewen, CJR, Levine, T., and W. Dowhan, "The role of phosphatidic acid in cell division of an *E. coli* mutant lacking phosphatidylglycerol (PG) and cardiolipin (CL)" FASEB J. 2006 Abstract Book, 349.14.
 21. Dowhan W., Su X., Zhang M., and **E. Mileykovskaya** "Role of Cardiolipin and Phosphatidylglycerol in the Synthesis and Assembly of Mitochondrial Protein Complexes", *Biochimica et Biophysica Acta* 2006 v. 1757 (Supplement1) issues 5-6, p.154,
 22. **Mileykovskaya E.**, Mo X., Lin C., Das C., Loewen CJR, Levine T., and W. Dowhan, "Role of membrane lipids in bacterial cell division: study of an *E. coli* mutant lacking phosphatidylglycerol and cardiolipin", Abstracts of EMBO Workshop on "Cell Cycle and Cytoskeletal Elements in Bacteria" 2006, p.97.
 23. Mazer, S; Regev, T; **Mileykovskaya, E**, et al."Effects of MinD binding on the dynamics of a model membrane", *Biophys. J*, p,93A-93A Supplement: S 2007
 24. Piccotti, L; Mullapudi, S; **Mileykovskaya, E**, et al. "Electron microscopic structural analysis of mitochondrial iupercomplex III₂IV₂", FASEB J Volume: 21 Issue: 5 pp: A612-A612 2007.
 25. Mazor, S; Regev, T; **Mileykovskaya, E**, et al. "Mutual effects of MinD-membrane interaction", FEBS J, Volume: 275 Pages: 85-85, 2008.
 26. **Mileykovskaya, E**, Mullapudi, S., Huang, Z, Piccotti, L and W. Dowhan " 3-D structure of *Saccharomyces cerevisiae* supercomplex formed by respiratory chain complexes III and IV" in "Bioenergetics from the past till the present" Moscow, Russia, 2010, Abstracts, p. 22.

27. **Mileykovskaya, E** “Cardiolipin and supramolecular organization of the mitochondrial respiratory chain” in Second International Conference “*Homo sapiens liberatus*”, Moscow, Russia, 2015, Abstracts, p. 85.
28. Panesso, D., Tran T. T., Rincon S., Singh K.V., **Mileykovskaya, E.**, Dowhan, W., Shamo, Y., Arias, C. A. “Characterization of LiaYZ encoding transmembrane proteins required for cell membrane anionic phospholipid redistribution and antibiotic resistance in *Enterococcus Faecalis*”. Antibiotic Resistance Symposium: Novel Frontiers in Antimicrobial Research, 2017, Houston TX.

REVIEWED ARTICLES

1. Grinius, L. L., M. D. Il'ina, **E. I. Mileykovskaya**, V. P. Skulachev, G. N. Tikhonova "Conversion of biomembrane-produced energy into electric form. V. Membrane particles of *Micrococcus lysodeicticus* and pea chloroplasts." *Biochimica et Biophysica Acta*, 1972, v. 283, 422-455.
2. Tikhonova G.V., **Mileikovskaia E.I.**, Gel'man N.S. “Action of ultrasonic treatment on the membrane and respiratory chain of *Micrococcus lysodeicticus*”, *Biokhimiia*. 1973 38(5):980-6.
3. **Mileykovskaya E.I.**, I. A. Kozlov and G. V. Tikhonova. "Adenosine triphosphatase from the membrane of *Micrococcus lysodeicticus*." *Biokhimiia* 1975, v. 40, N 5. 993-998.
4. Boguslavskii LI, Volkov AG, Kozlov IA, **Mileikovskaia E.I.** “Proton transfer from water to octane, catalyzed by soluble bacterial ATPase” *Dokl Akad Nauk SSSR*. 1975 May 21;222(3):726-9.
5. **Mileykovskaya E.I.**, G. V. Tikhonova, A. A. Kondrashin, I.A. Kozlov "Membrane reversible ATPase from *Micrococcus lysodeicticus*." *European Journal of Biochemistry*, 1976, v. 62, 613-617.
6. Boguslavsky L.I, Volkov A.G, Kargopolov A.V, **Mileykovskaya E. I.**, and Kozlov I. A. "H⁺- ATPase from *Micrococcus lysodeicticus* in aqueous solution and at the octane/water interface." *Bioorganic chemistry (USSR)*, 1976, N2, 846-853.
7. Kaprelyanz, A.S., Binyukov V.I, **Mileykovskaya E.I.**, Tikhonova G.V., Krinitskaya L.S., Ostrovsky D.N., Ruuge E.K. "Interaction of bacterial ATPase with the membrane in a reconstituted system" *Biokhimiia*, 1977, v. 42, N5, 861-871.
8. **Mileykovskaya, E.I.**, T.V. Sheyko, G.V. Tikhonova, D.N.Ostrovsky, I. A. Kozlov. "Study of *Micrococcus lysodeicticus* F₁-ATPase incorporation into the hydrophobic phase of the membrane, using 2,4,6,-trinitrobenzosulfonate and 12-0-(azidoformyl)-stearic acid methyl ester. *Biokhimiia*, 1983, v.48. N1, 104-110.

9. Zhucova, I.G., L.N. Checulaeva, A.S. Kaprelyants, **E.I. Mileykovskaya et al.** "Enzymes of *Halobacteria*. Some properties on NADH-dehydrogenase, ATPase and immunochemical analysis." *Biological. membranes* (USSR), 1984, v.1, 684-690.
10. **Mileykovskaya, E.I.**, I.G. Zhucova, M.M. Zinovieva, A.S. Kaprelyants, S.T. Talibov., A.A. Abuladse., L.N. Checulaeva, D.N. Ostrovsky "Target size analysis in studies on molecular structure of bacterial cytoplasmic membranes." In:"Structure and function of plant biological membranes." 1985 "Nauka", Novosibirsk, pp.152-156.
11. Bliumenfel'd L.A., Malenkova I.V., Kormer S.S., Serezhenkov V.A., **Mileikovskaia E.I.** "Synthesis of ATP by membrane-bound and soluble H⁺-ATPase from *Lactobacillus casei* during an abrupt increase in the medium pH". *Dokl Akad Nauk SSSR*. 1986; 288(6):1494-6.
12. **Mileykovskaya, E**, Kormer S. "Mechanism of the functioning of H⁺-ATPase. *Dokl Akad Nauk SSSR*. (USSR), 1986, v. 287, N3, 744-747.
13. **Mileykovskaya, E.I.**, S.S. Kormer and W.S. Allison "Significant quantities of endogenous GDP and ADP are present on catalytic sites of the F1-ATPase isolated from *Micrococcus lysodeikticus* in the absence of added nucleotides." *Biochim. Biophys. Acta* 1992, 1099, 219-225.
14. **Mileykovskaya, E.** and W. Dowhan "Alterations in the electron transfer chain in mutant strains of *Escherichia coli* lacking phosphatidylethanolamine" *J.Biol. Chem.* 1993, v. 268, pp. 24824-24831.
15. **Mileykovskaya, E.** and Dowhan, W. "The Cpx two-component signal transduction pathway is activated in *Escherichia coli* mutant strains lacking phosphatidylethanolamine". *J. Bacteriol.* 179: 1029-1034, 1997, PMID: PMC178794
16. Chang, S.-C., Heacock, P. N., **Mileykovskaya E. I.**, Voelker, D. R., Dowhan, W. "Isolation and characterization of the gene (CLS1) encoding cardiolipin synthase in *Saccharomyces cerevisiae*", *J. Biol. Chem.*, 273:14933-14941, 1998.
17. **Mileykovskaya, E.**, Sun, Q., Margolin, W., and Dowhan, W. "Localization and function of early cell division proteins in filamentous *Escherichia coli* cells lacking phosphatidylethanolamine". *J. Bacteriol.*, 180:4252-4257, 1998. PMID: PMC107424
18. **Mileykovskaya, E.** and W. Dowhan. "Visualization of phospholipid domains in *Escherichia coli* by using cardiolipin-specific fluorescent dye 10-N-nonyl acridine orange". *J. Bacteriol.*, 182:1172-1175, 2000, PMID: PMC94389
19. Ostrander DB, Zhang M, **Mileykovskaya E**, Rho M, Dowhan W. "Lack of mitochondrial anionic phospholipids causes an inhibition of translation of protein components of the electron transport chain. A yeast genetic model system for the study of anionic phospholipid function in mitochondria". *J. Biol. Chem.* 276 (27):25262, 2001.

20. **Mileykovskaya, E.**, W. Dowhan , R. L. Birke, D. Zheng, L. Lutterodt , T. H. Haines. “Cardiolipin binds nonyl acridine orange by aggregating the dye at exposed hydrophobic domains on bilayer surfaces”. *FEBS Letters* 507, 187-190, 2001.
21. Zhang M, **Mileykovskaya E**, and Dowhan W. “Gluing the Respiratory Chain Together: Cardiolipin Facilitates Supercomplex Formation in the Inner Mitochondrial Membrane”. *J. Biol. Chem.* 277, 43553-43556, 2002, PMID: PMC4113954
22. **Mileykovskaya E**, Fishov I, Fu X, Corbin BD, Margolin W, Dowhan W. “Effect of phospholipid composition on MinD-membrane interactions in vitro and in vivo”. *J. Biol. Chem.* 2003 Jun 20;278(25):22193-8.
23. Zhang M, Su X, **Mileykovskaya E**, Amoscato AA, Dowhan W. “Cardiolipin is not required to maintain mitochondrial DNA stability or cell viability for *Saccharomyces cerevisiae* grown at elevated temperatures”. *J Biol Chem.* 2003 , v.287, 35204-35210.
24. Wikström, M., Xie, J., Bogdanov, M., **Mileykovskaya, E.**, Heacock, P., Wieslander, Å., and Dowhan, W.: “Monoglucosyldiacylglycerol, a Foreign Lipid, Can Substitute For Phosphatidylethanolamine in Essential Membrane-Associated Functions in *Escherichia coli*”. *J. Biol. Chem.* 279: 10284-10292, 2004.
25. Norris V., Woldringh C., **Mileykovskaya E.**: “A hypothesis to explain division site selection in *Escherichia coli* by combining nucleoid occlusion and Min”. *FEBS Lett.* 561: 3-10, 2004.
26. Zhang M., **Mileykovskaya E.**, Dowhan W. : “Cardiolipin is essential for organization of complexes III and IV into a supercomplex in intact yeast mitochondria”, *J Biol Chem.* 280:29403-8, 2005.
27. **Mileykovskaya, E.** and W. Dowhan “Role of membrane lipids in bacterial division-site selection”. *Curr. Opin. Microbiol.*, 8(2):135-142, 2005
28. Lafontaine C., Valleton J.M., Orange N., Norris V., **Mileykovskaya E.**, Alexandre S. “Behaviour of bacterial division protein FtsZ under a monolayer with phospholipid domains.” *Biochim Biophys Acta* 2007, 1768(11):2812-21
29. Mazor, S., Regev, T., **Mileykovskaya E.**, Margolin, W., Dowhan, W., Fishov, I. “Mutual effects of MinD-membrane interaction: I. Changes in the membrane properties induced by MinD binding.” *Biochem. Biophys Acta* 1778 (2008), 2496-2505, PMID: PMC2592532
30. Mazor, S., Regev, T., **Mileykovskaya E.**, Margolin, W., Dowhan, W., Fishov, I. “Mutual effects of MinD-membrane interaction: II. Domain structure of the membrane enhances MinD binding.” *Biochem. Biophys Acta* 1778 (2008), 2505-2511, PMID: PMC2592533

31. **Mileykovskaya, E.**, Ryan, A., Mo, X., Lin, C., Khalaf, K., Dowhan, W., Garrett, T.A., “Phosphatidic acid and N-acyl phosphatidylethanolamine form membrane domains in *Escherichia coli*”, *J. Biol. Chem.* 2009; 284(5):2990-3000, PMID:PMC2631977
32. Beuria TK, Mullapudi S, **Mileykovskaya E**, Sadasivam M, Dowhan W, Margolin W., “Adenine nucleotide-dependent regulation of assembly of bacterial tubulin-like FtsZ by a hypermorph of bacterial actin-like FtsA”, *J Biol Chem.* 2009 ;284(21):14079-86. PMID:PMC2682856.
33. **Mileykovskaya E.**, Penczek P.A., Fang J., Mallampalli V.K., Sparagna G.C., Dowhan W. “Arrangement of the respiratory chain complexes in *Saccharomyces cerevisiae* supercomplex III₂IV₂ revealed by single particle cryo-electron microscopy”. *J Biol Chem* 2012; 287: 23095-103, PMID: PMC3391107
34. Mishra NN, Bayer AS, Tran TT, Shamoo Y, **Mileykovskaya E**, Dowhan W, Guan Z, Arias, CA. “Daptomycin resistance in enterococci is associated with distinct alterations of cell membrane phospholipid content”. *PLoS One* 2012; 7(8): e43958, PMID:PMC3428275.
35. Bazán S, **Mileykovskaya E**, Mallampalli VK, Heacock P, Sparagna GC, Dowhan W. “Cardiolipin-dependent reconstitution of respiratory supercomplexes from purified *Saccharomyces cerevisiae* complexes III and IV”. *J Biol Chem* 2013, 288: 401-411, PMID: PMC3537037
36. Tran TT, Panesso D, Mishra NN, **Mileykovskaya E**, Guan Z, Munita JM, Reyes J, Diaz L, Weinstock GM, Murray BE, Shamoo Y, Dowhan W, Bayer AS, Arias CA “Daptomycin-resistant *Enterococcus faecalis* diverts the antibiotic molecule from the division septum and remodels cell membrane phospholipids” *MBio.* 2013, 4(4). pii: e00281-13, PMID: PMC3735187.
37. Zweytick D, Japelj B, **Mileykovskaya E**, Zorko M, Dowhan W, Blondelle SE, Riedl S, Jerala R, Lohner K, “N-acylated peptides derived from human lactoferricin perturb organization of cardiolipin and phosphatidylethanolamine in cell membranes and induce defects in *Escherichia coli* cell division”, *PLoS One* 2014; 9(5):e99324, PMID:PMC3940911
38. Park Y, Han GS, **Mileykovskaya E**, Garrett TA, Carman GM., "Altered Lipid Synthesis by Lack of Yeast Pah1 Phosphatidate Phosphatase Reduces Chronological Life Span", *J Biol Chem.* 2015 2015. 290:25382-94, PMID: PMC4646187.

INVITED REVIEWS AND BOOK CHAPTERS:

1. Dowhan, W., **Mileykovskaya, E.**, and Bogdanov, M.: “Diversity and Versatility of Lipid-Protein Interactions Revealed by Molecular Genetic Approaches.” *Biophys. Biochim. Acta* 2004, 1666:19-39, 2004, PMID: PMC4109649.

2. **Mileykovskaya, E.**, Zhang, M., and Dowhan, W. : “Cardiolipin in Energy Transducing Membranes”. *Biochemistry (Moscow)* 2005, 70:154-158, PMID: 15807653.
3. **Mileykovskaya, E** and Dowhan, W. ; “Role of membrane lipids in bacterial division-site selection”. *Current Opinion in Microbiology* 2005, 8: 135-142.
4. Norris V, den Blaauwen T, Cabin-Flaman A, Doi RH, Harshey R, Janniere L, Jimenez-Sanchez A, Jin DJ, Levin PA, **Mileykovskaya E**, Minsky A, Saier M Jr, Skarstad K. “Functional taxonomy of bacterial hyperstructures.” *Microbiol Mol Biol Rev.* 2007 71(1):230-53, PMCID: PMC1847379
5. **Mileykovskaya E.** “Subcellular localization of Escherichia coli osmosensory transporter ProP: focus on cardiolipin membrane domains”. *Mol Microbiol.* 2007 64:1419-22.
6. Norris V, Blaauwen TD, Doi RH, Harshey RM, Janniere L, Jimenez-Sanchez A, Jin DJ, Levin PA, **Mileykovskaya E**, Minsky A, Misevic G, Ripoll C, Saier M, Skarstad JK, Thellier M. “Toward a Hyperstructure Taxonomy”. *Annu Rev Microbiol.* 2007, 61:309-329.
7. Dowhan, W., Bogdanov, M. and **Mileykovskaya, E.** "Functional roles of lipids in membranes." In “Biochemistry of Lipids. Lipoproteins and Membranes”, (Vance, D.E. and Vance, J.E., Eds), 5th Ed., Elsevier Press, Amsterdam, 2008.
8. Bogdanov, M., **Mileykovskaya E.** and Dowhan, W. “Lipids in the Assembly of Membrane Proteins and Organization of Protein Supercomplexes: Implications for Lipid-linked Disorders” in Lipids in Health and Disease; Series: Subcellular Biochemistry 2008, 49:197-239.
9. **Mileykovskaya, E** and Dowhan, W., “Cardiolipin membrane domains in prokaryotes and eukaryotes”, *Biochim Biophys Acta.* 2009, 1788:2084-91, PMCID: PMC2757463
10. **Mileykovskaya, E** and Margolin, W, Chapter 5-1: Cell division, pp149-177 in "*Escherichia coli* and *Bacillus subtilis*; the frontiers of molecular microbiology revised, 2012. Editors: Yoshito Sadaie and Kouji Matsumoto, Research Signpost, Kerala, India.
11. **Mileykovskaya, E.**, Dowhan, W. “Cardiolipin-Dependent Formation of Mitochondrial Respiratory Supercomplexes” *Chem. Phys. Lipids* 2014, 179:42-8, PMCID: PMC3947694.
12. Matsumoto K, Hara H, Fishov I, **Mileykovskaya E**, Norris V. "The membrane: transertion as an organizing principle in membrane heterogeneity”. *Front Microbiol.* 2015, 6:572, PMCID: PMC4464175
13. Norris, V., **Mileykovskaya, E.**, Matsumoto, K. “Extending the Transertion Hypothesis”. *Biochem Anal Biochem* 2015, 4:234.
14. **Mileykovskaya, E.**, Dowhan, W. “The Role of Cardiolipin in Mitochondrial Supercomplex

Assembly”. Chapter 4 in “Redox Proteins in Supercomplexes and Signalosomes” (Louro, R.O. and Diaz-Moreno, I., Eds), CRC Press, Boca Raton, Florida, 2016.

15. Dowhan, W., Bogdanov, M., **Mileykovskaya, E.**, and Vitrac, H. “Functional Roles of Individual Membrane Phospholipids in Escherichia coli and Saccharomyces cerevisiae” in Biogenesis of Fatty Acids, Lipids and Membranes, Handbook of Hydrocarbon and Lipid Microbiology (O. Geiger, ed.) 2017, Springer International Publishing AG.

INVITED SPEAKER AND OTHER ORAL PRESENTATIONS

- 1985 Symposium "Ca²⁺ and biological membranes", Irkutsk, Russia.
Plenary speaker.
- 1987 Annual Conference in Bioenergetics, Dilijan, Armenia.
Invited speaker.
- 1990 Division of Biochemistry, Department of Molecular and Experimental Medicine, The Scripps Research Institute, La Jolla, CA (host Dr. Y. Hatefi), Invited speaker.
- 1990 Department of Biochemistry, The University of Texas, HSC at San Antonio, TX (host Dr. N. Robinson). Invited speaker.
- 1993 Department of Biochemistry, Massachusetts Institute of Technology, Cambridge, MA.
- 1995 Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Boston.
- 1996 Department of Microbiology and Molecular Genetics, Harvard Medical School, Boston .
- 1997 Department of Bioenergetics, A.N.Belozersky Institute of Physico-Chemical Biology Moscow State University (host, Dr. V. Skulachev).
- 2001 Department of Molecular Biology, University of Wyoming, Laramie, WY (host Dr. M. Gomelsky). Invited speaker.
- 2003 ASBMB Annual Meeting, San Diego, CA.
- 4-lectures on “Lipids in Bacterial Cell Division” in Japan:
- 2004 Department of Biochemistry and Molecular Biology, Saitama University, Saitama, Japan, (host Dr. K. Matsumoto). Invited speaker.
- 2004 Laboratory of Cellular Genetic; Department of Biotechnology, The University

- of Tokyo, Japan, (host Dr. A. Ohta). Invited speaker.
- 2004 Pharmaceutical Sciences, Teikyo University, Kanagawa, Japan, (host Dr. K.Waku).
Invited speaker.
- 2004 Institute for Chemical Research Kyoto University, Kyoto, Japan,
(host Dr. M. Umeda).
- 2004 Department of Microbiology, UT-Medical School at Houston, (host Dr. W. Margolin).
Invited speaker.
- 2004 “Cardiolipin and Red-Ox Supercomplexes in Yeast Mitochondria”
Department of Internal Medicine of the University of Perugia, Italy.
- 2004 “Cardiolipin in energy-transducing membranes”, Invited speaker (host Dr.V.Skulachev)
Belozersky Institute of Physico-Chemical Biology, Moscow State University, Russia
- 2010 “Cardiolipin: superglue for supercomplexes” Invited speaker (host Dr. I. Fishov)
Department of Life Sciences, Ben Gurion University, Beer Sheva, Israel
- 2010 Lipid Domains in Bacterial Membrane, Bacterial Interest Group, TX Medical
Center, Houston.
- 2010 3-D structure of *Saccharomyces cerevisiae* supercomplex formed by the respiratory
chain complexes III and IV. “Bioenergetics: from the past till the present – how
to make Homo sapiens liberatus”, Moscow, Russia.
- 2014 Cardiolipin and Respiratory Supercomplexes; William Dowhan Symposium, TX
Medical Center, Houston.

MEETINGS AND CONFERENCES:

- 1980 FEBS Course on Bioenergetics, Warsaw, Poland.
- 1983 First All-Union Congress on Biophysics, Moscow, USSR.
- 1984 Sixteenth Meeting of the Federation of the European Biochemical
Societies, Moscow, Russia.
- 1986 Fourth European Bioenergetics Conference, Prague, Czechoslovakia.
- 1979-1987 Annual Schools-Conferences in Bioenergetics, Dilijan, Armenia.
- 1988 USSR-Switzerland Symposium "Biological membranes: structure and
function" Riga, Latvia.
- 1989 International Symposium "Molecular organization of Biological
Structures" Moscow, Russia.
- 1990 Sixth European Bioenergetics Conference, Noordwijkerhout,
The Netherlands.
- 1992 ASBMB/Biophysical Society Joint Meeting, Houston, U.S.A.
- 1992 Seventh European Bioenergetics Conference, Helsinki, Finland.
- 1996 Gordon Research Conference on Sensory Transduction in
microorganisms, Ventura, CA.

- 1996 Gordon Research Conference on Microbial Stress Response, Holderness School, NH.
- 1996 96th General Meeting of the American Society for Microbiology, New Orleans, LA.
- 1997 Annual Meeting of the American Society for Biochemistry and Molecular Biology, Washington, D. C.
- 1997 Gordon Research Conference on Protons & Membrane Reactions, Ventura, CA.
- 1998 Gordon Research Conference on Bacterial cell surfaces, New London, NH.
- 1998 Gordon Research Conference on Macromolecular Organization and Cell Function. Queen's College, Oxford, United Kingdom.
- 1999 General Meeting of the American Society for Microbiology, Chicago, IL.
- 1999 Gordon Research Conference on Molecular and Cellular Biology of Lipids, Meriden, NH.
- 1999 5th Annual UT-Houston Research Day, Houston, TX
- 2000 ASBMB Annual Meeting, June 4-8, 2000, Boston, MI.
- 2000 EMBO Workshop on "Cell Cycle and Nucleoid Organization in Bacteria" September 2-6, 2000, Texel, The Netherlands.
- 2001 ASBMB Satellite Meeting Membrane Lipids and Cell Function, March 30-31, Orlando, FA.
- 2001 ASBMB Annual Meeting, April 1-4, Orlando, FA.
- 2001 Gordon Research Conference on Molecular and Cellular Biology of Lipids, July 15-20, Meriden, NH.
- 2002 102 General Meeting of the American Society for Microbiology, Salt Lake City, UT.
- 2002 Gordon Research Conference on Bacterial Cell Surfaces, New London, NH.
- 2003 Gordon Research Conference on Protons & Membrane Reactions. Ventura, CA
- 2003 ASBMB Annual Meeting, San Diego, CA
- 2004 Gordon Research Conference on Bacterial Cell Surfaces, New London, NH.
- 2004 13th European Bioenergetics Conference, Pisa, Italy
- 2005 Gordon Research Conference on Molecular & Cellular Bioenergetics, Biddeford, ME
- 2005 Gordon Research Conference on Molecular&Cellular Biology of Lipids, Waterville, NH
- 2005 ASBMB Annual Meeting, San Francisco, CA
- 2006 Gordon Research Conference on Bacterial Cell Surfaces, New London, NH
- 2006 14th European Bioenergetics Conference, Moscow, Russia
- 2006 EMBO Workshop on "Cell Cycle and Cytoskeletal Elements in Bacteria; Copenhagen, Denmark.
- 2007 Gordon Research Conference on Molecular&Cellular Biology of Lipids, Waterville, NH
- 2009 Gordon Research Conference on Molecular & Cellular Bioenergetics, Proctor Academy, Andover, NH
- 2010 "Bioenergetics: from the past till the present – how to make Homo sapiens liberatus", Moscow, Russia.

- 2010 International Zing Conference “Bacterial Cell Biology”, Cancun, Mexico
- 2011 Gordon Research Conference on Protons & Membrane Reactions.
Ventura, CA
- 2012 Gordon Research Conference: Mitochondria & Chloroplasts, Bryant University
Smithfield, RI
- 2016 Progress and Challenges in Combating Antimicrobial Resistance, BioScience
Research Collaborative, Houston TX
- 2017 Antimicrobial Resistance: Novel Frontiers in Antimicrobial Research,
BioScience Research Collaborative, Houston TX

VISITING PROFESSORSHIPS:

- 2001 Visiting scientist in the City College of CUNY (NY, NY).
- 2005 Visiting scientist in the University of Rouen, Mont-Saint-Aignan Cedex, France
- 2010 Visiting scientist in the Ben-Gurion University of Negev, Beer-Sheva, Israel