Peter G. Vekilov

Invited presentations

1. P.G. Vekilov, *Elementary kinetics of crystallization from solution: non-linear optical crystals, proteins and electrocrystallization of silver.* Tsukuba Research Consortium, Tsukuba, Japan, December 8, 1992
2. P.G. Vekilov, M. Ataka and T. Katsura, *Interferometric investigation of protein crystal growth.* 5-th International Conference on Crystallization of Biological Macromolecules, San Diego, California, USA, August 8-13, 1993.
3. P.G. Vekilov, *Lysozyme: a model system for advanced crystal growth studies.* Department of Physics, University of Alabama in Huntsville, Colloquium, April 11, 1995.
4. P.G. Vekilov, *Advanced interferometry investigations of lysozyme crystal growth*.Colloquium, Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria, July 13, 1995.
5. P.G. Vekilov, *Precipitant- and impurity- rich coring in lysozyme crystallization*. Colloquium, Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria, July 18, 1995.
6. P.G. Vekilov, *Impurities- and salt- rich coring in protein crystals*. Seminar, Institute for Materials Research, Tohoku University, Sendai, Japan, November 7, 1995.
7. P.G. Vekilov, *High-resolution interferometry investigations of protein crystals growth.* Seminar, Institute for Materials Research, Tohoku University, Sendai, Japan, November 8, 1995.
8. P.G. Vekilov, *Crystallization under mixed transport and interface control – effects of gravity-driven convection*. Marshal Space Flight Center, Space Science Laboratory, Material and Crystal Growth Seminar, Huntsville, Alabama, USA, January 31, 1996.
9. P.G. Vekilov and F. Rosenberger, *New factors for protein crystal perfection on Earth and under reduced gravity*. Protein Crystal Growth Conference, Panama City, Florida, USA, April 28-30, 1996.
10. P.G. Vekilov, J.I.D. Alexander and F. Rosenberger, *Non-steady dynamics of layer growth in the mixed kinetics-bulk transport regime.* Tenth American Conference on Crystal Growth, Vail, Colorado, USA, August 3-9, 1996.
11. P.G. Vekilov, *Impurities- and salt- rich coring in protein crystals*. Department of Chemistry, University of Alabama in Huntsville, Colloquium, Huntsville, AL 35899, USA, September 20, 1996.
12. P.G. Vekilov, *System-specific effects of reduced gravity on protein crystal perfection*. Japanese-US Workshop on Protein Crystal Growth in Microgravity, Huntsville, AL, USA, December 16-17, 1996.
13. P.G. Vekilov, *System-dependent advantages and disadvantages of reduced gravity for the quality of protein crystals*. Structural Biology Seminars, Center for Macromolecular Crystallography, University of Alabama at Birmingham, Birmingham, AL, May 6, 1997.
14. P.G. Vekilov, *Insight into Transport-Kinetics Coupling Effects in Protein Crystallization from Forced Flow Experiments.* Conference SPACEBOUND '97, Montreal, Canada, May 11-15, 1997.
15. P.G. Vekilov, *Why some protein crystals grow better in space and others don't*. Gordon Conference on Gravitational Effects on Physico-Chemical Systems, Henniker, New Hampshire, USA, June 29-July 4, 1997.
16. P.G. Vekilov, *Nonlinear dynamics of layer growth in the mixed kinetics-bulk-transport regime.* Gordon Conference on Thin Films and Crystal Growth, Plymouth College, New Hampshire, USA, July 5-10, 1997.
17. P.G. Vekilov, *Coupling between transport in solution and interfacial kinetics*. Interdisciplinary Workshop on Phase Transformations Occurring in Solutions of Biological Macromolecules, MIT, Cambridge, MA, USA, October 5-7, 1997.
18. P.G. Vekilov, *Convective supply of solute and impurities in protein crystal growth: microgravity relevance*. Marshal Space Flight Center, Space Science Laboratory, Material and Crystal Growth Seminar, Huntsville, Alabama, USA, January 14, 1998.
19. P.G. Vekilov, *Nonlinear dynamics of layer growth and consequences for protein crystal perfection.* 7-th International Conference on Crystallization of Biological Macromolecules, Granada, Spain, May 3-7, 1998.
20. P.G. Vekilov, *Protein crystal growth - microgravity aspects*. 32nd COSPAR Scientific Assembly, Nagoya, Japan, July 12-19, 1998.
21. O. Galkin., A. Feeling-Taylor, B.R. Thomas, and P.G. Vekilov, *Thermodynamics and kinetics of protein crystallization*, Celebration and Exhibit, 50th Anniversary of the National Lung, Blood and Hearth Institute, Emory University, Atlanta, GA, USA, November 17, 1998
22. P.G. Vekilov, *Step pattern evolution and protein crystallization*. Laboratory of Enzymology and Structural Biology, CNRS, Gif-sur-Yvette, France, December 11, 1998.
23. P.G. Vekilov, *Crystallization processes on three lengthscales*, Institute of Theoretical Chemistry, Technical University of Munich, Munich, Germany, December 17, 1998.
24. P.G. Vekilov, *Nonlinear step dynamics in protein crystal growth.* 1999 Centennial Meeting of the American Physical Society, Atlanta, GA, USA, March 20-26, 1999.

25. P.G. Vekilov, *Protein crystallization processes on various lengthscales*, 1999 Tricampus Conference on Materials Science, University of Alabama in Huntsville, Huntsville, AL, April 23, 1999
26. P.G. Vekilov, *Protein crystallization beyond the needs of structure studies*, 1999 American Crystallographic Association Annual Meeting, Buffalo, NY, USA, May 22-26, 1999.
27. S.-T. Yau and P.G. Vekilov, *Molecular mechanisms of crystallization and defects formation*, 11 American Conference on Crystal Growth and Epitaxy (ACCGE-11), Tucson, AZ, August 1-6, 1999.
28. P.G. Vekilov, S.-T. Yau, B.R. Thomas, *Real time* in-situ *monitoring of ferritin crystal growth with molecular resolution*, Department of Chemistry, University of Alabama in Huntsville, Colloquium, Huntsville, AL, USA, November 12, 1999.
29. P.G. Vekilov, S.-T. Yau, B.R. Thomas, *Molecular processes of protein crystallization: why should crystallographers care*, University of Texas Southwestern Medical Center, Colloquium, Dallas, TX, USA, December 3, 1999.
30. P.G. Vekilov, *Optical Interferometry: Part I of Tutorial M: Experimental methods for Investigating Crystal Fluid interface*s, 2000 Materials Research Society Spring Meeting, San Francisco, California, USA, April 16, 2000
31. S.-T. Yau, B.R. Thomas, D.N. Petsev, and P.G. Vekilov, *Real time in-situ monitoring of molecular processes during growth of protein crystals*. 2000 Materials Research Society Spring Meeting, San Francisco, California, USA, April 24-28, 2000.
32. P.G. Vekilov and S.-T. Yau, *Real time in-situ monitoring of ferritin crystallization with molecular resolution*. 8-th International Conference on Crystallization of Biological Macromolecules, Destin, Florida, USA, May 20-26, 2000 ***(plenary lecture)***
33. P.G. Vekilov, S.-T. Yau, D.N. Petsev, and B.R. Thomas, *Real time in-situ monitoring of molecular processes during protein crystallization*. Colloquium, Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria, June 20, 2000.
34. P.G. Vekilov, O. Galkin, and S.-T. Yau, *Nucleation of protein crystals: structures, dynamics and control pathways*, 19 European Crystallographic Meeting, Nancy, France, August 25-31, 2000
35. P.G. Vekilov, O. Galkin, and S.-T. Yau, *Phase transitions is protein solutions: structures, dynamics and control pathways*. 2000 Biology Retreat, Guntersville, Alabama, USA, September 29-30, 2000.
36. P.G. Vekilov, *Protein crystallization processes at three length scales: molecular, capillary and transport*. Texas Christian University, Dallas, Texas, November 2, 2000.
37. P.G. Vekilov,O. Galkin, and S.-T. Yau, *Structures, dynamics and control pathways of protein crystal nucleation.* Southern Methodist University, Fort Worth, Texas, November 3, 2000.
38. P.G. Vekilov,S.-T. Yau, D.N. Petsev and B.R. Thomas, *What do we learn about biological molecules from watching them partake in phase transitions?* Seminar, Department of Biological Sciences, University of Alabama in Huntsville, Huntsville, Alabama, USA, November 29, 2000.
39. P.G. Vekilov, S.-T. Yau, O. Galkin, D. Petsev, B. Thomas, *How do molecules arrange themselves into crystals?* Seminar, Hokaido National Industrial Research Institute, Sapporo, Japan, December 8, 2000.
40. P.G. Vekilov, S.-T. Yau, H. Lin, D. Petsev, B. Thomas *Characteristic lengthscales of the protein crystallization processes: where can gravity affect growth,* Japan Space Utilization Promotion Center Tokyo, Japan, December 12, 2000.
41. P.G. Vekilov, S.-T. Yau, O. Galkin, D. Petsev, B. Thomas, *How do molecules arrange themselves into protein crystals?* Seminar, Tohoku University, Sendai, Japan, December 13, 2000.
42. P.G. Vekilov, O. Galkin, S.-T. Yau, M. Wu, D.N Petsev, *Phase transitions in protein solutions: dynamics, structures and control strategies.* Department of Chemical Engineering, University of Illinois, Champaign, IL, February 1, 2001
43. S.-T. Yau, D.N. Petsev, B.R. Thomas, and P.G. Vekilov, *Tracking individual molecules as they attach themselves to crystals: statistics, dynamics and mechanisms.* Physics Colloquium, University of Alabama in Huntsville, Huntsville, Alabama, February 7, 2001.
44. P.G. Vekilov, S.-T. Yau, O. Galkin, D.N Petsev, *Phase Transitions in Protein Solutions: Dynamics, Structures and Control Strategies.* Department of Chemical Engineering, University of Houston, February 16, 2001
45. P.G. Vekilov, *Molecular mechanisms of crystallization of proteins.* Marshal Space Flight Center, Material and Crystal Growth Seminar, Huntsville, Alabama, USA, February28, 2001.

P.G. Vekilov, S.-T. Yau, O. Galkin, D.N. Petsev, B.R. Thomas, *Phase Transitions in Protein Solutions: Dynamics, Structures and Control Strategies,* University of Alabama in Huntsville, Research Council Meeting, Huntsville, Alabama, April 2, 2001.

47. P G. Vekilov, D.N. Petsev, S.-T. Yau, and K. Chen, *Crystallization of Small and Large Molecules*, 9th Inhalation Technology Seminar, Orion Pharma, Espoo, Finland, June 6, 2001
48. P.G. Vekilov, *Mechanisms of crystallization form solutions: a short course.* VTT (Technology Research Center of Finland) Helsinki, Finland, June 7-8, 2001.
49. P.G. Vekilov, O. Galkin, M. Wu, K. Chen, *Phase transition in protein solutions: dynamics and control strategies*; Colloquium, Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria, June 12, 2001.

50. P.G. Vekilov, O. Galkin, D.N. Petsev, M. Wu, *Dynamics of phase transition in proteins solutions*, Albert Einstein College of Medicine, Department of Medicine, Division of Hematology, The Bronx, NY, June 27, 2001.
51. S.-T. Yau, D.N. Petsev, P.G. Vekilov, *Molecular-level parameters for the self assembly of biological macromolecules into crystals*, Gordon Conference on Thin Films and Crystal Growth, Williams College, Williamstown, Massachusetts, USA, July 1-6, 2001
52. O. Galkin and P.G. Vekilov, *Liquid-liquid separation in solutions of proteins: implications for the formation of condensed phases.* 13th International Conference on Crystal Growth, Kyoto, Japan, July 30 – August 4, 2001.
53. S.-T. Yau, D.N. Petsev, and P.G. Vekilov, *Molecular-resolution atomic force microscopy movies of step propagation around surface defects and impurities.* 13th International Conference on Crystal Growth, Kyoto, Japan, July 30 – August 4, 2001.
54. S.-T. Yau, D.N. Petsev, and P.G. Vekilov,*Direct visualization of nucleus structure and nucleation pathways in apoferritin crystallization.* 13th International Conference on Crystal Growth, Kyoto, Japan, July 30 – August 4, 2001.

P.G. Vekilov, S.-T. Yau, and H. Lin, *Characteristic lengthscales of the protein crystallization processes: where can* gravity *affect growth*. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30 – August 4, 2001.

56. P.G. Vekilov, *Phase transitions in protein solutions: dynamics, structures and control strategies,* Department of Chemical Engineering, University of Houston, Industrial Advisory Board Meeting, October 12, 2001, Houston
57. P.G. Vekilov, *Phase transitions in protein solutions: structures, dynamics, and control strategies,* School of Chemical Engineering, Cornell University, November 12, 2001, Ithaca, New York.
58. P.G. Vekilov, *Is mass a parameter for phase transitions in solutions, or transition-state or diffusion-limited kinetics?* 4th East-west Surface Science Workshop "Nanostructures on Surfaces", Pamporovo, Bulgaria, February 23-March 1, 2002.
59. P.G. Vekilov, D.N. Petsev, S.-T. Yau, A. Feeling-Taylor, *Solvent entropy contribution to the free energy of protein crystallization,* 9-th International Conference on Crystallization of Biological Macromolecules (ICCBM-9), Jena, Germany, March 21-26, 2002.
60. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* Department of Chemical Engineering, University of California – Berkeley, April 2, 2002.
61. O. Galkin, P.G. Vekilov, *Nucleation dynamics of protein solid phases,* 223 National Meeting of the American Chemical Society, Orlando, Florida, April 7-11, 2002.
62. P.G. Vekilov, S.-T. Yau, H. Lin, O. Gliko, *Nonlinear Dynamics and Pattern Formation on the Growth Interfaces of Protein Crystals*, 223 National Meeting of the American Chemical Society, Orlando, Florida, April 7-11, 2002.
63. P.G. Vekilov, O. Galkin, *Control strategy for nucleation of protein solid phases,* International Meeting Particles 2002, Orlando, Florida, April 20-23, 2002.
64. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* Department of Chemical and Nuclear Engineering, University of New Mexico, May 3, 2002.
65. S.-T. Yau, B.R. Thomas, D.N. Petsev, O. Galkin, O. Gliko, and P.G. Vekilov, *Defect formation during crystallization of ferritins: molecular mechanisms*.2002 American Crystallographic Association Meeting, San Antonio, TX, May 25-30, 2002.
66. P.G. Vekilov, *Diffusion-limited kinetics of phase transitions in solutions*, Seminar, Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria, July 16, 2002.
67. M. Shah, O. Galkin, D.N. Petsev, M. Wu and P.G. Vekilov, *Atto- and femto-litter droplets of concentrated protein solutions: liquid-liquid phase separation*. Texas Nano-vivo Summit, Houston, TX, August 1, 2002.
68. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases*, Materials Science Laboratory, National Institute of Standards and Technology, Gaithersburg, Maryland, September 17, 2002.
69. P.G. Vekilov, *Diffusion-limited kinetics of phase transitions in solutions*, Department of Chemistry, Rice University, Houston, Texas, October 17, 2002.
70. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* Department of Chemistry, Iowa State University, Ames, Iowa, November 1, 2002.
71. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* Faculty of Pharmacy, University of Paris V, Paris, France, January 28, 2003.
72. O. Gliko, H. Lin, S.-T. Yau, I. Reviakine, P.G. Vekilov, *Dynamics of Pattern Formation on Protein Crystal Surfaces,* 2003 Surfaces and Interfaces Conference, Lille, France, January 29-31, 2003.
73. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* Department of Chemistry, University of Houston, Houston, Texas, February 4, 2003.
74. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* Biophysical Seminar, University of Texas – Medical Branch, Galveston, Texas, February 19, 2003.
75. P.G. Vekilov, D.N. Petsev, S. Brandon, P. Katsonis, *Hydration interactions between apoferritin molecules and the phase*

behavior of the solution, 225 National Meeting of the American Chemical Society, New Orleans, Louisiana, March 22-27, 2003.

76. P.G. Vekilov and O. Galkin, *Dissection of the nucleation of sickle-cell hemoglobin polymers.* Albert Einstein College of Medicine, Department of Medicine, Division of Hematology, The Bronx, New York, May 13, 2003.
77. P.G. Vekilov, O. Galkin, and S.-T. Yau, *What would Gibbs do if he were thinking of nucleation of protein solid phases*. Center for Study of Gene Structure & Function, Hunter College, City University of New York, New York, New York, May 14, 2003.
78. P.G. Vekilov, D.N. Petsev, K. Chen, *Diffusion-limited kinetics of the solution solid phase transition of molecular substances.* Marshal Space Flight Center, Material and Crystal Growth Seminar, Huntsville, Alabama, May 16, 2003.
79. P.G. Vekilov, O. Galkin, S.-T. Yau, and D.N. Petsev, *Fundamental aspects of nucleation theory in the formation of protein crystals*, AstraZeneca Central Research, Göteborg, Sweden, May 20, 2003.
80. P.G. Vekilov, O. Galkin, S.-T. Yau, and D.N. Petsev, *Fundamental aspects of nucleation theory in the formation of protein condensed phases*, Department of Physics, Université Libre de Bruxelles, Brussels, Belgium, May 22, 2003.
81. P.G. Vekilov, O. Galkin, S.-T. Yau, and D.N. Petsev, *Fundamental aspects of nucleation theory in the formation of protein condensed phases*, Department of Physics, Université Joseph Fourier, Grenoble, France, May 26, 2003.
82. M. Shah, O. Galkin, X. Wu, D.N. Petsev and P.G. Vekilov, *Dynamics of liquid-liquid separation in protein solutions,* European Synchrotron Radiation Facility, Grenoble, France, May 27, 2003.
83. M. Shah, O. Galkin, X. Wu, D.N. Petsev and P.G. Vekilov, *Dynamics of liquid-liquid separation in protein solutions,* Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria, June 2, 2003.
84. P.G. Vekilov, O. Galkin, S.-T. Yau, and D.N. Petsev, *Fundamental aspects of nucleation theory in the formation of protein condensed phases*, 77th ACS Colloid and Surface Science Conference, Atlanta Georgia, June 15-18, 2003.
85. P.G. Vekilov, D.N. Petsev, S. Brandon, P. Katsonis, *Intermolecular interactions and the thermodynamics and kinetics of phase transitions in protein solutions*, 2003 Annual Meeting of the American Crystallographic Association, Covington, Kentucky, July 26-31, 2003
86. P.G. Vekilov, D.N. Petsev, K. Chen, *What drives and what delays the attachment of a molecule to a growing aggregate in solution,* 2003 Nano Summit Conference, Houston, Texas, July 31, 2003.
87. O. Galkin, P.G. Vekilov, *Mechanisms of nucleation of the deoxy-HbS polymers*. Laboratory of Chemical Physics National Institute of Diabetes & Digestive & Kidney Diseases, NIH, Bethesda, Maryland, September 12, 2003.
88. S.-T. Yau, O. Galkin, L. Filobelo, D. Petsev, P.G. Vekilov, *Fundamentals and control strategies for nucleation of protein crystals in solution*. Association for Crystallization Technology, 12th Larson Workshop, Groton, Connecticut, September 15-17, 2003
89. P.G. Vekilov and O. Galkin, *Dense liquid precursor for the nucleation of polymers of sickle cell hemoglobin*, Department of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, Georgia, November 12, 2003.
90. P.G. Vekilov, *Thermodynamic and kinetic controls for the nucleation of crystals in solution*, Abbott Laboratories, North Chicago, Illinois, January 12, 2004
91. P.G. Vekilov, *The Physical chemistry of sickle cell anemia,* Cullen College of Engineering Leadership Board, University of Houston, Houston, January 23, 2004,
92. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases*, Department of Chemical Engineering, North Carolina State University, Raleigh, North Carolina, February 2, 2004.
93. P.G. Vekilov, *The physical chemistry of sickle cell anemia*, Department of Biochemistry and Biophysics, University of North Carolina, Chapel Hill, North Carolina, February 3, 2004.
94. P.G. Vekilov, *Why do protein crystal grow slowly?* Joint Annual Conference of the German Crystallographic Association and the German Association for Crystal Growth, March 15-19, 2004, Jena, Germany. ***(plenary lecture)***
95. M. Shah, O. Galkin, D.N. Petsev, and P.G. Vekilov, *Dynamics of the liquid-liquid phase separation in protein solutions*, 225th Meeting of the American Chemical Society, March 27 - April 1, 2004, Anaheim, California.
96. P.G. Vekilov, O. Galkin, L. Filobelo, P. Katsonis, W. Pan, S.-T. Yau, A. Kolomeisky, *Fundamental aspects of nucleation theory in the formation of protein condensed phases,* University of California – Los Angeles, Department of Chemical Engineering, April 16, 2004, Los Angeles, California.
97. P.G. Vekilov, *The physical chemistry of sickle cell anemia*, Department of Chemical Engineering, University of Texas, Austin, Texas, May 4, 2004.
98. P.G. Vekilov, *Nucleation mechanisms of sickle cell hemoglobin*, NanoHealth Alliance Inaugural Meeting, Houston, May 15, 2004.
99. P.G. Vekilov, *Water structuring and the dynamics of phase transitions with proteins*, 12th Texas Protein Folders' Meeting, Navasota, TX, May 28-30, 2004.
100. P.G. Vekilov, *Why do protein crystal grow slowly?* 10th International Conference on Crystallization of Biological

Macromolecules, June 4-10, 2004, Beijing, China.

101. P.G. Vekilov, *Fundamental aspects of nucleation theory in the formation of protein condensed phases* FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands, June 18, 2004
102. P.G. Vekilov, *Phase transitions in protein solutions*, Protein-Protein Interactions in Vitro and in Vivo Workshop, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, June 21-23, 2004
103. P.G. Vekilov, *The physical chemistry of sickle cell anemia,* Institute of Physical Chemistry ,Bulgarian Academy of Sciences, Sofia, Bulgaria, June 29, 2004
104. D.N. Petsev, M. Shah, O. Galkin, X. Wu, P.G. Vekilov, *Does the anisotropy of the intermolecular interactions determine the protein crystal symmetry?* 2004 Annual Meeting of the American Crystallographic Association, Chicago, Illinois, July 17-22, 2004.
105. P.G. Vekilov, O. Galkin, L. Filobelo, W. Pan, A. Kolomeisky, *Two-step mechanism for the nucleation of crystals from solution*, 14th International Conference on Crystal Growth, Grenoble, France, August 9-14, 2004.
106. P.G. Vekilov, *Why do protein crystals grow slowly?* 14th International Conference on Crystal Growth, Grenoble, France, August 9-14, 2004.
107. P.G. Vekilov, *Water structuring and the dynamics of phase transitions with proteins*, Department of Biochemistry and Biology, University of Houston, Houston, Texas, September 10, 2004
108. P.G. Vekilov, *Water structuring and the dynamics of protein crystallization processes*, Department of Molecular Physiology and Biological Physics, University of Virginia School of Medicine, Charlottesville, Virginia, October 1, 2004
109. P.G. Vekilov, *Phase transitions in protein solutions*, Department of Chemical Engineering, California Institute of Technology, Pasadena, California, October 7, 2004.
110. M. Shah, O. Galkin, and P.G. Vekilov, *Localized generation of atto- and femto- liter droplets of high concentration protein solution over micron-sized electrodes,* Workshop on Biomedical Sensing and Imaging to the Nanoscale, Texas—UK Collaborative Initiative, Texas A&M University, College Station, Texas, USA, October 25-26, 2004.
111. P.G. Vekilov, *The role of water structuring in the thermodynamics and kinetics of phase transitions with proteins*, 2004 MRS Fall Meeting, Boston, November 29 – December 3, 2004
112. P.G. Vekilov, *Phase Transitions in Protein Solutions*, 21 New England Workshop on Complex Fluids, Harvard University, Cambridge, MA, December 3, 2004
113. P.G. Vekilov, *Phase Transitions in Protein Solutions,* University of Maryland, Informal Statistical Physics Seminar, College Park, Maryland, December 7, 2004.
114. P.G. Vekilov, *Nucleation of crystals from solution: novel insights into the mechanism.* Theravance Pharmaceuticals, South San Francisco, California, February 4, 2005.
115. P.G. Vekilov, *The role of water in the dynamics of phase transitions with proteins.* Vth STRANSKI-KAISCHEW Surface Science Workshop, Pamporovo, Bulgaria, February 19-25, 2005.

Contributed presentations

1. P.G. Vekilov, Yu.G. Kuznetsov and A.A. Chernov, *Elementary processes of dissolution: (101) ADP face.* 10-th International Conference on Crystal Growth, San Diego, California, USA, August 16-21, 1992.
2. P.G. Vekilov, Yu.G. Kuznetsov and A.A. Chernov, *Interstep interaction in solution growth; (101) ADP face.* 10-th International Conference on Crystal Growth, San Diego, California, USA, August 16-21, 1992.
3. P.G. Vekilov and Yu.G. Kuznetsov, *Varying dislocation growth source activity: (101) ADP face.* 10-th International Conference on Crystal Growth, San Diego, California, USA, August 16-21, 1992.
4. P.G. Vekilov and Chr. Nanev, *Step kinetics and dislocation source activity in electrocrystallization of cubic silver faces.* 10-th International Conference on Crystal Growth, San Diego, California, USA, August 16-21, 1992.
5. P.G. Vekilov, Yu.G. Kuznetsov and A.A. Chernov, *Free surface energy and Burgers vectors of the growth sources on (101) ADP face.* 10-th International Conference on Crystal Growth, San Diego, California, USA, August 16-21, 1992.
6. P.G. Vekilov, M. Ataka and T. Katsura, *Growth kinetics of protein crystals investigated by laser Michelson interferometry.* Conference Protein Crystal Growth in Microgravity, Panama City, Florida, USA, April 24-26, 1993.
7. P.G. Vekilov, *Dislocation sources activity in solution growth and dissolution of crystals.* 7-th Annual Alabama Materials Research Conference, Normal, Alabama, USA, September 22-23, 1993.
8. P.G. Vekilov, L.A. Monaco and Franz Rosenberger, *Impurity effects on the growth kinetics of tetragonal lysozyme.* Gordon Conference on Crystal Growth, Andover, New Hampshire, USA, June 23-July 1, 1994.
9. P.G. Vekilov, L.A. Monaco and Franz Rosenberger, *Repartitioning of precipitant ions in lysozyme crystallization: salt coring in protein crystals.* Gordon Conference on Crystal Growth, Andover, New Hampshire, USA, June 23-July 1, 1994.
10. P. G. Vekilov and F. Rosenberger, *Impurities, growth layer sources and kinetics fluctuation in the growth of lysozyme crystals*. Conference Protein Crystal Growth, Panama City, Florida, USA, April 21-24, 1995.

11. H. Lin, P.G. Vekilov, F. Rosenberger and J.I.D. Alexander, *Interaction between bulk transport and surface kinetics in protein crystal growth*. Conference Protein Crystal Growth, Panama City, Florida, USA, April 21-24, 1995.
12. V. Stojanoff, D.P. Siddons, L.A. Monaco, P.G. Vekilov and F. Rosenberger, *X-ray topography of tetragonal lysozyme crystals*. Conference Protein Crystal Growth, Panama City, Florida, USA, April 21-24, 1995.
13. P.G. Vekilov, L.A. Monaco and F. Rosenberger, *Lysozyme: a model system for advanced crystal growth studies.* XI International Conference on Crystal Growth, The Hague, The Netherlands, June 18-23, 1995.
14. P.G. Vekilov, L.A. Monaco and F. Rosenberger, *Salt-rich coring in lysozyme crystals.* XI International Conference on Crystal Growth, The Hague, The Netherlands, June 18-23, 1995.
15. P.G. Vekilov and F. Rosenberger, *High-resolution in-situ interferometric studies of lysozyme crystals growth*. AIAA 1995 Space Programs and Technologies Conference and Exhibit, Huntsville, AL, USA, September 26-28, 1995.
16. H. Lin, P.G. Vekilov and F. Rosenberger, *Modeling mass transport and surface kinetics of protein crystals growth*. AIAA 1995 Space Programs and Technologies Conference and Exhibit, Huntsville, AL, USA, September 26-28, 1995.
17. P.G. Vekilov and F. Rosenberger, *Impurities, growth layer sources and kinetics fluctuations in the growth of lysozyme crystals.* VI International Conference on Crystallization of Biological Macromolecules, Hiroshima, Japan, November 12-17, 1995.
18. P.G. Vekilov, L.A. Monaco, B.R. Thomas, V. Stojanoff and F. Rosenberger, *Impurities- and salt-rich coring in lysozyme crystals.* VI International Conference on Crystallization of Biological Macromolecules, Hiroshima, Japan, November 12-17, 1995.
19. P.G. Vekilov and F. Rosenberger, *Transport-kinetics coupling effects in protein crystallization studied by forced flow experiments*. American Physical Society March Meeting, Kansas City, MO, USA, March 17-21, 1997.
20. H. Lin, P.G. Vekilov and F. Rosenberger, *Simulation of the interplay between diffusive nutrient transport and nonlinear crystal growth kinetics*. Conference SPACEBOUND '97, Montreal, Canada, May 11-15, 1997.
21. A.R. Feeling-Taylor, P.G. Vekilov, B.R. Thomas, F. Rosenberger, R.E. Hirsch and R. Nagel, *Solubility and crystallization of a mutated hemoglobin, HbC*, 7-th International Conference on Crystallization of Biological Macromolecules, Granada, Spain, May 3-7, 1998.
22. H. Lin, P.G. Vekilov and F. Rosenberger, *Intrinsic kinetic instabilities in protein crystal growth: numerical modeling.* 7-th International Conference on Crystallization of Biological Macromolecules, Granada, Spain, May 3-7, 1998.
23. D.C. Carter, K. Lim, J.X. Ho, B.S. Wright, P.D. Twigg, T.Y. Miller, J. Chapman, K. Keeling, J. Ruble, P.G. Vekilov, F. Rosenberger, B.R. Thomas and A.A. Chernov, *Size and quality of protein crystals.* 7-th International Conference on Crystallization of Biological Macromolecules, Granada, Spain, May 3-7, 1998.
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