

CURRICULUM VITAE

Jayanti Pande

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Personal: U.S. Citizen, Female,
Married

EDUCATION

- 1974-1979 **Ph.D., (1980, Biophysical Chemistry)**
The University at Albany, SUNY, Albany, New York, USA
- 1969-1971 **M.Sc., (1971, Physical Chemistry),** Physics, Math (subsidiary subjects),
University of Delhi, Delhi, India
- 1966-1969 **B.Sc., (1969, Honors Course in Chemistry),**
Physics and Math (subsidiary subjects), University of Delhi, Delhi, India

EMPLOYMENT

- Sept. 2005 - **Visiting Associate Professor,** Department of Chemistry, State Univ. of
New York at Albany, Albany, N.Y., U.S.A.
- Aug. 1989 - Aug. 2005 **Research Associate,** Department of Physics, M.I.T., Cambridge, MA,
U.S.A.
- Aug. 1988 - Jul. 1989 **Visiting Scientist,** Department of Physics, M.I.T., Cambridge, MA,
U.S.A.
- Jan. 1987 - Jun. 1988 **Visiting Associate Research Scientist,** Department of Ophthalmology,
Columbia University, College of Physicians & Surgeons, New York,
NY, U.S.A.
- Jan. 1983 - Aug. 1986 **Wissenschaftliche Mitarbeiterin,** Dept. of Biochemistry, University of
Zurich, Zurich, Switzerland.
- Sept. 1979 - Aug. 1982 **Postdoctoral Research Associate,** Dept. of Physics, City College of
New York, New York, N.Y., U.S.A.
- Jan. 1974 - May 1979 **Research/Teaching Assistant,** Dept. of Chemistry, State Univ. of New
York at Albany, Albany, N.Y., U.S.A.
- Sept. 1973 - Dec. 1973 **Teaching Assistant,** Dept. of Chemistry, State Univ. of New York at
Stony Brook, Stony Brook, N.Y., U.S.A.
- July 1971 - Aug. 1973 **Lecturer,** Dept. of Chemistry, Gargi College, University of Delhi, New
Delhi, India

GRANTS AND AWARDS

Current Funding

R01 Research Project Grant NIH #EY10535, Principal Investigator – (2003 - 2008) " γ -Crystallin Modifications and Mechanisms of Lens Opacity" from the National Eye Institute of N.I.H., USA.
Direct Cost - \$1,050,000, Total Cost - \$1,695,750. On a no-cost extension since June 1, 2008.

Planned Proposal Submissions

Competing renewal to be submitted to the National Eye Institute of N.I.H. in Spring 2009.

New proposal to the National Eye Institute of N.I.H. - planned submission in Spring 2009.

R21 NEI Small Grants For Pilot Research, Principal Investigator – (2009 – 2011) Topic on aspects of Macular Degeneration

Previous Funding

R01 Research Project Grant NIH #EY10535, Principal Investigator (1997 - 2002) – "Sulfur-Centered Crystallin Modifications and Lens Opacity" from the National Eye Institute of the National Institutes for Health, Bethesda, MD, USA. Direct Cost - \$543,587, Total Cost - \$858,764.

R01 Research Project Grant NIH #EY10535, Principal Investigator (1994 -1997) – "Sulfur-Centered Crystallin Modifications and Lens Opacity" from the National Eye Institute of the National Institutes for Health, Bethesda, MD, USA. Direct Cost - \$261,711, Total Cost - \$417,465.

Other Professional Recognition

Invited to organize a Special Interest Group session at ARVO (2009) - At the annual meeting of the Association for Research in Vision and Ophthalmology (ARVO), Ft. Lauderdale, FL.

Invited by the National Eye Institute/NIH to participate in the ARVO-initiated US-INDO Workshops on Collaborative Research sponsored by NEI (2005) – Selected as one of ten U.S. scientists to attend the workshops to be held in India and the U.S.A., in 2005.

Massachusetts Institute of Technology, Cambridge, MA, USA (2001) – Invited by the Vice President for Research and Dean of graduate studies to participate in the Research practice seminars (as part of research training for students and postdocs – a) *Discussant* ("Authorship and Mentoring"), b) *Panelist* ("Mentoring and Advising students and trainees").

Travel award from the Matrix Biology Institute for ICER (1992) – 10th International Congress of Eye Research, September 20-25, Stresa, Italy.

EMBO Fellowship (1985) – awarded by the European Molecular Biology Organization for research on rabbit liver metallothionein-II.

All India National Science Talent Merit Scholarship (1966 - 1971) – awarded by the National Council for Educational Research and Training, New Delhi, India.

Science Exhibition Prize (1969) – awarded for being the best candidate in the B.Sc. (Honors) curriculum in chemistry, awarded by the University of Delhi, Delhi, India.

PROFESSIONAL ACTIVITIES**Teaching and Lab Instruction (Since Spring 2006)**

The University at Albany, SUNY, Albany, NY, USA :

(Spring 2009) CHM 121 - General Chemistry-II

(Fall 2008) CHM 544/471 - Theory and techniques of Biophysics and Biophysical Chemistry
with Dr. Alexander Shekhtman

CHM 352Z - Physical Chemistry Laboratory (Team taught)

(Spring 2008) CHM 121 - General Chemistry-II

(Fall 2007) CHM 352Z - Physical Chemistry Laboratory (Team taught)

- (Spring 2007) CHM 121 - General Chemistry-II
CHM 351 - Physical Chemistry (Team taught)
- (Fall 2006) CHM 120 - General Chemistry-I (with Dr. Alexander Shekhtman)
CHM 442/540A - Comprehensive Biochemistry (with Dr. Alexander Shekhtman)
CHM 352Z - Physical Chemistry Laboratory (Team taught)
- (Spring 2006) CH 443/540B - Metabolic Biochemistry (Team taught)

University at Albany, Albany, NY, USA, - Summer Research Program - Research training and mentoring for McNair scholars from under-represented minority groups, under the aegis of the UASRP and CSTEP programs.

Massachusetts Institute of Technology, Cambridge, MA, USA – Laboratory instruction, teaching and supervision of undergraduate students including thesis supervision under the aegis of UROP: (Undergraduate Research Opportunities Program), freshmen through senior levels for Physics, Chemistry, Biology and Engineering majors. Partial supervision of Ph.D. theses.

Massachusetts Institute of Technology, Cambridge, MA, USA, Outreach Programs - Research training and mentoring for students from under-represented minority groups, under the aegis of the MSRP and other programs.

University of Zurich, Switzerland - Biophysical Chemistry Seminar course for graduate students and senior-level undergraduates. Lectured on Protein folding, Raman and Resonance Raman spectroscopies.

City College of New York, NY, USA - Research training for high school students (introduction to protein isolation and purification, u.v.-visible absorption and centrifugation).

The University at Albany, Albany, NY, USA - General Chemistry for Freshmen (lab, set up and design of experiments), Physical Chemistry for Juniors (lab and recitation).

SUNY at Stony Brook, NY, USA - General Chemistry laboratory, (set up and design of experiments).

University of Delhi, Delhi, India - Lecturer in Chemistry, taught undergraduate Chemistry courses for Freshmen through Senior students. Physical, Organic and Inorganic Chemistry lectures and labs.

Study Section

Visual Sciences-A (AED) study section – (invited in Spring 2008, but postponement requested due to conflict with teaching General Chemistry-II). Ad Hoc Member, National Eye Institute of the National Institutes of Health, Washington, DC.

Visual Sciences-A (AED) study section – 2005, Ad Hoc Member, National Eye Institute of the National Institutes of Health, Washington, DC.

Visual Sciences-A (AED) study section 2000 - 2003, Regular Member, National Eye Institute of the National Institutes of Health, Washington, DC.

Special Emphasis Panel (Visual Sciences-A (AED) study section) 2003 - Reviewer, National Eye Institute of the National Institutes of Health, Washington, DC.

Committees

Thesis Committee - *Department of Chemistry*, UAlbany: Ming Xu, Spring 2008, Victor Shashilov, Fall 2007, *Department of Biology*, Rensselaer Polytechnic Institute: Ying Li, Fall 2006.

Proposal Committee - *Department of Chemistry*, UAlbany: Ludmila Papova, Fall 2007, Natalya Topilina, Spring 2007, *Department of Biology*, UAlbany: Jason Biegel, Fall 2007

Research Liason Committee - Council for Research Division, UAlbany (Fall 2007)

Search Committee - Electronic Technician Search, College of Arts and Sciences (Spring 2007)

Graduate Recruitment/Advancement Committee - Department of Chemistry, University at Albany (Spring 2006 - present).

Search Committee - Analytical Forensic Faculty Search (Fall 2006).

Equipment Committee - (Fall 2005 - present).

Graduate Studies Committee - (Fall 2006 - present)

Collaborations

Dr. Alexander Shekhtman – Assistant Professor, Department of Chemistry, The University at Albany, SUNY, Albany, NY, USA.

Dr. Jing Kong Wang – Institute Professor, Department of Materials Science, Massachusetts Institute of Technology, Cambridge, MA, USA.

Dr. George Benedek – Albert Caspary Professor of Biological Physics, Department of Physics, Massachusetts Institute of Technology, Cambridge, MA, USA.

Dr. Nicolette Lubsen - Professor, Department of Biochemistry, Catholic University, Nijmegen, The Netherlands.

Dr. Beatrice Yue - Thanis Field Professor, Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL, USA.

Dr. Stanislav Tomarev - Chief, Molecular Mechanisms of Glaucoma Section, Laboratory of Molecular and Developmental Biology, National Eye Institute, National Institutes of Health, Bethesda, MD, USA.

Reviewer for Trade Journals

Nature Medicine, Biochemistry, Journal of Biological Chemistry, Protein Engineering, Protein Science, European Journal of Biochemistry, Investigative Ophthalmology and Visual Science, Experimental Eye Research, Current Eye Research, Molecular Vision, Molecular and Cellular Biochemistry.

Symposia and Sessions Organized/Chaired

ARVO 2006 – Co-chair at session entitled “Crystallins: Regulation and Function”, Annual Meeting of the Association for Research in Vision and Ophthalmology, April 30 - May 4, Ft. Lauderdale, FL.

ARVO 2004 - Organizer of (and speaker at) the Special Interest Group meeting entitled "Functional Genomics, Proteomics and Protein Mechanisms in Eye Disease", Annual Meeting of the Association for Research in Vision and Ophthalmology, April 24-29, Ft. Lauderdale, FL

ARVO 2002 - Organizer of (and speaker at) the mini-symposium entitled "Molecular Basis of Genetic Cataract", Annual Meeting of the Association for Research in Vision and Ophthalmology, May 5-10, Ft. Lauderdale, FL.

ARVO 1999 - Chair and speaker at session entitled "Protein Modification/Cataract Mechanisms", Annual Meeting of the Association for Research in Vision and Ophthalmology, May 9 -14, Ft. Lauderdale, FL.

Invited Talks

ICER (2000) – 14th International Congress of Eye Research, October 15-20, Santa Fe, NM.

Colloquium Series Seminar (1998) – Dept. of Dentistry, April 24, Oregon Health Sciences University, Portland, OR.

Interdisciplinary Workshop on Phase Transformations in Biological Molecules (1997) – Dept. of Physics, Oct. 5-7, Massachusetts Institute of Technology, Cambridge, MA.

Macromolecular Group Seminar (1997) – Depts. of Chemistry, Nov. 17, Chemical Engineering and Biology, Massachusetts Institute of Technology, Cambridge, MA, USA.

ICER (1994) – 11th International Congress of Eye Research, November 13-18, New Delhi, India.

ICER (1992) – 10th International Congress of Eye Research, September 20-25, Stresa, Italy.

Conference on Biochemistry of the Eye (1991) – Eye Research Institute, Oct. 8-12, Oakland University, Rochester, MI, USA.

ICER (1990) – 9th International Congress of Eye Research, July 29 - August 4, 1990, Helsinki, Finland.

Media Coverage of Research

2001 - Journal of the American Medical Association, 286, 1705 (2001), "Insight into Opacity: Clues to Cataract Formation", Academic Alert article by M.J. Friedrich.

PUBLICATIONS

Refereed Journal Articles

1. McManus, J., Lomakin, A., Ogun, O., Pande, A., Basan, M., **Pande, J.** and Benedek, G.B. (2007) "Altered Phase Diagram Due to a Single Point Mutation in Human Gamma-D Crystallin". *Proc Natl. Acad. Sci. U S A.*, **104**, 16856-61 (**referenced on the cover.**, Epub. Oct 8, 2007).
2. Pande, A., Anunziata, O., Asherie, N., Ogun, O., Benedek, G. B., and **Pande, J.** (2005) "Decrease in Protein solubility and cataract formation caused by the Pro23 to Thr mutation in human γ D-crystallin". *Biochemistry*, **44**, 2491-2500 (**designated as "Hot Article"**).
3. Annunziata, O., Pande, A., **Pande, J.**, Ogun, O., Lubsen, N.H. and Benedek, G.B. (2005): "Oligomerization and phase transitions in aqueous solutions of native and truncated human β B1-crystallin". *Biochemistry*, **44**, 1316-1328.
4. Basak, A., Bateman, O., Slingsby, C., Pande, A., Asherie, N., Ogun, O., Benedek, G.B.B. and **Pande, J.** (2003) "High-resolution x-ray crystal structures of human γ D-crystallin (1.25Å) and its R58H mutant (1.15Å) implicated in the *aculeiform* cataract". *J. Mol. Biol.*, **328**, 1137-1147.
5. Annunziata, O., Asherie, N., Lomakin, A., **Pande, J.**, Ogun, O. and Benedek, G.B. (2002) "Effect of polyethylene glycol on the liquid-liquid phase transition in aqueous protein solutions". *Proc. Natl. Acad. Sci. USA*, **99**, 14165-14170.
6. **Pande, J.**, Hanlon, E. and Pande, A. (2002) "A comparison of the environment of thiol groups in bovine and human γ crystallins using Raman spectroscopy". *Exp. Eye Res.*, **75**, 359-363.
7. Asherie, N., **Pande, J.**, Pande, A., Zarutskie, J. A., Lomakin, J., Lomakin, A., Ogun, O., Stern, L. J., King, J. and Benedek, G. B. (2001) "Enhanced crystallization of the Cys18 to Ser mutant of bovine γ B crystallin". *J. Mol. Biol.*, **314**, 663-669.
8. Pande, A., **Pande, J.**, Asherie, N., Lomakin, A., Ogun, O., King, J. and Benedek, G.B. (2001) "Crystal cataracts: Human genetic cataracts due to protein crystallization". *Proc. Natl. Acad. Sci. USA*, **98**, 6116-6120.
9. Pande, A., **Pande, J.**, Asherie, N., Lomakin, A., Ogun, O., King, J., Lubsen, N.H., Walton, D. and Benedek, G.B. (2000) "Molecular basis of a progressive juvenile-onset hereditary cataract". *Proc. Nat'l. Acad. Sci. USA*, **97**, 1993-1998.
10. Zastavker, Y. V., Asherie, N., Lomakin, A., **Pande, J.**, Donovan, J. M., Schnur, J. M. and Benedek, G.B. (1999) "Self-assembly of helical ribbons". *Proc. Natl. Acad. Sci. USA*, **96**, 7883-7887.
11. Asherie, N., **Pande, J.**, Lomakin, A., Ogun, O., Benedek, G.B., Abner, S., and Smith, J.B. (1998) "Effect of oligomerization on the phase diagram of globular protein solutions". *Biophysical Chemistry* **75**, 213-227.
12. Liu, C.W., Lomakin, A., **Pande, J.**, Ogun, O. and Benedek, G.B. (1998) "Aggregation in aqueous solutions of lens γ crystallins: Special role of γ s". *Invest. Ophthalmol. Vis. Sci.* **39**, 1609-1619.

13. Friberg, G., **Pande, J.**, Ogun, O., and Benedek, G. (1996) " Pantethine inhibits the formation of high-T_c protein aggregates in γ B crystallin solutions". *Curr. Eye Res.* **15**, 1182-1190.
14. Liu, C. W., Asherie, N., Lomakin, A., **Pande, J.**, Ogun, O. and Benedek, G. (1996) "Phase separation in aqueous solutions of lens γ crystallins: Special role of γ s". *Proc. Natl. Acad. Sci. USA*, **93**, 377-382.
15. **Pande, J.**, Lomakin, A., Fine, B., Ogun, O., Sokolinski, I., and Benedek, G. (1995). "Oxidation of γ II-Crystallin Solutions Yields Dimers With a High Phase Separation Temperature". *Proc. Natl. Acad. Sci. USA*, **92**, 1067-1071.
16. Fine, B.M., **Pande, J.**, Lomakin, A., Ogun, O.O., and Benedek, G.B. (1995). "Dynamic Critical Phenomena in Aqueous Protein Solutions". *Phys. Rev. Lett.* **74**, 198-201.
17. Liu, C., Lomakin, A., Thurston, G.M., Hayden, D., Pande, A., **Pande, J.**, Ogun, O., Asherie, N., and Benedek, G.B. (1995). "Phase Separation in Multicomponent Aqueous-protein Solutions". *J. Phys. Chem.* **99**, 454-461.
18. **Pande, J.**, Ogun, O., Nath, C. and Benedek, G. (1993). "Suppression of Phase Separation in Bovine γ IV Crystallin Solutions: Effect of Modification by Charged Versus Uncharged Polar Groups". *Exp. Eye Res.* **57**, 257-264.
19. Berland, C.R., Thurston, G.M., Kondo, M., Broide, M.L., **Pande, J.**, Ogun, O. and Benedek, G.B. (1992). "Solid-liquid Phase Boundaries of Lens Protein Solutions". *Proc. Natl. Acad. Sci. USA* **89**, 1214-1218.
20. **Pande, J.**, Berland, C., Broide, M., Ogun, O., Melhuish, J., and Benedek, G. (1991). "Suppression of Phase Separation in Solutions of Bovine γ IV-Crystallin by Polar Modification of the Sulfur-Containing Amino Acids". *Proc. Natl. Acad. Sci. USA* **88**, 4916-4920.
21. Broide, M.L., Berland, C.R., **Pande, J.**, Ogun, O. and Benedek, G.B. (1991). "Binary-liquid Phase Separation of Lens Protein Solutions". *Proc. Natl. Acad. Sci. USA* **88**, 5660-5664.
22. **Pande, J.**, McDermott, M.J., Callender, R.H., & Spector, A. (1991). "The calf γ -crystallins - A Raman spectroscopic study". *Exp. Eye Res.* **52**, 193-197.
23. **Pande, J.**, McDermott, M.J., Callender, R.H., & Spector, A. (1989). "Raman spectroscopic evidence for a disulfide bridge in calf γ II-crystallin". *Arch. Biochem. Biophys.*, **269**, 250-255.
24. **Pande, J.**, Kinnally, K., Thallum, K.K., Verma, B.C., Myer, Y.P., Rechsteiner, L., & Bosshard, H.R. (1987). "Methionine-oxidized Horse Heart Cytochrome-c: I. Reaction with chloramine-T, products and their oxido-reduction properties". *J. Protein Chem.*, **6**, 295-319.
25. Myer, Y.P., Kumar, S., Kinnally, K., and **Pande, J.** (1987). "Methionine-oxidized Horse Heart Cytochrome-c: II. Conformation and Heme configuration". *J. Protein Chem.*, **6**, 321-342.
26. De Weck, Z., **Pande, J.**, and Kägi, J.H.R. (1987). "Interdependence of Coenzyme-induced Conformational Work and Binding Potential in Yeast Alcohol and Porcine Heart Lactate Dehydrogenases - A Hydrogen-Deuterium Exchange Study". *Biochemistry*, **26**, 4769-4776.
27. **Pande, J.**, Pande, C., Gilg, D.E.O., Vasak, M., Callender, R.H. & Kägi, J.H.R. (1986). "Raman, I.R., & C.D. Spectroscopic Studies on Metallothionein - A Predominantly 'Turn' Containing Protein". *Biochemistry*, **25**, 5526-5532.
28. **Pande, J.**, Vasak, M., and Kägi, J.H.R. (1985). "Interaction of the Invariant Lysine Residues with the Metal-Thiolate Clusters in Metallothionein". *Biochemistry*, **24**, 6717-6722.
29. Buchert, J., Stefancic, V., Doukas, A.G., Alfano, R.R., Callender, R.H., **Pande, J.**, Akita, H., Balogh-Nair, V., & Nakanishi, K. (1983). "Picosecond Kinetic Adsorption and Fluorescence Studies of Bovine Rhodopsin with a Fixed 11-ene". *Biophys. J.*, **43**, 279-283.
30. **Pande, J.**, Pande, A., and Callender, R.H. (1982). "On the chromophore configuration of Metarhodopsin II". *Photochem. Photobiol.*, **36**, 107-109.
31. Druckmann, S., Ottolenghi, M., Pande, A., **Pande, J.**, & Callender, R.H. (1982). "Acid-base Equilibrium of the Schiff Base in Bacteriorhodopsin". *Biochemistry*, **21**, 4953-4959.

32. Myer, Y.P., Pande, A., **Pande, J.**, Thallum, K.K., Saturno, A. F., and Verma, B.C. (1981). "Cytochrome-c: Ascorbate Reduction Site and Possible Electron Transfer Path". *Int. J. Quantum Chem.*, **20**, 513-521.
33. **Pande, J.**, Callender, R.H., and Ebrey, T.G. (1981). "Resonance Raman Study of the Primary Photochemistry of Bacteriorhodopsin". *Proc. Natl. Acad. Sci., USA*, **78**, 7379-7382.
34. Myer, Y.P., Thallum, K.K., **Pande, J.**, and Verma, B.C. (1980). "Selectivity of Oxidase and Reductase Activity of Cytochrome-c". *Biochem. Biophys. Res. Commun.*, **94**, 1106-1112.
35. **Pande, J.**, and Myer, Y.P. (1980). "The Arginines of Cytochrome-c". *J. Biol. Chem.*, **255**, 11094-11097.

Invited Review

36. Benedek, G.B., **Pande, J.**, Thurston, G.M. and Clark, J.I. (1999) "Theoretical and experimental advances towards the inhibition of cataract". *Progress in Retinal and Eye Research*, **Vol. 18**, Pergamon Press, pp. 391-402, Elsevier, London.

Ph.D Dissertation

37. **Pande, J.** (1980). "Conformational and Functional Significance of the Invariant Arginines and Methionines of Cytochrome-c". *Ph.D. dissertation, S.U.N.Y. at Albany, Albany, N.Y.*

CONFERENCE PRESENTATIONS

1. Pande, A., Zhang, J., Shekhtman, A. **and Pande, J.** (2008) "A High-Resolution NMR Study of Human GammaD Crystallin and Its Cataract-Linked P23T Mutant: Small Conformational Changes in P23T Explain Its Low and Retrograde Solubility" *Annual meeting of the Association for Research in Vision and Ophthalmology, April 27-May1, 2008, Ft. Lauderdale, Florida.*
2. **Pande, J.** and Pande, A. (2008) "The Cataract-Linked R14C Mutant of Human Gamma-D Crystallin Has an Anomalous Cys14 pK_a which Facilitates the Ready Formation of Intermolecular Disulfide Crosslinks" *Annual meeting of the Association for Research in Vision and Ophthalmology, April 27-May1, 2008, Ft. Lauderdale, Florida.*
3. Pande, A., and **Pande, J.** (2007) "Disease-Associated Mutations in Proteins: Is Major Conformational Change Required?" *15th Conversation meeting, June 19-23, University at Albany, Albany, NY, U.S.A.*
4. MacManus, J., Pande, A., Lomakin, A., Ogun, O., Benedek, G.B., and **Pande, J.** (2006) "Modulation of the phase behavior of the cataractogenic mutant P23T of human γ D-crystallin by replacement of Thr23 by Val" *Annual meeting of the Association for Research in Vision and Ophthalmology, April 30-May 4, Ft. Lauderdale, Florida, U.S.A.*
5. **Pande, J.**, Pande, A., Annunziata, O., Asherie, N., Ogun, O. and Benedek, G. B. (2005) "Mutations and Truncations in the Human β/γ Crystallins and Their Effect on Protein Phase Transitions and Cataract" *Annual meeting of the Association for Research in Vision and Ophthalmology, May 1-5, Ft. Lauderdale, Florida, U.S.A. Abstract received special citation in the Emerging Trends section of the program book.*
5. Pande, A., Annunziata, O., Asherie, N., Ogun, O., Benedek, G. B. and **Pande, J.** (2003) "Mechanism of opacity for an autosomal dominant form of congenital cataract" *17th Symposium of the Protein Society, July 26-30, Boston, MA.*
7. Annunziata, O., Pande, A., **Pande, J.**, Ogun, O., and Benedek, G. B. (2003) "Reversible aggregation of truncated human β B1-crystallin and its relevance to age-related cataractogenesis" *17th Symposium of the Protein Society, July 26-30, Boston, MA.*

8. Pande, A., Hanlon, E. and **Pande, J.** (2002) "The sulfhydryls of the Gamma Crystallins: A vibrational spectroscopic analysis" *Annual meeting of the Association for Research in Vision and Ophthalmology*, _____ Ft. Lauderdale, Florida, U.S.A.
9. Pande, A., **Pande, J.**, Asherie, N., Lomakin, A., Ogun, O., King, J. and Benedek, G. B. (2001) "Mechanisms of cataract formation caused by mutations in the human γ D-crystallin gene". *Biophys. J.*, 80, 404a.
10. Asherie, N., **Pande, J.**, Pande, A., Lomakin, J., Lomakin, A., Ogun, O., King, J. and Benedek, G.B. (2001) "The phase diagram of the C18S mutant of bovine γ B-crystallin" *Biophys. J.*, 80, 409a.
11. **Pande, J.** (2000) "Thiol oxidation and the formation of condensed phases in the γ -crystallins", *Exp. Eye Res.* 71, Supl.1, S.136 (Abstr.# 457).
12. Pande, A., **Pande, J.**, Asherie, N., Ogun, O., King, J. A. and Benedek, G. B. (2000) "Crystallization of human γ D-crystallin mutants and cataract formation" *Exp. Eye Res.* 71, Supl.1, S.100 (Abstr.#324).
13. **Pande, J.**, Pande, A., Asherie, N., Lomakin, A., Ogun, O., King, J. A., Lubsen, N. H., Walton, D. and Benedek, G. B. (2000) "Molecular basis of a progressive juvenile-onset hereditary cataract". *Invest. Ophthalmol. Sci.*, 41, S748 (Abstr.# 3978).
14. Thurston, G. M., Lurio, L., Mochrie, S., **Pande, J.**, Ogun, O. and Benedek, G. B. (2000) "X-ray scattering from concentrated ternary mix of bovine α and γ B-crystallin". *Invest. Ophthalmol. Vis. Sci.*, 41, S582 (Abstr.# 3093).
15. Pande, A., **Pande, J.**, Betts, S., Asherie, N., Ogun, O., King, J. and Benedek, G.B. (1999) " γ crystallin mutations and ocular lens opacity." *XIII International Biophysics Congress, J. Biosciences* **24**, Supp. 1, 67.
16. **Pande, J.**, Pande, A., Asherie, N., Ogun, O., King, J.A. and Benedek, G.B. (1999) "The effect of point mutation of cysteine residues on the interprotein interactions in lens γ B - crystallin." *Annual meeting of the Association for Research in Vision and Ophthalmology, Invest. Ophthalmol. Mol. Vis. Sci.* **40**, S579.
17. Thurston, G.M., **Pande, J.**, Ogun, O. and Benedek, G.B. (1999) *ibid*, **40**, S299.
16. **Pande, J.**, Alexander, K., Ogun, O. and Benedek, G. (1997) "The effect of α , β _H, β _L and γ s crystallins on the inhibition of oxidative dimerization of γ β crystallin." *Annual meeting of the Association for Research in Vision and Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **38**, S250.
18. Alexander, K., **Pande, J.**, Manoharan, R., Ogun, O. and Benedek, G. (1997) "Oxidative dimerization of γ B(or γ II) crystallin occurs without significant conformational change: Raman spectroscopic evidence." *Annual meeting of the Association of Research in Vision and Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **38**, S298.
19. **Pande, J.**, Alexander, K., Ogun, O. and Benedek, G. (1996). " α -crystallin inhibits the high-T_{ph} protein aggregates formed by the oxidation of γ B crystallin." *Annual meeting of the Association for Research in Vision and Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **37**, S443.
20. **Pande, J.**, Friberg, G., Ogun, O. and Benedek, G. (1995). "Pantethine Inhibits Oxidation and formation of High-T_{ph} Dimers in Solutions of γ II Crystallin." *Annual meeting of the Association for Research in Vision and Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **36**, S883.
21. **Pande, J.**, McGiffert, C., Ogun, O., Sokolinski, I. and Benedek, G. (1994). "Protein-thiol Mixed Disulfides and Lens Opacification," *Annual meeting of the Association for Research in Vision and Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **35**, 1810.
22. **Pande, J.**, Ogun, O., Fine, B. and Benedek, G. (1993). "Auto-oxidation of γ II Crystallin Solutions Yields Dimers with a High Temperature for Phase Separation." *Annual meeting of the Association for Research in Vision and Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **34**, 988.
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- meeting of the Association for Research in Vision & Ophthalmology, Invest. Ophthalmol. Vis. Sci.* **32**, 1059.
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PROFESSIONAL AFFILIATIONS

Association for Research in Vision and Ophthalmology, American Chemical Society, American Association for the Advancement of Science, Biophysical Society.