Curriculum Vita

PRADIP KUMAR BANDYOPADHYAY
email:pkb10@psu.edu
Voice: 610-396-6034

School Address:
Division of Science
Penn State Berks
Tulpehocken Road
P.O. Box 7009
Reading, PA 19610

EDUCATION:

Oklahoma State University, Stillwater, Oklahoma, USA
Ph.D. in Physics (Experimental Condensed Matter), 1985.
Jadavpur University, Calcutta, India
M.S. in Physics, 1975 (Final examination held in 1976) placed in First Class
Jadavpur University, Calcutta, India
B.S. in Physics (Hons), Jadavpur University, Calcutta, India, 1973

PROFESSIONAL EXPERIENCE:

Penn State Berks, Professor of Physics & Division Head of Science, 2006-present
Hendrix College, Conway, Arkansas; Professor, Department of Physics, 2001-2006
Hendrix College, Conway, Arkansas; Area Chair, Natural Sciences Division, 2002 – 2006
Hendrix College, Conway, Arkansas; Associate Professor, Department of Physics, 1991-2000
Hendrix College, Conway, Arkansas; Chair, Department of Physics, 1991-96, 1998-99
Visiting Scientist, Indira Gandhi Center of Atomic Research, India, 1997-98, on a One-year Sabbatical Leave from Hendrix College.
Hendrix College, Conway, Arkansas; Assistant Professor, Department of Physics, 1985 to 1991.

ADMINISTRATIVE EXPERIENCE:

Division Head of Science, Penn State Berks, 2006-present
Area Chair, Natural Sciences Division, Hendrix College, 2002 - present
Chair, Department of Physics, Hendrix College, 1991 to 1996 ; 1998-99.
Research Integrity Officer, Hendrix College

PANEL PARTICIPATION:
Review Panelist, Annul Heuer Award, Council of Independent Colleges, Washington, D.C., 2004
Panelist, "How Natural Science has affected my Understanding of Religion", Friday Afternoon Discussion, Hendrix College, 2005

RESEARCH INTEREST:
Radiation Damage in Solids, Optical Properties of Color Centers and Other Defects, Fluorescence, Digital Radiography, Application of Physics in Medicine and Biology

TECHNICAL EXPERIENCE:

High-Power Infrared Diode Laser (1-15 W) for Biomedical Research (Cancer Therapy); Argon Ion Laser, Excimer Laser and other Radiation Sources; CCD Camera, Helium Refrigerator (10 K to 300 K), Use of Cryogenic systems from 5K to 500K; Use of Absorption Spectrophotometer (Absorption and transmission) in the spectral range from 2600 nm to 185 nm; Use and Design of Data Acquisition systems for Photoconductivity, Photoluminescence, Absorption, Fluorescence lifetime and Thermoluminescence; Use of 2 MeV Van de Graaff Accelerator; Ion Implantation, Rutherford Backscattering, X-ray Photoelectron Spectroscopy.

Bold: Housed in Dr. Bandyopadhyay's laboratory at Hendrix acquired through proposals written by him.

GRANTS & AWARDS:

Project Leader, Idea Network for Biomedical Research Excellence (INBRE), funded by the National Institutes of Health (NIH), (PI: L. Cornett), "Investigation of Thermal Effects in Photodynamic Therapy to Treat Solid Tumors", (over $500,000), 2005-2010

Project Leader, Arkansas Biomedical Infrastructure Network (AR BRIN), funded by the National Institutes of Health (NIH), (PI: L. Cornett), "Investigation of Thermal Effects in Photodynamic Therapy to Treat Solid Tumors", $25,000, 2004-2005

Coordinator of the Hendrix College proposal to AR BRIN requesting $200,000 to add a faculty position in Biology, 2003. The proposal was funded.

Principal Investigator, NIH-AREA GRANT, "Optical Dosimetry in Laser-Assisted Cancer Immunotherapy", NIH, $155,000, July, 2003 – June 2005

AR BRIN Summer Faculty Fellow, Dose Measurements in Cancer Therapy, UAMS, $15,000 (approx.) July-August, 2002

Navy-ASEE Summer Faculty Research Fellow, Thermoluminescence Dosimetry, Naval Surface Warfare Center, Washington, D. C., 15,000 (approx.) June-August, 2000

Principal Investigator, Arkansas Space Grant Consortium, NASA. Research on Phosphor Development, $3000 (approx.), December 1998 to February 2000.

Visiting Scientist, Indira Gandhi Centre of Atomic Research (IGCAR), India. Performed research with the Health & Safety Division, IGCAR, on Photo-Stimulated Luminescence of Copper & Europium Doped Alkali Halide Phosphors, 1997-98.

Principal Investigator, Arkansas Science & Technology Authority Grant. Research involving Studies of Alkali Halide Phosphors as Imaging Plates in Digital Radiography, $60,000 (approx.),1995-97.

Faculty Research Participation Award, Research involving "Radiation Induced Segregation in Ionic Materials" with Dr. H. Wiedersich (ANL), June - August, Material Sciences Division, Argonne National Laboratory, Argonne, IL. 1992 and 1993.

Principal Investigator, The National Science Foundation (NSF) Grant. Research involving "Thermal Recovery of Cu+ Ions in Alkali Halides". Hendrix College, $92,000 (approx.) 1989-92.

NSF-ROA Award, Research involving "Thermally Stimulated Depolarization Current in LiF", in collaboration with Dr. S.W. McKeever, Oklahoma State University, Stillwater, $12,000(approx.) June - August, 1989.

Principal Investigator, Research Corporation Summer Grant and SILO Grant. Research Involving Optical properties of Cu^- Ions in Alkali Halides, 1994.

Faculty Research Participation Award, Research involving "Radiation Induced Segregation in Ionic Materials" with Dr. H. Wiedersich (ANL), June - August, 1992 and 1993, Argonne National Laboratory, Argonne, IL.

Principal Investigator, The National Science Foundation Grant. "Thermal Recovery of Cu^+ Ions in Alkali Halides". Hendrix College, 1989-92.

NSF-ROA Award, Research involving "Thermally Stimulated Depolarization Current in LiF", in collaboration with Dr. S.W. McKeever, Oklahoma State University, Stillwater, June - August, 1989.

Hendrix College Faculty Project Grant, Research involving "Thermoluminescence of CaF_2:Mn^{+2} and the role of Residual Absorption", in collaboration with Dr. S.W. McKeever, Oklahoma State University, Stillwater, 1988.

Hendrix College Faculty Project Grant, "Excited State Absorption of Eu^{2+} in Alkali Halides Using an Excimer Laser," in collaboration with Dr. Larry D. Merkle, University of Arkansas, Fayetteville, 1987.

RELEVANT PUBLICATIONS:

Bandyopadhyay, Pradip K., Rolleigh, Richard, Arnold, Robert, Gray, John, Swindle, Ryan, and Zimmerman, Adam, "Laser-Assisted Cancer Immunotherapy: Distribution of Indocyanone Green in Superficial Tumors", to be communicated to the Journal of Biomedical Optics, In Preparation, 2005

Bandyopadhyay, Pradip K. , Holmes, Kyland, Burnett Corrinthius, and Zharov, Vladimir, P., "Temperature Control in Laser Assisted Cancer Immunotherapy", Proc. SPIE, 4961, (2003)

V. K. Mathur, P. K. Bandyopadhyay, J. H. barkyomb, and G. G. Cai, "Low Temperature Studies in LiF:Mg, Cu,P", Radiation Protection Dosimetry, 100, 103 (2002)

Bandyopadhyay Pradip K., Russell Gary W. and Chakrabarti K., "Optically Stimulated Luminescence in KCl:Cu X-Irradiated at Room Temperature", Radiation Measurements, 30, 51 (1999).

Bandyopadhyay Pradip K., Jose M. T., Madhusoodanan U. and Panigrahi B. S., "Mechanism of Photo-Stimulated Luminescence in Europium and Copper Doped Alkali halide Phosphors", Radiation Effects & Defects in Solids, 149, 45 (1999).

Chakrabarti K., Bandyopadhyay P. K. and Barkyomb J. H., "Copper Doped Alkali Halides for Computed Radiography and Digital Imaging", Journal of Digital Imaging,
11 , No 3, 174 (1998).

Bandyopadhyay, P. K., Nooner S., Russell G., Chakrabarti K., and Sharma J., "Photostimulated Luminescence in Single Crystals of NaCl, KCl, and KBr Containing Copper Ions", Thirteenth International Conference on Defects in Insulating Materials, 180 (1996).

Bandyopadhyay, P.K., Summers, G.P., "Thermal Annealing of Cu^- Ions in Gamma Irradiated NaCl:Cu," Solid State Communications, 83, No. 3, 227 (1992).

Bandyopadhyay, P.K., Merkle, L.D., "350 nm Laser Radiation Effects on Eu^{2+} in Alkali Halides," Solid State Communications, 75, No. 7, 609 (1990).

Merkle, L.D., Bandyopadhyay, P.K., "Excited State Absorption by Eu^{2+} in KBr, KCl and NaCl," Phys. Rev. B, 39, 6939 (1989).

Merkle, L.D., Bandyopadhyay, P.K., "Radiation Damage in KBr:Eu^{2+} and KCl:Eu2+ Due to 350 nm Laser Irradiation," Advances in Laser Science-IV, Optical Science and Engineering, 10, 106 (1989).

Bandyopadhyay, P.K. and Merkle, L.D., "Laser Induced Damage in Quartz: A Study of the Influence of Impurities and Defects," J. Appl. Phys., 63, 1392 (1988).

Merkle, L.D., Bandyopadhyay, P.K., "Influence of Impurities and Defects on 1064 nm and 532 nm Damage in Quartz," Proc. of Eighteenth Symp. on Opt. Mater. for High Power Lasers, Nat. Bur. Stand. November (1986).

Bandyopadhyay, P.K., Summers, G.P., "Luminescence and Photoconductivity in Magnesium Aluminum Spinel," Phys. Rev. B. 31, 2422 (1985).

Ghosh, S.N., Ghosh,K and Bandyopadhyay, P.,"Interstellar Molecules", Research Report, Ghose Professor's Laboratory, Department of Applied Physics, Calcutta University, 1979.

INTERNATIONAL & NATIONAL CONFERENCE PRESENTATIONS:

Fitzmaurice, Megan and Bandyopadhyay, Pradip, "Laser Assisted Cancer Immunotherapy: Mapping of the Necrosis Zone", Annual March Meeting of the American Physical Society, Baltimore, Maryland, 2006

Evans, Lindsay and Pradip Bandyopadhyay, "Interstitial Laser Irradiation of Solid Tumors in Laser Assisted Cancer Immunotherapy", Annual March Meeting of the American Physical Society, Baltimore, Maryland, 2006

Wilson, Joshua, Bandyopadhyay, Pradip, and Chen, Hsin-Wie, "Laser Assisted Cancer Immunotherapy: Surface Irradiation", Annual March Meeting of the American Physical Society, Baltimore, Maryland, 2006

Arnold, Robert and Bandyopadhyay, Pradip, "Temperature Control During the Delivery of Laser Assisted Cancer Immunotherapy", Annual March Meeting of the American Physical Society, Los Angeles, California, 2005

Swindle, Ryan and Bandyopadhyay, Pradip, Dr. Bandyopadhyay (Mentor), Ryan Swindle (Student Presenter), "Laser Assisted Cancer Immunotherapy: Optical Dye Distribution in Tumors", Annual March Meeting of the American Physical Society, Los Angeles, California, 2005

Gray, John and Bandyopadhyay, Pradip, "Laser Assisted Cancer Immunotherapy: An Experimental Therapeutic Approach in Balb/c Mice", Annual March Meeting of the American Physical Society, Los Angeles, California, 2005

Gray John, and Bandyopadhyay, Pradip, "Laser Assisted Cancer Immunotherapy: Measurement of Tumor Temperature.", National Conference of Undergraduate Research, Indiana University – Purdue University, 2004.

Zimmerman, Adam and Bandyopadhyay, Pradip, "Laser Assisted Cancer Immunotherapy: ICG Distribution in Tissue.", National Conference of Undergraduate Research, Indiana University – Purdue University, 2004.

Bandyopadhyay Pradip K., Holmes Kyland, Burnett Corrinthias, and Zharov, Vladimir, "Temperature Control in Laser Assisted Cancer Immunotherapy, International Conference on Biomedical Optics, Photonics West, San Jose, January, 2003

Holmes Kyland and Bandyopadhyay, Pradip, "Optical Dosimetry in laser-assisted cancer therapy", National Conference of Undergraduate Research, University of Utah, March, 2003.

Mathur, V.K., Bandyopadhyay, Pradip K., Cai, G.G, " Low Temperature X-Ray Fluorescence in LiF:Cu, Mg, P", Solid State Dosimetry International Conference, Athens, Greece, 2002

LiF: Mg, Cu, P Radiation Dosimeter: Mechanism of Emission at Low Temperature. Kyland Holmes (Dr. Pradip Bandyopadhyay), National Conference of Undergraduate Research, University of Wisconsin, 2002.

Holmes Kyland and Bandyopadhyay, Pradip, "Low Temperature Thermoluminescence of LiF:Cu, Mg, P Dosimeter", National Conference of Undergraduate Research, University of Kentucky, March, 2001.

Hopkins, Cody and Bandyopadhyay, Pradip, "Photo-Stimulated Luminescence of Copper Doped Single Crystal of KBr X-irradiated at 77 K", National Conference of Undergraduate Research, University of Kentucky, March, 2001.

Redford, John and Bandyopadhyay, Pradip, "Photo-Stimulated Luminescence of Copper Doped Single Crystal of KBr X-irradiated at 77 K, March Meeting of the American Physical Society, (SPS Section), University of Minnesota, March, 2000.

Bandyopadhyay Pradip K., Jose M. T., Madhusoodanan U. and Panigrahi B. S., "Mechanism of Photo-Stimulated Luminescence in Europium and Copper Doped Alkali halide Phosphors", Eighth Europhysical Conference of Defects in Insulating Materials (EURODIM98), International Conference, Keele University, United Kingdom, July 1998.

Bandyopadhyay Pradip K., "Photo-stimulated Luminescence in Alkali Halide Phosphors", Inaugural Keynote Speaker, Luminescence Society of India (Mumbai Chapter), March, 1998

Russell, Gary and Bandyopadhyay Pradip, "Photo-Stimulated Luminescence in Cu^+:KBr", March Meeting of The American Physical Society, Kansas City, MO, March 1997

Bandyopadhyay P.K , Russell, G., Nooner S., Chakravarti K., and Sharma J., "Photo-Stimulated Luminescence in Cu^+:KBr", International Conference on Radiation Defects in Insulating materials, Wake Forest University, July, 1996

Russell, Gary and Bandyopadhyay Pradip, "Photo-Stimulated Luminescence in Cu^+:KBr: Experimental Techniques and Preliminary Results", National conference on Undergraduate Research, University of North Carolina at Asheville, 1996 .

Nooner, Scott and Bandyopadhyay, Pradip, "Photo-Stimulated Luminescence in Cu^+:NaCl and Cu^+:KCl Single Crystals", National Conference on Undergraduate Research, University of North Carolina at Asheville, April, 1996.

Seme, Lars and Bandyopadhyay, Pradip, "Role of Color Centers in the Decay of Cu Ions in KCl", presented at the National Conference on Undergraduate Research, Union College, New York, 1995. Also presented at the SILO Conference, University of Arkansas, Little Rock, 1994.

Nooner, Scott and Bandyopadhyay, Pradip, "Photo-Stimulated Luminescence in Cu^+:NaCl and Cu^+:KCl Single Crystals", National Conference on Undergraduate Research, University of North Carolina at Asheville, April, 1996.

Seme, Lars and Bandyopadhyay, Pradip, "Role of Color Centers in the Decay of Cu Ions in KCl", presented at the National Conference on Undergraduate Research, Union College, New York, 1995. Also presented at the SILO Conference, University of Arkansas, Little Rock, 1994.

Little, Brian and Bandyopadhyay, Pradip, "Isothermal Decay of Cu Ions in KCl", National Conference on Undergraduate Research, Western Michigan University, April, 1994

Wiedersich, H., Baldo, P., and Bandyopadhyay, P.K., "Radiation-Induced Segregation in Ionically Bonded Materials," Fall Meeting of The Materials Research Society, Boston, December, 1992 and 1993.

Bandyopadhyay, P.K., "Radiation Damage Processes in Ionic Crystals", Invited Lecture, Memphis State University, Memphis, Tennessee, April, 1992.

Glover, J. and Bandyopadhyay, P.K., "Isothermal Decay of Cu^- in X-Irradiated KCl", Sixth National Conference on Undergraduate Research, University of Minnesota, 1992.

Anderson, M. and Bandyopadhyay, P.K., "Effect of Cu Impurities in Alkali Halides," Fifth National Conference on Undergraduate Research, Caltech, Pasadena, California, March 1991.

Anderson, M. and Bandyopadhyay, P.K., "Thermal Recovery of Cu^+ Ions in X-irradiated NaCl:Cu^+ , SPS Zonal Conference, University of Missouri (Rolla), November, 1990.

McDonnell, B. and Bandyopadhyay, P.K., "Thermoluminescence of CaF_2 :Mn^{2+} and the Role of Residual Absorption", Third National Conference on Undergraduate Research, San Antonio, Texas, April 1989.

Merkle, L.D. and Bandyopadhyay, P.K., "Radiation Damage in KBr:Eu^{2+} Due to 350 nm Laser Irradiation," Fourth International Laser Science Conference, Atlanta, October, 1988.

Bandyopadhyay, P.K., Fenno, S. and Merkle, L. "Excited State Absorption in Alkali Halides Doped with Eu^{2+}," March Meeting of the American Physical Society, New Orleans, 1988.

Bandyopadhyay, P.K. and Summers, G.P., "The Annealing of the Radiation Induced Defects (Cu^- and F-centers) in X-irradiated NaCl", March Meeting of the American Physical Society, Las Vegas, 1986.

Bandyopadhyay, P.K., "Radiation Induced Defects in Solids," Invited Lecture, Graduate Institute of Technology, University of Arkansas, 1986.

Bandyopadhyay, P.K. and Summers, G.P., "Isothermal Decay of Cu^- Ions in NaCl Irradiated at Room Temperature," March Meeting of the American Physical Society, Baltimore, 1985.

Underlined: Hendrix students

PROFESSIONAL SOCIETIES:
The American Physical Society
Institutional Representative: The Council on Undergraduate Research

OTHER EXPERIENCE:
Foreign Adjucator: Ph.D. thesis in physics
Referee: Scientific papers submitted to peer-reviewed international journals in physics
Referee: Grant proposals submitted to the National Science Foundation, Research Corporation, and the Petroleum Research Fund (American Chemical Society).
Selected Referee: For manuscripts evaluation submitted for publication at the Conference Proceedings of the Europhysical Conference on Defects in Insulating Materials (EURODIM98), University of Keele, United Kingdom, July 1998.
Project Judge: Arkansas State Science Fair Competetion.
Reviewer's Panel: Arkansas Science and Technology Authority.
Reviewer's Panel: Heuer Award, Council of Independent Colleges, Washington, D.C.