

Nandita Ganguly Das

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Overview of Professional Achievements:

Teaching:

- Fifteen years' teaching experience in US pharmacy colleges.
- Expertise in teaching pharmaceutics (physical pharmacy, pharmaceutical calculations and drug delivery systems), clinical case studies (at Idaho State University) and elective courses in the Pharm.D. curriculum, including co-ordination of team-taught courses.
- Primary personnel involved in the development of the new graduate programs in Drug Delivery at Idaho State University and Butler University; currently actively involved in the latter.
- Served as mentor to graduate students in the MS program at Butler University, and to graduate students in the MS and PhD programs at Idaho State University.
- Served as mentor for students in the Research Track Pharm.D. curriculum at Butler University.
- Served as preceptor for P-4 research rotations for Pharm.D. students, both at Butler University and Idaho State University.
- Taught ACPE approved CE lectures to healthcare practitioners at Idaho State University.

Research:

- "Award of Excellence in Scholarship", Butler University COPHS 2006; awarded in part for contribution in mentoring faculty colleagues in writing competitive federal grants.
- Generated NIH competitive individual research grant funding in drug targeting and biopharmaceutics, in addition to other extramural/intramural research funding at Idaho State University and Butler University.
- Generated NSF funding for purchase of large research equipment (EPSCoR, Idaho).
- Generated intramural instrument funds at Butler University to support translational and collaborative projects between the graduate and undergraduate laboratory programs.
- Resurrected the overall research program in pharmaceutics at Idaho State University.
- Participated in the restructuring of the research and graduate program in pharmaceutical sciences at Butler University COPHS, and developed the new Drug Delivery research track.

Service:

- Invited Plenary Lecture, "Nanoscience in Medicine", Annual Meeting of the Idaho Academy of Science, March 26, 2004.
- Reviewer of Primary Research Grants for the NIH-CSR study sections on Gene and Drug Delivery, Biomaterials and SBIR/STTR Study since 2006.
- Reviewer of large budget NIH Program Grants for the National Institute of Child Health and Human Development (NICHD) since 2010.
- Chair of the 2005 ACPE Self-Study Standards for Curriculum, College of Pharmacy, ISU.
- Developed and implemented the Integrated Pharm.D. curriculum at Idaho State University as a member of Curricular Revision and Implementation Task Forces.
- Member of the 2003-05 Lyman Award selection committee, 2008-09 Research and Graduate Affairs Committee, and 2010-12 Dawson Biotechnology Award Committee (AACP).
- Co-organizer/moderator of the roundtable session "*Graduate Education in Pharmaceutics and the Future of Academic Pharmaceutics*" at the 2003 annual AAPS conference in Salt Lake City, UT.
- Invited speaker in the AACP Pharmaceutics Section Chairs meeting during the 2002 annual AAPS conference in Toronto, Canada.
- Served on the Idaho State University Curriculum Council 2001-2004.
- Reviewer of professional journals in Pharmaceutics and Pharmaceutical Education areas.

Mentorship:

Advisor and collaborator/committee member of graduate and Pharm.D./undergraduate students' research projects.

Management: Increased revenue for a 400+ Rx/day large chain community pharmacy by 14% over two years, while reducing employee attrition to negligible levels.

Education:

Degree	Discipline	University	Year
Ph.D.	Pharmaceutical Sciences (Pharmaceutics) Dissertation: Characterization of the Kinetics and Mechanism of Solid-State Reactions by Isothermal Microcalorimetry Advisor: Late Theodore D. Sokoloski, Ph.D. (protégé of Late Takeru Higuchi, University of Wisconsin)	University of Pittsburgh, PA	1995
M.Pharm.	Pharmacy (Pharmaceutics) Thesis: <i>In-vitro</i> and <i>In-vivo</i> Evaluation of Controlled Release Dosage Forms of Glibenclamide Advisor: S. B. Jayaswal, M. Pharm., Ph.D.	Banaras Hindu University, India	1990
B.Pharm.	Pharmacy (2+4 years), 1st rank, Gold Medallist	Banaras Hindu University, India	1988

Pharmacist Licensure:

- State of New Jersey (active), # 28RI02550800
- State of Florida (inactive), # PS32063

Professional Experience:

- ◆ **Associate Professor of Pharmaceutics (tenure track), Butler University, IN** **2005 – present**

Teaching:

- **Pharm.D. curriculum** – Pharmaceutical Calculations (P1 year – sole instructor), Intro to Dosage Forms (P1 year - team taught), Advanced Dosage Forms (P2 year – team taught)
- **Graduate curriculum** – Intro to Pharmaceutical Research, Research Ethics, Preformulation and Product Development, Biopharmaceutical Analysis, Advanced Drug Delivery; all team-taught courses.

Research projects:

Lymphatic targeted delivery of tamoxifen (PI, NIH funded, competitive); Sublingual mucoadhesive delivery of buprenorphine for the treatment of drug abuse (co-I, NIH funded, competitive); targeted drug delivery for cancer chemotherapy, nose-to-brain drug delivery as a route for targeting neurological disorders, and siRNA drug delivery.

- ◆ **Research Associate Professor, Butler University, IN** **2004 – 2005**

Primary responsibility was to reform the research infrastructure and graduate program at Butler University COPHS. Teaching in Pharm.D. curriculum included dosage form laboratories and lectures on liposome/drug targeting and inhalation technology.

- ◆ **Assistant Professor of Pharmaceutics (tenure track), Idaho State University, ID** **1998 – 2004**

Teaching:

- **Pharm.D. curriculum** – Biopharmaceutics (Physicochemical Basis of Drug Action, P1 year); Physical Pharmacy and Pharmaceutical Calculations (Pharmaceutics I, P1 year); Parenteral Formulation and Administration, and Drug Targeting (Pharmaceutics II, P2 year); Compounding and Dispensing Laboratory (P2 year); Case Studies sequences (P2 year), Nuclear Pharmacy (elective, P1 through P3 years); Early Practice Experience in Compounding and Dispensing (P1 year).
- **Graduate curriculum** – Industrial Pharmacy (every year); Analytical techniques in pharmaceutics and drug delivery (includes laboratory experience); Current topics in pharmaceutics and drug delivery (every semester); Pharmaceutical colloids and interfaces; Pharmaceutical equilibria and mass transport.

Research projects:

Lymphatic targeted delivery of tamoxifen (PI, NIH funded, competitive); Sublingual mucoadhesive delivery of buprenorphine for the treatment of drug abuse (co-PI, NIH funded, competitive); Lipid formulation of tamoxifen and its efficacy studies in MCF-7 cells; Sublingual mucoadhesive dosage form of pentoxifylline and anti-emetic drugs to study influence on first pass metabolism; Lipid formulation for the reversal of drug resistance in cancer chemotherapy (PhRMA competitive funded for undergraduate research); Self-emulsifying formulations for beta carotene and paclitaxel (partially funded for undergraduate research by NIH BRIN Idaho); Solid and liquid state interactions between drugs and excipients (equipment funded by NSF EpSCOR Idaho); Brain delivery of oligonucleotide drugs.

◆ **Adjunct Assistant Professor of Pharmaceutics, Nova Southeastern University, FL 1997 – 1998**

Taught Physical Pharmacy; guest lectured in the Advances in Drug Delivery course and assisted in the Compounding Laboratory.

◆ **Pharmacist, Eckerd Drug Corporation, FL 1995 – 1998**

Managed a 400+ Rx/day store and practiced community pharmacy full-time.

◆ **Graduate Scholar and Research Assistant, SmithKline Beecham Pharmaceuticals, PA 1993 – 1995**
(in legal agreement with University of Pittsburgh, PA)

Established sensitive isothermal microcalorimetric methods to characterize the kinetics and mechanism of solid-state reactions, thermodynamic/kinetic phase transition and crystal growth in formulation of a leukotriene receptor antagonist, monitored multi-step dehydration of theophylline monohydrate at ambient temperature.

Advisor: Theodore D. Sokoloski, Ph.D., Research Fellow, SmithKline Beecham Pharmaceuticals, PA; Retired Professor of Pharmaceutics, Ohio State University.

◆ **Research Intern; SmithKline Beecham Pharmaceuticals, PA Summer 1993**

Studied effect of moisture on solid-state stability of three leukotriene receptor antagonists using the techniques of thermal analysis, SEM and moisture analysis. *Advisor:* Theodore D. Sokoloski, Ph.D.

◆ **Graduate Scholar/Teaching Assistant; University of Pittsburgh, PA 1990 – 1993**

Research: Enhanced the dissolution of poorly soluble anti-cancer agent Camptothecin by formulating submicron emulsions and characterized the dependence of droplet radii on formulation variables in microemulsions by laser light scattering technique.

Advisor: Shawn L. Silvestri, Ph.D., Abbott Laboratories, IL (current affiliation).

Teaching: Assisted Pharmacokinetics, Dosage Design I & II and Compounding lab courses

◆ **Junior Research Fellow, Banaras Hindu University, India 1988 – 1990**

Formulated and studied polymer microcapsules of glyburide for controlled drug delivery in the management of diabetes.

Awards and Honors:

- Board of Visitors "Award of Excellence in Scholarship", Butler University COPHS, 2006
- Banaras Hindu University Gold Medal for University First rank in B.Pharm., 1988
- Indian Pharmaceutical Association Award for State First rank in B.Pharm., 1988
- G.P. Nair Award for top-ranking pharmacy students in India, Indian Drug Manufacturers' Association, 1988

Fellowships/ Scholarships:

- Graduate Teaching Assistantship, University of Pittsburgh, PA, 1990-93
- Junior Research Fellowship, University Grants Commission, India, 1988-90

- Undergraduate Merit Scholarship, University Grants Commission, India, 1985-88

Biographical Recognition: *Who's Who In America*, 63rd ed., *Marquis Who's Who*, NJ, 2009
Who's Who Among America's Teachers, 8th ed., 2004
Who's Who Among America's Teachers, 7th ed., 2003

Invited Presentations:

- **Plenary Lecture, "Nanoscience in Medicine", Annual Meeting of the Idaho Academy of Science, March 26, 2004**
- Moderator at the roundtable session on "Graduate Education in Pharmaceuticals and the Future of Academic Pharmaceuticals", Annual Meeting of American Association of Pharmaceutical Scientists, October 2003
- "Pegylated drugs – Clinical impact", Continuing Education Program sponsored by the Idaho State University College of Pharmacy, three presentations between April-May, 2003
- "Biopharmaceutics in Pharm.D. Curriculum, When, Where and Why?", at AACP Pharmaceutics Chairs' Meeting, Annual Meeting of American Association of Pharmaceutical Scientists, November 2002

Memberships of: American Association of Pharmaceutical Scientists (AAPS)

Professional Societies American Association of Colleges of Pharmacy (AACP)

Committees:

Butler University: Dept Chair Search Committee (2009-10), Holcomb Research Award Committee (Fall 2004), Student Affairs Committee (COPHS 2004-5), Research & Graduate Review Committee (COPHS 2004-present), Institutional Animal Care and Use Committee (2005-present), Educational Resources Committee (COPHS 2005-present), Organic Chemistry Faculty Search Committee (2005-6)

Idaho State University: Curriculum Council (2002-2004), Cultural Affairs Council (2000-2004), Faculty Research Committee (1999), Women's History Month Celebration Planning Committee (2003-2004)

College of Pharmacy, Idaho State University: Chair of the 2005 ACPE Self-Study Standards for Curriculum, Curricular Affairs (2001-2004), Curriculum Implementation Task Force (2001-2003), Curriculum Revision Task Force (1999-2000), Student Affairs (1999)

City of Pocatello: Member, Human Relations Advisory Committee, City of Pocatello, ID 2003-2004

University of Pittsburgh: President, Indian Students' Association (1991-1993); Member, Organizing Committee, 1991 Annual Meeting of the Association of Graduate Students in Pharmaceutical Sciences (GRASP)

Journal Reviewer:

- *Pharmaceutical Research*
- *Journal of Controlled Release*
- *American Journal of Pharmaceutical Education*
- *Drug Development & Industrial Pharmacy*
- *JAPhA*

FUNDED GRANTS

Extramural:

Haslanger, MF, (PI - Apex Therapeutics, Inc.), Kelley M, (Co-I- IUPUI), Das SK. (Collaborator), **Das NG.** (Collaborator), Redox protein APE1/REF-1 as a target for age-related macular degeneration (AMD), (1R41EY019784-01), September 2009 - September 2010

Das NG (PI), Das SK (Co-I), Wilson CM (Collaborator), Lymphatic targeted tamoxifen for breast cancer therapy, (1R15 GM068439-01), NIH – National Institute of General Medical Sciences, August 2003 -July 2005; no cost extension through March 2007

Das SK (PI), **Das NG (Co-I)**, Mucoadhesive buprenorphine for opioid addiction therapy NIH – National Institute on Drug Abuse (1R15DA015358-01, 5R15DA015358-02), August 2002-July 2004, no-cost extension through July 2006

Das SK (PI), **Das NG (Collaborator)**, Surface modified nanoemulsions for reversal of multidrug resistance in cancer chemotherapy, PDA Foundation for Pharmaceutical Sciences, 04/01/2001-03/31/2002

Das NG (PI), Young faculty start-up grant for equipment (Modulated[®] Differential Scanning Calorimeter), National Science Foundation - EPSCoR, July 01, 1999-June 30, 2000

Das NG (PI), Das SK (Collaborator), Nanoemulsion delivery system for poorly soluble antineoplastic agents, Pharmaceutical Research and Manufacturers of America Foundation, January 01, 2000 -December 31, 2000

Intramural:

Cich K, Evaluating the Effect of a Cyclosporine Emulsion Formulation on Reversal of Resistance in the Multi-drug Resistant Cancer Cell Line MES-SA-Dx5 using P-gp Functional Assays, Butler USRP Fairbanks Scholar August 2010 – July 2011 (Faculty Mentor **Das, NG**)

Cich K, P-gp functional studies to evaluate the effect of cyclosporine emulsion formulation on reversal of resistance in the multi drug resistant cancer cell line MES-SA-Dx5, Butler Summer Institute 2009 (Faculty Mentor, **Das, NG**)

Das NG (PI), Development of multi-component sub micron emulsions for delivery of doxorubicin and evaluation of cell survival in the multi drug resistant cell line MES-SA-Dx5, Butler Holcomb Research Award, June 2008 – May 2009

Das NG (PI) and Peak A, Insulin Stability at Room Temperature: A Six Month Assessment, Butler Holcomb Research Award, June 2007 – May 2008

Das NG (PI), Lipid mediated delivery of siRNA, Butler Holcomb Research Award, June 2006 – May 2007

Borchert SD, **Das NG (PI)**, pH dependent stability of hyaluronidase, Undergraduate Research Committee, Idaho State University, 04/30/2001-03/31/2002

Das NG (PI), Das SK (Co-I), HPLC equipment for analysis of drugs, University Research Committee, Idaho State University, July 01, 2000-June 30, 2001

Das NG (PI), Evaluation of Mucoadhesive Performance of Polymer Compacts in Sublingual Drug Delivery, University Research Committee, Idaho State University, 2002-2003

Das SK (PI), **Das NG (Co-I)**, Equipment for development of microemulsion for enhancing the bioavailability of poorly soluble drugs, University Research Committee, Idaho State University, July 01, 1999-June 30, 2000

Kuzmic B, **Das NG (PI)**, Sublingual delivery system of promethazine for therapy of morning sickness in pregnancy, Undergraduate Research Committee, Idaho State University, 2003

Faculty mentor for BRIN summer project "Novel self-emulsifying delivery system for targeted lymphatic delivery of beta-carotene", funded by NIH-BRIN for Sherry Borchert, Pharm.D.

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