# Dev Prasad, M.S., Ph.D.

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## Education

| Year | Institute | Degree Earned | GPA |
|---|---|---|---|
| Jan 2010 -May 2014 | School of Pharmacy Massachusetts College of Pharmacy and Health Sciences, (MCPHS) University, Boston, MA, USA | Doctor of Philosophy (Ph.D.) in Pharmaceutics and Drug Design | 3.98/4 |
| Sept. 2007 -Dec 2009 | School of Pharmacy Massachusetts College of Pharmacy and Health Sciences (MCPHS) University, Boston, MA, USA | M.S., Pharmaceutics & Drug Design | 3.98/4 |
| Sept. 2001 -July 2005 | U.P. Technical University, Lucknow, India | Bachelor of Pharmacy | 3.5/4 |

## Professional Employment

| | |
|---|---|
| June 2017 -present | **Senior Scientist-I, Formulation Development**<br>Klus Pharma Inc., Monmouth Junction, New Jersey |
| May 2014 -June 2017 | **Senior Scientist, Formulation & Product Development**<br>Fresenius Kabi USA, Skokie, Illinois |
| May 2013 -Aug 2014 | **Ph.D. Co-op/Scientist I, Discovery Pharmaceutics**<br>Cubist Pharmaceuticals, Lexington, MA |
| May 2011 - Aug 2011 | **Research Intern,**<br>Vertex Pharmaceuticals, Cambridge MA |
| May 2010 - Aug 2010 | **Research Intern,**<br>Vertex Pharmaceuticals, Cambridge MA |
| May 2008 - Aug 2008 | **Research Intern,**<br>Vertex Pharmaceuticals, Cambridge MA |
| Oct 2004 - July 2005 | **Medical Detailing Officer**<br>Nestle, India |

## Professional Experience

| | | |
|---|---|---|
| Sept. 2007 -May 2013 | Instructor/Teaching Assistant | Massachusetts College of Pharmacy and Health Sciences, Boston, MA |
| May 2011 -Aug 2011 | Research Intern | Vertex Pharmaceuticals, Cambridge, MA |
| May 2010 -Aug 2010 | Research Intern | Vertex Pharmaceuticals, Cambridge, MA |
| May 2008 -Aug 2008 | Research Intern | Vertex Pharmaceuticals, Cambridge, MA |

## Leadership and Professional Activities

| Year | Organizations | Role |
|---|---|---|
| 2012- present | Sigma Xi, The Scientific Research Society | Member |
| 2012- present | Rho Chi, The Academic Honor Society in Pharmacy | Member |
| 2011 | American Association of Pharmaceutical Northeast-Regional discussion group (AAPS-NERGD) | Planning committee member |
| 2010 | American Association of Pharmaceutical Scientists-Graduate Research Association for Students (AAPS-GRASP) | Planning committee member |
| 2011-2012 | Graduate Student Association, MCPHS, MA | President |
| 2008-2010 | Graduate Student Association, MCPHS, MA | Vice-President |
| 2007-08 | American Association of Pharmaceutical Scientists-MCPHS chapter | Vice Chair |

## Reviewing and Judging of Scientific Publications

**Manuscripts Peer Review**

| Year | Name of the Journal | Role | Manuscripts reviewed |
|---|---|---|---|
| 2017 - present | Current Drug Safety, Bentham Science | Reviewer | 1 |
| 2017 - present | Frontiers Health Production, Frontier | Reviewer | 3 |
| 2016 - present | Medical Science Monitor | Reviewer | 8 |
| 2016 - present | Drug Delivery and Translational Research, Springer | Reviewer | 2 |
| 2016 - present | The AAPS Journal | Reviewer | 1 |
| 2016 - present | ADMET & DMPK/IAPC, IAPC Publishing | Reviewer | 1 |
| 2015 - present | SOJ Pharmacy & Pharmaceutical Sciences, Symbiosis online publishing | Reviewer | 1 |
| 2015 - present | Journal of Pharmaceutical Investigation, Springer | Reviewer | 18 |
| 2015 - present | Talanta, Elsevier | Reviewer | 1 |
| 2015 - present | AAPS PharmSciTech | Reviewer | 1 |
| 2013-Present | AAPS Annual Meeting | Abstract Reviewer | 50+ |

**Book Proposal Review**

| Year | Name of the Publisher | Role |
|---|---|---|
| 2017 | Nanotechnology: therapeutic, nutraceutical and cosmetic advances, CRC press | Reviewer |
| 2017 | Design of Experiments in Pharmaceutical Product Development: Fundamentals and Applications, CRC Press/ Taylor and Francis Group | Reviewer |

**Others**

| Year | Name of the Awards | Role |
|---|---|---|
| 2017 | CPhl Pharma Awards, Recognizing excellence in pharma | Jury member |
| 2016 | CPhl Pharma Awards, Recognizing excellence in pharma | Jury member |

## Awards & Recognitions

2014 EUDRAGIT® Award 2014 for best peer reviewed research article by Evonik Health Care

2012 American Association of Pharmaceutical Scientists travel-ship award recipient- Formulation Design and Development (AAPS-FDD) section

## Research Interest:

**Senior Scientist-I, Formulation and Product Development**
**Klus Pharma, Monmouth Junction, NJ**

- Developed generic (ANDA) injectable formulations in a cGMP environment.
- Designed and developed sterile injectable solution, lyophilized product, and ready-to-use solution as a lead scientist. Executed packaging insert support studies (Photo-stability, Thermal cycling, LVP admixture compatibility study).
- Process development of parenteral product for pilot and commercial manufacturing.
- Responsible for preparing CMC regulatory filling submissions documents (3.2.P.2, P.5.6 etc.).
- Works in interdisciplinary team with scientists from Analytical, Quality Assurance, Project Management, Regulatory Affairs, Manufacturing and Tech. Transfer teams to ensure timely completion of development and manufacturing activities

**Senior Scientist, Formulation & Product Development Fresenius Kabi USA, Skokie, IL**

- Developed novel 505 (b) (2) and generic (ANDA) injectable formulations in a cGMP environment.
- Initiated feasibility of anti-cancer and anti-fungal compounds for value-added NDA formulation. Evaluated various drug delivery systems for parenteral formulation.
- Developed and optimized lyophilization cycles based on Differential Scanning Calorimetry (DSC) and Freeze Dry Microscopy (FDM). Solved vial breakage and lyo cake collapse issue.
- Responsible for process development, successful manufacturing of in-house lab scale and pilot scale batches and technology transfer of parenteral product to manufacturing plants.
- Developed stability testing protocols (STPs) and executed stability studies for lab batches, pilot scale batches and exhibit batches.
- Responsible for preparing CMC regulatory filling submissions documents (3.2.P.2, P.5.6 etc.).
- Works in interdisciplinary team with scientists from Analytical, Quality Assurance, Project Management, Regulatory Affairs, Manufacturing and Tech. Transfer teams to ensure timely completion of development and manufacturing activities.

**Graduate (M.S. and Ph.D. Research)**
**- Formulation of poorly water soluble drugs**
**-Novel Drug Delivery**

- Explored the role of drug polymer interaction in improving amorphous state stabilization and dissolution rate in ternary solid dispersions formulations.
- Conducted solid-state characterization and in-vitro dissolution studies of solid dispersion.
- Evaluated different polymers for precipitation inhibition of drugs in solution and

**Systems** development of their amorphous solid dispersions.

- Developed Self Emulsifying Drug Delivery System (SEDDS) for poorly soluble drug.
- Studied the effect of excipients on precipitation inhibition of indomethacin from upon in-vitro dilution from SEDDS.
- Evaluated the stability of Vitamin B complex in the space retrieved tablets - NASA funded.

## Publications:

### Book Chapters (Total- 4; Citations- 13)

1. **D. Prasad**, A. Jain, S. Garad, "Oral delivery of poorly soluble drugs", in Poorly Soluble Drugs: Dissolution and Drug Release, CRC Pan Stanford, DOI: 10.1201/9781315364537-6, Jan 2017, 125-186
   **Role:** First Author

2. **D. Prasad** and H. Chauhan. "Excipients Utilized for Ophthalmic Drug Delivery Systems." In Nano-Biomaterials for Ophthalmic Drug Delivery, pp. 555-582. Springer International Publishing, 2016.
   **Role:** First Author

3. H. Chauhan, J. Bernick, **D. Prasad**, and V. Masand, "ANN on Target Validation as Robust Tool in Drug Discovery and Development", Artificial Neural Network for Drug Design, Delivery and Disposition, Edited by Puri, Pathak, Sutariya, Tipparaju, Moreno, Release Date 22 Oct 2015, Academic Press, Print Book ISBN :9780128015599, eBook ISBN :9780128017449.
   **Role:** Co-Author

4. **D. Prasad** and H. Chauhan. "Nanotoxicity of Polymeric and Solid Lipid Nanoparticles" In Sutariya, Vijaykumar B., and Yashwant Pathak, eds. Biointeractions of nanomaterials. CRC Press, 2014.
   **Role:** First Author
   **Citation: 13**

### Peer-reviewed articles (Total- 10; Citations- 111)

1. **D. Prasad**, H. Chauhan, E. Atef, "Role of Molecular Interactions for Synergistic Precipitation Inhibition of Poorly Soluble Drug in Supersaturated Drug-Polymer-Polymer Ternary Solutions". *Molecular Pharmaceutics*, **2016** (13), 756-765.
   **Impact factor: 4.384**
   **Role:** First Author
   **Citation: 9**

2. **D. Prasad**, A. Kuldipkumar, C. Gu. "Comparison of biorelevant simulated media mimicking the intestinal environment to assess the solubility profiles of poorly soluble drugs". *Pharmaceutical development and technology*, 2016, 21(4), 511-517.
   **Impact factor: 1.86**
   **Role:** First Author
   **Citation: 1**

3. **D. Prasad**, H. Chauhan, E. Atef, "Amorphous stabilization and dissolution enhancement of amorphous ternary solid dispersions: combination of polymers showing drug-polymer interaction for synergistic effects". *J. of Pharma Sciences*, **2014**, 103 (11), 3511-3523
   **Impact factor: 3.35**
   **Role:** First Author
   **Citation: 34**

4. F. Meng, A. Trivino, **D. Prasad**, H. Chauhan, "Investigation and correlation of drug polymer miscibility and molecular interactions by various approaches for the preparation of amorphous solid dispersions". *European J. of Pharm. Sciences*, **2015**, 71, 12-24
   **Impact factor: 3.350**
   **Role:** Co-Author
   **Citation: 35**

5. **D. Prasad**, H. Chauhan, "Key targeting approaches for pharmaceutical drug delivery". American *Pharmaceutical Review*, **Oct 2013**
   **Impact factor: 0.35**
   **Role:** First Author
   **Citation:** none

6. **D. Prasad**, H. Chauhan**,** E. Atef, "Studying the effect of lipid chain length on the precipitation of a poorly water-soluble drug from Self Emulsifying Drug Delivery System (SEDDS) on dispersion into aqueous medium", *J. of Pharmacy and Pharmacology*, **2013**, 65 (8), 1134-1144.
   **Impact factor: 2.264**
   **Role:** First Author
   **Citation: 15**

7. M. Chuong, N. Aggarwal, **D. Prasad**, S. Mashiana, A. Taheri, W. Albenayan "Particle shape descriptors and angle of repose of a bimodal distribution sample", *International J. of Pharmacy & Technology*, **2012**, 4 (2), 4484- 4492.
   **Impact factor: None**
   **Role:** Co-Author
   **Citation:** none

8. E. Atef, H. Chauhan, **D. Prasad**, D. Kumari, C. Pidgeon "Quantifying solid-state mixtures of crystalline indomethacin by Raman spectroscopy comparison with thermal analysis", *ISRN Chromatography*, **2012**,1-6.
   **Impact factor: None**
   **Role:** Co-Author
   **Citation: 15**

9. M. Chuong, **D. Prasad**, B. LeDuc, B. Du and L. Putcha, "Stability of vitamin B complex in multivitamin and multimineral supplement tablets after space flight", *J. of Pharmaceutical and Biomedical Analysis*, **2011**, 55, 1197-1200
   **Impact factor: 3.25**
   **Role:** Co-Author
   **Citation: 2**

10. **D. Prasad** "Review: Pharmaceutical Nanocarriers", *Pharma Review*, **2010**
    **Impact factor:**
    **Role: None**
    **Citation:** none

## Presentations

### Podium Presentations

1. **D. Prasad**, "Effect of drug polymer interaction on precipitation inhibition and amorphous stabilization of ternary systems", AAPS-North-East regional annual meeting, April 2013.
2. **D. Prasad,** "The effect of low concentration of molecularly interacting polymers on indomethacin precipitation and its amorphous stabilization". MCPHS, Annual GRASP conference 2011.
3. **D. Prasad**, "Investigating the effect of various oils on precipitation inhibition of indomethacin from self-emulsifying drug delivery system (SEDDS) upon in-vitro dilution". Campbell University, Annual GRASP conference 2010.

### Poster Presentations:

1. **D. Prasad,** H. Chauhan**,** E. Atef, "Stabilization of ternary solid dispersions at high drug load using molecularly interacting polymers", AAPS annual meeting 2012.
2. **D. Prasad,** M. S. Nagarsenker, H. Chauhan, "Thermal characterization of solid lipid nanoparticles containing Gelucire 44/14 and Gelucire 50/13", AAPS annual meeting 2012.

3. **D. Prasad,** H. Chauhan**,** E. Atef, "Utilizing 1H NMR in understanding the effect of polymers, individual and in combination, on precipitation inhibition of Indomethacin and its solubility enhancement from solid dispersions", ACS annual meeting 2012.

4. **D. Prasad,** J. Beniek, H. Chauhan, "In−silico predictions for the development of poorly soluble anticancer drugs as amorphous systems", ACS annual meeting 2012.

5. **D. Prasad,** E. Atef,, "The effect of low concentration of molecularly interacting polymers on indomethacin precipitation and its amorphous stabilization", AAPS annual meeting 2011.

6. **D. Prasad**, B. Song, "Estimation of drug polymer miscibility and solubility at room temperature", Vertex fun and fear intern poster presentation, Vertex Pharma. Inc. 2011.

7. **D. Prasad,** A. Kuldipkumar, C. Gu, "Development of biorelevent simulated intestinal media mimicking the intestinal environment to predict the solubility profiles of poorly soluble drugs", Vertex fun and fear intern poster presentation, Vertex Pharma. Inc. 2010.

8. E. Atef, **D. Prasad,** H. Chauhan, "Quantifying solid mixture of alpha and beta indomethacin using raman and differential scanning calorimetry", AAPS annual meeting 2010.

9. **D. Prasad**, E. Atef, "Investigating the mechanism of indomethacin precipitation inhibition from Self Emulsifying Drug Delivery System (SEDDS) upon in-vitro dilution: Effect of various oils", AAPS annual meeting 2010.

10. M. Chuong, **D. Prasad,** B. LeDuc, B. Du, L. Putcha, "Pharmaceutical stability of vitamin B complex in the outer space bio-environments retrieved multi-vitamin and multi-mineral supplements", AAPS annual meeting 2009.

11. H. Chauhan, **D. Prasad**, E. Atef, "Effect of PVP K90 on indomethacin, dipyridamole and progesterone crystallization in solution at different supersaturations", AAPS annual meeting 2009.

12. **D. Prasad,** S. Roday, "Development of amorphous solid dispersions systems using amino acids", AAPS-NERGD regional annual meeting 2009.

13. **D. Prasad,** H. Chauhan, E. Atef, "Preparation and stabilization of amorphous solid dispersions using Eudragits", AAPS-MCPHS poster day 2008.