**Dr. Kiran Ambatipudi, BVSc. & AH, MSc., PhD**

**Research Interest**:

My laboratory focuses on the application of interdisciplinary techniques to characterize the role of milk proteins and lipids in bovine mastitis. Additionally, we work on the application of human saliva to understand the onset and progression of breast cancer.

**Appointments**:

**2014-current**: Assistant Professor, Department of Biotechnology, Indian Institute of Technology, Roorkee, India

**2013-2014**: Scientist, Vaccine Production Program Laboratory, National Institutes of Health, Bethesda, USA

**2013-2013**: Senior Bioanalysis Scientist, Eurofins, Chantilly, USA.

**2010-2013**: Research Fellow, Dental and Craniofacial Institute, National Institutes of Health, Bethesda, USA.

**2007-2010**: Post-Doctoral Research Associate, University of Rochester, Rochester, USA.

**2004-2007**: Instructor, Macquarie University, Sydney, Australia

**Education**:

**2007**: PhD in Biological Sciences, Macquarie University, Sydney, Australia.

 **2003**: Masters in Applied Genetics, University of Birmingham, Birmingham, UK.

**2002**: Bachelor's in Veterinary Science, Orissa Veterinary College, Bhubaneswar, India.

**Published from IITR (Since January 2014)**

1. Sudipa Maity, Debiprasanna Das, **Kiran Ambatipudi.** Quantitative Alterations in Bovine Milk Proteome between Healthy, Subclinical and Clinical Mastitis during S. aureus Infection. **Journal of Proteomics (**223, 103815**), SCImago: IF: 3.53, SCImago: Q1**
2. Sudipa Maity, Aadil Hussain Bhat, Kuldeep Giri, **Kiran Ambatipudi (2020)**. BoMiProt: A database of bovine milk proteins. **Journal of Proteomics, 215, 103648. IF: 3.53, SCImago: Q1**
3. Aparna Verma¶, Ajay K. Sharma¶, Ayushi Agarwal, Saurav Datta\*, **Kiran Ambatipudi**\* (**2019**). Selective Enrichment of Milk Fat Globules Using Functionalized Polyvinylidene Fluoride membrane. **Preparative Biochemistry and Biotechnology,** 27, 1-10. ¶Equal Contribution; \* Co-Corresponding Author. **IF**: **1.11**, **SCImago: Q3**
4. Aparna Verma, Tamoghna Ghosh, Bharat Bhushan, Gopinath Packirisamy, Naveen K. Navani, Pranita P. Sarangi, **Kiran Ambatipudi (2019)**. Characterization of Difference in Structure and Function of Fresh and Mastitic Bovine Milk Fat Globules. **PLoS One**, 14(8), e0221830. **IF: 2.77***,* **SCImago: Q1**
5. Teotia D, Gaid M, Saini SS, Verma A, Yennamalli RM, Khare SP, **Ambatipudi K**, Mir JI, Beuerle T, Hänsch R, Roy P, Agrawal PK, Beerhues L, Sircar D. Cinnamate: CoA-ligase is involved in benzoate-derived biphenyl phytoalexin biosynthesis in Malus × domestica 'Golden Delicious' cell cultures. **Plant J**. (**2019) Aug 22. DOI: 10.1111/tpj.14506.** **IF: 5.77**, **SCImago: Q1**
6. Aadil H. Bhat, Sudipa Maity, Kuldeep Giri, **Kiran Ambatipudi (2019).**Protein glycosylation: Sweet or Bitter for Bacterial Pathogens? **Critical Reviews in Microbiology,**45, 82-102. **IF: 5.69**, **SCImago: Q1**
7. Kuldeep Giri, Anurag Mehta, **Kiran Ambatipudi (2019)**. In search of the Altering Salivary Proteome in Metastatic Breast and Ovarian Cancer. **FASEB BioAdvances,**1, 191-207. ***IF*: *Pending****,* **SCImago: Pending. (Among 10% of the most downloaded papers from the journal between Jan 2018-Dec 2019)**
8. Sudipa Maity, **Kiran Ambatipudi (2019)**. Quantitative Proteomics of Milk Whey Reveals Breed and Season Specific Variation in Protein Abundance in Holstein Friesian Cow and Murrah Buffalo. **Research in Veterinary Science**, 125, 244-252. **IF: 1.75**, **SCImago: Q2**
9. Atin Sharma, Vineet Dubey, Rajnikant Sharma, Kuldip Devnath, Vivek Kumar Gupta, Jawed Akhter, Timsy Bhando, AparnaVerma, **Kiran Ambatipudi**, Mihir Sarkar, Ranjana Pathania **(2018)**. The unusual glycine rich C-terminus of the Acinetobacter baumannii RNA chaperone Hfq plays an important role in bacterial physiology. **Journal of Biological Chemistry,**293, 13377-13388. **IF: 4.10**, **SCImago: Q1**
10. **\* #**Sarangi PP**,**  #Chakraborty P, Dash SP, Ikeuchi T, Vega SD, **Ambatipudi K**, Wahl L, **\***Yamada Y **(2018)**. Cell adhesion protein Fibulin-7 and its C-terminal fragment negatively regulate monocyte and macrophage migration and functions in vitro and in vivo. **FASEB Journal,**32, 4889-4898. **IF: 5.39**, **SCImago: Q1**
11. Kumar P, Kesari P, Dhindwal S, Choudhary A.K., Katiki M, Neetu, Verma A, **Ambatipudi K**, Tomar S, Sharma A.K., Mishra G, Kumar P**(2017)**. A novel function for globulin in sequestering plant hormone: Crystal structure of Wrightia tinctoria 11S globulin in complex with auxin. **Scientific Reports,**7, 4705. **IF: 4.12**, **SCImago: Q1**
12. Shveta Bathla#; Preeti Rawat#; Rubina Baithalu; Munna Lal Yadav; Jasmine Naru; Anurag Tiwari; Sudarshan Kumar; Ashok K. Balhara; Surender Singh; Suman Chaudhary; Rajesh Kumar; Pradip Behere; Sushil K. Phulia; Tushar K. Mohanty; Jai K. Kaushik; Shivramaiah Nallapeta; Inderjeet Singh; **Srinivas K. Ambatipudi**; Ashok K. Mohanty (**2015**). Profiling of cow urinary proteins using various extraction methods reveals more than 1550 proteins. **Journal of Proteomics,** S1874-3919(15)30023-3.# (Equal Contribution). **IF: 3.86**, **SCImago: Q1**
13. Aparna Verma and **Kiran Ambatipudi** (**2016**). Challenges and opportunities of bovine milk analysis by mass spectrometry. **Clinical Proteomics**, 13, 8. **IF: 3.47**, **SCImago: Q2**

***Under review***

1. Aparna Verma, Ningombam Sanjib Meitei, Prakash Gajbhiye, Mark J. Raftery, **Kiran Ambatipudi**. Improved Lipidomics Method for Detection of Common and Novel Bovine Milk Lipids across Breed and Seasons by UPLC-Orbitrap Mass Spectrometry. (**Submitted).**
2. Sudipa Maity and **Kiran Ambatipudi**.Targeting the Zoonotic Potential of Bovine Mastitis by an Integrated One-Health Approach. **(Submitted, May 2020).**
3. Aparna Verma, Ningombam Sanjib Meitei, **Kiran Ambatipudi.** Point Mutations and Phylogenetic Analysis of Spike Glycoprotein from SARS CoV-2 Strains Indicate Diversity and Transmissibility. **(Submitted, May 2020)**

***To be submitted***

1. Shweta Jha, Sudipa Maity, Kiran Ambatipudi, J Singh. Comparative proteomics of contrasting pearl millet genotypes: Insight into the salt tolerance mechanism. **Manuscript under preparation**.
2. Shweta Jha, Sudipa Maity, Kiran Ambatipudi. Insight into the molecular mechanism of salt tolerance in the halophyte Atriplex by comparative proteomic analysis. **Manuscript under preparation**

**Details of Patents/Patent Applications**

1. **Srinivas Kiran Ambatipudi**, Saurav Datta, Aparna Verma, Functionalized membrane based process for selective isolation and enrichment of milk fat globules (MFGs), *Indian Patent application number 201811013231*, 2018.
2. **Srinivas Kiran Ambatipudi** and Aparna Verma. ‘A Bioconversion Process To Produce Bioactive Cordyceps Species From Food Waste’ Indian Patent, Provisional Patent no: application number ‘**201811023344**’filed on June 22nd, **2018**.

**Details of Book Chapter**

Kuldeep Giri, Vinod Singh Bisht, Sudipa Maity, **Kiran Ambatipudi**. Chapter 14. Integrated Omics Technology for Basic And Clinical Research. *Book:* *Development of Biotechnology in Life Sciences*, Cambridge Scholar Publishing (**Revisions Resubmitted, 2019)**.

**Published before IITR**

1. Peter Burbelo, **Kiran Ambatipudi**, Ilias Alevizos **(2014)**. Genome-wide association studies in Sjögren’s Syndrome: what are the genes telling us about disease pathogenesis? **Autoimmunity Reviews** Jul; 13(7):756-6.
2. **Kiran S. Ambatipudi**, Steve Swatkoski, James J. Moresco, Patricia G. Tu, Andreea Coca, Jennifer H. Anolik, Marjan Gucek, Igñacio Sanz, John R. Yates III, James E. Melvin (2012). Quantitative proteomics of human parotid saliva in primary Sjögren’s syndrome. **Proteomics,** 12, 1-8.
3. Bassim CW\*, **Ambatipudi KS**\*, Mays JW, Edwards DA, Swatkoski S, Fassil H, Bird K, Gucek M, Melvin JE, Pavletic SZ (2012). Quantitative salivary proteomics of oral chronic Graft-versus-Host Disease in humans. **Journal of Clinical Immunology, 32,** 1390-9. **(**\***Equal Contribution).**
4. Gregoire S, Silva BB, Gonzalez I, Agidi PS, Xiao J, Klein MI, **Ambatipudi KS**, Bauserman R, Waugh R, Koo H (2011). A novel role for the glucosyltransferase B in Candida albicans interactions with Streptococcus mutans and apatitic surfaces. **Applied and Environmental Microbiology,** 77, 6357-67.
5. **Kiran S. Ambatipudi**, Fred K. Hagen, Claire Delahunty, Xuemei Han, Rubina Shafi, Jennifer Hryhorenko, Stacy Gregoire, Bob Marquis, James E. Melvin, Hyun M. Koo, John R Yates III (2010). Human Common Salivary Protein 1 (CSP-1) Promotes Binding of *Streptococcus mutans* to Experimental Salivary Pellicle and Glucans Formed on Hydroxyapatite Surface. **Journal of Proteome Research**, 9, 6605-14.
6. **Kiran S. Ambatipudi,** Bingwen Lu, Fred K. Hagen, James E. Melvin, John R. Yates III (2009). Quantitative Analysis of Age Specific Variation in the Expression of Human Female Parotid Salivary Proteins. **Journal of Proteome Research**, 8, 5093-5102. (***Highlighted in the issue of J Proteome Res.***).
7. **Kiran S. Ambatipudi** and Elizabeth Deane (2008). Proteomic analysis of neutrophil granule proteins in the Tammar wallaby (*Macropus eugenii*). **Molecular Immunology**, 45; 690-700.
8. **Kiran S. Ambatipudi**, Janice Joss, Mark Raftery and Elizabeth Deane (2008). A proteomic approach to analysis of antimicrobial activity in marsupial pouch secretions. **Developmental and Comparative Immunology**, 32; 108-20.
9. **Kiran S. Ambatipudi**, Janice Joss and Elizabeth Deane (2007). A comparative proteomic analysis of skin secretion of the tammar wallaby (*Macropus eugenii*) and the wombats (*Vombatus ursinus*). **Comparative Biochemistry and Physiology Part D: Genomics and Proteomics,** (2); 322-331.
10. **Kiran S. Ambatipudi**, Julie Old, Michael Guilhaus, Mark Raftery, Lyn Hinds and Elizabeth Deane (2006). Proteomic analysis of neutrophil proteins in the Tammar wallaby (*Macropus eugenii*). **Comparative Biochemistry and Physiology**, **Part D: Genomics and Proteomics,** (1): 283- 291.
11. Pattanaik T. K., Nath I., Bose V. S. C., **Kiran A. S.** (2001). Bone plating of distal radioulnar fracture in a dog. **Indian Journal of Veterinary Surgery,** Vol. 22(1): 59-60.
12. Pattanaik T. K., Nath I., Bose V. S. C., **Kiran A. S.** (2001). Open reduction of elbow dislocation in a dog. **Indian Journal of Veterinary Surgery**, Vol. 22(1): 63.

**Details of Book Chapter**

Marcelo A. Catalán, **Kiran S. Ambatipudi** and James E. Melvin. 2012. Salivary Gland Secretion. In: **Physiology of the Gastrointestinal Tract.** Chapter: 45, Elsevier. Editor: Leonard R. Johnson, Academic Press, 2012, pp. 1229**-**1250.

**Extramural Funding**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Title of the Project** | **Funding Agency** | **Year of start & total period** | **Financial Outlay** | **Role (Name of the P.I. if other than the applicant)** | **Status** |
| 1 | Lipidomics of bovine milk under different seasons and feeds | Department of Biotechnology (DBT) | 2015 (Sep)-2018 (Sep) | 41.9 LakhsPI (Kiran Ambatipudi) | NA | **Completed** |
| 2 | Isolation and Characterization of Bovine Milk Glycoproteins as Potential Markers for Early Diagnosis of Mastitis | Department of Science and Technology (DST) | 2016 (Aug)-2019(Nov) | 37 LakhsPI (Kiran Ambatipudi) | NA | **Completed** |
| 3 | Selective Enrichment of Bovine Milk Fat Globules Biofunctionalized Polymeric membrane for Improving Dairy Products | Department of Biotechnology (DBT) |  | 55 LakhsPI (Kiran Ambatipudi) | NA | **Recommended by Task Force****(as of 14/02/2020)**  |
| 4 | **Screening Bee sting for Antimicrobials against Bacterial Meningitis in Children** | Department of Biotechnology (DBT) |  | 64.80 Lakhs PI (Kiran Ambatipudi | NA | **Approved by Task Force****(as of 05/05/2020)** |

**Courses Taught (Average feedback score: 4.19, a score of 75.465 across 18 courses)**

**Autumn semester Spring semester**

BTN-305 Animal Biotechnology (Shared) BTN: Genomics and Proteomics (Shared)

BTN-391: Technical Communication BTN 636: IPR, Good lab practices and Bioethics (Shared)

BTN-524: Technical Communication (shared) BTN 524: Diagnostics

BTN-415: Biosafety, Bioethics and IPR

**Awards & honors**:

**2020**: Selected as a **panel member** for “**Scientific Panel of Antibiotic Residues**” of Food Safety and Standards Authority of India (FSSAI), Ministry of Health and Family Welfare, Govt. of India for 3 years from 1st January 2020 to 31st December 2022.

**2017**: Travel fellowship from Department of Science and Technology to present at the 65th American Society of Mass Spectrometry.

**2014**- 2nd Prize in Oral Presentation, International Conference in Genomics and Proteomics, Bareilly, India.

**2006-** Macquarie University International Postgraduate Research Scholarship.

**2006-** Travel grant, Developmental and Comparative Immunology, Charleston, USA.

**2005-** Travel award, Wildlife Disease Association, Cairns, Australia.

**2005-** Travel award, Lorne Protein Conference, Philip Island, Australia.

**2005-** Travel award, 6th Australian Peptide Conference, Hamilton Island, Australia.

**1996-2002-** Awarded merit scholarship to complete undergraduate education at Orissa Veterinary College, Bhubaneswar, India.

**Conference Presentation:**

**2019**-Invited Speaker at the 11th International Proteomics Conference, Karnal, India

**2019**-Poster Presentation at the 66th American Society of Mass Spectrometry, Atlanta, USA

**2017**-Oral Presentation, International Proteomics Conference in Health and Disease, Bhubaneswar, India.

**2017**-Poster Presentation, American Society of Mass Spectrometry, Indianapolis, USA.

**2015**-Oral Presentation, International Conference in Advances in Biotechnology, IIT Kanpur, India.

**2014**-Oral Presentation, International Seminar on Genomics and Proteomics, Bareilly, India

**2012-** Oral presentation, Dental and Craniofacial Institute, Rocky Gap, Maryland, USA.

**2011-** Poster Presentation, Dental and Craniofacial Institute, Rocky Gap, Maryland, USA.

**2010-** Poster Presentation, Salivary Diagnostics Symposium, Virginia, USA.

**2009-** Poster Presentation, American Society for Mass Spectrometry, Philadelphia, USA.

**2006-** Oral presentation, Developmental and Comparative Immunology, Charleston, USA.

**2005-** Oral Presentation, Wildlife Disease Association, Cairns, Australia.

**2005-** Poster Presentation, 30th Lorne Protein Conference, Philip Island, Australia.

**2004-** Oral Presentation, Immunobiology Conference, Wisemans Ferry, Australia.

**Expert Lectures Delivered**

1. **Title:** Human Saliva: Body’s Mirror in Health and Disease? ASEAN -INDIA Workshop on "Emerging Technologies for Young Biotech Professionals, ***Institute of Genomics and Integrative Biology***, New Delhi, India. 23/09/2019.
2. **Title:** Proteomics in Veterinary Research: Bench-to-Pen Side. ***NTR College of Veterinary Science***, Sri Venkateswara University, Gannavaram, Andhra Pradesh, India. Date: 27/04/2019.
3. **Title:** The Walk of Life in Biological Laboratory: Dos and Don’ts: Department of Biochemistry, ***Panjab University***, Chandigarh, India. Date: 20/03/2018.
4. **Title:** Human Saliva: Body’s Mirror in Health and Disease? ***Institute of Life Science***, Bhubaneswar, Odisha, India. Date: 06/03/2017.

Doctoral Thesis Supervision

Graduated

1. Aparna Verma
2. Sudipa Maity (Defended on 11th May 2020)

Ongoing

1. Kuldip Giri
2. Monica Yadav
3. Ayushi Kapoor
4. Vinod Singh

Professional Service (Journal Reviewer and Judge of Research Activities):

1. Food Chemistry, (2) Food Research International, (3)Bioanalytical Chemistry, (4) Arthritis and Rheumatism, (4) PlOS ONE, (5) Journal of Dental Research, (6) Oral Diseases, (7) Journal of Visualized Experiments and, (8) BMC Veterinary Science

### Professional memberships:

### Life membership for Odisha Veterinary Association and Proteomics Society of India.

**Administrative Responsibilities**

1. **Institute Level**

Associate Dean of Students’ Welfare (Student Wellness): 28th February- to date

Chief Warden, Rajiv Bhawan (2018-Present)

Faculty Advisor, E Summit (2018-present)

Warden, Rajiv Bhawan (2016-2018)

Faculty Advisor, Students Cricket Club (2016-2017)

Faculty Advisor, Sangram (IITR Sports festival) for 2017 and 2018

Player, Institute Cricket Team (2014-present)

1. **Department Level**

Member, Department of Research Committee (2016-Present).

Member and Veterinarian, Institute Animal Ethics Committee (2017-Present).

Member, Department Administrative Committee (2019-Present).

Member, Departmental Faculty Search Committee (2016-2019).

OC, Old Biotechnology Building (2019-Present)

**Personal Details**:

DOB: 30/06/1978

Sex: Male,

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