Dr. R.K. Chaitanya
Assistant Professor
Centre for Animal Sciences
School of Basic and Applied Sciences
Central University of Punjab
Bathinda-151001
E-mail: chaitanyark@gmail.com/chaitanyark@cup.ac.in
Mobile: +91 9849488501

I'm looking out for young and enthusiastic Ph.D. aspirants (preferably with a fellowship) with research interests in insect biology for my laboratory. Interested individuals can directly contact me on my E-mail.

Research Area: Animal Sciences > Entomology > Midgut Biology

- Elucidation of *Bt* resistance mechanisms: Role of gut arylphorins and aminopeptidases (Model: *Achaea janata/Spodoptera litura*)
- Elucidation of ookinete-midgut interactions (Model: *Anopheles stephensi*)
- Development of adult mosquito midgut cell lines and biomarkers (Model: *Anopheles stephensi*)

Teaching courses:

- Ecology, Evolution & Diversity
- Animal Evolution and Development
- Animal Physiology
- Molecular biology

Education:

Degree/Examination	Institute	Year	Subject
Ph.D.	University of Hyderabad	2010	Animal Sciences
M.Sc. (69.8%)	University of Hyderabad	2004	Animal Sciences
B.Sc. (77.2%)	Andhra University	2002	Chemistry, Biochemistry & Biotechnology
XII class (78.2%)	Kendriya Vidyalaya	1999	Mathematics, Physics, Chemistry, Biology
X class (72.2%)	Kendriya Vidyalaya	1997	English, Hindi, Mathematics, Science, Social Science

Experience:

Position	Institution	Tenure	Total experience	Work
Assistant Professor	Centre for Animal Sciences, School of Basic & Applied Sciences, Central University of Punjab	31.07.2015 onwards	2 years as on 31.07.2017	Teaching & Research
Principal investigator, DST-SERB start-up grant	Institute of Science & Technology, Jawaharlal	3.12.2014 - 25.07.2015	7 months 22 days	Elucidation of the role digestive proteases during Plasmodium

	Nehru Technological University, Hyderabad, India			transmission in Indian malarial vector, *Anopheles stephensi*
DST, Research Associate	Department of Animal Sciences, School of Life Sciences, University of Hyderabad, Hyderabad, India	1.2.2014 - 30.11.2014	9 months 29 days	Differential oxidative stress responses in castor semilooper, *Achaea janata*
CSIR, Research Associate	Department of Animal Sciences, School of Life Sciences, University of Hyderabad, Hyderabad	1.4.2013 - 31.01.2014	10 months	Expression analysis of reactive oxygen species detoxifying enzyme genes in *Anopheles stephensi* during *Plasmodium berghei* midgut invasion & Characterization and regulation of *Bacillus thuringiensis* Cry toxin binding aminopeptidases N (APNs) from non-gut visceral tissues, Malpighian tubule and salivary gland: Comparison with midgut-specific APN in the moth *Achaea janata*
DST-PURSE, postdoctoral fellow	Department of Animal Sciences, School of Life Sciences, University of Hyderabad, India	1.12.2012-31.03.2013	4 months	20-hydroxyecdysone-mediated arylphorin regulation in rice moth, *Corcyra cephalonica*
DBT-CREBB, Postdoctoral Fellow	Department of Animal Sciences, School of Life Sciences, University of Hyderabad, India	2.1.2012-25.09.2012	8 months 23 days	JH regulation of H-fibroin in rice moth, *Corcyra cephalonica*
ICMR, Research Associate	Department of Biotechnology, School of Life Sciences, University of Hyderabad, India	1.4.2010-31.10.2011	1 year 9 months	Curcumin: A multimechanism HIV microbicide

Research Grants:

S. No.	Name of the funding Agency	Title of the grant	Capacity	Grant value (in Rs.)	Duration
1.	DST-SERB	Elucidation of the role of digestive proteases during *Plasmodium* transmission in Indian malarial vector, *Anopheles stephensi*	Principal Investigator	16,53,802/-	2014-2017
2.	UGC	Elucidation of the role of midgut peritrophins during malaria parasite transmission in the vector, *Anopheles stephensi*	Principal Investigator	10,000,00/-	2016-18
3.	Central University of Punjab	microRNA-sequencing analyses of *Plasmodium*-infected midgut gene expression in the mosquito vector species, *Anopheles stephensi*	Principal Investigator	3,00,000/-	2016-2018

List of Publications:

Google scholar citations: 129; h-index: 7; i10-index: 5; Cumulative Impact Factor: 49.4

S. No.	Title, volume, page number	IF	ISSN/ISBN No.	Year	Contribution
1.	Vinod, K.C., Narender, K.D., Chaitanya, R.K., Senthilkumaran, B., Dutta-Gupta, A. Larval mid-gut responses to sub-lethal dose of Cry toxin in lepidopteran pest Achaea janata. **Frontiers in Physiology.** Accepted.	4.13	1664-042X	2017	Co-author
2.	Venkat Rao, V., Surendra Kumar, K., Sruti, B., **Chaitanya R.K.** Modulation of midgut peritrophins' expression during *Plasmodium* infection in *Anopheles stephensi* (Diptera: Culicidae). **Current Science** (Accepted: In proof) 112	0.967	0011-3891	2017	Corresponding author
3.	Venkat Rao, V., Surendra Kumar, K., Sridevi, P., **Chaitanya R.K**. Cloning, characterization and transmission blocking potential of midgut carboxypeptidase A in *Anopheles stephensi*. **Acta Tropica** 168: 21-28.	2.38	0001-706X	2017	Corresponding author
4.	Kushwaha, P.P., **Chaitanya R.K.**, Kumar, S. Geminin a multi task protein involved in cancer pathophysiology and developmental process: A review. **Biochimie** 131:115-127.	3.017	0300-9084	2016	Co-author
5.	Venkat Rao, V., Jacob T.N., **Chaitanya, R.K**., Senthilkumaran, B., Dutta-Gupta, A. Cloning and characterization of a riboflavin-binding hexamerin from the larval fat body of a lepidopteran stored grain pest, *Corcyra cephalonica*. **Comparative Biochemistry and Physiology: B Biochemistry & Molecular Biology** 194-195:58-64.	1.65	1096-4959	2016	Co-author
6.	Venkat Rao, V., **Chaitanya R.K.**, Naresh Kumar D., Bramhaiah, M., Dutta-Gupta, A. Developmental and hormone-induced changes of mitochondrial electron transport chain enzyme activities during the last instar larval development of maize stem borer, *Chilo partellus* (Lepidoptera:Crambidae). **General and Comparative Endocrinology** 239:32-39.	2.66	0016-6480	2016	Equal contribution: first author
7.	Venkat Rao, V., **Chaitanya, R.K.**, Dutta-Gupta, A. 20-Hydroxyecdysone mediates	2.31	0378-1119	2016	Co-author

	fat body arylphorin regulation during development of rice moth, *Corcyra cephalonic*a. **Gene** 575:747-754.				
8.	Pavani, A., **Chaitanya, R.K.**, Vinod, K.C., Anwesha D., Dutta-Gupta, A. Differential oxidative stress responses in castor semilooper, *Achaea janata*. **Journal of Invertebrate Pathology** 132:157-164.	2.19	0022-2011	2015	Co-author
9.	Vantaku, V.R., Gupta, G., **Chaitanya R.K.**, Karnati R. Lacritin salvages human corneal epithelial cells from lipopolysaccharide induced cell death. **Nature Scientific Reports** 5:18362.	5.22	2045-2322	2015	Co-author
10.	Sridevi, P., **Chaitanya, R.K.**, Prathiba, Y., Balakrishna, S.L., Dutta-Gupta, A., Senthilkumaran, B. Early exposure of 17α-ethynylestradiol and diethylstilbestrol induces morphological changes and alters ovarian steroidogenic pathway enzyme gene expression in catfish. **Environmental Toxicology** 30:439-451.	2.86	1522-7278	2015	Equal contribution: first author
11.	**Chaitanya R.K.**, Sridevi, P., Surendra, K., Mastan S., Arun Kumar K., Dutta-Gupta, A. Expression analysis of reactive oxygen species detoxifying enzyme genes in *Anopheles stephensi* during *Plasmodium berghei* midgut invasion. **Asian Pacific Journal of Tropical Medicine** 7:680-684.	0.84	1995-7645	2014	Corresponding author
12.	**Chaitanya, R.K.**, Sridevi, P., Senthilkumaran, B., Dutta Gupta, A. Effect of juvenile hormone analog, methoprene on H-fibroin regulation during the last instar larval development of *Corcyra cephalonica*. **General and Comparative Endocrinology** 181:10-17.	2.66	0016-6480	2013	First author
13.	Jacob, T.N., **Chaitanya, R.K.**, Prashanth, P.H., Vimala Devi, P.S., Dutta Gupta, A. Characterization and regulation of *Bacillus thuringiensis* Cry toxin binding aminopeptidases N (APNs) from non-gut visceral tissues, Malpighian tubule and salivary gland: Comparison with midgut-specific APN in the moth *Achaea janata*. **Comparative Biochemistry and Physiology: B Biochemistry & Molecular Biology** 166:194-202.	1.65	1096-4959	2013	Co-author
14.	Geetika, G., **Chaitanya, R.K.**, Madhu, G., Roy, K. Allethrin toxicity on human corneal epithelial cells involves mitochondrial pathway mediated apoptosis. **Toxicology**	3.33	0887-2333	2013	Co-author

	in Vitro 27:2242-2248.				
15.	Kashyap, A.K., Reddy, N.P., **Chaitanya, R.K.**, Roy, K. Ethyl acetate extract of *Hemigraphis colorata* leaves shows anti-inflammatory and wound healing properties and inhibits 5-lipoxygenase and cyclooxygenase-1 and 2 enzymes. **Journal of Medicinal Plants Research** 37:2783-2791.	-	1996-0875	2013	Co-author
16.	Sridevi, P., Chaitanya, R.K., Dutta-Gupta, A., Senthilkumaran, B. FTZ-F1 and FOXL2 synergistically up-regulate catfish brain aromatase gene transcription by specific binding to the promoter motifs. **Biochimica et Biophysica Acta-Gene regulatory mechanisms** 1819:57-66.	5.37	1874-9399	2012	Equal contribution: first author
17.	**Chaitanya, R.K.**, Sridevi, P., Senthilkumaran, B., Dutta-Gupta, A. 20-Hydroxyecdysone regulation of H-fibroin gene in the stored grain pest *Corcyra cephalonica*, during the last instar larval development. **Steroids** 76:125-134.	2.51	0039-128X	2011	First author
18	Gandapu, U., **Chaitanya, R.K.**, Kishore, G., Reddy R.C., Kondapi, A.K. Curcumin loaded apotransferrin nanoparticles provide efficient cellular uptake and effectively inhibit HIV-1 replication *in vitro*. **PLoS One** 6(8):e23388.	3.05	1932-6203	2011	Co-author
19.	**Chaitanya, R.K.**, Dutta-Gupta, A. Light chain fibroin and P25 genes of *Corcyra cephalonica*: Molecular cloning, characterization, tissue specific expression, synchronous developmental and 20-hydroxyecdysone regulation during the last instar larval development. **General and Comparative Endocrinology** 167:113-121.	2.66	0016-6480	2010	First author

Book Chapters:

S. No.	Title of the Book	Publisher	Title of the Book Chapter	Contribution
1.	Role of antioxidants in health and disease prevention by Archana Pandey and Babita Agrawal (978-93-80134-75-8) (2016)	Anubhav Publishing House, Allahabad	Antioxidants as hope to future therapeutic agents by Shashank Kumar, Chaitanya R.K. (27-33)	Co-author
2.	Free Radicals and Diseases by Rizwan Ahmed (978-953-51-2747-5) (2016)	Intech Open Access	Oxidative Stress in Invertebrate Systems by R.K. Chaitanya, K.	Corresponding author

			Shashank and P. Sridevi (51-68)	

National/International Symposiums/Conferences (Oral/Poster/Participation):

S. No.	Duration	Conference/Symposium	Level	Role
1.	19th-20th, October, 2015	National Conference on Entomology, Department of Zoology and Environmental Sciences in collaboration with Association of Entomologists, Punjabi University, Patiala **Title:** Elucidation of transmission blocking potential of midgut carboxypeptidase A in *Anopheles stephensi*	National	Invited Lecture
2.	4-7th August, 2015	International Symposium on Comparative Endocrinology & Integrative Physiology, University of Kerala, Thiruvananthapuram **Title:** Emerging novel roles of hexamerins in insects	International	Oral Presentation
3.	24th-26th February, 2014	International Conference on Environmental Biology and Ecological Modelling, Department of Zoology, Visva-Bharati, Santiniketan, India **Title:** Hormone/insecticide induced gene expression & physiological disruption during insect development	International	Oral presentation
4.	18th-20th February, 2013	International Symposium on Molecular Signalling, Department of Zoology, Visva-Bharati, Santiniketan, India **Title:** Molecular action of juvenile hormone and 20-hydroxyecdysone on silk fibroin expression in stored grain pest, *Corcyra cephalonica* during late larval development	International	Oral presentation
5.	23rd-25th September, 2011	National Colloquium on Recent advances in Molecular and Cellular Endocrinology, Banaras Hindu University, Varanasi, India **Title:** Steroid modulated gene expression during insect development-An overview	National	Oral presentation
6.	17th-19th December, 2009	National Symposium on Comparative Endocrinology and Reproductive Physiology, Department of Zoology, The Institute of Science, Mumbai, India **Title:** Silk gene regulation in rice moth, *Corcyra cephalonica*: possible target for pest control	National	Oral presentation
7.	4th-7th January, 2017	Young Ecologists Talk and Interact (YETI), Tezpur University, Tezpur, Assam **Title:** Acoustic characterization of vocal repertoire of common myna (*Acridotheres tristis*).	National	Poster presentation
8.	24th-28th November, 2014	International conference on "Frontiers in Comparative Endocrinology and Neurobiology", Department of Animal Biology, School of Life Sciences, University of Hyderabad, India **Title:** Remodelling in spodoptera litura (Lepidoptera: Noctuidae) during post embryonic development	International	Poster presentation
9.	10th-13th December, 2009	XXIII All India Cell Biology Conference & International workshop on Cell cycle Regulation organized by School of Life Sciences, University of Hyderabad, Hyderabad, India	National	Poster presentation
10.	4-5th, February, 2016	ICSSR Sponsored National Conference on "Education for Sustainable Development", Centre for Education, Central University of Punjab, Bhatinda	National	Participant

11.	30th January, 2016	Seminar on "The Evolving Importance of Intellectual Property Rights", IPR Cell, Central University of Punjab, Bathinda	University	Participant
12.	3-7th January, 2016	103rd Indian Science Congress, University of Mysore, Mysuru	National	Participant
13.	14th-16th November, 2013	AP Science Congress, "Innovations in Science and Technology for Emerging Knowledge Society", jointly organized by University of Hyderabad and Andhra Pradesh Akademi of Sciences, India	National	Participant
14.	1st-15th December, 2005	International symposium cum workshop on Frontiers in Molecular Endocrinology organized by Department of Animal Sciences, University of Hyderabad, Hyderabad, India	International	Participant
15.	29th March, 2016	Symposium on "Recent Trends in Biological Sciences", Centre for Animal Sciences, Central University of Punjab, Bhatinda	University	Member, Organizing Committee

Skill development programmes (Workshops/Orientation/Refresher Courses/Others):

S. No.	Duration	Programme	Level
1.	23rd November-20th December, 2016	97th **Orientation Course** at Human resource Development Centre, University of Hyderabad	National
2.	14th-21st December, 2015	1st **DST-SERB School** in Insect Biology, School of Life Sciences, University of Hyderabad, Hyderabad, India	National
3.	15th-16th September, 2015	**Workshop** on "capacity building of higher education teachers on e-content development using Moodle" organized by Commonwealth Educational Media Centre for Asia (CEMCA), Commonwealth Of Learning (COL), New Delhi in collaboration with Central University of Punjab, Bathinda (CUPB), Punjab, India	National
4.	17th-18th January, 2014	National workshop on 'Recent advances in Computational Methods for Drug Design & Discovery' jointly organized by Jawaharlal Nehru Institute of Advanced Studies, Hyderabad &SHRODINGER, Bangalore, India	National
5.	20th-23rd January, 2014	Genomics hands-on training **Workshop** for quantitative-PCR and Microarray, Genomics facility, School of Life Sciences, University of Hyderabad, Hyderabad, India	University
6.	1st-2nd December, 2011	Flow cytometry training & **Workshop** organized by University of Hyderabad, DBT-Centre for Research and Education in Biology and Biotechnology	University

Memberships/Peer recognition:

- **2015:** Life member, Association of Entomologists, Department of Zoology and Environmental Sciences
- **2016:** Member, Bombay Natural History Society

Awards/Scholarships:

- **2014:** DST-SERB Young Scientist, India
- **2013-14:** CSIR, Research Associateship, India

- **2007:** Senior Research Fellowship, CSIR, India
- **2005:** Junior Research Fellowship, CSIR, India
- **2005:** National Eligibility of Lectureship, UGC, India

References:

- Prof. Aparna Dutta-Gupta, Department of Animal Biology, School of Life Sciences University of Hyderabad, Hyderabad 500046 (E-mail: apdgsl@uohyd.ernet.in/aparnaduttagupta@gmail.com)
- Prof. Appa Rao Podile, Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad 500046 (E-mail: arpsl@uohyd.ernet.in)
- Prof. Ramakrishna Wusirika, Centre for Biochemistry and Microbial Sciences, Central University of Punjab, Bhatinda 151001 (E-mail: wusirika@gmail.com)
- Dr. Suresh Yenugu, Department of Animal Biology, School of Life Sciences University of Hyderabad, Hyderabad 500046 (E-mail: sureshsl@uohyd.ernet.in)
- Dr. Arun Kumar, Department of Animal Biology, School of Life Sciences University of Hyderabad, Hyderabad 500046 (E-mail: kumar_arun03@yahoo.com)
- Dr. Rajnikant Dixit, Laboratory of Host-Parasite Interaction Biology, National Institute of Malaria Research, Delhi 110077 (E-mail: dixitrk@mrcindia.org)

Last updated on 1.07.2017