




Faculty Details proforma for DU Web-site

(PLEASE FILL THIS IN AND Email it to websiteDU@du.ac.in)

Title	Dr.	First Name	Mallikarjun	Last Name	Shakarad	Photograph
Designation		Professor				
Address		Room No. 205 Department of Zoology University of Delhi North Campus Delhi-110007				
Phone No	Office	+91-11-27667443 Extn: 217				
	Residence	H.No. 73, Flat No. 8, 2 nd Floor, Rajpur Kurd, New Delhi-110068				
	Mobile	+91-8376999076				
Email		mallik@zoology.du.ac.in , beelab.ms@gmail.com				
Web-Page						
Educational Qualifications						
Degree		Institution			Year	
Ph.D		Indian Institute of Science, Bangalore, Karnataka, India			1995	
M.Phil. / M.Tech.						
PG		PG University of Agricultural Sciences, GKVK, Bangalore, Karnataka, India			1989	
UG		University of Agricultural Sciences, Dharwad, Karnataka, India			1987	
Career Profile						
<p>Professor, Department of Zoology, University of Delhi, Delhi, India, February 2015- present.</p> <p>Associate Professor, Department of Zoology, University of Delhi, Delhi, India, February 2009- January 2015.</p> <p>Assistant Professor, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India, October 2006- January 2009.</p> <p>Faculty Fellow, Department of Biology, Poornaprajna Institute of Scientific Research, Bangalore, India, September 2002- September 2006.</p> <p>Visitor, Department of Biology, University of Regensburg, Germany, September- November 2001.</p> <p>Research Scientist, Poornaprajna Institute of Scientific Research, Bangalore, India, September 2000- August 2002.</p> <p>Research Associate, Evolutionary and Organismal biology Unit, Jawaharlal Nehru Centre For Advanced Scientific Research, Jakkur, Bangalore, India, May 1999- August 2000.</p> <p>Visitor, Department of Ecology, Evolution and Behavior, University of Minnesota, USA, Aug. 1998-Feb. 1999.</p> <p>Assistant Professor, Department of Genetics and Plant Breeding, College of Agriculture, University of Agricultural Sciences, Dharwad, India, 1996-1998.</p> <p>Research Associate, Biology Department, Chinese University of Hong Kong, Hong Kong, Nov. 1995- Jul.1996.</p>						

Teaching Assistant, Centre for Ecological Sciences, Indian Institute of Science, Bangalore, India, 1992.

Teaching Assistant, Dept. of Genetics and Plant Breeding, University of Agricultural Sciences, Bangalore, India, 1987-1989.

Administrative Assignments

Chairman (Officiating), Vidyalaya Management Committee, Kendriya Vidyalaya (Under Ministry of HRD, Govt. of India), INA Colony, New Delhi-110023, India, October 2019- present.

Member- Departmental Research Committee, Department of Biochemistry, University of Delhi South Campus. New Delhi, India, October 2018- present.

E.C. Nominee- Management Committee, VKRV Rao Hostel, University of Delhi, Delhi, India, May 2019 - present.

Member- Governing Body, Lady Hardinge Medical College, New Delhi, India, February 2018- present.

Member- Courses Committee, Department of Zoology, University of Delhi, Delhi, India, January 2016 - present.

Member- M. Phil. Committee, Department of Zoology, University of Delhi, Delhi, India, January 2016 - present.

Member- Purchase Committee, Department of Zoology, University of Delhi, Delhi, India, January 2016 – present.

Convener – Maintenance and Repairs Committee, Department of Zoology, University of Delhi, Delhi. April 2019-present.

Ex-Officio Member- Museum Committee, Department of Zoology, University of Delhi, Delhi. April 2019-present.

Member- Academic Committee, Department of Zoology, University of Delhi, Delhi. April 2019-present.

Member- Physical stock verification Committee, Department of Zoology, University of Delhi, Delhi, India, January 2012 – December 2015.

Member- Contingency and Stationary Committee, Department of Zoology, University of Delhi, Delhi, India, January 2012 – December 2014.

Convener- Academic Committee, Department of Zoology, University of Delhi, Delhi, India, January 2014 – December 2015.

Convener- Museum Committee, Department of Zoology, University of Delhi, Delhi, India, January 2014 – December 2015.

Deputy Superintendent of Examinations- Department of Zoology, University of Delhi, Delhi, India, January 2014- December 2015.

Areas of Interest / Specialization

Evolutionary Genetics, Population Genetics, Behavioural Genetics, Behavioral Ecology and Sociobiology, and Biodiversity.

Subjects Taught

ZOOL 202- Systematics, Biodiversity and Evolution

ZOOL 307- Animal Behaviour

ZOOL 4101- Insect Diversity, Society and Evolution

M. Phil./Ph. D course

Time table of the subjects taught during the current semester

S.No.	Subject	Days	Time	Classroom
1	Systematics,	Wednesday	10:30-11:25	Room No. 19
	Biodiversity and	Thursday	9:30-10:25	Room No. 19
	Evolution			

2	Insect Diversity, Society and Evolution	Tuesday Friday	11:30-12:25, 13:00-16:55 11:30-12:25	Entomology Laboratory Entomology Laboratory
3	Ph. D. Course	Thursday & Friday	14:00-16:00	Room No. 19

Research Guidance

List against each head (If applicable)

1. Supervision of awarded Doctoral Thesis: 8
2. Supervision of Doctoral Thesis submitted: Nil
3. Supervision of Doctoral Thesis, under progress: 2
4. Supervision of awarded M.Phil dissertations : 2
5. Supervision of M.Phil dissertations, under progress: Nil
6. Supervision of M.Sc dissertations, completed: 40
7. Supervision of M.Sc dissertations, under progress: Nil

Publications Profile

List against each head (If applicable) (as Illustrated with examples)

1. Books/Monographs (Authored/Edited) : Nil
2. Research papers published in Refereed/Peer Reviewed Journals

Sharma K., Mishra N. and Shakarad MN. 2020. Evolution of reduced minimum critical size as a response to selection for rapid pre-adult development in *Drosophila melanogaster*. *R. Soc. Open Sci.* 7: 191910. <http://dx.doi.org/10.1098/rsos.191910>

Chauhan N., Shrivastava NK., Agrawal N. and Shakarad MN. 2020. Wing patterning in faster developing *Drosophila* is associated with high ecdysone titer and wingless expression. *Mechanisms of Development* 163 (2020) 103626. doi.org/10.1016/j.mod.2020.103626

Sood U., Singh DN., Hira P., Lee JK., Kalia VC., Lal R., and Shakarad M. 2019. Rapid and solitary production of mono-rhamnolipid biosurfactant and biofilm inhibiting pyocyanin by taxonomic outlier *Pseudomonas aeruginosa* strain CR1. *Journal of Biotechnology*. doi: 10.1016/j.jbiotech.2019.11.004

Singh DN., Sood U., Singh AK., Gupta V., Shakarad M., Dogra Rawat C., and Lal R., 2019. Genome sequencing revealed the biotechnological potential of an obligate thermophile *Geobacillus thermoleovorans* strain RL isolated from hot water spring. *Indian Journal of Microbiology*. doi: 10.1007/s12088-019-0089-x

Talwar C., Singh AK., Singh DN., Nagar S., Singh Y., Shakarad M., Negi R., and Lal R. 2019. Draft genome sequence of *Deinococcus* sp. Strain S9, Isolated from microbial mat deposits of hot springs located atop the Himalayan ranges at Manikaran, India. *Microbiology Resource Announcements* 8(28): e00316-19. doi: 10.1128/MRA.00316-19

Sood U., Hira P., Kumar R., Bajaj A., Rao DLN., Lal R. and Shakarad M. 2019. Comparative genomic analyses reveal coregenome-wide genes under positive selection and major regulatory hubs in outlier strains of *Pseudomonas aeruginosa*. *Frontiers in Microbiology*, doi: 10.3389/fmicb.2019.00053

Sageena G., Mishra N., Choudhary S., Roshan R. and Shakarad M., 2018. Effect of heavy metal tolerance induced oxidative stress on energy metabolism in *Drosophila melanogaster*. *Expert Opin. Environ. Biol.* 7(2). doi: 10.4172/2325-9655.1000155.

Chabbra, H., Mishra N. and Shakarad, M. 2017. White eye mutation in *Drosophila melanogaster* does not affect fitness – a support for a neutral theory of molecular evolution. *Dros. Inf. Serv.* 100: 105-112.

Hira P., Sood U., Gupta V., Nayyar N., Mahato NK., Singh Y., Lal R. and Shakarad M., 2017. Human Microbiome: Implications on Health and Disease. In *Genome Analysis and Human Health* (pp. 153-168). Springer Singapore.

Sood U., Singh Y., Shakarad M. and Lal R., 2017. Highlight on Engineering *Mycobacterium smegmatis* for testosterone production. *Microbial biotechnology*, 10(1), pp.73-75.

Kumar R., Verma H., Haider S., Bajaj, A., Sood U., Ponnusamy K., Nagar S., Shakarad M., Negi RK., Singh Y., Khurana JP., Gilbert JA and Lal R. 2017. Comparative genomic analysis reveals habitat-specific genes and reulatory hubs within the genus *Novosphingobium*. *mSystems*, 2(3), pp.e00020-17.

Mahato, N., Gupta, V., Singh, P., Kumari, R., Verma, H., Tripathi, C., Rani, P., Sharma, A., Singhvi, N., Sood, U., Hira, P., Kohli, P., Nayyar, N., Puri, A., Bajaj, A., Kumar, R., Negi, V., Talwar, C., Khurana, H., Nagar, S., Sharma, M., Mishra, H., Singh, A.K., Dhingra, G., Negi R.K., Shakarad, M., Singh, Y., Lal, R. 2017. Microbial Taxonomy in the era of OMICS: application of DNA sequences, computational tools and techniques. *Antonie van Leeuwenhoek* 110: 1357-1371.

Aditi K., Shakarad M. and Aggrawal N. 2016. Altered lipid metabolism in *Drosophila* model of Huntington's disease. *Scientific Reports*. doi: 10.1038/srep31411

Mishra N. and Shakarad, M. 2016. Effects of parental age and substrate quality on pre-adult fitness of progeny. *Imperial Journal of Interdisciplinary Research*. 2 (8):

Raina H. S., Rawal V., Singh S., Daime G., Shakarad M. and Raman R. 2015. Elimination of *Arsenophonus* and decrease in the bacterial symbionts diversity by antibiotic treatment leads to increase in fitness of whitefly, *Bemisia tabaci*. *Infection, Genetics and Evolution*. 32:224-230. doi: 10.1016/j.meegid.2015.03.022. (Impact Factor: 3.264)

Chandrashekara K. T. and Shakarad, M. 2014. Effect of dietary Aloe vera extract fed at larval stage on life-history traits of *Drosophila melanogaster* selected for faster pre-adult development. *Global Journal of Biological and Biomedical Research*, 2(2):110-116.

Chandrashekara K. T., Popli S. and Shakarad, M. 2014. Curcumin enhances parental reproductive lifespan and progeny viability in *Drosophila melanogaster*. *Age* 36(5):1-14, doi 10.1007/s11357-014-9702-8. , Impact Factor: 3.39

Handa J., Chandrashekara K. T., Kashyap K., Sageena G. and Shakarad M. 2014. Gender based disruptive selection maintains body size polymorphism in *Drosophila melanogaster*. *Journal of Biosciences*, 39(4): 609-620, doi 10.1007/s12038-014-9452-x.

Sageena G., Choudhary S., Mishra N., Roshan R. and Shakarad M. 2014. Role of environment on larval growth in *Drosophila melanogaster*. *International Journal of Applied Engineering Research*, 9(9): 1029-1032.

Choudhary S., Sageena G. and Shakarad M. 2014. Hymenopteran venom: a blessing in disguise. *International Journal of Applied Engineering Research*, 9(9): 1111-1118.

Sageena G., Choudhary S., Mishra N., Roshan R. and Shakarad M. 2014. Role of Juvenile environment in pre-adult development and adult metabolites in *Drosophila melanogaster*. *International Journal of Environmental Research and Development*, 4(4): 361-370.

Sageena G., Mishra N., Roshan R., Choudhary S. and Shakarad M. 2014. Standardization of LD-50: Toxicity study using paraquat dichloride in *Drosophila melanogaster* for various life history traits. *Global Sustainability Transitions: Impacts and Innovations (ISBN: 978-93-83083-77-0)*, 74-77.

Sageena G., Choudhary S. and Shakarad M. 2014. Role of oxidative stress biology in evolution of life history traits in *Drosophila melanogaster*. *Global Sustainability Transitions: Impacts and Innovations (ISBN: 978-93-83083-77-0)*, 78-82.

Choudhary S., Sageena G. and Shakarad M. 2014. *Polistes olivaceus*: A potential biocontrol agent. *Global Sustainability Transitions: Impacts and Innovations (ISBN: 978-93-83083-77-0)*, 197-201.

Choudhary S., Sageena G. and Shakarad M. 2014. Interplay of nutrition and environment: a major factor behind social evolution in insects. *Global Sustainability Transitions: Impacts and Innovations (ISBN: 978-93-83083-77-0)*, 202-208.

Chandrashekara K. T. and Shakarad M. 2011. Aloe vera or resveratrol supplementation in larval diet delays adult aging in the fruit fly, *Drosophila melanogaster*. *Journal of Gerontology*. 66A(9): 965-971. doi:10.1093/gerona/glr103, Impact Factor: 5.416

Shakarad M. 2009. Experimental evidence for cooperation, an important process in evolution of complex systems. *Indian Journal of Microbiology*, 49: 295-296. Impact Factor: 0.457

- Ghosh Modak S., Satish K. M., Mohan J., Dey S., Raghavendra N., Shakarad M. and Joshi A. 2009. A possible tradeoff between developmental rate and pathogen resistance in *Drosophila melanogaster*. *Journal of Genetics*, 88: 253-256. Impact Factor: 0.876
- Dey S., Prasad N. G., Shakarad M. and Joshi A. 2008. Laboratory evolution of population stability in drosophila: constancy and persistence do not necessarily coevolve. *Journal of Animal Ecology*, doi: 10.1111/j.1365-2656.2008.01401.x, Impact Factor: 4.841
- Rajamani M., Raghavendra N., Prasad N. G., Archana N., Joshi A. and Shakarad M. 2006. Reduced larval feeding rate is a strong evolutionary correlate of rapid development in *Drosophila melanogaster*. *Journal of Genetics*, 85: 209-212. Impact Factor: 0.876
- Shakarad M., Prasad N. G., Gokhale K., Gadagkar V., Rajamani M. and Joshi A. 2005. Faster development does not lead to correlated evolution of greater pre-adult competitive ability in *Drosophila melanogaster*. *The Royal Society Proceedings: Biological Sciences (Biology Letters)*, 1: 91-94. doi: 10.1098/2004.0261, Impact Factor: 3.348
- Prasad N. G. and Shakarad M. 2004. Genetic correlations: transient truths of adaptive evolution. *Journal of Genetics*, 83: 3-6. Impact Factor: 0.876
- Sharmila Bharathi, N., Prasad, N. G., Shakarad, M., and Joshi, A. 2004. Correlates of sexual dimorphism for dry weight and development time in five species of *Drosophila*. *Journal of Zoology*, 264: 87-95. Impact Factor: 2.043
- Prasad, N. G., Shakarad, M., Rajamani, M. and Joshi, A. 2003. Interaction between the effects of maternal and larval nutritional levels on pre-adult survival in *Drosophila melanogaster*. *Evolutionary Ecology Research*, 5: 903-911. Impact Factor: 1.03
- Prasad, N. G., Sutirth Dey, Shakarad, M. and Joshi, A. 2003. The evolution of population stability as a by-product of life history evolution. *The Royal Society Proceedings: Biological Sciences (Biology Letters)*, DOI 10.1098/rsbl.2003.0020. *Proc. R. Soc. Lond. B (Suppl)*: 270, S84-S86., Impact Factor: 3.348
- Sharmila Bharathi N., Prasad N. G., Shakarad M., and Joshi A. 2003. Variation in adult life-history and stress resistance across five species of *Drosophila*. *Journal of Genetics*, 82: 191-205. Impact Factor: 0.876
- Joshi A., Prasad N. G. and Shakarad M. 2001. *K*-selection, *a* -selection, effectiveness, and tolerance in competition: density dependent selection revisited. *Journal of Genetics*, 80: 63-75. Impact Factor: 0.876
- Prasad N. G., Shakarad M., Anitha D., Rajamani M. & Joshi A. 2001. Correlated responses to selection on faster development and early reproduction in *Drosophila*: the evolution of larval traits. *Evolution*, 55: 1363-1372. Impact Factor: 4.864
- Shakarad M., Prasad N. G., Rajamani M. & Joshi A. 2001. Evolution of faster development does not lead to greater fluctuating asymmetry of sternopleural bristle number in *Drosophila*. *Journal of Genetics*, 80: 1-7. Impact Factor: 0.876
- Prasad N. G., Shakarad M., Gohil V. M., Sheeba V., Rajamani M. & Joshi A. 2000. Evolution of reduced pre-adult viability and larval growth rate in laboratory populations of *Drosophila melanogaster* selected for shorter development time. *Genetical Research*, 76: 249-259. Impact Factor: 2.0
- Arathi H.S., Shakarad M. and Gadagkar R. 1997. Factors affecting the acceptance of alien conspecifics on nests of the primitively eusocial wasp, *Ropalidia marginata*. *Journal of Insect Behaviour*, 10: 343-353. Impact Factor: 1.293
- Arathi H.S., Shakarad M. and Gadagkar R. 1997. Social organization on experimentally assembled colonies of the primitively eusocial wasp, *Ropalidia marginata*: comparison of introduced and natal wasps. *Insectes Sociaux*, 44: 139-146. Impact Factor: 1.331
- Crosland M. W. J., Lok C. M., Wong T. C., Shakarad M. and Traniello J. F. A. 1997. Division of labour in a lower termite: most tasks performed by older workers. *Animal Behaviour*, 54: 999-1012. Impact Factor: 3.068
- Shakarad M. and Gadagkar R. 1997. Do social wasps choose nesting strategies based on their brood rearing abilities? *Naturwissenschaften*, 84: 79-82. Impact Factor: 2.144

Shakarad M. and Gadagkar R. 1996. Why are there multiple-foundress colonies in *Ropalidia marginata*? In: Readings in Animal Behaviour. (eds.) Ramamurthi, R. and Geetha Bali, New Age International Limited, New Delhi, pp. 145-152.

Shakarad M. and Gadagkar R. 1995. Colony founding in a primitively eusocial wasp, *Ropalidia marginata*. *Ecological Entomology*, 20: 273-282. Impact Factor: 1.954

Shakarad M., Arathi H. S., Gangappa E. and Ramesh S. 1995. Gene action for yield and yield attributes in cowpea (*Vigna unguiculata* (L.) Walp). *Mysore Journal of Agricultural Sciences*, 29: 289-292.

Shakarad M., Veerappa K. B. and Arathi H. S. 1993. Path analysis and correlation studies in cowpea (*Vigna unguiculata* (L.) Walp). *Mysore Journal of Agricultural Sciences*, 27: 322-326.

Shakarad M., Arathi H. S., Gangappa E. and Ramesh S. 1993. Combining ability in cowpea. *Mysore Journal of Agricultural Sciences*, 27: 209-213.

3.

a) Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals

b) Research papers published in Refereed/Peer Reviewed Conferences:

Chauhan N., Agrawal N. and Shakarad M. 2017. Higher expression of key developmental genes in *Drosophila melanogaster* with accelerated development. 18th International Congress of Developmental Biology. ISBD Singapore 2017. 18-22 June 2017.

Choudhary S., Sageena G., Roshan R. and Shakarad M. 2014. Effect of nutrition on the ontogeny of fertility in insect systems. International Conference on Environmental Biology and Ecological Modelling-2014. Visva-Bharati, Santiniketan, India. 24-26 February 2014. Pp 59.

Chandrashekhara K. T. and Shakarad M. 2011. Anti Ageing effect of Aloe vera on short lived *Drosophila melanogaster*. 1st international symposium on challenges in drug discovery, Karnataka State Open University, Mysore, India. 16- 17 February 2011. pp 55.

Shakarad M. 2008. Testing the theories of division of labour in a higher termite, *Odontotermes obesus*. 32nd Conference of the Ethological Society and National Symposium on Fish Behaviour, Versova, Andheri (W), Mumbai, India.

Shakarad M. 2005. The simultaneous evolution of faster development and elongated lifespan in *Drosophila melanogaster* under multiple trait selection. 10th Congress of European Society for Evolutionary Biology, Krakow, Poland.

Shakarad M. and Korb J. 2003. Development of neotenic in the lower termite, *Cryptotermes secundus*. 28th Conference of the Ethological Society of India, Tirunelveli, India.

Shakarad M., Prasad N. G., Rajamani M. and Joshi A. 2001. Evolution of life-time fecundity patterns in *Drosophila melanogaster*. XXVII International Ethological Conference, Tubingen, Germany.

Arathi H.S., Shakarad M. and Gadagkar R. 1998. Social organization in genetically diverse colonies of *Ropalidia marginata*: Implications for social evolution. Proceedings of the XIII International Congress of IUSSI, Adelaide, Australia.

Crosland M. W. J., Shakarad M., Lok E. and Traniello J. F. A. 1996. Temporal polyethism in the termite *Reticulitermes fukienensis* (Isoptera: Rhinotermitidae). Entomological Society of America Annual Meeting, U.S.A.

Crosland M. W. J., Shakarad M., Lok C. M., Zhang J. H., Wong T. C. and Traniello J. F. A. 1996. Temporal polyethism in the termite *Reticulitermes fukienensis* (Isoptera: Rhinotermitidae). XX International Congress of Entomology, Firenze, Italy.

Arathi H.S., Shakarad M. and Gadagkar R. 1996. Testing kinship theory with *Ropalidia marginata*. XX International Congress of Entomology, Firenze, Italy.

Arathi H.S., Shakarad M. and Gadagkar R. 1996. Co-operation among non-kin of *Ropalidia marginata*. 6th international Behavioural Ecology Conference, Canberra, Australia.

c) Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences:

4. Other publications (Edited works, Book reviews, Festschrift volumes, etc.):

Shakarad M. 2009. Experimental evidence for cooperation, an important process in evolution of complex systems. *Indian Journal of Microbiology*, 49: 295-296.

Shakarad M. 1999. Review of "Annual Review of Entomology" vol. 44. *Current Science*, 77: 1106-1107.

Publications in the Last one year

Sharma K., Mishra N. and Shakarad MN. 2020. Evolution of reduced minimum critical size as a response to selection for rapid pre-adult development in *Drosophila melanogaster*. *R. Soc. Open Sci.* 7: 191910. <http://dx.doi.org/10.1098/rsos.191910>

Chauhan N., Shrivastava NK., Agrawal N. and Shakarad MN. 2020. Wing patterning in faster developing *Drosophila* is associated with high ecdysone titer and wingless expression. *Mechanisms of Development* 163 (2020) 103626. doi.org/10.1016/j.mod.2020.103626

Sood U., Singh DN., Hira P., Lee JK., Kalia VC., Lal R., and Shakarad M. 2019. Rapid and solitary production of mono-rhamnolipid biosurfactant and biofilm inhibiting pyocyanin by taxonomic outlier *Pseudomonas aeruginosa* strain CR1. *Journal of Biotechnology*. doi: 10.1016/j.jbiotech.2019.11.004

Singh DN., Sood U., Singh AK., Gupta V., Shakarad M., Dogra Rawat C., and Lal R., 2019. Genome sequencing revealed the biotechnological potential of an obligate thermophile *Geobacillus thermoleovorans* strain RL isolated from hot water spring. *Indian Journal of Microbiology*. doi: 10.1007/s12088-019-0089-x

Talwar C., Singh AK., Singh DN., Nagar S., Singh Y., Shakarad M., Negi R., and Lal R. 2019. Draft genome sequence of *Deinococcus* sp. Strain S9, Isolated from microbial mat deposits of hot springs located atop the Himalayan ranges at Manikaran, India. *Microbiology Resource Announcements* 8(28): e00316-19. doi: 10.1128/MRA.00316-19

Conference Organization/ Presentations (in the last three years)

Shakarad M. 2020. Evolution as the guiding force for the development of outlier clade of *Pseudomonas aeruginosa*. Southeast Asian Regional Symposium on Microbial Ecology (SARSME 2020), Pokhara, Nepal, 12 -14th February 2020.

Shrivastava NK., Chauhan N., Shrivastava A. and Shakarad M. 2020. Immunity robustness is unaltered by energy levels in *Drosophila melanogaster*. 5th Asia Pacific *Drosophila* Research Conference, Pune, India, 6-10 January 2020.

Sharma K. and Shakarad M. 2020. Impact of critical size on reproduction related traits in *Drosophila melanogaster* populations under simultaneous selection for two divergent traits. 5th Asia Pacific *Drosophila* Research Conference, Pune, India, 6-10 January 2020.

Sageena G. and Shakarad M. 2019. Affect of heavy metals induced oxidative stress on *Drosophila melanogaster* behaviour. Indo-Swiss meeting on Evolutionary Biology, Bengaluru, India, 12-14 December 2019.

Chauhan N., Shrivastava NK., Agrawal N. and Shakarad MN. 2019. Higher growth rate and large prothoracic gland size are responsible for early metamorphosis in the population of *D. melanogaster* selected for faster pre-adult development. European Developmental Biology Congress. Alicante, Spain, 23 - 26 October 2019.

Shakarad M. 2018. Genomic heterogeneity and distinctive plant growth promoting potential of *Pseudomonas fluorescens* PsChi uncovered by comparative genomics study. INSCR International Conference 2018 (IIC-2018) on "Trends in Biotechnology for Innovations in Health & Environment". School of Biotechnology, Kalinga Institute for Industrial Technology-KIIT, Bhubaneswar-751024, India. 26-27th September 2018.

Shakarad M. 2018. Bioprospecting an environmental isolate of *Pseudomonas aeruginosa*. National conference on "Biodiversity and Bio-prospecting for Sustainable Development". Institution of Excellence, University of Mysore, Mysuru, India. 23-24th February 2018.

Research Projects (Major Grants/Research Collaboration)

1. Title of Project: Exploring diversity, functional dynamics and biotechnological applications of bacterial communities inhabiting hot water spring atop the Himalayan ranges at Manikaran, Himachal Pradesh, India.
Funding Agency: Department of Biotechnology (DBT), Govt. of India
Total Grant of Project: Rs.52.23 lakhs
Date of Commencement: February 2017
Date of Completion: January 2020
2. Title of Project: Production of rifamycin analogues against multi-drug resistant (MDR) strains of *Mycobacterium tuberculosis* by the manipulation of rifamycin polyketide biosynthetic gene cluster of *Amycolatopsis mediterranei* S699 and understanding the changes in human microbiome under antibiotic treatment regimen in patients suffering from tuberculosis.
Funding Agency: Department of Biotechnology (DBT), Govt. of India
Total Grant of Project: Rs.68.33 lakhs
Date of Commencement: October 2015
Date of Completion: October 2018
3. Regulation of heat shock proteins in *Drosophila melanogaster* populations simultaneously selected for faster pre-adult development and late reproduction.
Funding Agency: Council of Scientific & Industrial Research, Government of India.
Grant amount: INR 30 lakh.
Status: Completed
4. Cost of selection response to simultaneous selection on two divergent life-history traits in *Drosophila melanogaster*.
Funding Agency: Council of Scientific & Industrial Research, Government of India.
Grant amount: INR 20 lakh.
Status: Completed
5. Evolution of life-history traits in *Drosophila melanogaster* under multiple divergent selection pressures.
Funding Agency: Council of Scientific & Industrial Research, Government of India.
Grant amount: INR 17 lakh.
Status: Completed
Status: Completed
6. Division of labour in termites: How is it achieved?
Funding Agency: Department of Science & Technology, Government of India.
Grant amount: INR 17.5 lakh.
7. A model lower termite to understand division of labour amongst workers (Co PI with Crosland, M. W. J., and Traniello, J. F. A.), Research Grant Council of Hong Kong. Grant amount: HK\$ 780,830 (≈ 100,000 US\$)

Awards and Distinctions

ICAR Fellowship 1987-1989.
UAS Bangalore Gold Medal 1989.
Research Fellowship, IISc Bangalore 1990-1995
CSIR and DST Travel Awards for Conferences.

Association With Professional Bodies

1. *Editing*: Member, Editorial Board of Journal of Genetics, Aug 2004- Dec 2011.
2. *Reviewing*: *BMC Genomics*, *Frontiers in Zoology*, *Journal of Genetics*, *Journal of Bioscience*, *Resonance: Journal of Science Education*, *Current Science*, *Proceedings of Indian National Science Academy: Biological Sciences*, *Entomon*, *Journal of*

the Bombay Natural History Society.

3. Member- Advisory Committee, Clarette Biotech, Mysore, India, December 2017- present.

4. *Memberships*: Life member, Ethological Society of India

Other Activities

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.