

✚ **Name : Dr. Sanjay Kumar Gupta**

✚ Designation: Scientist (Sr. Scale)

✚ **Contact**

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✚ **Google Scholar Profile** (if available):

<https://scholar.google.com/citations?user=RIwqLZMAAAAJ>

✚ **Research Gate Profile** (if available):

[https://www.researchgate.net/profile/Sanjay\\_Gupta41](https://www.researchgate.net/profile/Sanjay_Gupta41)

✚ **Career**

#### Academic

Degree/Course	Institution	University/Board	Year
<b>BFSc</b>	College of Fisheries, Panangad, Kochi, Kerala	Kerala Agriculture University (KAU)	2004
<b>MFSc (Fish Nutrition and Biochemistry)</b>	Central Institute of Fisheries Education, (CIFE), Mumbai	Deemed University, CIFE	2006
<b>ARS and NET</b>	Agricultural Scientists Recruitment Board, New Delhi	ASRB, New Delhi	2009
<b>PhD (Aquaculture)</b>	Central Institute of Fisheries Education, (CIFE), Mumbai	Deemed University, CIFE	2010
<b>Post Doc</b>	Curtin University, Perth Western Australia, Australia	Curtin University	2018

#### Professional

<b>Position held</b>	<b>Institution</b>	<b>Period of appointment</b>
Probationary Scientist	ICAR- National Academy of Agriculture Research Management, Hyderabad	11 <sup>th</sup> May-10 <sup>th</sup> September 2010
Scientist	ICAR-Directorate of Coldwater Fisheries Research, Bhimtal, Nainital, Uttarakhand	October 2010- to 9 <sup>th</sup> September 2015
Scientist (SS)	ICAR-Indian Institute of Agricultural Biotechnology (IIAB)	11 <sup>th</sup> September, 2015- to till date.

### Awards and Honours

<b>S.No</b>	<b>Name of Award</b>	<b>Awarding Agency</b>	<b>Year</b>
i.	Distinguish Scientist Award	PRAGATI, Dhanbad	2020
ii.	DBT RA Mentorship	Department of Biotechnology, India	2019
iii.	Best session presentation award	The International Institute of Knowledge Management (TIKM), Thailand	2019
iv.	Certificate of appreciation for serving as Session Chair	The International Institute of Knowledge Management (TIKM), Thailand	2019
v.	Endeavour Postdoctoral Research Fellowship Award	Australian Government	2018
vi.	Indo Global Excellence Award	Indo Global Chamber of Commerce, Industries and Agriculture, India	2018
vii.	Young Scientist Award	Endling conference organizer, India	2018
viii.	Best Oral presentation award	Indo Global Chamber of Commerce, Industries and Agriculture, India	2018
ix.	Best Oral presentation certificate	Endling conference organizer, India	2018
x.	Visiting scientist at Ghent University, Belgium	National Innovation Agricultural Project (ICAR-NAIP)	2014

xi.	Young Scientist Award	Bioved Research Institute of Agriculture and Technology (BRIAT) Allahabad, Uttarpradesh	2013
xii.	Letter of Appreciation	Central Institute of Fisheries Education, Deemed University, Mumbai, India	2010
xiii.	Institutional Fellowship	Central Institute of Fisheries Education, Deemed University, Mumbai, India	2007
xiv.	Junior Research Fellowship	Indian Council of Agricultural Research, New Delhi	2004

✚ **Research Area: Aquaculture nutrigenomics and metagenomics**

✚ **Group members: Dr. Biplab Sarkar (Sr. Scientist), Dr. Soumen Naskar (Sr. Scientist)**

✚ **Publications:**

**Publications in refereed journals**

1. Kumar, V\*, Sahu, N.P., Pal, A.K., Kumar, S., and **Gupta, S. K.** (2007) Gelatinized to non-gelatinized starch ratio in the diet of *L. rohita*: Effect on digestive, metabolic response and growth. *Journal of Animal Physiology and Animal Nutrition*, 92(4): 492-501. **IF -1.70**
2. **S. K. Gupta\***, Pal, A.K., Sahu, N.P., Dalvi, R.S., Kumar, V., Mukherjee, S.C. (2008) "Microbial levan in the diet of *Labeo rohita* juvenile: Effect on non-specific immunity and histopathological changes after challenged with *Aeromonas hydrophilla*. *Journal of Fish Disease*, 31: 649- 657. **IF -2.0**
3. [2010](#)  
**S. K. Gupta\***, Pal, A.K., Sahu, N.P., Dalvi, R.S., Akhtar, M.S., Jha, A.K., Kartik, Baruah (2010) Dietary microbial levan enhances tolerance of *Labeo rohita* (Hamilton) juveniles to thermal stress. *Aquaculture*, 306: 398–402. **IF -3.02**

4. Mandal, S.C\*., Sahu, N.P., Kohli, M.P.S., Das, P., **Gupta, S. K.**, Sukham, M.K (2010) Replacement of live feed by formulated feed: effect on the growth and spawning performance of Siamese fighting fish (*Betta splendens*, Regan,1910) Aquaculture research, 41 (11) 1707-1716. **IF -1.50**

5. Akhtar, M.S\*., Pal, A.K., Sahu, N.P., Ciji, A., **Gupta, S. K.**, Choudhary, A.K., Jha, A.K., and Ranjan, M.G., (2010) Stress mitigating and immuno-modulatory effect of dietary pyridoxine in *Labeo rohita* (Hamilton) fingerlings. Aquaculture research, 41, 991-1002. **IF -1.50**

6. [2011](#)

Prusty, A.K\*., Kohli, M.P.S., Sahu, N.P., Pal, A.K., Saharan, N., Mohapatra, S., **Gupta, S. K.** (2011) Effect of short term exposure of fenvalerate on biochemical and haematological responses in *Labeo rohita* (Hamilton) fingerlings. Pesticide Biochemistry and Physiology, 100, 124–129. **IF -2.87**

7. [2012](#)

Akhtar, M.S\*., Pal, A.K., Sahu, N.P., Ciji, A., **Gupta, S. K.** (2012) Effects of dietary pyridoxine on growth and biochemical responses of *Labeo rohita* fingerlings exposed to endosulfan. Pesticide Biochemistry and Physiology, 103,23-30. **IF -2.87**

8. [2013](#)

Akhtar, M.S\*., Pal, A.K., Sahu, N.P., Ciji, A., **Gupta, S. K.**, Dasgupta, A., (2013) Serum electrolytes, osmolarity and selected enzyme activities of *Labeo rohita* juveniles exposed to temperature and salinity stress: effect of dietary L-tryptophan. Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci. DOI 10.1007/s40011-013-0284-5.

9. Mandal, S.C\*., Singh, S.K., Das, P., Barman, D., and **Gupta, S. K.** (2013) Trace and heavy metal content in diets and their effect on the growth and survival of Siamese fighting fish, *Betta splendens*. Indian Journal of Animal Nutrition, 30 (1): 80-86
10. **Gupta S. K.** \*, Pal, A.K., Sahu, N.P., Jha, A.K., Akhtar, M.S., Mandal, S.C., Das, P., Prusty, A.K. (2013) Supplementation of microbial levan in the diet of *Cyprinus carpio* fry (Linnaeus, 1758) exposed to sublethal toxicity of fipronil: Effect on growth and metabolic responses. Fish Physiology and Biochemistry, 39:1513–1524. **IF -1.74**
11. [2014](#)  
  
**Gupta, S. K.**\*, Pal, A.K., Sahu, N.P., Saharan, N., Chandraprakash., Akhtar, M.S., and Sikendra Kumar (2014) Haemato-biochemical responses in *Cyprinus carpio* (Linnaeus, 1758) fry exposed to sub-lethal concentration of a phenylpyrazole insecticide, fipronil. Proceeding of National Academy of Sciences India Section B Biological Sciences, 84(1):113-122..
12. Kumar, S\*., Munilkumar, S., **Gupta, S. K.**, Jain, K. K., Pal, A. K., G.M, Siddaiah., and Chandra Prakash (2014) Protein/energy ratio and HUFA content in the diet of *Pangasianodon hypophthalmus* (Sauvage, 1878) fingerlings: Effect on growth and flesh quality. The Israeli Journal of Aquaculture- Bamidagh. 66, IJA:65, 2014.1002. **IF -0.29**
13. **S. K. Gupta\***, Pal, A.K., Sahu, N.P., Saharan, N., Mandal, S.C., Chandraprakash., Akhtar, M.S., Prusty, A.K. (2014) Dietary microbial levan ameliorates stress and augments immunity in *Cyprinus carpio* fry (Linnaeus, 1758) exposed to sub-lethal toxicity of fipronil. Aquaculture Research: 45, 893–906. **IF -1.50**
14. [2015](#)

- Prusty, A. K\*., Meena, D. K., Mohapatra, S., Panikkar, P., Das. P., **Gupta, S. K.** and Sahu, N. P. (2015) Synthetic pyrethroids (Type II) and freshwater fish culture: Perils and mitigations. International Aquatic Research. DOI 10.1007/s40071-015-0106-x
15. Kumar, S., Chandra Prakash, **Gupta, S. K.\*.**, Chadha, N. K., Jain, K. K., Ghughuskur M & Pandey P.K. (2015) Effect of dietary anthraquinone extract on growth and haemato-immunological responses of *Cirrhinus mrigala*. Proceeding of National Academy of Sciences India Section B Biological Sciences, DOI 10.1007/s40011-015-0609-7 .
16. Kartik Baruah\*, Tran T. Huy, Parisa Norouzitallab, **S. K. Gupta**, Peter De Schryver & Peter Bossier (2015). Probing the protective mechanism of poly- $\beta$ -hydroxybutyrate against vibriosis by using gnotobiotic *Artemia franciscana* and *vibrio campbellii* as host-pathogen model. Scientific reports (Nature publishing group) 5: 9427 **IF - 4.01**
17. **S. K. Gupta\***, Pal, A. K., Sahu, N.P., Jha, A.K., and Prusty A.K. (2015) Effects of dietary microbial levan on growth performance, RNA/DNA ratio and some physio-biochemical responses of *Labeo rohita* (Hamilton) juveniles. Aquaculture nutrition 21;892–903 doi:10.1111/anu.12216 **IF - 2.10**
18. Makwana, N.P., **S. K. Gupta\***, Srivastava, S.K., and Gopal Krishna (2015) Cryopreservation of rainbow trout spermatozoa (*Onchorrhynchus mykiss*) using different cryodiluents. Cryo letters 36(2) 137-147 **IF - 0.69**
19. [2016](#)  
Neeraj Kumar\*, K Ambasankar, K K Krishnani, **S. K. Gupta**, Shashi Bhushan, P S Minhas (2016). Acute toxicity, biochemical and histopathological responses of endosulfan in *Chanos chanos*. Ecotoxicology and Environmental Safety 131, 79–88. **IF - 4.53**
20. Neeraj Kumar\*, K Ambasankar, K K Krishnani, **S. K. Gupta**, P S Minhas 2016. Dietary pyridoxine promotes growth and cellular metabolic plasticity of *Chanos chanos*

fingerlings exposed to endosulfan induced stress. *Aquaculture Research* Doi. 10.1111/are.13042. **IF – 1.50**

21. Kumar, N\*., Krishnani, K.K., Meena K.K., **Gupta, S. K.**, Singh, N.P., 2016. Oxidative and cellular metabolic stress of *Oreochromis mossambicus* as biomarkers indicators of trace element contaminants. *Chemosphere* 171, 265-274. **IF – 5.10**

22. [2017](#)

Neeraj Kumar\*, Krishnani K K, Paritosh Kumar, Jha A.K. **Gupta S. K.** Singh N.P. (2017). Dietary zinc promotes immuno-biochemical plasticity and protects fish against multiple stresses. *Fish and Shellfish Immunology* 62:184-194. **IF – 3.19**

23. Neeraj Kumar\*, Krishnani KK, **Gupta S. K.**, Singh NP (2017). Selenium nanoparticles enhanced thermal tolerance and maintain cellular stress protection of *Pangasius hypophthalmus* reared under lead and high temperature. *Respiratory Physiology and Neurobiology*, 246: 107-116. **IF – 1.58**

24. Neeraj Kumar\*, Krishnani, K.K., **S. K. Gupta**, N P Singh (2017). Cellular stress and histopathological tools used as biomarkers in *Oreochromis mossambicus* for assessing metal contamination. *Environmental Toxicology and Pharmacology* 49: 137-147. **IF - 3.06**

25. Labh S.N., Shakya S.R., **Gupta S. K.**, Neeraj K. and Kayastha B.L. (2017) Effects of lapsi fruits (*Choerospondias axillaris* Roxburgh, 1832) on immunity and survival of juvenile tilapia (*Oreochromis niloticus* Linnaeus, 1758) infected with *Aeromonas hydrophila*. *International Journal of Fisheries and Aquatic Studies* 5(2) 571-577

26. [2018](#)

Neeraj Kumar\*, K.K. Krishnani, M.P. Brahmane, **S. K. Gupta**, Paritosh Kumar, N.P.Singh. (2018). Temperature induces lead toxicity in *Pangasius hypophthalmus*: An

acute test, antioxidative status and cellular metabolic stress. International Journal of Environmental Science and Technology 15:57-68 **IF - 2.04**

27. Neeraj Kumar\*, Krishnani K.K, **S. K. Gupta**, Singh NP (2018). Effects of silver nanoparticles on stress biomarkers of *Channa striatus*: immuno-protective or toxic? Environmental Science and Pollution Research 25: 14813-26 DOI: 10.1007/s11356-018-1628-8. **IF -2.91**
28. **S.K. Gupta\***, B.Sarkar S.Bhattacharjee , NeerajKumar S.Naskar, Kiran Babu Uppuluri (2018). Modulation of cytokine expression by dietary levan in the pathogen aggravated rohu, *Labeo rohita* fingerlings. Aquaculture (495):496-505. **IF - 3.02**
29. Pham, H.D., Siddik, M.A.B., Fotedar, R. Chau Minh Nguyen, Ashfaqun Nahar, **S. K. Gupta\*** (2018). Total Bioavailable Organic Selenium in Fishmeal-Based Diet Influences Growth and Physiology of Juvenile Cobia *Rachycentron canadum* (Linnaeus, 1766) Biol Trace ele, res. <https://doi.org/10.1007/s12011-018-1565-x>. **IF - 2.43**
30. Kumar, Sikendra\*, Chandra Prakash, Narinder Kumar Chadha, **S. K. Gupta**, K. Kalaiselvan, Payal Jain and Pramod Kumar Pandey (2018). “Effects of Dietary Alginic Acid on Growth and Haemato-Immunological Responses of *Cirrhinus mrigala* (Hamilton, 1822) Fingerlings.” Turk. J. Fish. & Aquat. Sci. 19(5), 373-382  
**IF – 0.74**
31. Biplab Sarkar\*, Suresh K. Verma, Javed Akhtar, Surya Prakash Netam, **S. K. Gupta**, Pritam Kumar Panda, Koel Mukherjee, (2018) Molecular aspect of Silver nanoparticles regulated embryonic development in Zebrafish (*Danio rerio*) by Oct-4 expression, Chemosphere 206 (2018) 560-567 doi: 10.1016/j.chemosphere.2018.05.018. **IF – 5.10**
32. Suresh Chandra\*, Rabindar Singh Patiyal, **S. K. Gupta** and Debajit Sarma (2018) Study on age dependent breeding performance of rainbow trout (*Oncorhynchus mykiss*, Walbaum, 1792). Journal of Coldwater Fisheries 1(1):125-128
33. [2019](#)



Foysal, M. J\*., Fotedar, R., **Gupta, S. K.**, & Chaklader, M. R. (2019). Biological ball filters regulate bacterial communities in marron (*Cherax cainii*) culture system. Letters in Applied Microbiology. doi:10.1111/lam.13125. **IF – 1.47**

34. Ishaq Saputra, Ravi Foetdar, **S. K. Gupta\***, Muhammad A. B. Siddik, Md Javed Foysal (2019) Effects of different dietary protein sources on the immunological and physiological responses of marron, *Cherax cainii* (Austin and Ryan, 2002) and its susceptibility to high temperature exposure. Fish and Shellfish Immunology <https://doi.org/10.1016/j.fsi.2019.03.012>. **IF – 3.19**

35. Foysal MJ\*, Fotedar R, Tay C-Y, **Gupta SK\*** (2019) Dietary supplementation of black soldier fly (*Hermetica illucens*) meal modulates gut microbiota, innate immune response and health status of marron (*Cherax cainii*, Austin 2002) fed poultry-by-product and fishmeal based diets. Peer J [10.7717/peerj.6891](https://doi.org/10.7717/peerj.6891) **IF - 2.35**

36. Foysal MJ\*, Nguyen, T. T. T., Chaklader, M. R., Siddik, M. A., Tay, C. Y., Fotedar, R., & **Gupta, S. K.** (2019) Marked variations in gut microbiota and some innate immune responses of fresh water crayfish, marron (*Cherax cainii*, Austin 2002) fed dietary supplementation of *Clostridium butyricum*. Peer J, 7, 7553. **IF - 2.35**

37. Kumar, N., **Gupta, S. K.**, Bhushan, S., & Singh, N. P. (2019) Impacts of acute toxicity of arsenic (III) alone and with high temperature on stress biomarkers, immunological status and cellular metabolism in fish. Aquatic Toxicology. 214, 105233, **IF – 3.80**

38. [2020](#)

Foysal, M. J\*., Eng Guan Chua, **Gupta, S. K.**, Binit Lamichhane , Tay, C. Y., Fotedar, R. (2020) *Bacillus mycoides* supplemented diet restructures the health status, gut microbiota and innate immune response of freshwater crayfish marron (*Cherax cainii*), Animal feed Science and technology 262, 114408., **IF - 2.59**

39. Foysal MJ\* Alam, M., Robiul Kawser A.Q.M., Hasan,F., Dr Rahman. M., Tay C-Y., Prodhan, S.H., Gupta SK\* (2020) Meta-omics technologies reveals beneficiary effects of *Lactobacillus plantarum* as dietary supplements on gut microbiota, immune response and disease resistance of Nile tilapia (*Oreochromis niloticus*) *Aquaculture* 520, 734974. **IF – 3.02**
40. **Gupta S.K\*** B. Sarkar, Manisha priyam, Neeraj K., S. Naskar., Foysal, M. J., Shailesh saurabhd T.R. Sharma (2020) Inflammatory and stress biomarker response of *Aeromonas hydrophila* infected rohu, *Labeo rohita* fingerlings to dietary microbial levan. *Aquaculture* 521, 735020. **IF – 3.02**
41. Foysal, M. J. \* Fotedar, R., Tay, A. C. Y., & **Gupta, S. K\***. (2020) Effects of long-term starvation on health indices, gut microbiota and innate immune response of fresh water crayfish, marron (*Cherax cainii*, Austin 2002) *Aquaculture*, 514, 734-44, **IF -3.02**
42. Foysal, M. J.\* Momtaz, F., Kawsar, A. R., Rahman, M. M., **Gupta, S. K.**, & Tay, A. C. Y. (2020) Next generation sequencing reveals significant variations in bacterial compositions across the gastrointestinal tracts of the Indian major carps, rohu (*Labeo rohita*), catla (*Catla catla*) and mrigal (*Cirrhinus cirrhosis*). *Letters in Applied Microbiology*. DOI: 10.1111/lam.13256, **IF – 1.80**
43. Siddik, M. A.\* Chaklader, M. R., Foysal, M. J., Howieson, J., Fotedar, R., & **Gupta, S. K.** (2020) Influence of fish protein hydrolysate produced from industrial residues on antioxidant activity, cytokine expression and gut microbial communities in juvenile barramundi *Lates calcarifer*. *Fish & Shellfish Immunology*. 97, 465-73, **IF – 3.29**
44. Foysal MJ\*, Fotedar R, Tay C-Y, **Gupta SK (2020)** Biological filters regulate water quality, modulate health status, immune indices and gut microbiota of freshwater crayfish, marron (*Cherax cainii*, Austin, 2002) *Chemosphere* 7;247:125821. doi: 10.1016/j.chemosphere.2020.12582. **IF – 5.10**

45. Rayees Ahmad Bhat, Sudha Saini, Manisha Priyam, Md Javed Foysal, **Gupta S.K.\*** and J.K Sundaray (2020) Role of Sex-Biased miRNAs in teleosts - A Review, (In production), Reviews in Aquaculture, **IF-7.19**
46. N Kumar\*, **Gupta S.K.**, N K Chandan, S. Bhushan, D K Singh, P. Kumar, PK Goraksha C. Wakchaure<sup>a</sup>, N PSingh<sup>a</sup> (2020) Synergistic effect of selenium nanoparticles and riboflavin against arsenic and temperature aggravated stress in *Pangasianodon hypophthalmus*, Accepted, Scientific reports (Nature publishing group) **IF. 4.01**
47. T Akter, Foysal MD.\* M. Alam, R. Ehsan, S. I. Paul, F. Momtaz, Siddik MAB, A. C. Y Tay, R. Fotedar, Gupta S.K., T. Islam, Rahman MM (2020) Involvement of *Enterococcus* species in streptococcosis of Nile tilapia in Bangladesh, Accepted, Aquaculture, **IF -3.02**

### **Genetic stocks registration**

- ❖ 123Mb data of *Cherax cainii*, Austin (2002) (fed on alternative protein sources) gut metagenome submitted to NCBI vide BioProject accession number PRJNA505066 on 11.11.2018
- ❖ 291Mb data of gut metagenome of three Indian major carps rohu (*Labeo rohita*), catla (*Catla catla*) and mrigal (*Cirrhinus cirrhosis*) submitted to NCBI vide BioProject accession number PRJNA528757 on 23.03.2019
- ❖ 93Mb data of *Lactobacillus plantarum* supplemented-diet fed Nile tilapia (*Oreochromis niloticus*) gut metagenome submitted to NCBI vide BioProject accession number PRJNA594261 on 09.12.2019
- ❖ 257Mb data of barramundi (*Lates calcarifer*) fed varied combination of non-fishmeal ingredients, gut metagenome submitted to NCBI vide BioProject accession number PRJNA608700 on 25.02.2019
- ❖ 121Mb data of a *Cherax cainii*, Austin (2002)) gut metagenome submitted to NCBI vide BioProject accession number PRJNA608700 on 19.03.2020
- ❖ Bio Sample accessions: SAMN14403970, SAMN14403971, SAMN14403972 with Submission ID: SUB7166083 successfully submitted to NCBI on 19.03.2020

### **Books edited**

- ⇒ **Sanjay Kumar Gupta** and Pawan Kumar Bharti (2014): “*Aquaculture and Fisheries Environment*” published by Discovery Publishing House Private Limited, Dariyaganj, New delhi, India pp:1-195 (ISBN-93-5056-408-4).
- ⇒ **Sanjay Kumar Gupta** and Pawan Kumar Bharti (2015): “*Fish habitat and Aquaculture*” published by Discovery Publishing House Private Limited, Dariyaganj, New delhi, India pp:1-224 (ISBN-93-5056-744-X).
- ⇒ **Sanjay Kumar Gupta** & Pawan Kumar Bharti (2016) Sustainable Aquaculture Management published by Discovery Publishing House Private Limited, Dariyaganj, New delhi, India. Page 01-309. (ISBN-978-93-5056-797-5)

### Book Authored

- ⇒ **Sanjay Kumar Gupta** (2014): Dietary Microbial levan: Effect on heamato-immunology, growth and physiology of freshwater carp, *Labeo rohita*, Lambert Academic Publishing (LAP) Saarbrücken, Germany.pp:1-130 (ISBN- 978-3-659-56192-4)
  - ⇒ Makwana nayan and **Sanjay Kumar gupta** (2014) Cryodiluent compositions: effect of on spermatozoa of coldwater fish rainbow trout (*O.mykiss*) Lambert Academic Publishing (LAP) Saarbrücken, Germany.pp:1-90 (ISBN- 978-3-659-48838-2 )
- Bhartendu V., Himanshu S., **Sanjay K Gupta.**, T. Kumar., Satender K., (2019) Advances in fish production and technology. Published and printed by The Print salon, Delhi. PP (1-191) ISBN978-81-942573-0-1.

### Book Chapter (Selected 10)

- ⇒ **S.K.Gupta**, Alkesh Das, A.gupta & A.K. Prusty (2014): Biological Indicators of Aquatic Environment. *In: Aquaculture and Fisheries environment* (Ed. Sanjay Kumar Gupta, Pawan Kumar ‘Bharti’), Discovery Publishing House Pvt. Ltd., Delhi. Pp 1-19
- ⇒ **S.K., Gupta**, Saharan, N., Gupta, A., Sharma, K.K., and Prusty, A K. (2013) Impact of fipronil on the aquatic environment. *In: Bharti Pawan K and Kaoud H.A. (Eds.)*, Biodiversity of aquatic environment, Discovery publishing house, New Delhi, pp. 118-137.
- ⇒ **S.K., Gupta**, Saharan, N., Prusty, A.K., Akhtar, M.S., Mandal, S.C., and Kumar, K. (2013) Ultramicroscopical changes in the gills of *C. carpio* fry due to fipronil toxicity. *In: Bharti Pawan K (Eds.) Aquatic environment and toxicity*, Discovery publishing house, New Delhi, pp. 195-209
- ⇒ Sagar C. Mandal, Debtanu Barman **S.K. Gupta** and S. Khogen Singh (2014):. Management and Control of Land Degradation with Special Reference to Aquaculture. *In: Aquaculture and Fisheries environment* (Ed. Sanjay Kumar Gupta, Pawan Kumar ‘Bharti’), Discovery Publishing House Pvt. Ltd., Delhi. Pp 164-186.
- ⇒ Giri A K, **Gupta SK** & Chandra S. 2016. Upscaling aquatic ecosystem through cascade of straining arrangement. *In: Sustainable Aquaculture Management* (Gupta S K & Bharti P K, edn.), pp 303-309, Discovery Publishing House, New delhi.


- ⇒ Gogoi S, Mandal S C & **Gupta SK**. 2016. Organic Aquaculture An approach for future aquaculture development. In: *Sustainable Aquaculture Management* (Gupta S K & Bharti P K , edn.), pp 303-309, Discovery Publishing House, New delhi.
- ⇒ Manisha Priyam, Sanjay Kumar Gupta\*, Biplab Sarkar, Ranjeet Kumar, Rishav Sheel, Bhartendu Vimal (2019) Gut microbiome research: a new facet to curb disease complications in aquaculture. Edited by Vimal et al., In: *Advances in fish production and technology* pp. 29-45.
- ⇒ Irshad Ahmad\*, Irfan Ahmad Bhat, A. K. Singh and Sanjay K. Gupta (2019) Biofloc technology: sustainable farming approach to aquaculture. Edited by Vimal et al., In: *Advances in fish production and technology* pp. 46-54.
- ⇒ Bhartendu Vimal\*, Chandra Bhushan Kumar, Sanjay K. Gupta, Raju Baitha, and Ashutosh Kumar (2019). Different routes of drug delivery and drug dose calculation in aqua-therapeutics. Edited by Vimal et al., In: *Advances in fish production and technology* pp. 139-147.
- ⇒ **Sanjay Kumar Gupta\***, Biplab Sarkar, Rishav Sheel, Ranjeet Kumar (2019). Nanotechnology implication in fisheries and aquaculture. Edited by Vimal et al., In: *Advances in fish production and technology* pp. 184-191

## Popular article (Selected 08)

### Popular article:

- ✓ **Gupta S. K.**, Biplab Sarkar., Vinay T. N., Tanmoy G.C., Anutosh P., (2016) Nutrigenomics: An emerging epoch of fish nutritional research. *Aqua International*, August issue. 53-55.
- ✓ T.N. Vinay, G.C. Tanmoy, P. Anutosh, **K.G. Sanjay** and S. Biplab (2016) Nanovaccines: A possible solution for mass vaccination in aquaculture. *WORLD AQUACULTURE* Pp:30-34
- ✓ Biplab Sarkar., Akshay D., Vinay T. N., Tanmoy G.C. Anutosh P., **Gupta S. K.**, (2016) Application of Zinc oxide nano-particle in aquatic pollution management. *Aqua International*, July issue. 61-63.
- ✓ Ajmal Hussan, T. G. Choudhury, Vinay T. N., **S. K. Gupta** (2016) Common problems in aquaculture and their preventive measures. *Aquaculture times* Vol. 2(5) pp 6-9
- ✓ **Gupta S. K.**, Pal A. K., N. Kumar., Biplab Sarkar., (2017) Dietary Nutraceutical and Immunity A new facet for modern aquaculture. *Livestock and feed trends*, June-July issue. Vol. 15 (2) 7-9.
- ✓ S. Mohapatra., S. Patnaik., D.P. Samantaray., B.K. Singh., **Sanjay K. Gupta.**, and Biplab Sarakar (2017) Biodegradable plastics from marine microbial sources. *Aqua International*, June issue. 58-62.
- ✓ **S.K. Gupta**, Biplab Sarkar, T.G. Chaudhury, and Vinay T. N. (2017) Diversity of patenting on microbial levan. In: *Technical Handbook on Intellectual Property Rights in Agricultural Biotechnology* (Edtrs. Biplab Sarkar et al.) ICAR-Indian institute of Agricultural Biotechnology, Ranchi. Pp 46-53.

- ✓ Anutosh Paria, TN Vinay, **Sanjay K Gupta**, Tanmoy Gon Choudhury, Biplab Sarkar(2018). Antimicrobial Peptides: A Promising Future Alternative to Antibiotics in Aquaculture. World Aquaculture.page-67

 **Patent (if any) : Nil**