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Institute/ University	Central Institute of Freshwater Aquaculture (*Indian Council of Agricultural Research*)
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Tel	91 06742465220
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Date of Birth	14th February 1955
Sex	Male
Academic qualifications	1. Ph.D (1985) in Ichthyology (Fish & Fishery Science) from Moscow State University, Moscow 2. Master of Science (1980) (Integrated Master Degree, Six years), in Zoology (Fish & Fishery Science) from Moscow State University, Moscow **3.** Ph.D. Thesis Work: Biological characteristic of male and female brooders of silver carp, big head, grass carp and their early ontogenesis by artificial reproduction in the condition of Uzbekistan (Former USSR).

Academic awards	1. **One Time Special Award – 1997** by ICAR. Special Award for the release of Improved Rohu (Jayanti) was announced by the former Hon`ble Union Minister of State for Agriculture, Shri Sompal. In collaboration with the Institute of Aquaculture Research (AKVAFORSK), Norway and with the support of NORAD, CIFA has conducted a project on "Selective Breeding of Rohu" under the first International Carp Selection Project. Genetically Improved Rohu developed from a broader gene base consisting of five riverine (viz. Ganga, Yamuna, Sutlej, Bhramaputra, Gomati) and one Farm stock. Genetically improved rohu is a good substitute to replace the existing broodstock in the hatcheries. 2. **The Best Division Award – 1998** is presented to Fish Genetics and Biotechnology Division by CIFA. 3. **Annual Award** – "The Fisheries Technocrafts Forum", Chennai, and Tamil Nadu present 2000 to Dr.P.V.G.K.Reddy and His Team for outstanding contribution in Fisheries Sector. 4. **The Best Technical Person Award – 2001** is presented to me by CIFA for outstanding contribution in the field of Fisheries. 5. **Special Appreciation letter- 2007**. From The Director,Central Institute of Freshwater Aquacultuture (CIFA). 6. **Special Appreciation letter- 2008**. From The Deputy Director General (Fy), ICAR, New Delhi.
Patent/ Registration/ Commercialization	Development of Improved Genetic Varity, Rohu "JAJANTI" (Collaborative effort). Trade Mark Registered.
Research Experiences	Working on "Selective Breeding of Rohu (*Labeo rohita*)" from 1993 onwards. Management of brood fishes, production of quality seed from "Jayanti" rohu (*Labeo rohita*), circular and fiberglass jar hatchery management, production of full sib groups. Tagging procedure for carps has been standardized with PIT (Passive Integrated Transponder) tag etc.
Achievements	⇒ Genetically improved rohu "Jayanti" with 17% higher genetic gain per generation, developed through selective breeding ⇒ Tagging standardization for carps with Passive Integrated Transponder (PIT) tags.

	⇒ Revalidate growth potential of "Jayanti" rohu with the help of on-farm trials ⇒ Dissemination of improved rohu in different parts of India Protocol standardized for mass challenge test for rohu against *Aeromonas hydrophila* and incorporated for the breeding programme.
International Trainings Attended	I. Workshop on "Selective Breeding of Atlantic salmon and trout". Sponsored by NORAD at Institute of Aquaculture Research (AKVAFORSK), Norway, 4– 16 May 1995. II. Training on "Quantitative Genetics and its Application to Aquaculture" sponsored by International Networks of Genetics in Aquaculture (INGA). Penange, Malayasia at Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar, India, 1-21 September 1998. III. Training on "Quantitative Genetics and its Application to Aquaculture" sponsored by International Networks of Genetics in Aquaculture (INGA). Penange, Malayasia at Bangkok, Thailand, 1-21 October 2002. IV. Study tour under the project "Selective breeding of rohu for innate resistance to aeromoniasis" at Institute of Aquaculture Research (AKVAFORSK), Norway, 2 – 15 October 2004.
Completed Projects (Institute based Projects)	**1.** Selective breeding of rohu (*Labeo rohita)* for innate resistance to aeromoniasis **2.** Genetic improvement of rohu for growth and disease resistance against *Aeromonas hydrophila* through sustainable selective breeding **3.** Improvement of production efficiency and rearing time of full sib families of Jayanti rohu (*Labeo rohita*) in recirculatory system
Completed Projects (Externally Funded)	1. Genetic improvement of rohu (*Labeo rohita)* for growth selective breeding 2. Selective breeding of rohu, *labeo rohita* for innate resistance to aeromoniasis (Indo- Norwegain Programme), INPIC (Indo-Norwegian Programme of Institutional Co-operation 3. Achieving greater food security and eliminating poverty by dissemination of improved carp strains fish in India, (ICAR – WorldFish Center project)

Current Research Projects (Institute based Projects)	**1**. Stock evaluation of catla *Catla catla)* and genetic improvement of rohu (*Labeo rohita)* for growth and disease resistance through selective breeding
Current Research Projects (Externally Funded)	**1.** Improved disease resistance of rohu carp and tiger shrimp farmed in India: Developing and implementing advanced molecular methods and streamlining access to and use of genetic resources
Important Publications	1. A.P.Makeeva and **J.N.Saha.** 1985. Cytological analysis of ovulated oocytes of silver carp *Hypophthalmichthys molitrix* (val), big head *Aristichthys nobilis* (Rich) and grass carp *Ctenopharyngodon idella* (val) by artificial reproduction. Biological Science, No.7, 9-43. (In Russian). 2. **J.N.Saha.** 1991. Determination of oocyte maturation in the spawning of phytophagous carps (*Hypophthalmichthys molitrix* and *Ctenopharyngodon idella*). Proc. Nat. Symp. Freshwater Aqua. 46-48. 3. H.A.Khan, M.S.Tantia and **J.N.Saha.** 1991. Micronucleus test (MNT) of peripheral blood cell of an Indian major carp, *Labeo rohita* (Ham.) treated with zinc, cobalt, nitrate, Malathion, nuvan and endosulfan. Proc. Nat. Symp. Freshwater Aqua. 66-68. 4. **J.N.Saha.** 1991. Gonadal development and growth of oocytes of pond reared silver carp, *Hypophthalmichthys molitrix* (val). Proc. All India Symp. On Develop. Biol. 18. 5. Kanta Dasmahapatra, P.V.G.K.Reddy, **J.N.Saha,** S.D.Gupta, R.K.Jana and Smita Lenka. 1998. On the performance of PIT (Passive Integrated Transponder) tag for marking fishes, Rohu. Proc.Nat. Sem. In: Current and Emerging Trends in Aquaculture and its Impact on Rural Development. 14-16 February. 191-194. 6. P.V.G.K.Reddy, Kanta Dasmahapatra, **J.N.Saha** and R.K.Jana. 1998. Effect of induced triploidy on the growth of common carp (*Cyprinus carpio* var communis L.) J.Aqua.Trop.13 (1), 65-72. 7. P.V.G.K.Reddy, B.Gjerde, K.D.Mahapatra, **J.N.Saha,** R.K.Jana, S.D.Gupta & M.Rye.1998. Selective breeding and mating designs for selection in fishes with reference to rohu, *Labeo rohita*. In: Fish Gen. Biodiversity Con. 449-456. 8. B.Gjerde, P.V.G.K.Reddy, M.Rye, R.K.Jana, K.D.Mahapatra, S.D.Gupta, **J.N.Saha,** M.Sahoo, S.Lenka, Govindaswany, S.D.Tripathi, Trygve Gjedrem. 1999. Genetic variation in

growth rate of rohu (*Labeo rohita*) in mono- and polyculture systems. Aquaculture, (Abstract). 173: 9

9. B.Gjerde, P.V.G.K.Reddy, K.D.Mahapatra, **J.N.Saha,** R.K.Jana, S.D.Gupta, M.Sahoo, S.Lenka & P.Govindassamy. 1999. Average heterosis for growth and survival in two diallele crosses with five stocks of rohu carp (*Labeo rohita*). 1999. Proc.International Con. Aquaculture Europe, Trondheim, Norway: 75-76.
10. K.D.Mahapatra, B.Gjerde, P.V.G.K.Reddy, M.Sahoo, R.K.Jana, **J.N.Saha** & M.Rye.2001. Tagging on the use of Passive Integrated Transponder (PIT) tag for identification of fishes. Aquaculture Research. 32(1): 47-50.
11. P.V.G.K. Reddy, B.Gjerde, S.D.Tripathi, R.K.Jana, K.D.Mahapatra, S.D.Gupta, **J.N.Saha,** M.Sahoo, S.Lenka, P.Govindswamy, M.Rye and T.Gjerdem. 2002. Growth and survival of six stocks of rohu (Labeo rohita) in mono and Polyculture system. Aquaculture 203 (3-4): 239-250.
12. B.Gjerde, P.V.G.K.Reddy, K.D.Mahapatra, **J.N.Saha,** R.K.Jana, P.K.Meher, M.Sahoo, S.lenka, P.Govindassamy and M.Rye.2002. Growth survival in two complete diallele crosses with five stocks of Rohu carp (*Labeo rohita*). Aquaculture 209: 103-115.
13. B. Gjerde, K.D.Mahapatra,, P.V.G.K.Reddy, **J.N Saha,** R.K.Jana, M.Rye. 2003. Genetic and phenotypic parameters for growth in rohu (*Labeo rohita*) in mono- and polyculture production systems. ISGA VIII, 9-15 November, Puerto Varas, Chile: 85.
14. K.D. Mahapatra, B.Gjerde, **J.N.Saha,** P.V.G.K.Reddy, R.K.Jana, M.Sahoo. 2003. Realised genetic gain for growth in rohu (*Labeo rohita*). ISGA VIII, 9-15 November, Puerto Varas, Chile: 116.
15. P.K.Sahoo, P.K.Meher, K.D.Mahapatra, **J.N.Saha,** R.K.Jana, P.V.G.K.Reddy. 2004. Immune responses in different fullsib families of Indian major carp, Labeo rohita, exhibiting differential resistence to Aeromonas hydrophila infection. Aquaculture, 238, 115-125.
16. B.Gjerde, K.D.Mahapatra, R.K.Jana, **J.N.Saha** and M.Rye. 2005. Selective breeding in Indian aquaculture. INFOFISH. No.1, 12-15.
17. K.D.Mahapatra, P.K.Sahoo, **J.N.Saha,** A.Barat, R.K.Jana,

M.Sahoo,B.R.Mohanty, S.Tripathy, M.Rye and R.Salte. 2005. A preliminary study on susceptibility of various families of rohu (Labeo rohita) to Aeromoniasis through challenge test (Abstract). 2005. In: The Seventh Fisheries Forum, 8-12 November 2005, Bangalore, India, 75pp.

18. K.D.Mahapatra, R.K.Jana, **J.N.Saha,** B.Gjerde and N.Sarangi. 2006. Lesson from the Breeding Program of Rohu.In: Development of Aquatic Animal Genetic Improvement and Dissemination Programs: Current Status and Action Plans. Edited by: Raul W. Ponzoni, Belen O. Acosta and Alphis G. Ponniah. pp 34-40.
19. B.R. Mohanty, P.K.Sahoo, K.D.Mahapatra and **J.N.Saha.** 2007. Innate immune responses in families of Indian major carp, *Labeo rohita*, differing in their resistance to *Edwardsiella tarda* infection. "Current Science". Vol.9, pp 1270-1274.
20. K.Das.Mahapatra, B.Gjerde P.K.Sahoo **J.N.Saha,** A.Barat, M.Sahoo, B. Mohanty, J.Odegard, M.Rye and R.Salte. 2008. Genetic variations in survival of rohu carp (Labeo rohita, Hamilton) after Aeromonas hydrophila infection in challenge tests. Aquaculture 279, 29-34.
21. P.K.Sahoo, K.Das.Mahapatra **J.N.Saha,** A.Barat, M.Sahoo, B.R.Mohanty, B.Gjerde, J.Odegard, M.Rye and R.Salte. 2008. Family association between immune parameters and resistanceto Aeromonas hydrophila infection in the Indian major carp, Labeo rohita. Fish & Shelfish Immunology 25, 163-169.
22. Mohanty B.R, P.K. Sahoo, K.D. Mahapatra and **J.N.Saha.** 2011. Differential resistance to edwardsiellosis in rohu (Labeo rohita) families selected previously for higher growth and/or aeromoniasis resistance. J.Appl.Genetics.
23. Sahoo P.K, P.R.Rauta, B.R.Mohanty, K.D.Mahapatra, **J.N.Saha,** M.Rye and A.E.Eknath. 2011. Selection for improved resistance to Aeromonas hydrophila in Indian major carp Labeo rohita: Survival and immune responses in first generation of resistant and susceptible lines. Fish & Shellfish Immunology, 31,432-438.
24. Nicholas Robinson, Pramoda K. Sahoo, Matthew Baranski, Kanta Das Mahapatra, **J.N. Saha,** Sweta Das, Yashowant Mishra, Paramananda Das, Hirak K. Barman & Ambekar E. Eknath.2012. Expressed Sequences and Polymorphisms in Rohu Carp (Labeo rohita, Hamilton) Revealed by mRNA-seq. Mar Biotechnol.

	25. *Sweta Das, P.K.Sahoo, J.Mishra, K.Das Mahapatra*, **J.N.Saha,** *J.Odegard, N.Robinson and M.Baranski.* 2011. Estimation of heribtability and genetic correlation of immune parameters screed as putative markers for selection against *Aeromonas hydrofila* resistance in rohu, *Labeo rohita*. In Book of Abstracts, 8th Symposium on 'Disease In Asian Aquaculture', held at Karnataka Veterinary, Animal and Fisheries Sciences University, Mangalore, India on 21 – 25 November 2011, p-199.
Manual	P.V.G.K.Reddy, K.D.Mahapatra, H.K.Barman, R.K.Jana and **J.N.Saha**. 1997. Genetic Improvement Methods in Asiatic Carps. CIFA, Kausalyaganga, Manual Series No. 4. P.V.G.K.Reddy, B.Gjerde, K.D.Mahapatra, R.K.Jana, **J.N.Saha**, M.Rye and P.K.Meher. 1999. Selective Breeding Procedure for Asiatic Carps. CIFA and AKVAFORSK (Norway) publication.
Popular Articles	K.Das Mahapatra, R.K.Jana and **J.N.Saha**. 2003. Present Status and Strategies to improve Riverine Fish Genetic Resources of Eastern India. Fishing Chimes. Vol.23 No.7: 37.
Booklet	K.Das Mahapatra, J.N.Saha, N.Sarangi and S.Ayyappan. 2007. Dissemination plan for improved rohu "Jayanti". Publication of CIFA. P-27. K.D. Mahapatra, P.C.Das, J.N.Saha, N.K.Barik, P.P.Chakraborty, Kuldeep Kumar and P.Jayasankar. 2012.'Jayanti rohu and Minor carps:Exploring the possibilites to enhance fish production in Northeastern India'. Publication of CIFA. P-12.