

PROFORMA FOR BIODATA (to be uploaded)

1. Name and full correspondences address : DR. ANIL KUMAR VERMA
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3. Institution : Central Sericultural Research & Training Institute,
Berhampore(WB)-742101
4. Date of Birth : 28.12.1960
5. Gender (M/F/T) : M
6. Category (Gen/SC/ST/OBC) : Gen
7. Whether differently able (Yes/No) : No

8. Academic Qualification (Undergraduate onwards)

#	Degree	Year	Subject	University/ Institution	% of Marks
1.	M.Sc.	1983	Zoology, Spl.: Entomology.	University of Kalyani, Nadia, West Bengal.	I class
2.	B.Sc. (Hons.)	1981	Chemistry, Botany and Zoology (Hons.)	University of Burdwan, Burdwan, West Bengal/ B.B.College, Asansol	II class
3.					

9. PhD thesis title, Guide's Name, Institution/Organization/University, Year of Award.

Title of the Thesis- Studies on whitefly as vector of plant viruses in West Bengal

Guide: Prof. (Dr.) Sankar Mukhopadhyay

University: Bidhan Chandra Krishi Viswavidyalaya, West Bengal

Year of Award: 1990

10. Work experience (in Chronological order)

#	Position held	Name of the Institute	From	To	Pay Scale
1.	SRA	Central Silk Board	12.10.1990	31.05.1996	-
2.	SRA	Central Silk Board	01.06.1996	31.05.1998	-
	SRA/SRO	Central Silk Board	01.06.1998	31.05.2006	-
	Sc.-C	Central Silk Board	01.06.2006	31.12.2014	-
	Sc.-D	Central Silk Board	01.01.2015	Till date	67700-208700

11. Professional Recognition/Award/Prize/Certificate, Fellowship received by the applicant.

#	Name of Award	Awarding Agency	Year
1.	Fellowship (Doctoral)	Indian Council Agricultural Research	1985 to 1988
		Bidhan Chandra Krishi Viswavidyalaya	1988 to 1989

12. Publication(List of papers published in SCI Journals, in year wise descending order)

#	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Verma, A. K, Basu, D., Nath, P. S., Das, S., Ghatak, S. S. and Mukhopadhyay, S.	Relationship between the population of whitefly <i>B. tabaci</i> G. (Homoptera : Aleyrodidae) and incidence of tomato leaf-curl virus disease,	Ind. J. mycol. Res.	27-1	49-52.	1989
2	Verma, A. K, Ghatak, S. S. and Mukhopadhyay, S.	Effect of temperature on the development of whitefly <i>B. tabaci</i> G. (Homoptera : Aleyrodidae) in the plains of West Bengal.	J. Agric. Sci.	60(5)	332-338	1990
3	Verma, A. K, and Ghatak, S. S.	Influence of virus infected host plants on the biology of whitefly <i>B. tabaci</i> G. (Homoptera : Aleyrodidae)	Environment & Ecology	7(3)	736-639	1989
4	Verma, A. K, and Singh, S. S.	West Garo Hills a promising area for muga culture.	Indian Silk	32-33	1995	1995
5	Chattopadhyay, G.K, Sengupta, A. K.; Verma, A. K, Sen, S. K. and Saratchandra, B	(α) Esterase isozyme polymorphism, Specific and nonspecific esterase, syngenic line development and natural occurrence of a thermo stable esterase in tropical silkworm <i>Bombyx mori</i> L.;	<i>Insect Biochem. Mol. Biol. (USA)</i>	31	119-1199	2001c
6	Chattopadhyay, G.K., Sengupta, A. K.; Verma, A. K., Sen, S. K and Saratchandra, B.	Utilization of congeneric line in silkworm breeding.	In: <i>Pers. in Cytol. & Genet.</i> Ed by G. K. Manna and S. Roy.	10	717-724	2000a
7	Chattopadhyay, G.K., Sengupta, A. K.; Verma, A. K., Sen, S. K and Saratchandra, B.	Transgression of shell weight- A multigenic trait, through development of congeneric breed in tropical silkworm, <i>Bombyx mori</i> L.	Sericologia	41(1)	33-42	2001b
8	Verma, A. K, Chattopadhyay, G. K.; Sengupta, M, Sengupta, A. K. Das, S. K. and Rajee Urs, S	Expression of heterotic genetic interaction among multivoltine backcross / congeneric line for higher shell weight of silkworm <i>Bombyx mori</i> L	<i>Inter. J. of Indust. Ent. (IJIE), Korea</i>	7(1)	21-27	2003
9	Chattopadhyay, G. K, Verma, A. K, Sengupta. A. K, Das. S. K and Rajee Urs, S	α and β -Amylase isozyme expresser native proteins in tropical silkworm <i>Bombyx mori</i> L.	<i>Inter. J. of Indust. Ent. (IJIE), Korea.</i>	8(2)	189-194	2004
10	Verma, A. K, Chattopadhyay, G. K.; Sengupta, M.; Sengupta, A. K.; Das, S.K. and Rajee Urs,	Heterobeltiotic genetic interaction between congeneric and syngenic breeds of silkworm <i>Bombyx mori</i> L	<i>Inter. J. of Indust. Ent. (IJIE), Korea.</i>	11(2)	119-124	2005
11	Das, S. K, Moorthy, S. M.; Chattopadhyay, G. K, Verma, A. K, Ghosh, B, Rao, P. R. T, Mukherjee, S, Sengupta, A. K. and Sarkar. A	Breeding strategies for high humidity and high temperature conditions of Eastern region.	In: Mulberry silkworm Breeders Meet. CSTR I Berhampore-742101 WB		42-48	2005
12	S.K. Das., S. M. Moorthy., G.K. Chattopadhyay, A.K. Verma, B. Ghosh, P.R.T. Rao, A.K. Sengupta and A. Sarkar	Silkworm Breeds and Hybrids for Eastern India	IN: Workshop on Appropriate technology for Mulberry Sericulture In E and NE India, Berhampore, WB, 17 th -18 th , January		91-96	2006
13	Verma, A. K, Chattopadhyay, G. K.; Sengupta, A. K, Das, S. K. and Sarkar. A.	New Multi x Bi silkworm hybrids for Eastern India.	In: Workshop on Appropriate technology for Mulberry Sericulture In E and NE India, Berhampore, WB, 17 th -18 th , January		97-100	2006
14	Das, S.K, Chattopadhyay, G. K., Verma, A.K., Sengupta, A.K and Sarkar, A.	. Development of High yielding Silkworm Breeds of <i>Bombyx mori</i> L. for Eastern India through Congenic line breeding approach	In: "20 th Cong. of Intern. Seric. Commission", Bangalore.	Vol. I	268-272	2005
15	Verma,A.K; Mitra, P., Saha ,A.K., ghatak, S. S. and Bajpai, A. K	Effect of trap crop on the population of whitefly <i>Bemisia tabaci</i> (Genn.) and the diseases transmitted by,	It. Bull. Ind. Acad. Seri.,	Vol. 15-2	99-106.	2011
16	Verma,A.K; Bindroo, B.B and Saha ,A.K	Bangalgram- A prospective village for bivoltine sericulture,	Indian Silk April, 2013	Vol.3(51)12	6-8	2013
17	Chattopadhyay, G. K.; Verma,A.K; Das N.K. Saratchandra.B.; Bindroo, B.B	(α) Performance of parents, their Syngenic lines, Congenic breeds and hybrids of silkworm, <i>Bombyx mori</i> L – A	J. Exp. Zool.	Vol.16 No.2	509-518	2013

	and Saha ,A.K	Comparison.				
18	Chattopadhyay, G K, Verma, A K, Saha, A K and Nirmal Kumar, S	() Specific difference among isozyme possessornative proteins in haemolymph of tropical multivoltine, bivoltine and 19developed congenic breeds of sil20kworm (<i>Bombyx mori</i> L.).	<i>Biochem. Cell. Arch.</i>	Vol. 15, No.2	549-555	2015
19	Verma,A.K, Chatterjee, G.K., Kar, N.B., Saha ,A.K., and Suresh Kumar, N.	Esterase α , β - the biochemical markers for quantitative and qualitative traits of Silkworm, <i>Bombyx mori</i> L, pp	<i>Sericologia</i>	Vol.-56(2,	94-102	2016
20	Verma,A.K , Suresh Kumar, N., Saha ,A.K.and Nirmal Kumar, S	Heterotic genetic interaction among high shell weight and high shell percentage multivoltine lines of silkworm <i>Bombyx mori</i> L	<i>J.Exp.Zool.India</i>	Vol.19 (1)	249-255	2016
21	Sarkar, S., Chatterjee, H.K. and Verma, A.K	Standardization of preservation schedule for multi-bivoltine layings of <i>Bombyx mori</i> L. A potential bio resource, in the tropic of Eastern India.)	<i>Utter Pradesh J.Zool.</i>	36(2)	99-104	2016
22	Sarkar, S., Chatterjee, H.K. and Verma, A.K.	Effective age of male and female silkworm moths <i>Bombyx mori</i> L. In the multivoltine egg production schedule in the tropic of Eastern India	<i>Utter Pradesh J.Zool.</i>	36(2)	121-127	2016
23	A.K. Verma, V. Lakshmanan, N. Chandrakanth and K. Trivedy	Breeding strategies for development of silkworm breeds/ hybrids for Eastern and North-Eastern India" presented as Status paper in held on, 2018 at Central Office, Karnataka, India	SERI-BREEDERS' MEET, CSB, Bengaluru, 20 th and 21 st February		71-79	2018
24	N. Chandrakanth, V. Lakshmanan, A. K. Verma, K. Rahul and K. Trivedy	Identification of potential thermos-tolerant bivoltine silkworm breeds through phenotypic and molecular approach	Global Journal of Bio-science & Biotechnology	7(4),	525-530	2018
24	N. Chandrakanth, V. Lakshmanan, A.K. Verma, N. Suresh Kumar	Evaluation of Silkworm Hybrids Tolerant to the High Temperature and High Humidity Conditions of West Bengal	IJRESM	1 (12),	633-636	2018

13. Detail of Patents:

#	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status

14. Books/Reports/Chapters/General Articles etc.

#	Title	Author's Name	Publisher	Year of Publication
1.	2016) SK6 x SK7 A revolutionary Bivoltine Foundation cross in the Eastern and North-Eastern States. June	Saha ,A.K, Verma,A.K , Suresh Kumar, N. and Nirmal Kumar, S.	CSRTI, Berhampore (WB),	2015
2.	Silkworm Germplasm of CSRTI Berhampore (WB)	Saha ,A.K, Verma,A.K and Suresh Kumar, N	CSRTI, Berhampore (WB),	2015

Any other Information (Maximum 500 words):

A method for introgression of a trait controlled by multiple genes for developing Congenic Breed (Chattopadhyay et al., 2001a, b, 2005, Verma et al., 2005, a, b).

Developed four promising silkworm breeds viz., M Con.1, M Con.4 (Multivoltine), B Con.1, B. Con.4 (Bivoltine)

Developed/ Identified- Six promising hybrid combinations.

1. M Con.1 x M Con.4 (MxM) - : Authorized during 2012
2. N x M Con.4 (MxM)- : Authorized during 2012
3. M Con.1 x B Con.4 (MxB)- : Authorized during 2012
4. M Con.4 x B Con.4 (MxB)- : Authorized during 2012
5. B Con. 1 x B Con.4 (BxB)- : Authorized during 2018
6. 12YxB Con. 1.4(BFC1)(MxB)- : Submitted for Authorization Trial

Registration of breeds: Six (6) congenic breeds viz., V³ CB5-Con.Ow, V³ M6DPC-Con.C, V² D6p-Con.Ow, V² D6p- Conc., V² D6p-Con.F and one sex limited breed (JPN^{+HS}) was sent for registration at CSGRC, Hosur.

It has been identified 224kDa Protein as a biochemical marker at pH-8.5 for high survival. The apparent native protein in haemolymph is the possessor of α -Est s are exclusively present in multivoltine.

It has been Identified that 180 kDa protein as a biochemical marker for high cocoon shell weight(at pH-8.5). The apparent native protein in haemolymph is the possessor of α -Est s and exclusively present in bivoltine.

β -Amylase presence in haemolymph and digestive of Silkworm, *Bombyx mori* L. and Identified specific and non-specific esterase using α - and β -Nephthys-acetate separately as non-specific substrates. The non-specific β -esterase-EST-3 in haemolymph is a thermo-stable enzyme ($80 \pm 1^\circ\text{C}$), which has been considered as one of the molecular factor for thermo-tolerance.

Development of multivoltine silkworm (*Bombyx mori* L.) breeds with high shell percentage and high neatness of silk filament- 12Y (12Y x NFC1 sent for Authorization Trial), 21Y and 8W.

M6DPC x (SK6 x SK7) & B.Con.1 x B.Con.4 authorized for Eastern and North-Eastern states.

Ph.D. Guide: 1

Ph. D. work of Sri S. Sarkar entitled "A study on the qualitative and quantitative development of SW *B. mori* for the production of disease free laying in the tropics of West Bengal" awarded in 2014 by Viswabharti University, WB.

PGDS Dissertation: 09

Hindi Seminar: 3papers

Other Seminar: 6papers

Technical Leaflets: 10