BIO-DATA

1. Personal Details

Name : **Dr. S. P. Singh**
Nationality : Indian
Date of Birth : 06.10.1980 Gender : Male
Designation : Scientist Specialization : Animal Physiology

Department : Physiology Reproduction and Shelter Management Division
Institute/Organization : Central Institute for Research on Goats

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2. Educational Qualification (starting from Bachelor degree onwards)

Sl. No.	Degree	University / Board	Year of passing	Thesis topic / Subjects studied	Percentage of marks or CGPA
I.	Bachelor of Veterinary Science and Animal Husbandry **(B.V.Sc. & A.H.)**	Narendra Deva University of Agriculture and Technology, Kumarganj, Faizabad, U.P., India	2004	All the subjects prescribed by Veterinary Council of India (VCI) for B.V.Sc. & A.H. degree course	7.947/10.00
II.	Master of Veterinary Science **(M.V.Sc., Animal Physiology)**	Indian Veterinary Research Institute, Izatnagar, U.P., India	2006	Studies on the effect of yeast supplementation on amelioration of thermal stress in buffaloes	8.578/10.00
III.	Ph.D. **(Animal Physiology)**	Rheinische Friedrich-Wilhelms University of Bonn, Bonn, Germany (with ICAR-International Fellowship 2010-11)	2014	Characterization of adiponectin at different physiological states in cattle based on an in-house developed immunological assay for bovine adiponectin	**-**

3. Ph.D. thesis title, Guide Name, Institute/Organization/University, Date of Registration, Year of Award, List of Publications from Ph.D work.

Ph.D. thesis title	Characterization of adiponectin at different physiological states in cattle based on an in-house developed immunological assay for bovine adiponectin
Guide Name	**Prof. Dr. Helga Sauerwein**
Institute/Organization /University	Physiology and Hygiene Group, Institute of Animal Science, Rheinische Friedrich-Wilhelms **University of Bonn, Bonn, Germany**
Date of Registration	16.02.2011
Year of Award	2014

List of Publications from Ph.D. work

Research articles

1) **Singh, S. P.,** S. Häussler, J. F. L. Heinz, B. Saremi, B. Mielenz, J. Rehage, S. Dänicke, M. Mielenz, and H. Sauerwein. 2014. Supplementation with conjugated linoleic acids extends the adiponectin deficit during early lactation in dairy cows. **General and Comparative Endocrinology, 198: 13-21**
2) **Singh, S. P.,** S. Häussler, J. F. L. Heinz, S. H. Akter, B. Saremi, U. Müller, J. Rehage, S. Dänicke, M. Mielenz and H**.** Sauerwein. 2014. Lactation driven dynamics of adiponectin supply from different fat depots to circulation in cows. **Domestic Animal Endocrinology, 47: 35-46.**
3) **Singh, S. P.,** S. Häussler, J. J. Gross, R. M. Bruckmaier, and H. Sauerwein. 2014. Short communication: Circulating and milk adiponectin change differently during energy deficiency at different stages of lactation in dairy cows. **Journal of Dairy Science, 97(3): 1535-5342.**
4) Kopp, C., **S. P. Singh**, P. Regenhard, H. Sauerwein and M. Mielenz. 2014. *Trans*-cinnamic acid increases adiponectin and the phosphorylation of AMP-activated protein kinase via G-protein coupled receptor 109A in 3T3-L1 adipocyte. **International Journal of Molecular Sciences, 15: 2906-2915.**
5) Mielenz, M., B. Mielenz, **S. P. Singh,** C. Kopp, J. Heinz, S. Häussler, and H. Sauerwein. 2013. Development, validation, and pilot application of a semiquantitative Western blot analysis and

an ELISA for bovine adiponectin. **Domestic Animal Endocrinology, 44: 121–130.**

6) Weber, C., C. Hametner, A. Tuchscherer, B. Losand, E. Kanitz, W. Otten, **S. P. Singh**, R. M. Bruckmaier, F. Becker, W. Kanitz, and H. M. Hammon. 2013. Variation in fat mobilization during early lactation in high yielding dairy cows affect feed intake, body condition as well as glucose and lipid metabolism. **Journal of Dairy Science, 96:165–180.**

7) Heinz, J. F. L., **Singh, S. P.,** Janowitz, U., Hoelker, M., Tesfaye, D., Schellander, K., and H. Sauerwein. 2014. Characterization of adiponectin concentrations and molecular weight forms in bovine body fluids related to reproduction **(accepted in Theriogenology)**.

Abstracts in conferences (during Ph.D.)

(1) Singh S. P., S. Häußler, J. Gross, R. M. Bruckmaier, and H. Sauerwein. 2013. Circulating adiponectin concentrations in dairy cows during a negative energy balance in early lactation and during an energy-restriction at 100 days in milk. Proceedings of the 67th annual meeting of the GfE (Society of Nutrition Physiology) Conference, 19–21.03.13, University of Göttingen, Göttingen, Germany, Page 83, ISBN 978-3-7690-4106-4.

(2) Singh S. P., B. Mielenz, M. Mielenz, S. Dänicke, J. Rehage, S. Häussler and H. Sauerwein. 2013. Towards characterizing the usefulness of serum adiponectin concentrations to estimate the risk for metabolic diseases in dairy cows. Proceedings of the 16th International Symposium of the World Association of Veterinary Laboratory Diagnosticians (WAVLD), 05–08.06.2013, Berlin, Germany, Page, ISBN.

(3) Singh S. P., J. Heinz, S. Dänicke, S. Häussler, and H. Sauerwein. 2013. Identification of adiponectin in bovine milk and characterization of its concentrations during early lactation. Book of Abstracts of the 15th International Conference on Production Diseases in farm animals (ICPD), 24–28.06.2013, Swedish University of Agricultural Sciences, Uppsala, Sweden, Page 129, ISBN 978-91-576-9150-7.

(4) Singh S. P., H. Sauerwein, M. Steyer, T. Ettle, M. Rodehutscord, and S. Häussler. 2013. Relationships of leptin and adiponectin serum concentrations with measures of body condition in Simmental cows. Book of Abstracts of the 15th International

Conference on Production Diseases in farm animals (ICPD), 24–28.06.2013, Swedish University of Agricultural Sciences, Uppsala, Sweden, Page 139, ISBN 978-91-576-9150-7.

(5) **Singh S. P.,** S. Häussler, S. Dänicke, M. Mielenz, and H. Sauerwein. 2013. Characterization of serum adiponectin during lactation in dairy cows supplemented with conjugated linoleic acids. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 208–209.

(6) **Singh S. P.,** S. Häussler, D. Tesfaye, M. Hölker, K. Schellander and H. Sauerwein. 2013. Characterization of follicular fluid adiponectin and its relationship with blood adiponectin during estrous cycle in cattle. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 247.

(7) **Singh S. P.,** S. Häussler, O. Wellnitz, R. M. Bruckmaier and H. Sauerwein. 2013. Influence of intramammary lipopolysaccharide challenge on milk and plasma adiponectin in dairy cows. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 572.

(8) **Singh S. P.,** S. Häussler, J. J. Gross, R. M. Bruckmaier and H. Sauerwein. 2013. Adiponectin concentrations in cows' milk during induced negative energy balance. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 233.

(9) Häussler, S., **S. P. Singh,** L. Laubenthal, L. Locher, J. Winkler, U. Meyer, S. Dänicke and H. Sauerwein. 2013. Impact of increased oxidative stress through excessive accumulation of adipose tissue on circulating adiponectin concentrations in dairy cows. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 114.

(10) Kopp C., **S. P. Singh,** H. Sauerwein and M. Mielenz. 2013. Niacin increases adiponectin secretion in differentiated bovine preadipocytes *in vitro* via G-protein

coupled receptor 109A. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 121.

4. A) Details of professional training and research experience, specifying period

Research experience:

S. No.	Period of research experience	Position	Place of work
1.	January 2009 till date	Scientist (Animal Physiology)	Central Institute for Research on Goats Makhdoom, Farah, Mathura (U.P.)
2.	May 2008 to January 2009	Scientist (Animal Physiology)	Central Institute for Fisheries Education, Mumbai

Professional trainings:

- During doctoral programme, undergone extensive training and experience for production of recombinant protein as well as establishment and validation of immunological assay for protein hormones i.e. adiponectin and resistin (hormones secreted by adipocytes).
- Successfully completed Foundation course for Agriculture Research Scientists (FOCARS) in the 82nd batch from 7th January 2008 to 6th April, 2008.
- Six months research experience during M.V.Sc. research programme.

B) Details of employment (present and past)

Sl. No.	Duration	Post held	Place of posting	Achievement or work done
I.	January 2007 to October 2007	Teaching Associate	College of Veterinary Science and Animal Husbandry, NDUT&T Kumarganj, Faizabad, (U.P.), India	Teaching of theory and practical courses of Veterinary Physiology to the students of B.V.Sc. & A.H.
II.	October 2007 to January 2008	Veterinary Officer	Veterinary Hospital Bhawani Ganj, District Sidharthnagar (U.P.), India	Treatment of sick animals and involved in various extension activities of the Animal Husbandry Department of Government of Uttar Pradesh

III.	From January 2008 till date	Agricultural Research Scientist (Animal Physiology)	Central Institute for Research on Goats Makhdoom, Farah, Mathura, (U.P.), India	Involved in various research and training activities. Worked as a Co-Principal Investigator in various external and institute funded projects.

5. List of significant publications during the last 5 years

(a) Research Papers:

1) **Singh, S. P.,** S. Häussler, J. F. L. Heinz, B. Saremi, B. Mielenz, J. Rehage, S. Dänicke, M. Mielenz, and H. Sauerwein. 2014. Supplementation with conjugated linoleic acids extends the adiponectin deficit during early lactation in dairy cows. **General and Comparative Endocrinology, 198: 13-21**

2) **Singh, S. P.,** S. Häussler, J. F. L. Heinz, S. H. Akter, B. Saremi, U. Müller, J. Rehage, S. Dänicke, M. Mielenz and H**.** Sauerwein. 2014. Lactation driven dynamics of adiponectin supply from different fat depots to circulation in cows. **Domestic Animal Endocrinology, 47: 35-46.**

3) **Singh, S. P.,** S. Häussler, J. J. Gross, R. M. Bruckmaier, and H. Sauerwein. 2014. Short communication: Circulating and milk adiponectin change differently during energy deficiency at different stages of lactation in dairy cows. **Journal of Dairy Science, 97(3): 1535-5342.**

4) Kopp, C., **S. P. Singh**, P. Regenhard, H. Sauerwein and M. Mielenz. 2014. *Trans*-cinnamic acid increases adiponectin and the phosphorylation of AMP-activated protein kinase via G-protein coupled receptor 109A in 3T3-L1 adipocyte. **International Journal of Molecular Sciences, 15: 2906-2915.**

5) Heinz, J. F. L., **Singh, S. P.,** Janowitz, U., Hoelker, M., Tesfaye, D., Schellander, K., and H. Sauerwein. 2014. Characterization of adiponectin concentrations and molecular weight forms in bovine body fluids related to reproduction **(accepted in Theriogenology)**.

6) Mielenz, M., B. Mielenz, **S. P. Singh,** C. Kopp, J. Heinz, S. Häussler, and H. Sauerwein. 2013. Development, validation, and pilot application of a semiquantitative Western blot analysis and an ELISA for bovine adiponectin. **Domestic Animal Endocrinology, 44: 121–130.**

7) Weber, C., C. Hametner, A. Tuchscherer, B. Losand, E. Kanitz, W. Otten, **S. P. Singh**, R. M. Bruckmaier, F. Becker, W. Kanitz, and H. M. Hammon. 2013. Variation in fat mobilization during early lactation in high yielding dairy cows affect feed intake, body condition as well as glucose and lipid metabolism. **Journal of Dairy Science, 96:165–180.**

8) Bharti Vijay K., **Singh S. P.,** Kumar P., Misra R. P., and Bhavna N., 2012. Effect of solar eclipse on certain blood biochemicals in goats under intensive and extensive housing systems. **Indian Journal of Animal Sciences 82: 844–847.**

9) **Singh, S. P.,** O. K. Hooda, S. S. Kundu, and S. Singh, 2012. Biochemical changes in heat exposed buffalo heifers supplemented with yeast. **Tropical Animal Health and Production 44:1383–1387**

10) **Singh, S. P.,** O. K. Hooda, and P. Kumar, 2011. Effect of yeast supplementation on feed intake and thermal stress mitigation in buffaloes. **Indian Journal of Animal Sciences** 81 (9): 961–964

11) Srivastava, V., Niranjan, P. Udeybir, S., **Singh, S. P.** and Singh, Jaswant. 2007. Effect of grainless ration on dry matter intake, growth and feed conversion efficiency in Murrah buffalo calves. **Veterinary Practitioner,** 8(2): 143-145.

12) Singh, Jaswant, Niranjan, P. S., Udeybir, S. and **Singh, S. P.** 2007. Transferrin polymorphism and its correlation with first lactation milk yield in Sahiwal cattle. **Veterinary Practitioner,** 8(2): 152-153.

(b) Books and Book chapters:

1) Jindal S. K. and **Singh S. P.** 2011. Introduction to animal physiology with special reference to domestic animals. New India Publishing Agency, New Delhi.

2) Misra, R.P., **Singh, S.P.,** and Ramachandran, N. 2010. Shelter management for sheep and goats for mitigating climatic stress. In: Climate Change and Stress Management: Sheep and Goat Production, A. Joshi, S.K. Sankhyan, A.K. Shinde, D.B. Shakyawar, S.M.K. Naqvi and B.N. Tripathi, Sathish Serial Publication House, Azadpur, Delhi, pp. 207-230.

(c) News-letter:

1) **S. P. Singh,** Vijay K. Bharti, Puneet Kumar, R. P. Misra and M. C. Sharma. 2009. Effect of solar eclipse on behavior of goats. ICAR NEWS, July- Sept. 15 (3): 19.
2) Ramachandran N and **Singh S. P**. 2010. Heat stress management. CIRG NEWS, 4(1, 2): 4.
3) **Singh S. P**. 2014. Adiponectin: an important regulator of physiological mechanisms in the body. CIRG NEWS, 10 (Jan - June): 4.

(d) Abstracts in conferences (during Ph.D.)

(1) Singh S. P., S. Häußler, J. Gross, R. M. Bruckmaier, and H. Sauerwein. 2013. Circulating adiponectin concentrations in dairy cows during a negative energy balance in early lactation and during an energy-restriction at 100 days in milk. Proceedings of the 67th annual meeting of the GfE (Society of Nutrition Physiology) Conference, 19–21.03.13, University of Göttingen, Göttingen, Germany, Page 83, ISBN 978-3-7690-4106-4.

(2) Singh S. P., B. Mielenz, M. Mielenz, S. Dänicke, J. Rehage, S. Häussler and H. Sauerwein. 2013. Towards characterizing the usefulness of serum adiponectin concentrations to estimate the risk for metabolic diseases in dairy cows. Proceedings of the 16th International Symposium of the World Association of Veterinary Laboratory Diagnosticians (WAVLD), 05–08.06.2013, Berlin, Germany, Page, ISBN.

(3) Singh S. P., J. Heinz, S. Dänicke, S. Häussler, and H. Sauerwein. 2013. Identification of adiponectin in bovine milk and characterization of its concentrations during early lactation. Book of Abstracts of the 15th International Conference on Production Diseases in farm animals (ICPD), 24–28.06.2013, Swedish University of Agricultural Sciences, Uppsala, Sweden, Page 129, ISBN 978-91-576-9150-7.

(4) Singh S. P., H. Sauerwein, M. Steyer, T. Ettle, M. Rodehutscord, and S. Häussler. 2013. Relationships of leptin and adiponectin serum concentrations with measures of body condition in Simmental cows. Book of Abstracts of the 15th International Conference on Production Diseases in farm animals (ICPD), 24–28.06.2013, Swedish University of Agricultural Sciences, Uppsala, Sweden, Page 139, ISBN 978-91-576-9150-7.

(5) Singh S. P., S. Häussler, S. Dänicke, M. Mielenz, and H. Sauerwein. 2013. Characterization of serum adiponectin during lactation in dairy cows supplemented with conjugated linoleic acids. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 208–209.

(6) Singh S. P., S. Häussler, D. Tesfaye, M. Hölker, K. Schellander and H. Sauerwein. 2013. Characterization of follicular fluid adiponectin and its relationship with blood adiponectin during estrous cycle in cattle. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 247.

(7) Singh S. P., S. Häussler, O. Wellnitz, R. M. Bruckmaier and H. Sauerwein. 2013. Influence of intramammary lipopolysaccharide challenge on milk and plasma adiponectin in dairy cows. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 572.

(8) Singh S. P., S. Häussler, J. J. Gross, R. M. Bruckmaier and H. Sauerwein. 2013. Adiponectin concentrations in cows' milk during induced negative energy balance. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 233.

(9) Häussler, S., **S. P. Singh,** L. Laubenthal, L. Locher, J. Winkler, U. Meyer, S. Dänicke and H. Sauerwein. 2013. Impact of increased oxidative stress through excessive accumulation of adipose tissue on circulating adiponectin concentrations in dairy cows. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 114.

(10) Kopp C., **S. P. Singh,** H. Sauerwein and M. Mielenz. 2013. Niacin increases adiponectin secretion in differentiated bovine preadipocytes *in vitro* via G-protein coupled receptor 109A. Joint Annual Meeting of American Dairy Science Association (ADSA)–American Society of Animal Science (ASAS), Indianapolis, Indiana, USA, 08–12.07.2013. J. Dairy Sci. Vol. 96 (E-Suppl. 1): 121.

(e) Popular articles:

1. **Shiva Pratap Singh,** P. S. Niranjan, Udeybir, Sunil Kumar and Deepak Kesharwani 2007. Nutritional management of transition Indian dairy cows, The Indian Cow, 12: 66-69.
2. **Shiva Pratap Singh,** P. S. Niranjan, Udeybir and Jaswant Singh. 2007. Brucellosis in dogs. Pashudhan, 33: 10: 5.
3. **Shiva Pratap Singh,** P. S. Niranjan, Udeybir, Jaswant Singh and V. Srivastava. 2007. Effects of heat-stress on reproduction in dairy cattle: An overview, The Indian Cow, 13: 57-61.
4. **Shiva Pratap Singh,** P. S. Niranjan, Udeybir, Jaswant Singh and V. Srivastava. 2007. Physiological and metabolic adaptations during transition period in cattle, The Indian Cow, 13: 62-65.
5. **Shiva Pratap Singh**, P. S. Niranjan, Udeybir, Jaswant Singh and V. Srivastava. 2008. Blood transfusion in dogs and cats, Journal of Canine Development and Research, 5: 67-70.
6. **Shiva Pratap Singh**, P. S. Niranjan, Udeybir, Jaswant Singh and V. Srivastava. 2008. Cryopreservation and reproductive technologies as a tool for conservation of animal genetic resources, Green Farming 1(4): 56-57.
7. P.S. Niranjan, **Shiva Pratap Singh,** Deepak Kesharwani, Sunil Kumar and Udeybir. 2007. Physiological mechanisms linking reproduction to nutrition in cattle, The Indian Cow, 13: 66-68.
8. Jaswant Singh, **Shiva Pratap Singh,** Udeybir and P.S. Niranjan. 2007. The endangered indigenous cattle: Kenkatha and Ponwar, The Indian Cow, 13: 69-70.
9. P.S. Niranjan, Udeybir, **Shiva Pratap Singh** and Jaswant Singh**. 2008. Feeding management of cats,** Journal of Canine Development and Research, 5: 81-84.
10. Udeybir, **Shiva Pratap Singh,** P. S. Niranjan, V. Srivastava and Jaswant Singh. 2008. Nutrient requirements of feline, Journal of Canine Development and Research, 5: 85-88.
11. Deepak Kasherwani, Sunil Kumar, P. S. Niranjan and **Shiva Pratap Singh.** 2007. Scope of advanced Biotechnology in fisheries, Green Farming, 1(2): 54-55.

6. Professional Recognition, Awards, Fellowship received

i. **ICAR International Fellowship** to purse Doctoral Programme at University of Bonn, Germany

ii. **Junior Research Fellowship** of ICAR to pursue M.V.Sc. (Secured 10th rank in Indian Council of Agricultural Research Entrance Test for Post-Graduation at national level)

iii. College Scholarship during B.V.Sc. & A.H.

iv. ICAR - National Eligibility test for lecturership / Assistant Professorship – 2008

v. Ranked second in Under Graduation (Vice Chancellor Gold Medal).

vi. Ranked First in M.V.Sc. with a OGPA of 8.55/10

Membership in Professional Societies:

i. Life member of "Indian Society for Sheep and Goat Production and Utilization'

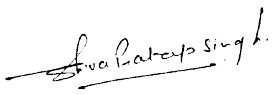
ii. Life member of 'Society of Animal Physiologist of India'

iii. Life member of 'Indian Association of Animal Production'

iv. Life member of 'The Indian Society of Animal Production & Management'

v. Member of U.P. Veterinary Council

vi. Member of Veterinary Council of India



(S. P. Singh)

Place: CIRG, Makhdoom **Name and signature**