

**CURRICULUM VITAE**

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**Academic qualifications :**

- PhD : 1984 Jawaharlal Nehru University, New Delhi, India  
 MPhil : 1980 Jawaharlal Nehru University, New Delhi, India, grade A  
 MSc : 1978 Jawaharlal Nehru University, New Delhi, India, Average grade A(-)  
 BSc : 1976 L.N. Mithila University, Darbhanga, India, Grade equivalent A, Subjects: Botany(H), Chemistry and Zoology.

**Professional experience :**

01. Vice Chancellor, Veer Kunwar Singh University, Ara, Bihar India since July 23, 2018 Contd.
02. Pro-Vice Chancellor, Veer Kunwar Singh University, Ara, Bihar India 802301: May 18, 2018 to July 22, 2018.
03. Professor & Head, Centre for Post-Graduate Education and Research, Department of Botany, T.N.B. College, Bhagalpur since March 14, 1999 Contd.
04. Professor & Head, School of Biotechnology, Rajiv Gandhi Technological University (RGTU), Bhopal – 462 036, July 12, 2007 – Sept 2008.
05. Professor & Head, Department of Biotechnology, Madhav Institute of Technology & Science (MITS), Gwalior 474 005 M.P. Oct 15, 2003 to July 11, 2007.
06. Post-Doctoral Research Fellow: Department of Experimental Radiation Oncology, The University of Texas, MD Anderson Cancer Center, Houston Texas 77030 USA, Oct, 2000-Dec 2002.
07. Post-Doctoral Research Fellow : Department of Bioimmunotherapy, The University of Texas, MD Anderson Cancer Center, Houston, Texas, October, 1999-October 2000.
08. Biotechnology National Associate (Overseas) sponsored by Govt of India at Department of Bioimmunotherapy, The University of Texas, MD Anderson Cancer Center, Houston Texas, USA. June 1999-September, 1999.
09. Biotechnology National Associate, National Institute of Immunology, New Delhi, India, 1995-97.

10. Reader, T.N.B. College, Bhagalpur, deputed at the PG Department of Biotechnology, TM Bhagalpur University, Bhagalpur-812007 India, July 6, 2003 to October 14, 2003.

11. Reader, Department of Botany, RD College, Sheikhpura, 811105, India, March 14, 1991 to March July 05, 2003.

12. Lecturer in Botany : R. D. College, Sheikhpura, March 14, 1983-91.

### **Research Experience :**

Cell culture techniques, bacterial/virus culture, Quantitative DNA fragmentation assay, Genetic Engineering, PCR, RNase protection assay, cloning, Electrophoretic mobility shift assay, transfection and transient expression, electrophoresis, sequencing, southern, northern and western blotting and related molecular biology techniques.

### **Current research interests :**

Molecular Cancer Therapeutics  
Natural drugs

**All India Radio Talk :** "Vanaspati Shastra Men Sambhavanayen" September 10, 2014  
: "Prakritik Sansadhano ki Suraksha Aapke Haath" July 14, 2015  
: "Van mahotsav Men Hamari Bhagidari" July 04, 2017

### **Conferences and Symposia attended and papers presented, session chaired:**

I had an opportunity to attend about two dozens of national and international conferences (Edinburgh, Scotland, New Orleans, USA and San Francisco, California, USA, Nanjing China).

### **Conferences organized:**

1. Platinum Jubilee International Conference on 'The Recent Trends in Biotechnology and Biodiversity', 2015 as Organizing Secretary.
2. International conference on mechanical engineering: Energy and Environment 2008: Co-Organizer with School of Energy and Environment (Mechanical Engineering), RGTU Bhopal.
3. National conference on Drug discovery and targeting: as Co-Organizer with School of Pharmaceutical Sciences, RGTU, Bhopal 2008.
4. National conference on 'Biotechnology in India: Emerging Trends and Future Perspectives 2007: as Organizer and Organizing Secretary RGTU, Bhopal.

### **Award:**

'B.R. Seshachar award' for the best paper entitled 'Dual mode of action of the baculovirus anti-apoptotic p35 gene' presented at XXII All India Cell Biology Conference at the Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, 1999.

**Research guidance:** PhD : 04 (2 more doing research work for PhD)  
MTech : 04

### **Patent:**

The AcMNPV baculovirus p35 gene protects against oxidative stress-induced apoptosis. Inventors: Hasnain, S.E., Sah, N.K., Kaur, T., Athar, M. and Pathak, N. Application # 2213/DEL/97 filed on July 8, 1997.

### **Research Publications:**

43. Aquacultural, Nutritional and Therapeutic Biology of Delicious seeds of *Euryale ferox* Salisb. : A minireview. Jha V., Shalini R., Jha P., Jha A. and **Sah, N. K.** 2018. Curr. Pharmaceut. Biol. In Press.

42. **Nand K Sah** (2017) Scope of plant biotechnology in the developing countries. *Plant Biotechnology*, Ed. B. D. Prasad, S. Sahni, Prashant Kumar and M.W. Siddiqui. Apple Academic Press. Distribution: CRC Press, ISBN No. 9781771885805. Pp. 45-66.
41. C. S. Senthilkumar **Nand K. Sah** and N. Ganesh (2016) On the long-term effects of methyl isocyanate on cell-mediated immunity in Bhopal-gas-exposed long-term survivors and their offspring. *Toxicol Ind Health*. 2017 Apr;33(4):318-331. doi: 10.1177/0748233716645480.
40. Chandrabhan Seniya , Ajay Yadav, G.J. Khan and **Nand K Sah** (2015) *In silico* studies show potent inhibition of HIV-1 Reverse Transcriptase Activity by a Herbal Drug. *IEEE/ACM Transactions on Computational Biology and Bioinformatics* 12, 1355-1364.
39. **Nand K Sah** and Chandrabhan Seniya (2015) Survivin splice variants and their diagnostic significance. *Tumor Biol*. 36, 6623-31.
38. Chinnu Sugavanam Senthilkumar, Sameena Akhter, Tahir Mohiuddin Malla, **Nand Kishore Sah**, Narayanan Ganesh (2015) Increased Micronucleus Frequency in Peripheral Blood Lymphocytes Contributes to Cancer Risk in the Methyl Isocyanate-Affected Population of Bhopal. *Asian Pac J Cancer Prev*. 16, 4409-4419.
37. C.B. Seniya and **Nand K Sah** (2015) *In silico* studies show effective inhibition of HIV-1 Reverse Transcriptase activity by an antiviral herbal compound (5E)-3-(2-aminoethyl)-5-benzylidene-1,3-thiazolidine-2,4-dione. *Journal of Biomolecular Structure and Dynamics*, 33, 124.
36. C S Senthilkumar, T M Malla, **Nand K Sah** and N. Ganesh (2013) Methyl Isocyanate exposure and atypical lymphocytes. *Int. J. Occup. Environ Med*. 4, 167-168.
35. Amit K Dutta, N Ganesh, **Nand K Sah**, **A. Vani** (2012) Study of Imatinib Mesylate Treated Patients sufferening from Chronic Myeloid Leukemia. *Asian J. Biomed. Pharmaceut. Sciences*, 2, 24-27.
34. C S Senthilkumar, **Nand K Sah** and N Ganesh (2012) Methyl Isocyanate and Carcinogenesis: Bridgeable Gaps in Scientific Knowledge. *Asian Pacific Journal of Cancer Prevention, Vol 13*, 2429-2435.
33. Tribhuwan Kumar and **Nand K Sah** (2012) Biological control of pests: Role of baculoviruses. *Glimpses of phytopathology for sustainable agriculture* ed. HK Chourasia and AK Roy.
32. S Chinnu ugavanam Senthilkumar, Tahir Mohi-ud-Din Malla, **Nand Kishore Sah**, Narayanan Ganesh (2011) Cancer morbidity among methyl isocyanate exposed long-term survivors and their offsprings: a hospital-based five year descriptive study (2006-2011) and future directions to predict cancer risk in the affected population. *Asian Pacific Journal of Cancer Prevention* 12, 3443-3452.
31. Zakir Khan, Noor Khan, Ram P. Tiwari, **Nand K. Sah**, GBKS Prasad and Prakash S. Bisen (2011) Biology of Cox-2: An Application in Cancer Therapeutics. *Current Drug Targets*, 12, 1082-1093.

30. RK Paul, M. Prasad and **Nand K Sah** (2011) Anticancer biology of *Azadirachta indica* (Neem): A Minireview) *Cancer Biol & Therapy* 12, 467-476.
29. Zakir Khan, RP Tiwari, R Mulherkar, **Nand K Sah**, GB Prasad, Shrivastava, BR and P.S. Bisen (2009) Detection of survivin and p53 in human oral cancer: Correlation with clinicopathologic findings. *Head & Neck* **31**, 1039-1048.
28. Smitha Sam, N. Ganesh and **Nand K Sah** (2009) Bimolecular dosimetry of cancer patients subjected to indigenous Indian herbs: Phase III – Retrospective clinical trial. *Indian J Applied Life Sci* 5 29-36.
27. Smitha Sam, N. Ganesh and **Nand K Sah** (2009) Ayurveda for drug discovery and development: From novel targets to clinical trials – A boon for Cancer treatment. *Indian J Applied Life Sci* 5 37-46.
26. Reena Thomas, **Nand K Sah**, P.B. Sharma (2008) Therapeutic biology of *Jatropha curcas* (A Minireview) *Curr. Pharmaceut. Biotech.* 9, 315-324.
25. Sanjay Singh, **Nand K Sah** and Prakash. S. Bisen (2007) A synthetic gag-p24 epitope chemically coupled to BSA through a deca-alanine peptide enhances HIV-1 serodiagnostic capability by several folds. *AIDS Research and Human Retroviruses*. **23**, 153-160.
24. **Nand K Sah**, Anupama Munshi, Marvette Hobbs, Bing Z. Carter, Michael Andreef and Raymond E Meyn (2006) Effect of downregulation of survivin expression on the radiosensitivity of human epidermoid carcinoma cells. *International J. Radiat. Oncol. Biol. Phys.* 66, 852-859.
23. **Nand K Sah**, Z Khan, GJ Khan and PS Bisen (2006) Structural, Functional and Therapeutic biology of survivin. (Minireview) *Cancer Lett.* 244, 164-171.
22. Puneet Gandhi, Zakir Khan, Pratiksha Bhadouria, Radha Gupta, **Nand K Sah** and P.S. Bisen (2005) Origin and Expansion of Trinucleotide Repeats and Neurological Disorders (Review), *Curr. Genomics*, 6, 563-568.
21. **Nand K Sah**, Singh SNP, Sahdev S, Banerji S, Jha V, Khan Z and Hasnain SE (2005) Indian herb ‘Sanjeevani’ (*Selaginella bryopteris*) can promote growth and protect against heat shock and apoptotic activities of UV and oxidative stress. *J. Biosci.* 30, 499-505.
20. **Nand K Sah**, Anupama Munshi, Takashi Nishikawa, Tapas Mukhopadhyay, Jack A Roth and Raymond E meyn (2003) Adenovirus-mediated wild-type p53 radiosensitizes human tumor cells by suppressing DNA repair capacity. *Mol. Cancer Therapeut.* 2, 1223-1231.
19. Sudhir Sahdeo, Tarvinder K. Taneja, Manjari Mohan, **Nand K. Sah**, Ashok K. Khar, Seyed E. Hasnain and Mohammad Athar (2003) Baculoviral p35 inhibits oxidant-induced activation of mitochondrial apoptotic pathway. *Biochem. Biophys. Res. Commun.* 307, 483-490.
18. **Nand K Sah**, Anupama Munshi, John F. Kurland, Timothy J. McDonnell, Bing Su and Raymond E Meyn (2003) Translation Inhibitors Sensitize Prostate Cancer cells to Apoptosis Induced by Tumor Necrosis Factor-related Apoptosis-inducing Ligand (TRAIL) by Activating cJun N-terminal Kinase. *J. Biol. Chem.* 278, 20593-20602.
17. Manjari Mohan, Tarvinder K. Taneja, Sudhir Sahdeo, Krishnaveni Mohareer, Rasheedunnisa Begum, Mohammad Athar, **Nand K. Sah** and Seyed E. Hasnain (2003) Antioxidants prevent

- UV-induced apoptosis by inhibiting mitochondrial cytochrome c release and caspase activation in *Spodoptera frugiperda* (Sf9) cells. *Cell Biol. International*, 27, 483-490.
16. Seyed E Hasnain, Rasheeda Begum, KVA Ramaiah, Sudhir Sahdeo, EM Shajil, Tarvinder K. Taneja, Manjari Mohan, **Nand K. Sah** and M Krishnaveni (2003) Host-pathogen interactions during apoptosis. *J. Biosciences*, 28, 349-358.
  15. Moshe Talpaz, Nicholas J Donato, Ji Y. Wu, **Nand K Sah** and Hagop Kantarajan (2000) Characterization of the clinical response to STI-571: Biochemical evaluation of responsive and resistant advanced stage chronic myelogenous leukemia patients. *Blood*, 96 (No. 11) p 735a.
  14. Sunil K manna, **Nand K Sah** and Bharat B Aggarwal (2000) Protein tyrosine kinase p56<sup>lck</sup> is required for ceramide-induced but not TNF-induced activation of NF-kB, AP-1, JNK and apoptosis. *J. Biol. Chem.* 275, 13297-13306.
  13. Sunil K Manna, **Nand K Sah**, Robert A Newman, Angela Cisneros and Bharat B Aggarwal (2000) Oleandrin suppresses TNF-induced activation of nuclear transcription factor-kB, activator protein-1 and c-Jun N-terminal kinase. *Cancer Res* 60, 3838-3847.
  12. **Sah NK**, Taneja TK, Pathak N, Begum R, Athar M and Hasnain SE (1999) The baculovirus anti-apoptotic p35 gene also functions via an oxidant-dependent pathway. *Proc. Natl. Acad. Sci. (USA)* 96, 4838-4843.
  11. Begum R, Taneja TK, Mohan M, Pathak N, **Sah NK**, Athar M and Hasnain SE. (1999) The Control and execution of programmed cell death : In *Recent Aspects of Fundamental and Applied Radiobiology* (eds) FHA Schneeweiss and RN Sharan (Forschungszentrum, Julisch, GmbH, Germany) 30, 23-45.
  10. Hasnain SE, Taneja TK, **Sah NK**, Mohan M, Pathak N, Sahdev S, Athar M and Begum R. (1999) In vitro cultured *Spodoptera frugiperda* insect cells: Model for oxidative stress-induced apoptosis. *J. Biosciences*. 24, 13-20.
  9. **Sah NK** (1999) Chemical modification of radiation damage: Role of exogenous hydrogen peroxide alone and in combination with catalase on dry-irradiated barley seeds. *U. P. Jour. Zoology (Adv. Radiat. Biol. & Peace)*, 18, (Suppl 2), 165-172.
  8. **Sah NK** and Kesavan PC (1996) Probing tenability of biochemical vis-à-vis physico-chemical interpretations of modulation of radiation damage by caffeine in barley. *Indian Journal of Biochemistry and Biophysics*, 33, 384-390.
  7. **Sah NK**, Pramanik S and Raychaudhuri SS (1996) Peroxidase changes in barley induced by ionizing and thermal radiation. *International J. Radiat. Biol.* 69, 107-111.
  6. **Sah NK**, Kumar S, Subramanian, M and Devasagayam, TPA (1995) Variation in the modulation of superoxide-induced single strand breaks in plasmid pBR 322 DNA by biological antioxidants. *Biochemistry and Mol. Biol. International*. 35, 291-296
  5. Kesavan PC, Singh SP and **Sah NK** (1991) Chemical modification of post-irradiation damage under varying concentrations of oxygen in barley seeds. *International J. Radiat. Biol.*, 59, 729-737.
  4. **Sah NK** and Kesavan PC (1987) Dose-rate-dependent radiation-induced damage in *Hordeum vulgare*, *Indian J. Exptl. Biol.* 25, 603-605.

3. **Sah NK** and Kesavan PC (1987) Post-irradiation modification of oxygen-dependent and independent damage by catalase in barley seeds. *International J. Radiat. Biol.* 51, 665-672.
2. **Sah NK** and Kesavan PC (1986) On the mechanism of differential modification of oxic and anoxic radiation damage by caffeine in *Hordeum vulgare*. *Indian J. Exptl. Biol.* 24, 23-25.
1. **Sah NK** and Sharma GJ (1982) Radiostimulation of protein synthesis in barley seeds. *Indian J. Biochem. Biophys.* 19, 221-222.

#### MANUSCRIPTS UNDER PREPARATION:

1. S.N.P. Singh, Tribhuwan Kumar, Prajna Jha, Nand K Sah and V. Jha (2016) Kinetics of dehydration vis-à-vis resurrection capability in *Selaginella bryopteris*.

#### POPULAR SCIENCE ARTICLES:

1. R. Verma and **Nand K Sah** (2013) National policy on Biofuel in India. *Jour. Management Value & Ethics* (ISSN: 2249-9512), 3, 91-96.
2. **Sah NK**, Taneja TK and Hasnain SE (2000) Mitochondria can power cells to life and death. *Resonance*. 5, 74-84.
3. **Sah NK** and Ali Faruque (1988) Aging: A formidable challenge. *Science Reporter* (CSIR), (India), 25, 332-334.
4. **Sah NK**, Khan MA and Hasnain SE (1987) DNA Repair Mechanisms. *Science Reporter* (CSIR, India), 24, 279-284.
5. **Sah NK** and Kesavan PC (1986) Photoreactivation. *Science Reporter* (CSIR, India), 23, 43.
6. **Sah NK** and Hasnain SE (1983) Psychological basis of origin of cancer. *Science Reporter* (CSIR, India) 20, 78-83.

#### GENERAL ARTICLES:

**Sah NK** (2017) : We arth janane ke liye udwigna dikhi. Hindi Samachar patra 'Dainik Bhaskar' weekly special 'Aha zindagi' page 06.

**Sah NK** (2014) : 'Jena Dekhalahun Chini Shahar Nanjing' in Maithili, Mithila Darshan, 05, Sept-Oct, 70-72.

**Sah NK** (1988) Aging: Can we overcome it? *The Times of India* (Patna) Sunday Magazine April 3, p8.

**Sah NK** (1984) Cancer: The most dreaded disease. *The Indian Nation* (Patna) Sunday Magazine, June 24, pIII.

**Sah NK** and Khan MA (1982) Psychosomatic origin of cancer. *The Hindustan Times*, (New Delhi), May 5, p24.

#### GRANT SUPPORTS HELD AS PI:

1. Investigation of the bioactive molecules of medicinal values in sanjeevani (*Selaginella bryopteris*), Department of Science & Technology, Govt of India, New Delhi, 2008 (PI).
2. CO<sub>2</sub> capture and Multipurpose fuel production and Environmental safety. Department of Science & Technology, Govt of India, New Delhi, 2008 (Co-PI).
3. Investigation of the comparative features of the various species of *Selaginella* with functions as sanjeevani and identification of their bioactive molecules. M.P. Biotech Council, Bhopal, 2007 (PI).
4. Superoxide-mediated oxygen effect and peroxidase analysis under radiation and chemical stress in *Hordeum vulgare*. Young Scientist Grant, Department of Science and Technology, New Delhi, 1991-1993 (PI).

- Investigation of medicinal properties of Selaginella, University Grants Commission, New Delhi, 1989-1991 (PI).

**Visits abroad:**

- University of Edinburgh, Scotland (UK), 1987
- University of Cambridge at Cambridge (UK), 1987
- University of Texas at Houston (USA), 1999
- University of New Orleans, USA, 2001
- University of California, San Francisco, USA, 2002

**Invited Lectures delivered:**

- Sah NK** (2014) Current perspectives on survivin and its splice variants as attractive bait in the early diagnosis of cancer. 7<sup>th</sup> BIT'S Annual World Cancer Congress, Nanjing, China. May 16-18, 2014.
- Sah NK** (2013) Concept and Application of Biotechnology: Department of Zoology, TNB College, Bhagalpur 812007
- Sah NK** (2012) Cells and Organs of the Immune System, UGC Sponsored National Workshop on 'Experiments in Plant Pathology, Immunology and Tissue Culture at TNB College, Bhagalpur, December, 2012.
- Sah NK** (2011-13) Energy security: Contribution of Biotechnology CM Sc College, Darbhanga DST sponsored lecture series under 'INSPIRE' programme.
- Sah NK** (2011) Gene therapy: Current perspectives PG Department of Botany, BRABU, Muzaffarpur UGC sponsored seminar on Microbes in Biotechnology
- Sah NK** (2008) Urja, Bhojan evam Swasthya ki Suraksha mein Jaiv-Proudyogiki ka Yogdan: CS Agriculture University, Meerut.

**REFERENCES:**

- Professor Seyed E. Hasnain, PhD, DSc (h.c.), DMedSc(h.c.), FNASc, FNA  
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