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2. **Designation:** SCIENTIST SG (FM&P)

**3. Contact Details**

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**4. Academic Background**

Degree	Year	University / Institute
B.Tech (Agril. Engg.)	1983	P.A.U., Ludhiana (Pb.)

**5. Area of research**

Mechanical technologies for potato cultivation

**6. Current Institute Projects :**

Title of research programme: Resource optimization in potato based cropping system

**Project:** Mechanical technologies for potato cultivation

**Objective 1:** Assessment of potato damage during mechanical harvesting, grading & handling and its remedial measures. (Activity leader)

**Objective 2:** Development, improvement and evaluation of tractor operated potato combine harvester (Activity leader).

**7. Externally Funded Projects:**

As Co investigator in the recently approved Extramural Research Project entitled “Post Harvest Loss Assessment of Potato in India” under All India Coordinated Research Project on Potato

**8. Awards/Honours ----**

SNo	Award/Honour
1	Our poster entitled, “Mechanization of potato grading on small-scale farms and for experimental plots” by <b>Sunil Gulati</b> , JS Minhas & Sukhwinder Singh, was awarded the <b>first prize (FM&amp;P)</b> in the 50 <sup>th</sup> annual convention of the Indian Society of

	Agricultural Engineers (ISAE) and symposium on “Agricultural Engineering in Nation Building:Contributions and Challenges”held at OUAT,Bhubaneswar, Odisha during January 19-21, 2016.
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### 9. Publications :

SNo	Research Publications
	- <b>List attached-</b>

### 10. Professional Affiliations

SNo	Professional Affiliations
1	Indian Potato Association-Life member
2	Indian Society for Plantation Crops-Life member

### 11. Foreign Exposure -----

SNo	Country	Period	Purpose
	N.A.		

**Paper published including articles in journals, review articles, popular articles, articles in proceedings, book chapters, abstracts etc.**

### **Research Publications**

1. **Gulati, Sunil**, 1987. Seed cum fertilizer drill for oil seed crops. Green and Glory Journal, vol. No. 2, April, 1987, issue1, pp13-14a.
2. Srivastava,A.P., Srivastava, B.C, & **Gulati Sunil** Dhaan, Alu avam Ganna ke vishesh yantar (In Hindi). In Krishi utpadan avam sansadhan ke unnat yantar (In Hindi). Division of Agricultural Engg., IARI, New Delhi, September, 1987, pp 42-50.
3. Madhavan,K, Bosco,SJD and **Sunil Gulati**,1988. Recent developments in post harvest technology of coconuts. In proceedings of National Symposium on "Coconut breeding and management" held on 23-26 Nov., 1988 at Kerala Agricultural University (KAU), Vellanikkara, Trichur.
4. Atwal, JS, **Gulati, Sunil** and R. Singh (1992). Design and development of a conical grader for potatoes. In proceeding of National colloquium of potato mechanization in India, held at College of Agril. Engineering, Punjab Agril. University, Ludhiana on Nov. 11-12, 1992. pp 90-95.
5. Atwal, JS, **Gulati, Sunil** and R. Singh (1992). Design and development of animal drawn potato planter. In proceeding of National colloquium of potato mechanization in India, held at College of Agril. Engineering, Punjab Agril. University, Ludhiana on Nov. 11-12, 1992. Pp 16-22.
6. Atwal, JS, **Gulati, Sunil** and R. Singh (1992). Evaluation of bullock drawn improved implements for potato v/s conventional methods. In proceeding of National colloquium of potato mechanization in India, held at College of Agril. Engineering, Punjab Agril. University, Ludhiana on Nov. 11-12, 1992. Pp 1-9.
7. Singh, Manjit & **Sunil Gulati**, 1994. Design improvements in potato elevator digger.( abstract)Paper presented at XXIX annual convention of Indian Society of Agricultural Engineers held at GAU, Junagadh on February 10-12, 1994. Abstract No. FPM 94-225, p 28. (Souvenir)
8. Singh, Manjit & **Sunil Gulati** & Trilochan Singh. 1994. Development of an anti-clodding attachment for potato elevator digger (abstract). Paper presented in the poster session in panel discussion on ," Future of potato in India" held at CPRI, Shimla (HP) -171001 on July 30,1994 in Journal of Indian Potato Association 21(1&2), 1994, p 78.
9. Singh, Manjit & **Sunil Gulati** & R. Singh. 1994. Energy analysis of a mechanized potato production system. ( abstract) Paper presented in the National Seminar on agricultural energy organized by the Indian Society of Agricultural Engineers, Bihar chapter at Birsa Agricultural University, Ranchi on Oct. 27-28, 1994, p9 (Souvenir)
10. **Gulati, Sunil**, JS Atwal & Manjit Singh, 1997. Design and development of a cutterbar type of potato haulm cutter. ( abstract) Paper presented at XXXII annual convention of Indian Society of Agricultural Engineers held on April 16-18, 1997 at College of Agricultural Engineering, PAU, Ludhiana. Abstract No. FPM 97-27, p 67 (Souvenir)

11. Singh, Manjit & **Sunil Gulati** 1997. Design and development of a soil manipulator cum fertilizer/ chemical applicator (abstract) Paper presented at XXXII annual convention of Indian Society of Agricultural Engineers held on April 16-18, 1997 at College of Agricultural Engineering, PAU, Ludhiana. Abstract No. FPM 97-24, p 65 (Souvenir)
12. **Gulati Sunil** & M. Singh, 1999. Design and development of an oscillating type of potato digger. ( abstract) Paper presented in the poster session at Global Conference of Potato held in New Delhi from December 6-11, 1999. Abstract No. P Se 1.30, p133 of ABSTRACTS.
13. Atwal, JS, **Sunil Gulati**, 2001. Design and development of a rubber rollers type of potato grader. J. Indian Potato Association 28(1): 70-71.
14. Saxena, BB, M.Singh, **Sunil Gulati** & RC Sharma 2002. Development of a handy power tiller with various tool attachments for potato cultivation in the hills (abstract) Paper presented at XXXVI annual convention of Indian Society of Agricultural Engineers held on Jan 28-30, 2002 at I.I.T., Kharagpur. Abstract No. FP,-2001-1-08, p4
15. Singh, M, BB Saxena, RC Sharma and **Sunil Gulati**, 2002. Development of a rubber rollers type of potato grader for small holders and hill regions (Abstract). Paper presented at XXXVI annual convention of Indian Society of Agricultural Engineers held on Jan 28-30, 2002 at I.I.T, Kharagpur. No. FP,-2001-1-07, p3
16. **Gulati Sunil** & Manjit Singh, 2002. Design and development of an oscillating type of potato digger. In Potato- Global research and development, Vol.II, Edited by SM Paul Khurana, G S Shekhawat, SK Pandey and BP Singh ( Proceeding Global Conference on Potato 6-11, Dec. 1999, New Delhi), pp 989-992.
17. **Gulati Sunil** & Manjit Singh, 2003. Design and development of a manually drawn cup type potato planter. J. Indian Potato Association 30(1-2): 61-62
18. Singh, Manjit & **Sunil Gulati**, 2003. Blade harrow- A promising equipment to expose the left over tubers after harvest. J. Indian Potato Association 30(1-2): 59-60.
19. Saxena, BB, M.Singh, **Sunil Gulati** & RC Sharma 2003. Development and evaluation of a plain and profiled roller type of potato grader. J. Indian Potato Association 30(3-4): 277-283.
20. Singh, Manjit & **Sunil Gulati**, 2004. Status and need for mechanization of production and post production operations in potato crop. In proceedings of the National working group meeting on mechanization needs of horticulture and hill agriculture for production and post production operations and value addition held during April 16-17, 2004 at CIAE, Bhopal (MP), pp139-146
21. Singh, Manjit & **Sunil Gulati**, 2004. Present status and future needs of technology and equipment for production and post production systems of potatoes in India (abstract). Paper presented at National seminar and exhibition on "Equipment technologies and related quality standards for production and post production systems for Horticultural Crops" held during Nov. 8-10, 2004 at CIAE, Bhopal
22. **Sunil Gulati** & Manjit Singh, 2008. Energy requirement and management in a mechanized potato production system. (Abs.) Paper presented in poster session

- in Global Potato Conference held in New Delhi during 9-12 Dec.2008. No. P-RM-75 pp 131.
23. **Sunil Gulati** & Manjit Singh, 2008. Development of a manually drawn two row fertilizer drill cum row marker for potato cultivation. (Abs.) Paper presented in poster session in Global Potato Conference held in New Delhi during 9-12 Dec.2008.. No. P-RM-76 pp 131-132.
  24. Manjit Singh & **Sunil Gulati**, 2008. Development of a machine to prepare French fry cuts. (Abs.) Paper presented in poster session in Global Potato Conference held in New Delhi during 9-12 Dec.2008. No. P-PHV-31 pp 261.
  25. RK Arora, RK Singh & **Sunil Gulati**, 2008. Managing loss from ground frost- a major constraint to potato production in north western plains. (Abs.) Paper presented in poster session in Global Potato Conference held in New Delhi during 9-12 Dec.2008. No. P-RM-66, pp 126.
  26. Sukhwinder Singh, **Sunil Gulati** & Manjit Singh, 2008. Farm Machines and equipment for enhancing potato production, Indian Farming, Vol. 58 No. 9, December-2008, pp 38-43.
  27. Sukhwinder Singh & **Sunil Gulati**, 2008. Aloo kranti ka adhaar machinikaran (In Hindi). Fall- Fool, November-December-2008, pp-28-30.
  28. Singh, Manjit, **Gulati, Sunil** & Singh, Sukhwinder, 2008. Strategies for potato mechanization research for India. Paper in the proceedings of National Conference on Farm Mechanization (NCFM-2008). Edited by SK Mandal, S Sen Sharma & GP Sinha, held at Central Mechanical Engineering Research Institute, Durgapur, 26-27 February, 2008, pp179-187.
  29. Manjit Singh, **Sunil Gulati** & Sukhwinder Singh, 2008. Strategies for potato mechanization in India. (Abstract) Paper presented at annual convention of Indian Society of Agricultural Engineers (ISAE) held at Durgapur (WB) on Feb.26-27, 2008
  30. Arora, RK, Singh, RK & **S. Gulati**, 2010. Managing loss from ground frost- A major constraint to potato production in North- Western Plains. Potato Journal 37 (1-2): 73-74
  - 31) **Gulati, Sunil** & Singh, M. 2011. Energy requirement and management in a potato production system. Potato Journal Vol. 38(1-2): 61-66
  - 32) **Sunil Gulati**, Manjit Singh & Sukhwinder Singh, 2012. Development of an engine operated multitool bar for hills and small farmers. (Abstract) In Souvenir on "National Consultation on Potato Research and Development: Way Forward" at OUAT, Bhubaneswar on 26<sup>th</sup> September, 2012. Abstract No.5 pp 71-72
  - 33) **Sunil Gulati** and Sukhwinder Singh. 2014. Development & evaluation of a small endless screen type potato grader for experimental plots and for small farmers (Abs.). Paper presented in poster session in National Seminar on Emerging Problems of Potato" on 1-2 November 2014 at CPRI, Shimla. No. PP-011
  - 34) Sukhwinder Singh, Vinay Singh and **Sunil Gulati**. 2014. Mechanized Handling and Treatment of Potato (Abs.). Paper presented in poster session in. National Seminar on Emerging Problems of Potato" on 1-2 November 2014 at CPRI, Shimla. No. PP-023

35) **Sunil Gulati** JS Minhas & Sukhwinder Singh. 2016. Mechanization of potato grading on small-scale farms and for experimental plots (Abs.). Paper presented in poster session in the 50<sup>th</sup> annual convention of the Indian Society of Agricultural Engineers (ISAE) held at OUAT, Bhubaneswar, Odisha during January 19-21, 2016.No.ISAE-2016/FMP/ST-07,pp-164 of technical compendium.

### **Research/popular articles**

1)Sukhwinder Singh and **Sunil Gulati**. 2014. Mechanization solutions for Indian potato cultivation. In Souvenir “National Seminar on Emerging Problems of Potato” on 1-2 November 2014 at CPRI, Shimla. pp 70-76.

2)Sukhwinder Singh and **Sunil Gulati**. 2015. Aloo kheti ka machinikaran (in Hindi). In Kheti. V 66(11) Feb 2015.pp38-41

### **Popular article**

1)Gulati, Sunil, 2011. Allo fasal di putai ate putai baad kamman lai machinikaran (In Punjabi). Popular article in training manual on “Aloo beej utpadan takniki” (In Punjabi) for the Farmers training programme held at CPRS, Jalandhar on 19-11-2011.

2) Gulati, Sunil, 2012. Allo fasal di putai ate putai baad kamman lai machinikaran (In Punjabi). Popular article in training manual on “Aloo beej utpadan diyan taknikan” (In Punjabi) for the Farmers training programme held at CPRS, Jalandhar on 11-12-2012.

3) Gulati, Sunil, 2013. Allo fasal di putai ate putai baad kamman lai machinikaran. Popular article in training manual on “Aloo beej utpadan diyan taknikan” (In Punjabi) for the Farmers training programme held at CPRS, Jalandhar on 15-12-2013.

### **Book Chapter**

1) Singh, Manjit & **Sunil Gulati**, 2003. Farm equipment and machines for potato production. In Book,” The potato production and utilization in sub tropics” (Ed. SM Paul Khurana, JS Minhas & SK Pandey) pp179-192, Mehta Publishers, New Delhi

2)Sukhwinder singh, **Sunil Gulati** &Manjit Singh, 2008. Mechanization of potato farming. Chapter in book,” Twenty steps towards hidden treasure- Technologies that triggered potato revolution in India”. Edited by Drs. SK Pandey & SK Chakrabarti, pp 227-243

### **Technical Bulletin**

1) Singh, Manjit & **Sunil Gulati** 1990. Potato equipment developed at Central Potato Research Institute. Technical bulletin No. 25. Central Potato Research Institute, Shimla (HP)-171001, pp 1-51

.2) Manjit Singh, **Sunil Gulati** & Sukhwinder singh, 2008. Farm implement and machines for potato production, Technical Bulletin No. 93. Central Potato Research Institute, Shimla-171001(HP)

**PATENT FILED** (on 26-12-2013, application no. 3781/DEL/2013)

**Sunil Gulati**, Manjit Singh, 2013. Design and development of a tractor drawn cutter bar type of potato haulm cutter .