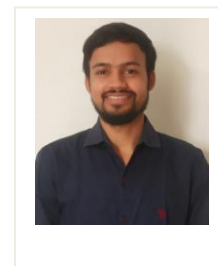


## Dr. Satya Narayan Patel

Ph.D. (Biotechnology, 2021)

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### Research Publications:

- 1 **Patel, S.N.**, Kaushal, G. and Singh, S.P., 2021. D-allulose 3-epimerase of *Bacillus* sp. origin manifests profuse heat-stability and exorbitant potential of D-fructose epimerization. *Microbial Cell Factories*, 20(60). <https://doi.org/10.1186/s12934-021-01550-1>
- 2 **Patel, S.N.**, Kaushal, G. and Singh, S.P., 2020. A novel d-allulose 3-epimerase gene from the metagenome of a thermal aquatic habitat and d-allulose production by *Bacillus subtilis* whole-cell catalysis. *Applied and Environmental Microbiology*, 86(5). DOI: 10.1128/AEM.02605-19.
- 3 **Patel, S.N.**, Singh, V., Sharma, M., Sangwan, R.S., Singhal, N.K. and Singh, S.P., 2018. Development of a thermo-stable and recyclable magnetic nanobiocatalyst for bioprocessing of fruit processing residues and D-allulose synthesis. *Bioresource Technology*, 247, pp.633-639. DOI: 10.1016/j.biortech.2017.09.112.
- 4 **Patel, S.N.**, Sharma, M., Lata, K., Singh, U., Kumar, V., Sangwan, R.S. and Singh, S.P., 2016. Improved operational stability of d-psicose 3-epimerase by a novel protein engineering strategy, and d-psicose production from fruit and vegetable residues. *Bioresource Technology*, 216, pp.121-127. DOI: 10.1016/j.biortech.2016.05.053.
- 5 Narnoliya, L.K., Agarwal, N., **Patel, S.N.** and Singh, S.P., 2019. Kinetic characterization of laccase from *Bacillus atrophaeus*, and its potential in juice clarification in free and immobilized forms. *Journal of Microbiology*, 57(10), pp.900-909. DOI: 10.1007/s12275-019-9170-z.
- 6 Lata, K., Sharma, M., **Patel, S.N.**, Sangwan, R.S. and Singh, S.P., 2018. An integrated bio-process for production of functional biomolecules utilizing raw and by-products from dairy and sugarcane industries. *Bioprocess and Biosystems Engineering*, 41(8), pp.1121-1131. DOI: 10.1007/s00449-018-1941-0.
- 7 Sharma, M., **Patel, S.N.**, Sangwan, R.S. and Singh, S.P., 2017. Biotransformation of banana pseudostem extract into a functional juice containing value added biomolecules of potential health benefits. *Indian Journal of Experimental Biology*, pp. 453-462.
- 8 Sharma, M., **Patel, S.N.**, Lata, K., Singh, U., Krishania, M., Sangwan, R.S. and Singh, S.P., 2016. A novel approach of integrated bioprocessing of cane molasses for production of prebiotic and functional bioproducts. *Bioresource Technology*, 219, pp.311-318. DOI: 10.1016/j.biortech.2016.07.131.

### Granted Patents:

- 1 A novel method for D-allulose production from D-fructose containing feedstock, and uses thereof. Indian Patent Appl. No. 201811023113. Indian Patent no. 353054. Inventors: Singh SP, **Patel SN**.
- 2 A process for the production of nearly zero calorie sweet sugar from fruit or vegetable plants, plant parts and their extracts and residues, and uses of the same. Indian Patent Appl. No. 201611003411. Indian Patent no. 333203. Inventors: Singh SP, Sangwan RS, **Patel SN**, Sharma M, Singh U, Kumar V.
- 3 A process for the production of functional biomolecules from by-products of sugar and dairy industries. Indian Patent Appl. No. 201711006155. Indian Patent no. 353513. Inventors: Singh SP, Lata K, Sharma M, **Patel SN**, Sangwan RS.
- 4 A process for biotransformation of banana pseudo-stem extract into a functional juice containing non-digestible and prebiotic oligosaccharides, and nearly calorie free functional monosaccharide, and uses thereof. Indian Patent Appl. No. 201711009819. Indian Patent No. 360411. Inventors: Singh SP, Sharma M, **Patel SN**, Sangwan RS

### Filed Patents:

- 1 A process for magnetic particle immobilization of Smt3-d-psicose 3-epimerase enzyme and post-reaction recovery and recycled use of the immobilized enzyme for production of D-psicose from biomass or bioresource or agro-industrial products or residues, and uses of the same. Indian Patent Appl. No. 201611044752; Inventors: Singh SP, Sangwan RS, **Patel SN**, Singhal N.
- 2 A novel process for the production of the anti-diabetic sugar, D-allulose, by using a D-allulose 3-epimerase of *Bacillus* sp. origin. Indian Patent Appl. No. 202011018495; Inventors: Singh SP, **Patel SN**
- 3 A novel xylose isomerase from hot spring metagenome and uses thereof. Indian Patent Appl. No. 202011050295. Singh SP, **Patel SN**.
- 4 A novel process of production of special and premium pectin preparation, named as neopectin, from diversified bioresources through steps free from chemical treatments and uses thereof. Indian Patent Appl. No. 201711021690. Inventors: Sangwan RS, Sharma M, **Patel SN**, Singh U, Singh SP, Yadav SK, Sandhu PP.
- 5 A process for the production of prebiotic oligosaccharides and nearly zero calorie functional sugar from cane molasses, and uses of the same. Indian Patent Appl. No. 201611016793; Inventors: Singh SP, Sangwan RS, Sharma M, **Patel SN**, Krishania M, Singh U, Lata K

### Awards/Recognitions:

1. Gandhian Young Technological Innovation Award (2019)

2. Anna University-Centre for Biotechnology” (AU-CBT) Excellence Award by Biotech Research Society of India (2019)
3. Selected for a competitive ‘B4 Synthetic Biology Workshop’ hosted by the Lakshmi Mittal South Asia Institute, Harvard University (LMSAI), Cambridge, IBAB Bangalore, IISER Pune and funded by Department of Biotechnology Govt. of India (2019)
4. Selected for Council of Scientific and Industrial Research- Senior Research Fellowship” 2018.
5. Best poster award during International conference on “Bio-Innovation for Environmental and Health Sustainable Developments” (BEHSD-2018), held at CSIR-IITR Lucknow during the November 27-28, 2018.
6. Best poster award during International Har Gobind Khorana Memorial Symposium on “Genes, Genomics and Membrane Biology” held at NABI Mohali during December 03-05, 2017.
7. Qualified NIPER JEE-2015
8. Received DBT-JRF-II September 2014

**Membership of Scientific societies:**

- 1 Indian Science Congress Association (ISCA) ( Life membership Number -L40294)
- 2 Biotech Research Society of India (BRSI) (Life membership Number - LM 2108)