

Dr Darshan H. Patel
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Charotar University of Science & Technology

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Academic qualifications:

Degree	Specialization	University	Year
Ph.D	Biotechnology	Sardar Patel University	2006
M.Sc	Biochemistry	Sardar Patel University	1999
B.Sc	Biochemistry	Sardar Patel University	1997

Experience:

Teaching: 7 years

Research: 6 years

Industry/Clinical: 1 year

Ph.D. Students guided: 3 completed, 5 ongoing

PG Students guided: 17 completed

UG Students guided: 25 completed

Awards:

- JNCASR, IISc Visiting Fellowship Programme, Bangalore (15May-22July,2013)
- Elected Fellow, The Biochemical Society, UK, 2013

Projects:

Completed-

- 1) Rare sugar production using isomerase and epimerase- BPPD scheme (DBT), Nov. 2013-Oct. 2016.
- 2) Elastin Like Polypeptide (ELP) Tagged Amylase and Xylose Isomerases: Alternative Purification and Immobilization Technology- RGYI scheme (DBT), Nov. 2013- Nov. 2016.
- 3) Diagnostic Enzyme Development, Arogyam Microcare Pvt. Ltd, Vadodara. Consultancy project, May 2014.

Ongoing- As Co-PI

Application of micro aerophilic-aerobic bioreactor system in treating real textile effluents and metagenomic analyses of microbial community dynamics, DST, Oct. 2016-Sep. 2019.

Peer-reviewed publications:

- Samir R. Dedania, Rekha C. Akhni, Manisha J. Patel, Digit M. Patel, **Darshan H. Patel** (2017) Immobilization on graphene oxide improves the thermal stability and bioconversion efficiency of D-Psicose 3-epimerase for rare sugar production. **Enzyme and Microbial Technology**. 107: 49-56. DOI: 10.1016/j.enzmictec.2017.08.003.
- Vishakha A. Pawar, Anil S. Prajapati, Rekha C. Akhni, **Darshan H. Patel**, R. B. Subramanian (2018) Molecular and biochemical characterization of a thermostable keratinase from *Bacillus altitudinis* RBDV1. **3Biotech**. 8:107. DOI: 10.1007/2Fs13205-018-1130-5.

- Rekha C. Akhani, Arti T. Patel, Manisha J. Patel, Samir R. Dedania and **Darshan H. Patel** (2017) Ricin super family Carbohydrate Binding Module 13 containing Pectate Lyase 1B from *Bacillus licheniformis* displaying hyper thermal stability. **Asian Journal of Biochemistry**. 12(2): 36-43. DOI: 10.3923/ajb.2017.36.43.
- Rekha C. Akhani, Arti T. Patel, Manisha J. Patel, Samir R. Dedania and **Darshan H. Patel**. (2017) Column chromatography free purification of recombinant α -amylase from *Bacillus licheniformis* by tagging with hydrophobic Elastin like Polypeptide. PNAS B India, **Proceedings of National Academy of Science, India**. Accepted. DOI: 10.1007/s40011-017-0862-z.
- Manisha J. Patel, Rekha C. Akhani, Arti T. Patel, Samir R. Dedania, **Darshan H. Patel** (2017) A single and two step isomerization process for D-Tagatose and L-Ribose bioproduction using L-arabinose isomerase and D-lyxose isomerase. **Enzyme and Microbial Technology**. 97: 27-33. DOI:10.1016/j.enzmictec.2016.11.001.
- Arti T. Patel, Rekha C. Akhani, Manisha J. Patel, Samir R. Dedania and **Darshan H. Patel** (2016) Bioproduction of L-aspartic acid and cinnamic acid by L-aspartate ammonia lyase from *Pseudomonas aeruginosa* PAO1. **Applied Biochemistry and Biotechnology**. 182(2): 792-803 DOI: 10.1007/s12010-016-2362.
- Manisha J. Patel, Arti T. Patel, Rekha Akhani, Samir R. Dedania, **Darshan H. Patel** (2016) Bioproduction of D-Tagatose from D-Galactose Using Phosphoglucose Isomerase from *Pseudomonas aeruginosa* PAO1. **Applied biochemistry and biotechnology**. 179(5):715-27. DOI: 10.1007/s12010-016-2026-7.
- Arti T. Patel, Rekha C. Akhani, Manisha J. Patel, Samir R. Dedania, **Darshan H. Patel** (2016) Biochemical Leaning of Phosphoglucose Isomerase is more towards Gluconeogenesis in *Pseudomonas aeruginosa* PAO1. **Asian Journal of Biochemistry**. 11(3): 118-126. DOI: 10.3923/ajb.2016.
- Ankit P. Sudhir, Viplove V. Agarwaal, Bhaumik R. Dave, **Darshan H. Patel**, RB Subramanian. 2016. Enhanced catalysis of l-asparaginase from *Bacillus licheniformis* by a rational redesign. **Enzyme and Microbial Technology**. 86: 1-6.
- Jagdish Shantilal Patel, **Darshan H. Patel**, Rucha Desai, Sunil Shah, Piyush Chudasama, Sachin Joshi, Bhargav Patel (2016) Application of an industrial waste magnetic iron dust as a solid phase support for immobilizing enzyme of industrial applications. **Adsorption Science & Technology**. 7(8): 439-454.
- Ankit P. Sudhir, Bhaumik R. Dave, Anil S. Prajapati, Ketankumar Panchal, **Darshan H. Patel**, RB Subramanian (2014) Characterization of a recombinant glutaminase-free L-asparaginase (ansA3) enzyme with high catalytic activity from *Bacillus licheniformis*. **Applied biochemistry and biotechnology**. 174(7): 2504-2515.
- **Darshan H. Patel**, Eun Jin Cho, Ho Myeong Kim, Hyeun-Jong Bae (2012) Mutation at Catalytic Site Residue of Xylose Isomerase Enhance the Rate of Reaction on Non Promiscuous Substrate. **Protein Engineering Design and Selection**. 25(7): 331-336.
- Yeon-Ok, Kim Yoon Gyo Lee, **Darshan H. Patel**, Ho Myeong Kim, Sung-Ju Ahn, Hyeun-Jong Bae (2011) Zn tolerance of novel *Colocasia esculenta* metallothionein and its domains in *Escherichia coli* and tobacco. **Journal of Plant Research**. 125(6):793-804.

- Ho Myeong Kim, Yoon Gyo Lee, **Darshan H. Patel**, Kwang Ho Lee, Dae-Seok Lee, Hyeun- Jong Bae (2011) Characteristics of Bi-functional Acidic Endoglucanase (Cel5B) from *Gloeophyllum trabeum*. **Journal of Industrial Microbiology & Biotechnology**. 39(7):1081-9.
- **Darshan H. Patel**, Seung Gon Wi, Hyun Joo Kim, Dae-Seok Lee, Sung-Joo Ahn and Hyeun-Jong Bae (2011) Substrate specificity of *ydaE* (lyxose isomerase) of *Bacillus licheniformis* and its application for bio production of lyxose and glucose by two step isomerization: Invitro catalysis. **Applied Environmental Microbiology**. 77(10): 3343-3350.
- Yeon-Ok KIM, **Darshan H. PATEL**, Dae-Seok LEE, Younho SONG and Hyeun-Jong BAE (2011) High Cadmium-Binding Ability of a Novel *Colocasia esculenta* Metallothionein Increases Cadmium Tolerance in *Escherichia coli* and Tobacco. **Bioscience, Biotechnology, and Biochemistry**. 75 (10): 1912-1920.
- Vishal P. Oza, Pritesh P. Parmar, **Darshan H. Patel**, R. B. Subramanian (2011) Cloning, expression and characterization of L-asparaginase from *Withania somnifera* L. for large scale production. **3 Biotech**. 1: 21-26.
- In seong Choi, Seung gon Wi, Se Ra Jung, **Darshan H. Patel** and Hyeun Jong Bae (2009) Purification and Characterization of recombinant beta-glucosidase from *Bacillus licheniformis* **J wood science**. 55: 329-334.
- **Darshan H Patel**, Seung Gon Wi and Hyeun Jong Bae (2009) PCR directed modified overlap extension: A mutagenic approach. **Indian J of Biotechnology**. 18: 183-186.
- Hiren A. Prajapati. **Darshan H. Patel**. Saurabh R.Mehta. R.B.Subramanian.2003.Direct Invitro regeneration of *Curculigo orchoides* Gaertn, an endangered anticarcinogenic herb. **Current Science**. 84 (6):747-749.

Conference proceedings:

Nil

Membership:

Nil

Area of Interest/Research/Expertise:

- Rare sugar
- Moonlighting protein and Protein Engineering