



**BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL
COLLEGE OF ENGINEERING**

SPCE RACING
NEWSLETTER



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About SPCE



Sardar Patel College of Engineering (SPCE) under the management of the Bhartiya Vidya Bhavan, was founded by Kulapati Dr.K.M.Munshi. It was established to meet the growing demand for engineering talent.

The foundation stone of the college was laid on 17th September 1961 by Shri.Y.B.Chavan, the then Chief Minister of Maharashtra who later became the Defence Minister of India. The college was inaugurated by the first Prime Minister of Independent India, Pandit Jawaharlal Nehru in 1962.The college is dedicated to Sardar Vallabhbhai Patel, an eminent nation builder of independent India.

The college is autonomous and affiliated to the University of Mumbai for the full-time degree and post graduate degree courses. The institute has set high standards for aspiring engineering students and also meets the need of quality education in the challenging world of business. Over the last 50 years the college has gained an excellent reputation in the field of Technical Education.

SPCE is one of the few colleges that have received Grade 'A+' rating for its aided courses from the Govt. of Maharashtra which certifies the spirit of excellence that the institute has symbolized and always practiced.

Institute VISION

“TO BUILD A RENOWNED INSTITUTION WHICH WILL PRODUCE SKILLED GRADUATE ENGINEERS WITH GOOD-WILL FOR HUMANITY”

Institute MISSION

- To impart quality education through need based curriculum in academic programmes.
- To enhance career opportunities for students through industry institute interaction & value added courses.
- To promote excellence by encouraging a wide range of views, lateral thinking & a sense of discipline.
- To inculcate responsibility towards society.
- To achieve & maintain excellence in education & research.

Institute OBJECTIVES

- To develop & enhance industry institute interaction both at student & faculty level.
- To modernize laboratories to keep abreast with the needs of the changing curriculum & research activities.
- To build up the institution through interaction with alumni & interdepartmental activities.
- To encourage continuous upgradation of skills at all levels through training programmes.

OUR INSPIRATIONS



Dr. P. H. Sawant

Professor & Principal - Sardar Patel College of Engineering

Area of Interest - Construction Management, Water resources for surveying.

“It gives me immense pleasure to announce that Department of Mechanical Engineering has a dedicated team working towards fabricating a Automobile each year, SPCE RACING. I congratulate the coordinator & Head MED for extending unprecedented support to them which will enrich the knowledge of participants in the area of automobiles with the help of valuable practical knowledge from their seniors. This will empower the students of SPCE to conduct more such activities”.



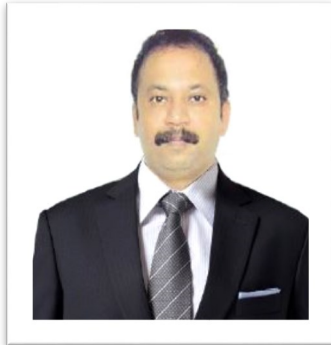
Dr. M. M. Murudi

Professor & Vice-Principal - Sardar Patel College of Engineering | TEQIP Coordinator

Area of Interest- Earthquake Engineering.

“As a Vice-principal and TEQIP coordinator I am very happy that Mechanical Engineering Department is taking a leading role by arranging this type of activities which boosts industry-academia interaction. I congratulate head MED and his team participating in SAE competitions each year and bringing laurels to the institute .”

OUR INSPIRATIONS



Dr. R. B. Buktar

Head, Mechanical Engineering Department- Sardar Patel College of Engineering

“As the Head of Mechanical Engineering Department I am very proud of the students of SPCE Racing that they are conducting various workshops and trainings in the field of Automobile Engineering. I congratulate The SPCE Racing Team for imparting practical knowledge to the students through hands on training they provide.”



Prof. D. N. Jadhav

Associate Professor in Mechanical Engineering Department- Sardar Patel College of Engineering

“In today's world practical knowledge and management skills are of paramount importance. The SPCE Racing Team is formed with the goal to empower students to use their management skills and improve their practical knowledge. This Team will also act as a platform to discuss the advancement in the field of Automobile”.



Dr. S. S. Umale

Associate Professor in Mechanical Engineering Department- Sardar Patel College of Engineering

“An era in which automobile engineering has gained unprecedented importance The SPCE Racing Team is doing great in their endeavour of Designing and Fabricating ATVs and Formula Student Cars from scratch at our modern workshop facilities. I congratulate them all”.



Department VISION

“To be a nationally recognized mechanical engineering department producing a blend of responsible & competent engineering graduates with inculcation of human values in next five years.”

Department MISSION

- To impart need based technical educational by designing curriculum in collaboration with stakeholders
- To develop linkages with renowned industries in India & abroad for excellence in teaching & research
- To provide state of art laboratories to impart field knowledge to mechanical engineering students
- To encourage the students to participate in extracurricular activities for overall personality development and be a responsible person of the society .

Programme Educational Objectives

Programme Educational Objectives for B.Tech. (Mechanical)

- Graduates will apply knowledge gained in engineering to improve lives and subsistence through a successful career in mechanical engineering and other interdisciplinary fields.
- Graduates will become entrepreneurs, innovators & researchers to address social, technical and business challenges.
- Graduate will engage in lifelong learning such as higher studies, research and other continuous professional development activities.

Programme Educational Objectives for M.Tech.(M/C Design)

- Graduates will apply knowledge gained in engineering to improve lives and subsistence through a successful career in Design Engineering and associated fields.
- Graduates will become academicians, researchers and consultants to address social, technical and business challenges.
- Graduate will engage in lifelong learning such as higher studies, research and other continuous professional development activities.

Programme Educational Objectives for M.Tech. (Thermal Engg.)

- Graduates will apply knowledge gained in engineering to improve lives and subsistence through a successful career in Thermal Engineering and associated fields.
- Graduates will become academicians, researchers and consultants to address social, technical and business challenges.
- Graduate will engage in lifelong learning such as higher studies, research and other continuous professional development activities.

Programme Outcomes

Programme Outcomes for B.Tech. (Mechanical)

After successful completion of B.Tech. (Mechanical) programme, the graduate will have:

- An ability to apply knowledge of mathematics, science and mechanical engineering.
- An ability to identify, formulate, solve and draw appropriate conclusions of complex mechanical engineering problems.
- An ability to design and develop a system or process to meet desired needs with appropriate considerations such as economic, environmental, social, ethical, manufacturability, sustainability, health, safety, legal and cultural.
- An ability to design and conduct experiments with given constraints analyse and interpret data for complex engineering problems having multiple possible solutions.
- An ability to use the techniques, skills and modern engineering tools such as CAD, analysis and simulation tools necessary for engineering practice.
- Responsiveness towards professionalism and ethics.
- An ability to function on multi-disciplinary teams.
- An ability to communicate effectively.
- An ability to demonstrate the knowledge of engineering and management principles and apply these to manage the projects and its financial aspects.
- An ability to engage in lifelong learning.

Programme Outcomes for M.Tech. (Machine Design)

After successful completion of M.Tech. (Machine Design) programme, the graduate will have:

- Extensive knowledge of Machine Design discipline with an ability to associate this learning to identify, assess, analyse and integrate new knowledge areas and contribute towards enrichment of the disciplinary knowledge.
- An ability to perform investigation of complex engineering problems by applying both analytical and creative thinking and arrive at wide range of potential solutions and further evaluate them considering public health and safety, cultural, societal and environmental factors.
- A skill to undertake research by applying appropriate research methodologies such as literature survey, design/ conduct of experiments, analysis and interpretation of data and conceptualise solutions that leads to scientific/ technological development.
- An ability to create, apply and adapt techniques using modern engineering and IT tools for modelling and analysis of engineering systems.
- An ability to communicate effectively and to function in collaborative-multidisciplinary team activities.
- An ability to demonstrate knowledge of engineering and management principles and apply these to manage projects and its financial aspects.
- To continuously do independent and reflective learning in order to improve upon one's skills and abilities and to engage in lifelong learning.
- Responsiveness towards development of society, professionalism and ethics.

Programme Outcomes for M.Tech. (Thermal Engineering)

After successful completion of M.Tech. (Thermal Engineering) programme, the graduate will have:

- Extensive knowledge of Thermal Engineering discipline with an ability to associate this learning to identify, assess, analyse and integrate new knowledge areas and contribute towards enrichment of the disciplinary knowledge.
- An ability to perform investigation of complex engineering problems by applying both analytical and creative thinking and arrive at wide range of potential solutions and further evaluate them considering public health and safety, cultural, societal and environmental factors.
- A skill to undertake research by applying appropriate research methodologies such as literature survey, design/ conduct of experiments, analysis and interpretation of data and conceptualise solutions that leads to scientific/ technological development.
- An ability to create, apply and adapt techniques using modern engineering and IT tools for modelling and analysis of engineering systems.
- An ability to communicate effectively and to function in collaborative-multidisciplinary team activities.
- An ability to demonstrate knowledge of engineering and management principles and apply these to manage projects and its financial aspects.
- To continuously do independent and reflective learning in order to improve upon one's skills and abilities and to engage in lifelong learning.
- Responsiveness towards development of society, professionalism and ethics.



About BAJA



The BAJA SAE Series® is an event for the under graduate engineering students, organized globally by the Society of Automotive Engineers, USA. The event originated in the name of Mini - BAJA, in the year 1976 at University of Carolina. Since then, the event has spanned across six countries – USA, Mexico, South Africa, Korea, Brazil and India. SAE India conducts a similar event each year at Indore, at the NATRIP facility. The BAJA SAE tasks the students to design, fabricate and validate a single seater four - wheeled off road vehicle to take part in series of events spread over a course of 3 days that test the vehicle for the sound engineering practices that have gone into it, the agility of the vehicle in terms of grad ability, speed, acceleration and maneuverability characteristics and finally its ability to endure that back breaking durability test.

About SUPRA



The SUPRA SAEINDIA is a competition which presents the Under Graduate & Post Graduate Engineering Students the task of designing, modeling and fabricating a formula type racing car. The concept behind SUPRA SAEINDIA is that a fictional manufacturing company has contacted a design team to develop a small Formula style race car. The prototype is to be evaluated for its potential as a Racing car. The target marketing group for the race car is the non-professional weekend autocross racer. Each team designs and produces a prototype based on well laid down rules & regulations. The project fuels the exuberance of the youth by providing teams a platform to test their mettle, giving them a pragmatic exposure to real world challenges as faced in the industry. Students realize their talent through such an experience, making them proven candidates for the future as technocrats, entrepreneurs, designers, innovators and leaders. This helps the objective of bringing out student talent to serve the nation for the years to come, in fulfillment of the Automotive Mission Plan a dream to make India an International Automotive Hub.





















TEAM SPCE RACING




We are a team of enthusiastic engineers from Sardar Patel College of Engineering, Andheri-(West), Mumbai. Our college is an autonomous Institution affiliated to Mumbai University and bestowed with 'A' grade from Government of Maharashtra. It is one of the premiere and reputed engineering colleges in the state. We are participating in the national level competition, SUPRA SAEINDIA 2015, which is held at Madras Circuit, Tamil Nadu, every year in the month of June. The competition requires us to design and fabricate an Formula type Race car at the student level through the principles of design, team-work, resource planning, ingenuity and test it for reliability and performance. SPCE has participated in SUPRA twice In the year 2011 and 2014 and has also participated in Baja in the years 2010, 2011, 2012 and the year 2013.

TEAM MEMBERS 2015

No	Name	Responsibility	Photo
1	Sunil Babasaheb Katkar	Captain, Powertrain	
2	Sameer Dayanand Meshram	Marketing, Suspension & Steering, CAE, Driver	
3	Piyush Prakash Girade	Aerodynamics, Brakes, Production	
4	Pradeepkumar Babubhai Patel	Powertrain, Production	
5	Falgun Bharat Patel	Suspension & Steering, CAE	
6	Akshay Vijaykumar Panchal	Vehicle Dynamics	
7	Mahesh Madhukar Pandhre	Chassis, CAD	
8	Saurabh Ramdas Mandpe	Powertrain, Vehicle Dynamics, Electricals	
9	Avinashkumar Ramker Chauhan	Chassis, Design, Panelling	

10	Prem Rajendra Khilari	Powertrain, Production	
11	Amey Ashok Dhumal	Aerodynamics, Exhaust	
12	Suraj Shekhar Jogi	Production	
13	Monit Vivek Nagrik	Production	
14	Preet Ashish Desai	Powertrain, Driver	
15	Aman Satyen Chheda	Marketing, Suspension	
16	Rajat Ravindra Giri	Powertrain, CAE	
17	Shreyash Suresh Thakre	Powertrain, Logistics	
18	Harsh Shantilal Nisar	Production, Logistica	
19	Aniket Suresh Angre	Suspension & Steering	

20	Vedantsing Rajendrasing Pardeshi	Suspension & Steering	
21	Suraj Sunil Patil	Brakes	
22	Vrajkumar Umesh Patel	Vehicle Dynamics	
23	Jay Mayur Mehta	Production	
24	Alan Jason Valerian Correa	Marketing	
25	Prasanna Mukund Deshmukh	Chassis	

BAJA 2010



The year 2010 marked the beginning of BAJA in SPCE. The competition held at NATRiP (National Automotive Testing and R&D Infrastructure Project) at Pithampur, Madhya Pradesh won the team The Technical Innovation Award and a prize money of 1 lakh rupees. The car was featured live by Doordarshan and was exhibited at The Auto Expo at Bandra Kurla Complex.

SAE INDIA 2011 WORKSHOP

- The Team conducts several workshops each year. The 2011 National Level Workshop was one such example



- Eminent speakers from the Society of Automotive Engineers, ARAI and Industries enlightened the students.

- The workshop received a foot-fall of 500 participants from different parts of the country.



SUPRA 2011



With grand success in BAJA 2010 the team participated in SUPRA 2011 which was held at The Madras Motorsport Race Track, Chennai. The photos show the 2011 car along with the team.

BAJA 2011



The BAJA 2011 Team with the Car was the 3rd car made by Team SPCE Racing. The photos show the 2011 team with the car.

BAJA 2012



The BAJA 2012 Car with the 2012 Team. 2012 was the first time the team attempted automatic transmission and achieved great success in meeting their speed and torque requirements.

BAJA 2013



The 2013 Team with the Car. The main aim of the 2013 buggy was to set new records in acceleration event, The team ranked 5th overall in the acceleration event, meeting their goals.

SUPRA 2014



The SUPRA 2014 car with the Team. The aim of the team was to design a car with the minimum possible turning radius. The team achieved a turning radius of 3.11 meters.

ACHIEVEMENTS



- Technical Innovation award won for eliminating the Differential in BAJA 2010, Prize money of rupees 1 Lack was awarded.



ACHIEVEMENTS



- Third overall in SUPRA 2011 from amongst 300 teams throughout the country.



SPCE RACING IN THE NEWS



- Doordarshan Live coverage of our 2010 buggy.
- Hindustan Times news article about our BAJA car.



Students of Sardar Patel College of Engineering, Andheri, pose with their creation at the Auto Mall 2010, in the city on Friday.

Eureka, we've made it!

City-based students manufacture vehicle out of scratch

BY A STAFF REPORTER

Amidst the fancy vehicles on display at the Auto Mall 2010, one scruffy mean machine clearly stood out. Built by the students of city-based Sardar Patel College of Engineering (SPCE), the off-road vehicle and its creators caught a lot of eyeballs at the gala event.

Vedang Patel, one of the twenty team members of Team Ambrosio, who built the vehicle, said that a lot of hard work had gone into making the vehicle. This vehicle incidentally won the first prize of

one lakh rupees at an all-India inter-collegiate competition at Vaha in Indore. Patel explained that the team were able to put the vehicle together using chains to run the rear wheels, hence negating the differential completely. "In layman terms, it meant that the weight and the cost of the vehicle were greatly reduced," he said.

All 80 participating teams, were provided a Lombardini Engine (340cc, 9bhp) each. A one-seater vehicle was then built around the engine and had to follow strict safety regulations. The vehicle

then endured various competitions like drag race, hill race and endurance races.

Patel informed that when the team had submitted the initial blueprint of the vehicle to Vaha's authority, they had challenged the students to build what the authorities assumed would be a difficult task. He also added that with the prize money the team would re-work the vehicle and introduce new path breaking innovations. The team and the vehicle received an amazing public response at the show added Patel.

SPCE RACING IN THE NEWS



Left: Some buggies had to be pushed out of ditches due to lack of torque. Marshals rescuing NDMPVS Nashik buggy. Right: Interesting rear layout of Sardar Patel COE, Mumbai buggy

- Times Of India news article about our BAJA car.
- Car exhibited at the AutExpo at Bandra Kurla Complex.

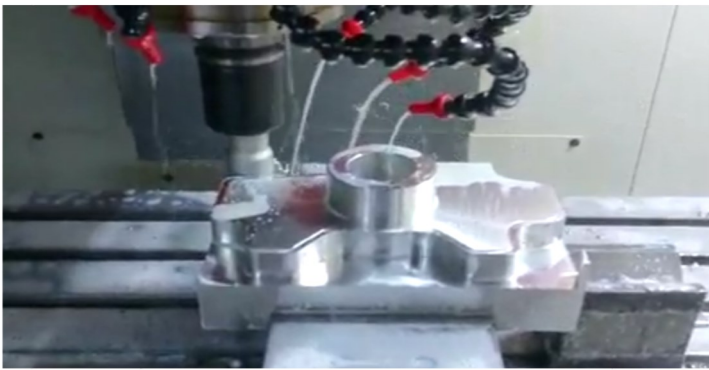


SPCE RACING IN THE NEWS



- Special meeting with Dr. Pawan Goenka, President of Mahindra & Mahindra.
- Our 2012 car's design impresses the jury so much that the organizers had a special photo shoot with us. And our BAJA 2010 buggy since then has become the face of BAJA SAE INDIA and is present on the SAE INDIA website as well as on each and every certificate that is given out.

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