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Department of Mechanical Engineering

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History and Development of Automobiles

Cugnot's steam wagon

A replica of Richard Trevithick's 1801 road locomotive 'Puffing Devil'

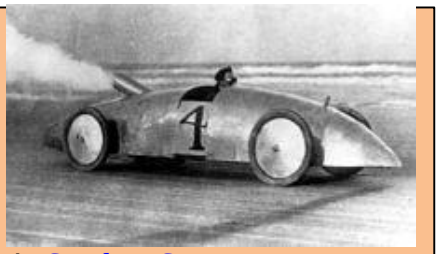
German *Flocken Elektrowagen* of 1888, regarded as the first electric car of the world

The birth of the car as we know it today took several years and the works and streets; however, earlier attempts at steam powered road vehicles were successful, giving people the idea that cars as we know them today have existed for a lot longer than they have.

The first steam-powered vehicle was designed by Nicolas-Joseph Cugnot and constructed by M. Brezin in 1769 and could attain speeds of up to 6 km/hour. Two years later, he designed another, much faster steam-driven engine, which was so fast that it rammed into a wall, recording the world's first car accident. These early steam-powered vehicles were so heavy that they were only practical on a perfectly flat surface as strong as iron. However developments of many people. It was not until 1885 that the first car rolled down the impractical as these cars may have been, the design for these vehicles were the basis for the first self-propelled vehicles and ultimately the basis for the design of the car we know today.

The next step towards the development of the car was the invention of the internal combustion engine. Francois Isaac de Rivaz designed the first internal combustion engine in 1807, using a mixture of hydrogen and oxygen to generate energy. Several designs were developed for a car to run on the internal combustion engine during the early 19 th century, but with little to no degree of commercial success due to the fact that

CONTENTS.....



A Stanley Steamer racecar in 1903. In 1906, a similar Stanley Rocket set the world land speed record at 205.5km/h at Daytona Beach Road Course

The first automobile in Japan, a

1885-built Benz Patent-Motorwagen, the first car to go into production with an internal

1923 Lancia Lambda

1926 Austin 7 Box saloon

there was no known fuel that could be safely internally combusted.

In 1860, Jean Joseph Etienne Lenoir, a Frenchman, built the first successful two-stroke gas driven engine. Two years later, he again built an experimental vehicle by his gas-engine, which ran at a speed of 3 kms/hour and drove it from Paris to Joinville. Both of these cars became popular and by 1865 could be frequently seen on the roads. Unfortunately, Lenoir died broke before he could ever make any money or even enjoy his invention.

After several small changes to Lenoir's design, In September of 1893, after several small changes to Lenoir's design, the first gasoline powered car, built by brothers Charles and Frank Duryear, was ready for road trials. The first run on public roads was made on September 21, 1893 in Springfield, MA.. When most people think of the first cars on the road, they think Henry Ford, but it was not until 1896 that one of Henry Ford's cars could be seen on the road. He sold his first car, which he called the Quadracycle, for 0 and used the money to build another car. With the financial backing of the Mayor of Detroit and other wealthy Detroiters, Ford formed the Detroit Automobile Company in 1899. A few prototypes were built, but no production cars were ever made by this company and it was dissolved in January 1901. Ford would not offer a car for sale again until 1903.

The development of the automobile changed the face of small-town America. As time passed, cars became less of luxury and more of a necessity. However, after a century, we are finally realizing the long-term effects of transport by internal combustion and are looking for alternative forms of fuel and transportation.

1939 Volkswagen Beetle

1946 GAZ-M20 Pobeda one of the first mass-produced cars with ponton design

1926 Bugatti Type 35

1932 Ford V-8 (Model B)

1936 Rolls-Royce Phantom III

1953 Morris Minor Series II

1947 Standard Vanguard ponton styled car in 1954 version as station wagon (break)

1954 Plymouth Savoy Station Wagon, one of the first U.S. all-metal station wagons

1974 Citroën DS

A 2011 Toyota Corolla, one of the world's best-selling models

Staff Corner

- **Sameer Kumar ,** *" study of the effect of processing time of buffer size in a Flexible manufacturing System" ,* International Journal of Advanced Manufacturing Systems(IJAMS), Vol 4 , No 1 , Jan – Jun 2013 , pp 53-59.
- G. Suresh Babu**, Dr. V. Chittaranjan Das** "Condition Monitoring and Boiler Analysis of Feed Pump" International Journal of Scientific and Research Publications, Volume 3, Issue 6, June 2013 1 ISSN 2250-3153.
- **Reddy Sreenivasulu** & Ch.Srinivasa Rao, Application of Grey Based - Taguchi Method to Determine Multiple Performance Characteristics in Drilling of Aluminium Alloys – Review, Research Journal of Engineering Sciences(International Science Congress Association) ISSN:2278-9472, Vol. **2(3),** PP 45-51, March **(2013).**
- **Reddy Sreenivasulu** & Ch.Srinivasa Rao, "Experimental investigation on influence of Nano fluids in drilling of Al6061 alloy using Grey based-Taguchi Approach", Special issue of International journal of Advanced Materials Manufacturing& Characterization (ISSN:2277-3886), Vol**. 3(1),** PP 407-412, March, **2013**.
- **Reddy Sreenivasulu** & Ch.Srinivasa Rao, "Modeling and Optimization of Thrust Force and Torque during Drilling of Aluminum 6061 alloy using Taguchi-Grey Analysis Approach", Special issue of International journal of Advanced Materials Manufacturing& Characterization (ISSN:2277-3886),Vol**. 3(1),**PP 413-418,March, **2013**.
- **Reddy Sreenivasulu**, **Mandava Ravikumar** "Aero Space Applications of GFRP Composites: Review' Special issue of International journal of Mechanical Engineering Research (IJMER), ISSN: 2249-0019, PP 10-14, Vol 3(1) Spl, March **2013**.
- **Srinivasarao.G** and Venkatasiva S.B., "Performance evaluation of carbide inserts on surface roughness in hard turning using mathematical modeling" International Journal of Applied Sciences and Engineering Research, Vol.2. No.2. pp.107-118, 2013.
- **G. Chaitanya , Srinivas.K ,** Kumar J. Suresh , " Effect of Fiber Orientation on Mode I Crack Opening Stress Intensity of an Orthotropic Laminate" , Research Journal of Engineering Sciences , ISSN : 2278-9472 , Vol.2(5) , pp : 30-34 , May 2013.
- **DVV Krishna Prasad , JP Karthik** , "Prediction of Leaf spring parameters using ANN" , IJEST (International Journal of Engineering Science and Technology) , VOL 5, No 5 May 2013 , ISSN : 0975-5462 , pp:1064-1069 .
- **D.V.V. Krishna Prasad** and **K. Bharathi** , "Multi-Objective Optimization of Milling Parameters for Machining Cast Iron on Machining Centre" , *Research Journal of Engineering Sciences* , ISSN 2278 – 9472 ,Vol. 2(5), 35-39, May (2013)
- **Chittaranjan Das.V**, **Srinivas. C**, "Evaluation of Metal Strip-Layout Selection using AHP and TOPSIS Method" Advanced Materials Manufacturing & Characterization Vol 3 Issue 1 (2013). Pp:425-429.
- **Chittaranjan Das, V**., **Devaraj, Ch,** "Machinability Index Evaluation using AHP and PROMTHEE Method," Advanced Materials Manufacturing & Characterization Vol3 Issue 1 (2013) pp:431-434.
- **V.Chittaranjan Das "** Ranking of metal stamping layouts using MADM methods" ANU Journal of Engineering & Technology, Vol. 2 Issue 1 Feb,2013 pp 81-85. ISSN No: 0976-3414.
- **Kolla Srinivas et al.** , " Effect of Processing parameters on surface finish of the components processed by CNC Turning Machine" , Intenational Journal of Mechanical Engineering Applications Research , Vol.4 , Issue 1 , January – March 2013

Department Activities

Guest Lectures Delivered by the Faculty

- Sri. V. Tara Chand , Asst.Professor , has delivered a guest lecture on "Advancements in Thermal Power Plants" at Krishna Godavari Power Utilities Limited (Thermal Power Plant) , Wadapally during 29th – 30th January 2013.

Guest Lectures organized by the Department

Ø " Fits and Tolerances in industrial Applications " by Sri. P.V.P. Sarma , Director, Veljan Hydrair Ltd., Hyderabad on 07th January 2013.

Ø " Transforming Indians to transform India" by Sri. Brahmachari Kushal Chaitanya Chinmaya Mission, Guntur on 16th March 2013.

Ø " Motivation to join in Defence as an officer " by Col. Afsar Abbas Jafir , Director, Recruiting., Defence Serives on 21st March 2013.



Research Degree Conferred on the Faculty

Ø Dr. B.Ramgopal Reddy , Associate Professor has been awarded Ph.D. from Andhra University , Visakhapatnam for his thesis entitled " Simulation studies of Carbon Nanotube reinforced multiscale Composites" in February 2013.

Ø Dr. N.V.V.S. Sudheer , Associate Professor has been awarded Ph.D. from Osmania University , Hyderabad for his thesis entitled " Investigation on influence of compressed refrigerated air & High heat transfer rate MQL in turning of Aluminium silicon carbide metal matrix composite" in April 2013.

Ø Dr. C.Srinivas , Associate Professor has been awarded Ph.D. from Andhra University , Visakhapatnam for his thesis entitled " Design and Analysis of single and multi row Flexible Manufacturing System" in July 2013.

Promotions to the Faculty

Ø Dr. N. Govind , Asst. Professor Department of Mechanical Engineering was promoted as Associate Professor in the same Department w.e.f 1st Jan 2013.

Research Projects Under Progress

Ø Dr. K.Ravindra , HOD & Prof , awarded Rs 11,90,000/-(Eleven Lakhs Ninety Thousand only) from AICTE , New Delhi under RPS (Research Promotion Scheme) scheme on the topic "Development of High Strength Polymer Matrix Composites reinforcing with Metallic Glass Particulates." in 30-02-2013. Sri. K. Praveen Kumar , Asst. Professor is the Co-Investigator for this project.

Sanctioned Projects (Funds Yet to Receive)

Ø Dr. K.Srinivas , Professor , awarded Rs 8,07,500/- (Eight Lakh Seven Thousand Five hundred only) from UGC , New Delhi under Major Research Project Scheme on the topic "Tool Condition monitoring based on Acoustic Emission Techniques" Sri. Ch. Devaraj ,Asst. Professor is the Co-Investigators for this project.

Ø Dr. K.Ravindra , HOD & Prof , awarded Rs 4,36,000/- (Four Lakh Thirty Six Thousand only) from UGC , New Delhi under Major Research Project Scheme on the topic "Fabrication and Characterization of Nano Al_2O_3 reinforced Magnesium Metal Matrix Composites" Sri. C.Tara Sasanka and Sri. D. Sameer Kumar , Asst. Professor are the Co-Investigators for this project.

Additions to The Faculty

Ms. Sneha H Dhoria
As Asst. Professor on 03-06-2013

Sri. Md. Hasheer Ahmed
As Asst. Professor on 03-06-2013

Sri. D. Kondal Rao
As Asst. Professor on 06-06-2013

Student Corner

Results Analysis

	Total Appeared	Total Passed	Pass percentage
I / IV I sem	177	133	75.14
II /IV I sem	210	154	73.33
III /IV II sem	135	115	85.19
IV/IV II sem	122	117	95.90

GATE -2013 Results

Number of Students qualified	Highest all India Rank
20	2060

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