SCIENTIST OF THE MONTH:

Charles Kettering (1876-1958):





The first electrical ignition system or electric starter motor for cars was invented by GM engineers Clvde Coleman and Charles Kettering. The selfstarting ignition was first installed in a Cadillac on February 17, 1911. The invention of the electric starter motor by Kettering eliminated the need for hand cranking. United States Patent #1,150,523, was issued to Kettering in 1915. Refrigerators from the late 1800s until 1929 used the toxic gases, ammonia (NH3), methyl chloride (CH3Cl), and sulfur dioxide (SO₂), as refrigerants. Several fatal accidents occurred in the 1920s because of methyl chloride leakage from refrigerators. People started leaving their refrigerators in their backyards. A collaborative effort began between three American corporations, Frigidaire, General Motors and DuPont to search for a less dangerous method of refrigeration.Freon represents several different chlorofluorocarbons, or CFCs, which are used in commerce and industry. The CFCs are a group of aliphatic organic compounds containing the elements carbon and fluorine, and, in many cases, other halogens (especially chlorine) and hydrogen.Freon's are colorless, odorless, nonflammable, noncorrosive gases or liquids.

KITS KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES



DYNAMOS ... THE FEW . THE PROUD

A NEWSLETTER OFMECHANICAL ENGINEERING DEPARTMENT

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EDITOR'S VOICE:

A Bayesian inference-based joint-state-andparameter estimation method for tool wear prediction and remaining useful life (RUL) prediction using particle filtering (PF) is presented in this work. To address the sample degeneracy and impoverishment problem due to discrete approximation of probability distributions, which is inherent to particle filtering, an adaptive resampling method has been developed. Continuous approximation is achieved by dispersing the particles in the resampling process from fixed positions to a wider search range according to the particles' performance, while maintaining a balance between keeping particle diversity (a degree to quantify unique and active particles) and ensuring particles' tracking performance (diverse particles may increase the confidence interval of the estimation, leading to reduced estimation accuracy). Following this strategy, particles have shown to gradually concentrate on the optimal estimation, reducing the confidence interval associated with the estimation and prediction. In addition, the computational complexity of the developed method has been quantitatively analysed. This work complements another paper shown below, in which performance degradation of aircraft engines .



Adaptive resampling-based particle filtering for tool life prediction

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STUDENT ACTIVITIES:

The department of mechanical engineering had a reason to celebrate after the declaration of JNTUK university revaluation exam results. Heartly congratulations to all the toppers of III &II years whose performance is top notch. The effort and dedication of these students bagged ample of praise and applaud not only for the department of mechanical engineering but also to the entire institution. Let this considered as a source of inspiration to the entire students of the department who made things next to impossible come true. A big thumps up to all the faculty members who guided the students in the righteous path for such a "TITANIC" success.

III YEAR TOPPERS:

S.NO	ROLL.NO	NAME	%
1	13JR1A0319	DESU SAIRAM	76.13
2	13JR1A0324	GADIPARTHI	75.61
		SRIKANTH	
3	13JR1A0305	YALAMANCHALI	74.84
		HARANI	
4	13JR1A0304	SHAIK NAGINA	73.81
		SULTANA	
5	13JR1A0318	DASARI PRASSANA	71.23
		KUMAR	

II YEAR TOPPERS:

S.NO	ROLL.NO	NAME	%	
1	14JR1A0368	PATIBANDLA	85.10	
		KALYAN RAM		
2	14JR1A0367	PATHAN ASLAM	84.28	
		KHAN		
3	15JR5A0310	KOULURI KHALEED	83.45	
4	14JR1A0375	PUVVADA	81.10	
		RAMANJANEYULU		
5	14JR1A03A3	YECHURI SAI AKHIL	80.83	
		KUMAR		

DEPARTMENTAL ACTIVITIES:

- With a mean of adding the flavor of advancement to theoretical methods department took a initiative step by purchasing CNC Trainer Lathe: MTAB Make: XLTURN with tooling package and work bench, Worth: 6,50,000/-.
- Followed by that conducted a three day training programme on XLTURN CNC machine operation & functioning for the following faculty (Mr.N.V.SAIRAM,Mr.S.RAJU, Mr.J.KOTESWARA RAO& Mr.A.SRINU lab technician) ,Dated on :18/10/16-20/10/16.



- Organized a workshop on Autodesk Fusion 360 involving fourth year students held on 20/10/2016.
- Inculcating the design standards & elaborating prior role of designing in the trending market, being the main motive behind this workshop.



 Mr. V.Srikumar, Mr. N.V. SaiRam, Mr. K. Giri Babu & Mr. M. Sai Chandrasekhar had attended a One week Faculty Development Programme on "Finite Element Analysis by Using ANSYS Software" at KHIT, Guntur from 24/10/16 to 29/10/16.