SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to VTU, Belagavi and Approved by AICTE, New Delhi)

#14/5 CHIKKASANDRA, HESARGHATTA MAIN ROAD, BENGALURU -560057

SEPTEMBER 2018

BIOTECH MAGAZINE

Inspiring Young Minds

By SRISHTI – BT FORUM

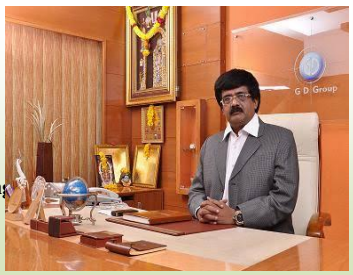
VISION:

To be a center of excellence in the field of biotechnology equipped to create technically strong, ethically moral global man power that endeavor for the welfare of mankind.

MISSION:

Creating state-of-the art infrastructure for education and research to induct lifelong professional growth and different career avenues for BT engineers in collaboration with industries , research organizations and academia.

Sri G. Dayanand [Chairman]



The "ANVESHANA – inspiring young minds" newsletter of the department of BIOTECHNOLOGY is providing great space for the students and faculty to pen down their innovative ideas, imagination and perceptions to show case creativity. So, I take the opportunity to congratulate the Department of BIOTECHNOLOGY and its editorial team to successful release of this issue. I am sure that students and faculty will find the content of this edition very interesting and educating.

Sri G.D. Manoj [Executive Director]

I am indeed happy to share that department of BIOTECHNOLOGY is having its monthly newsletter "ANVESHANA – inspiring young minds" from 2012. I personally urge all faculty members and students of the department to make use of the platform to share and educate among themselves in publishing article pertaining to the emerging domain and interesting facts. I congratulate the team of Biotechnology editorial committee.

Dr. K L Shivabasappa [Principal]

It is indeed very happy to bring out newsletter "ANVESHANA – inspiring young minds" by the department of BIOTECHNOLGY. It is a platform provided by the department for the students and faculty members, where they can share the knowledge, experience and department of BIOTECHNOLOGY and its editorial team for the contribution in bringing out the newsletter.

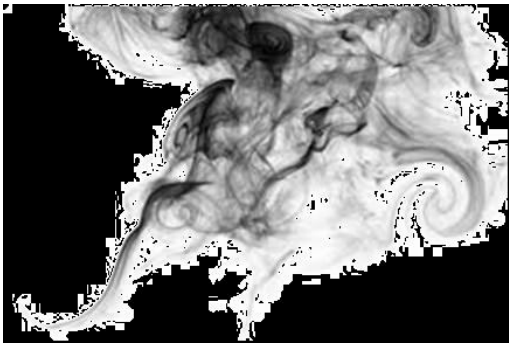
Dr. Nagabhushana [Administrator]

It gives me immense pleasure to note that department of BIOTECHNOLOGY is bringing out Newsletter for the academic year 2018-19. I am sure this newsletter provides an opportunity to the students and the faculty of the department to project their talents through articles, reports of the various academic and extra-curricular programmes. I congratulate the editorial committee of the newsletter for their efforts.

Dr Veena S More [HOD]

It is immensely gratifying to note that our students and faculty members have created a platform to express their scientific and artistic talents through the newsletter "ANVESHANA – inspiring young minds". This type of newsletters are very much necessary for an educational institution to keep pace with the latest trends and to promote creative thinking and innovative abilities of students. The combination of experienced staff and enthusiastic students will take this newsletter to the new heights. On this occasion, I would like to place a special word of appreciation for my dear students and the staff whose untiring efforts have made it possible to bring out this informative newsletter and wish them good luck.

"EVER THOUGHT OF WRITING WITH SMOKE"



INDIAN engineers invented a device that recycles diesel exhaust to ink. Diesel exhaust is one of the major pollutant in India. According to the world health organization (WHO), India is one of the 15 countries with worst air pollution. Its fumes can cause cancer, damage lungs as its ex-haust releases mixture of particulates like Benzene, Oxygen, Nitrogen dioxide etc.

A team of Indian engineers from "Chakr Innovation Private ltd, New Delhi" has figured out how to capture generated exhaust and turn it into ink, making atmosphere free of pollutants. The device is designed to re-duce 90% CO emission in atmosphere caused by diesel power generator.

How does the device work?

Device will be attached to generators to capture diesel exhaust to ink-dust particles from cooled diesel exhaust. Once soot particles are accu-mulated they are sold to manufacturers that process them to become ink. The 'cnkr innovation' has already installed 53 devices in government offices and real estate firms. The installation collected 500kg of soot which is then makes more than 20000 liters of ink.

Another company 'Gaviky labs' in Southern city of Bangalore use simi-lar technology. At present the company is in process of recycling soot from exhaust to ink.

Mayuri (rewritten from Biotechnikanewspaper by Preety suman)

INDUSTRIAL VISIT 2018-19

Industries visited:

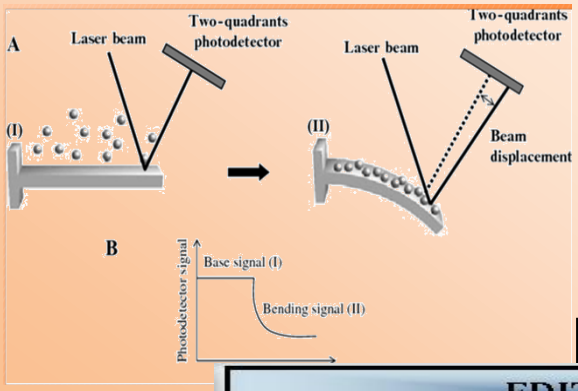
1. Mysore District Co-operative Milk Producer's Societies Union Ltd (MYMUL).
2. The Tea Factory and Tea Museum, Doddabetta, Ooty
3. Pasteur Institute Of India, Coonoor.
4. Supreem pharmaceuticals Pvt. Ltd. Nanjangud

Be cautious…the air you exhale is a spy !!!

Do you believe that you could be diagnosed for diabetes from the air you breathe…….if not please read this.

Generally in patients with diabetes, the body metabolizes fats for the production of energy as it cant use glucose efficiently. This metabol-ic process paves the way for production of acetone by non-enzymatic decarboxylation and this acetone is eliminated by exhalation. In 1977 Crofford and team published a paper titled "*acetone in breath and blood*" where they explained this process and by utilization of GC-MS they were able to analyze the amount of acetone in the air exhaled. Now the recent advances in nanotechnology have simplified the process of quantification of acetone by utilization of activated cantilever biosensor.

The principle of this process is that when a molecule comes and binds to the surface of cantilever, there is a nanoscale bend in the canti-lever and thereby the concentration of acetone bound is directly propor-tional to displacement. So by measuring the displacement of the sensor, diabetes could be diagnosed.



Jagannath J (7th sem)