P.S.R. ENGINEERING COLLEGE
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Sevalpatti (P.O), Sivakasi - 626140

2018 Vol 1

Department of Biotechnology

Newsletter

Inside this Issue

- Message from Principal
- Biotechnology Association activities
- Student Activities

Editorial Board

MESSAGE FROM THE PRINCIPAL

It is an honour and pleasure to release the quarterly newsletter of Department of Biotechnology. Hope every edition of the newsletter helps to trigger the creative and developmental activities of our staff and students. Let this newsletter pave way for academic, co-curricular and extracurricular achievements.

Biotechnology Association activities

NATIONAL LEVEL WORKSHOP ON "OPPORTUNITIES ABROAD – HOW TO MAKE THEM YOURS & ENDOPHYTES FROM WITHIN" - 29th September 2018

The Department of Biotechnology had organized National level workshop on "Opportunities Abroad – How to make them yours & Endophytes from within" on 29th September 2018. Mr. Yogesh, TG MS (BIOTECH), Research Scientist, Syngene International Ltd., Bangalore and Mrs. Gaana Priya Mohan, M.Tech, B.A., CFW (USA), PGDESD, Associate Scientist, Syngene International Ltd., Bangalore, were the Resource persons.

SEMINAR ON "AGRICULTURAL BIOTECHNOLOGY"- 21ST SEPTEMBER 2018

The Department of Biotechnology had organized seminar on "Agricultural Biotechnology" on 21st September 2018. Mr. K. Kaviraj, Chief Executive Marketing, AK Seaweeds, Ramanathapuram was the Resource person.

His Lecture gave an insight on increasing the crop yield with the use of organic Bio fertilizers rather than using chemical fertilizers. The lecture also enlightened the knowledge of the students

on Permaculture and re-emerging ideas about genetically modified crops.

NATIONAL LEVEL SYMPOSIUM BIOBLAZE - 9TH OCTOBER, 2018

A national level symposium Bioblaze 2018 was organized by the department of Biotechnology on 9th October, 2018.The event focused on "A Blast of Innovation".

Dr. Narendra Reddy, Director of Aringenium Innovations Private Limited Bangalore, Mr. Sudeep Suryan, Director of Nuvohelix Bioinnovations private limited Bangalore and Mr. Rajadurai Yesudas, Production and R&D Head, AK Seaweeds Ramanathapuram were the Resource persons. Dr. Narendra Reddy, Director of Aringenium Innovations Private Limited Bangalore, delivered a lecture on "Biomimetics" – Imitation of nature and producing an effect to the society". He addressed about the Ant Hill which were built by sand and glues secreted by the ant and were water resistant and also he highlighted the need of analysis in biomimetic in turtle shells, red and nest, shark swim suit, spider web and cockroach milk etc.

Mr. Sudeep Suryan, Director of Nuvohelix Bioinnovations private limited Bangalore, presented ongoing work on biofuel production, biopolymer, cancer research and inexpensive medicine etc.Mr. Rajadurai Yesudas, Production and R&D Head, AK Seaweeds Ramanathapuram, motivated the students for doing small level business in the biotechnology field by exploiting the laboratory facilities in the college.

FACULTY PUBLICATION

Indhumathy.M, "Design, Graph Theoretical Analysis and *In-Silico* Modeling of Dunaliella Bardawil Biomass Encapsulated Keratin Nanoparticles: A Scaffold for Effective Glucose Utilization", Biomedical Materials, Vol 13, Issue 4, pg no 1-17, May2018.

Rajeswari.R, "Neuro Protective Activity of Sargassum Wightii Against Neurotoxicity Induced Cell Death On an *In-Vitro* Human Neuro Blastoma Model", International Journal of Pharmaceutical Research, Vol 10, pg no 780-784, 2018

Indhumathy.M, "Graph Theoretical Analysis, *In-Silico* Modeling, Synthesis, Anti-Microbial and Anti-Tb Evaluation of Novel Quinoxaline Derivatives", Drug Research, Vol 68, Issue 5, May2018.

Suryalakshmi.B, "Phylgenetic Delineation of Salmonella Serovars Using Multiple Locus Sequence Tying (Mlst)", International Journal of Scientific & Engineering Research, Vol 9, Issue 4, April2018.

Shalini.K, "Study Of Antidiabetic And Antimicrobial Activity Of Various Medicinal Plants", World Journal of Pharmaceutical Research, Vol 7, issue 6,pg no 672-678,March,2018.

Gayathri.A, "Study of invitro Antioxidant activity and GCMS analysis of seeds of Cucumis melo", World Journal of Pharmaceutical Research, Vol 7, issue 6,pg no 934-942,March, 2018.

Shalini.K, "Study of Antidiabetic and Antimicrobial activity of various medicinal Plants", World Journal of Pharmaceutical Research, Vol 7, issue 6,pg no 672-678,March,2018.

Student Activities

EXPERIMENTAL LEARNING- In-Plant Training Internship Program attended

S.NO	Training	Name of the student	Duration	Organization/Company
1	Mr. Kalaiselvan	Internship	2018-2019 (6 months	Mahatma Pule krishi Vidyapeeth College of Agriculture, Pune
2	Mr. R. Muralikrishna, Mr. J.Syed ali Mohamed	Internship	2018-2019 (6 months)	AK Seaweeds." Chennai, Tamil Nadu, India

Participated Learning

S.No	Name of the student	Events	Duration	Organization/ Company
1	Ms. T. Bharathi Lakshmi Ms. C. Gowsalya	National Level Seminar on Emerging Technologies on Nano- Materials for Energy Conversion and Storage Applications for Future Needs	201-12-2018 to 21-12-2018	Kongu Engineering College, Perundurai, Erode
2	Ms. R. Surya Ms. M. Gayatri	National Level Workshop on Nanomaterials Fabrication and Characterization Techniques	28-12-2018 to 29-12-2018	Periyar Maniammai Institute of Science and Technology, Thanjavur

Student Placed in the Academic Year 2017-2018

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	NAME OF THE COMPANY
1	1405001	Abi Menaga P	E CARE
2	1405007	Arun Prasath S	ZIFO Technologies
3	1405009	Faizel Farith Ahamed B	Lexis solution
4	1405013	Jemima Romola C V	Scope E Knowledge& TNQ
5	1405015	Karl J Samuel P N	VWR
6	1405018	Lakshmipriya R	Scope E Knowledge
7	1405019	Manjula Devi K	E CARE
8	1405021	Rajeshwari K	Scope E Knowledge
9	1405022	Seema Sundari A	Sutherland,
10	1405025	Siva Lakshmi G	E CARE
11	1405026	Sivaranjani A	Scope E Knowledge
12	1405027	Suba Eswari K A	Scope E Knowledge
13	1405029	Sukasani S	Scope E Knowledge

Biotechnology News

A new gel could help in the fight against deadly, drug-resistant superbugs

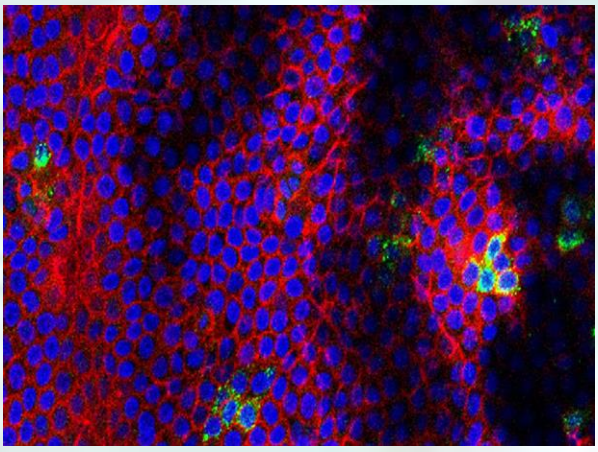
Ointment cleared wounds in mice and human skin samples of MRSA, other tough bacteria

A new antibacterial ointment could help take down drug-resistant bacteria.

In human skin samples and mice, the medicine completely cleared wounds of MRSA, the strain of Staphylococcus aureus that is resistant to methicillin and other antibiotics, and antibiotic-resistant *Acinetobacter baumannii*. Both microbes are known to cause serious infections in hospital patients. Researchers in the Netherlands created the gel's key ingredient, a chain of amino acids called SAAP-148, by improving on a bacteria-fighting peptide found in humans.

Bacteria living in a biofilm can be 10 to 1,000 times as hard to kill as their free-floating counterparts. SAAP-148 also wiped out microbes that hunker down in a dormant, drug-tolerant state during an antibiotic assault, then lead the bacterial resurgence after treatment ends.

Zika may not be the only virus of its kind that can damage a foetus



Zika virus may not be the black sheep of the family. Infections with either

of two related viruses also cause fatal defects in mice, researchers find.

Some scientists have speculated that Zika's capacity to harm a foetus might be unique among its kind, perhaps due to a recent change in the virus's genetic material. Others have argued that perhaps this dangerous ability was always there. Over 40 percent of these infected foetuses died. But among pregnant mice infected with one of two other mosquito-borne viruses unrelated to Zika, all of the foetuses survived.

In general, examining the potential effects of other flaviviruses on pregnant women and their developing foetuses is difficult, because outbreaks have been sporadic and less widespread than with Zika.

In a first, a woman with a uterus transplanted from a deceased donor gives birth

For the first time, a woman has given birth after receiving a uterus from a deceased donor. A reported 11 women have had babies after uterus transplants from living donors. But this breakthrough

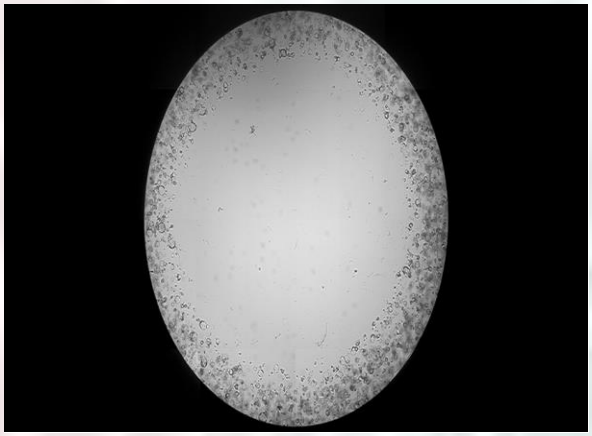
The woman gave birth to a healthy 2.5-kilogram (5.5-pound) baby girl by caesarean section on December 15, 2017. The infant scored highly on a measure of new-born health, called the Apgar score. At seven months, the girl, now nearly a year old, was healthy and developing normally, the doctors write in the study.

Uterus transplantation surgery is technically challenging, Testa says, but the cases so far demonstrate that "it's a very well-tolerated procedure." The recipients, including the woman in Brazil, were young and

otherwise healthy; the only thing missing was the uterus, he says.

More research is needed to figure out what distinguishes a uterus that will work well after transplantation from one that won't, Testa says, as well as how long the organ can remain viable outside of the body. But, as far as organs go, the uterus is "very resilient."

Tumour 'organoids' may speed cancer treatment

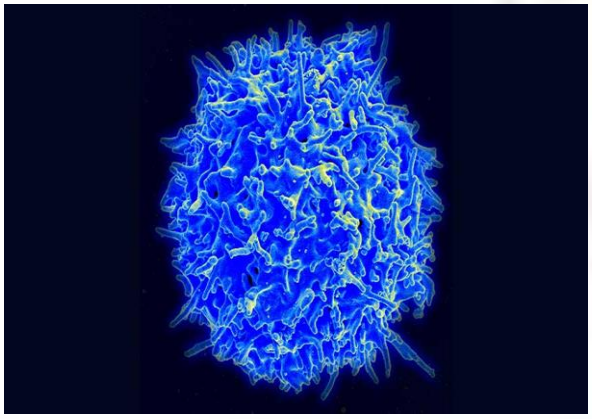


SAN DIEGO — Collecting cancer cells from patients and growing them into 3-D mini tumors could make it possible to quickly screen large numbers of potential drugs for ultra-rare cancers. Preliminary success with a new high-speed, high-volume approach is already guiding treatment decisions for some patients with recurring hard-to-treat cancers. Eight of the compounds caused 75 percent cell death in the mini tumours — and those included cancer drugs not typically considered for his type of cancer, the team reported at the meeting.

The eight drugs that worked in the boy's tumor organoids, four were so-called "CDK inhibitors" — a group of therapies doctors would not ordinarily consider for treating osteosarcoma, Federman says. Organoid screens can also identify tumors that won't respond to conventional therapy, he says. This could prove especially useful for people with recurring metastases, where it's "not clear if we're doing anything for their overall survival or giving them more toxicity."

By growing patients' cancer cells into mini tumors in the lab, researchers are developing methods to quickly identify potential drugs for rare, hard-to-treat cancers. A new method can quickly test hundreds of drugs on mini tumors grown from patients' own cells

Cancer immunotherapy wins the 2018 medicine Nobel Prize



James P. Allison of MD Anderson Cancer Centre in Houston and Tasuku Honjo of Kyoto University in Japan have won the Nobel Prize in physiology or medicine for advances in harnessing the immune system to fight cancer.

All previous types of cancer therapy were directed at the tumor cell, but Allison's and Honjo's approach was to remove brakes that keep the immune system in check, unleashing it against tumor cells. These "checkpoint inhibitor" therapies have greatly increased survival of cancer patients and may produce even greater results when combined with traditional therapies.

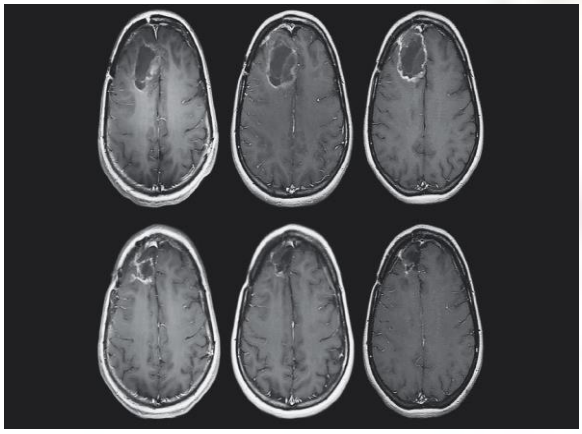
Poliovirus treatment helped patients with deadly brain tumors live longer

Few treatment options are available to people facing a second battle with a particularly fatal type of brain tumor called glioblastoma. But dosing the tumor with a genetically modified poliovirus — one that doesn't cause the eponymous, devastating disease — may give these patients more time, a small clinical study suggests.

Of 61 people with recurring glioblastoma who were treated with the modified virus, 21 percent were alive after three years. In a "historical" comparison group of 104 patients, who would have been eligible for the treatment but died before it was available, 4 percent lived as long.

A modified form of the virus increased survival in some people with glioblastoma Poliovirus, which can cause paralysis and death, infects nerve cells through a cell surface protein that also shows up on

tumor cells, including in glioblastoma.



A modified form of the virus increased survival in some people with glioblastoma Poliovirus, which can cause paralysis and death, infects nerve cells through a cell surface protein that also shows up on tumor cells, including in glioblastoma. “The history of glioblastoma treatments is littered with lots of early clinical trials that appear to show very promising and encouraging results”