

Centre for Excellence in Life Sciences
Department of Biotechnology



Organizes

Two Days National Level

Hands-On Workshop on Innovative Tools for Plant Genome
Editing using CRISPR/Cas9 Technology

Date: 03.10.2024 & 04.10.2024

Venue: PSGR Krishnammal College for Women,
Peelamedu, Coimbatore-641004 TamilNadu

About the College

PSGR Krishnammal College for Women was started on 28th June 1963 under the auspices of the GRG Trust by the visionaries Shri. G. R. Govindarajalu and Smt. Chandrakanthi Govindarajalu. Under the able leadership of the Managing Trustee, Shri. G. Rangaswamy and Chairperson Dr. R. Nandini, the college strives to live up to its motto, 'Educate to Empower'. The college is an ISO 9001:2015 certified, Autonomous institution affiliated to Bharathiar University. Over a period of 60 years, it has grown into a full-fledged, first class post-graduate research institution. The college functions in two shifts, offering 36 UG, 17 PG, 1 PG Diploma, and 13 research programmes with a strength of 8500+ students and 425+ faculty members. The college was conferred with 'College of Excellence' status by the UGC in 2016 and has been awarded the A++ grade with a CGPA of 3.71 on a four-point scale by the NAAC in the fourth cycle of accreditation. It is ranked 7th in the National Institutional Ranking Framework 2024 by the Ministry of Education, Government of India, and 5th among Government and Government-Aided colleges in ARIIA 2020.

All Eight Science departments have been awarded the 'Star Status' by DBT. Interdisciplinary Life Science research is promoted through the DBT-BUILDER programme. The institution started UGC sanctioned skill-enhancing B.Voc. programmes (Garment Designing & Beauty Therapy and Aesthetics) and a Community College in 2014. A Rural Women Technology Park (DST-sponsored) has been launched to empower women in rural areas through technology transfer and entrepreneurship.

The college has been recognised as a Nodal Training Institute under the Agri-Clinics & Agri-Business Centres (ACABC) programme launched by the Ministry of Agriculture and Farmers' Welfare, Government of India, in association with NABARD. The GRG BIRAC EYUVA Centre (Encouraging Youth for Undertaking Innovative Research through Vibrant Acceleration) has been established with the support of BIRAC (Biotechnology Industry Research Assistance Council). The college has received financial support through DST-FIST and DST-CURIE for enhancing PG research and education. Thus, the college keeps progressing towards excellence.

Centre of Excellence in Life sciences

The Centre of Excellence in Life sciences of PSGR Krishnammal College for Women comprises of Botany, Zoology and Biotechnology departments. The educational programs are designed to equip students with the knowledge, skills, and expertise needed to tackle some of the most pressing challenges facing in the society today. The education, skilling and up-skilling programs are taught by experienced researchers and educators, and are designed to prepare students for successful careers in the life sciences. The Centre of Excellence in Life sciences of KCW is dedicated to advancing the frontiers of life sciences and improving human health and well-being through innovative research, education, and community engagement. Through a range of outreach programs, including science fairs, public lectures, and educational workshops, the Centre works to inspire the next generation of life scientists and promote greater public understanding of the importance of life sciences research.

The goal of the Centre of Excellence in Life Sciences is to create a supportive environment for the development of new products, technologies, and services that have the potential to transform wellbeing of the society. The Centre of Excellence in Life Sciences is equipped with state-of-the-art facilities and infrastructure to support cutting-edge research and innovation in the field of life sciences. The facilities include advanced laboratory equipment, high-performance computational biology and biotechnology lab.

About the Department

Inaugurated in 2021, the Biotechnology Department introduced BSc and MSc programs to empower students with procedural, conceptual, and propositional knowledge in life sciences. Faculty expertise spans genetic engineering, bioinformatics, environmental biotechnology, and bioprocess technology. The department boasts advanced infrastructure for students to explore current scientific advancements. Biotechnology, at the intersection of biology and technology, drives innovation in areas like health, food, and fuel. The program equips students with theoretical and practical knowledge through core courses, including molecular biology, genetic engineering, and bioprocess technology, as well as specialized subjects like nanobiotechnology and cancer biology. Our UG and PG programs enhance hands-on skills through industrial visits, internships, and projects, preparing students for diverse careers in biotech industries.

About the Workshop

The CRISPR/Cas9 workshop is designed to provide participants with practical, in-depth experience in genome editing. Through guided laboratory sessions, participants will engage directly in the creation and deployment of CRISPR tools, including the design of guide RNAs, selection and modification of plasmids, and analysis of target sites using Next-Generation Sequencing (NGS) data. The training will also cover essential molecular biology techniques crucial for plant genome editing, ensuring participants gain the skills necessary to apply CRISPR/Cas9 technology effectively in their own research. This practical experience aims to enhance participants' confidence and proficiency in using these cutting-edge tools, ultimately empowering them to contribute to advancements in plant biotechnology, human health, and environmental sustainability.

Target Participants

The workshop is designed for students, researchers, and professionals in biotechnology, genetics, plant sciences, and related fields who are keen to acquire practical skills and knowledge in plant genome editing using CRISPR/Cas9 technology.

Expected Outcomes of the Program

Participants will gain:

- A thorough understanding of CRISPR/Cas9 technology and its applications in plant science.
- Proficiency in designing and implementing CRISPR/Cas9-based genome editing projects.
- Skills to use web-based tools for gRNA design and validation of genome edits.
- Knowledge of strategies to optimize editing efficiency and address off-target effects.
- Preparedness to apply genome editing techniques in their research or professional activities.

RESOURCE PERSONS



Dr. C. Appunu

Senior Scientist (Plant Breeding)
Department of Plant Molecular Biology
Division of Crop Improvement
Sugarcane Breeding Institute
Coimbatore, Tamil Nadu



Dr. R. Sathishkumar

Prof. and Head
Department of Biotechnology
Plant Genetic Engineering Lab
Bharathiar University
Coimbatore, Tamil Nadu

REGISTRATION AND FEE DETAILS

Registration is compulsory for all the participants. Registration fee includes Workshop kit, Working lunch and refreshments. No TA/DA will be provided to the participants.

Seats are limited to 50

Registration fee for Academicians : Rs.1500

Registration fee for Industrialists : Rs.2000

Registration Link: <https://forms.gle/jGSeL3kmVxhoDYuAA>

Bank Details

Name : IDBI BANK & 006 COIMBATORE - AVINASHI ROAD
Bank Name & Branch : PSGR KRISHNAMMAL COLLEGE FOR WOMEN
Account No : 381103000000532
IFSC Code : IBKL0000006

Note

- Registration and online payment of training fee is mandatory for participation in the training.
- The participants have to make their own arrangement for their boarding and lodging.
- Participation certificate will be provided to the candidate after successful completion of the training.

CHIEF PATRONS

Shri. G. Rangaswamy
Managing Trustee

Dr. R. Nandini
Chairperson, KCW

Dr. N. Yesodha Devi
Secretary, KCW

PATRON

Dr. Dr. P.B. Harathi
Principal, KCW

CONVENOR

Dr. R. Nirmal Kumar
Head of the Department
Department of Biotechnology
KCW

ORGANISING SECRETARIES

Dr. V. Bhuvaneshwari, Associate Professor
Dr. G. Anbarasi, Assistant Professor
Department of Biotechnology
KCW

ADDRESS FOR COMMUNICATION

Dr. V. Bhuvaneshwari, Associate Professor
Dr. G. Anbarasi, Assistant Professor
Department of Biotechnology
PSGR Krishnammal College for Women
Coimbatore, Tamil Nadu

Email: bhuvaneshwariv@psgrkcw.ac.in; anbarasi@psgrkcw.ac.in

Mobile Number: +91-9894107126; +91-9585166545