

2. NURTURING RESEARCH CULTURE

Objectives

- To promote quality research in higher education.
- To extend research findings to benefit society.
- To motivate students to apply for funding for quality research.
- To promote multi-disciplinary research projects.
- To attract academically brilliant students.
- To initiate Industry / Institutional tie up.

Context

Innovative technologies help to explore new avenues and offers solutions to a large number of problems in the society and the industry. Advancements in every field involve mushrooming problems with innovative solutions. There is an increasing need for research to provide innovative solutions for new cropping up. Development index of the country largely depends on the research activities carried out.

Practice

- Intake of Research Oriented Faculty of Science in the Institution.
- Conducting seminars and conferences for the faculty and students to gain exposure to eminent resource persons.
- Providing a conducive environment, healthy and adequate physical infrastructure, library and laboratory facilities to carry out research.
- Motivated staff to carry out research projects.
- Motivating Research supervisors to promote quality research activities.

As a NAAC initiative, Nirmala Annual Research Congress (NARC) is held every year since 2013. UGC Sponsored inter-disciplinary innovative PG program in Bio-Informatics has been started. With the meagre resources already available, a research lab has also been set up.

Evidence of success

- Research funds sanctioned and received from various agencies, industry and other organizations this year is Rs.7379500.

Nature of the Project	Duration	Name of the funding agency	Total grant sanctioned	Amount received during the year
Minor Projects	1	UGC SERO, Hyderabad	230000	48000
Minor Projects	2	UGC	500000	145000
Minor Projects	1	UGC	180000	40000
Interdisciplinary Projects	1	DIT	50000	50000
Students Research Projects (Other than compulsory by the University)	1	TNSCST	7500	7500
Students Research Projects (Other than compulsory by the University)	2	TNSCST	15000	15000
Students Research Projects (Other than compulsory by the University)	2	TNSCST	300000	150000
DBT Star college Scheme	3	DBT Star college Scheme	9600000	6200000
DBT Star College scheme	5	DBT Star College scheme	3600000	700000
Summer Research Fellowship, INSA	1	Summer Research Fellowship, INSA	24000	24000

- Number of ongoing research projects per teacher funded by government and non-government agencies
 - **Dr. Arul sheeba Rani (Dept of Botany) – UGC Minor Research Project- 1**
 - Title: Comparative beneficial role of selected individual tree canopy in urban greening with special reference to urban soil
 - **Dr.R.Mary Josephine (Dept of Botany) – Dissemination of Innovative technology**
 - Title –Training on Hydroponics for self help groups
 - **Dr.A.Sahaya Sudha - UGC Minor project – 1**
 - Title : Mathematical applications for water measurement studies in agricultural crop cultivation
- Staff members participated in various international conferences held abroad. 99 Papers have been published in Nirmala Annual Research Congress (NARC), 79 International and 33 National research publication in journals notified by UGC and 28 research articles published in Scopus indexed Journals.

- Three h-index Institutional Publications based on Scopus/ Web of science

Title of the Paper	Name of Author	Title of journal	Year of publication	h-index	Number of citations excluding self citation	Institutional affiliation as mentioned in the publication
Initial population density plays a vital role to enhance biodiesel productivity of <i>Tetraselmis</i> sp. under reciprocal nitrogen concentration	S. Dinesh Kumar MiKyung Kim P. Santhanam B. Dhanalakshmi Min S. Park Latha.S	Bioresource Technology Reports	2018	6	3	Nirmala College for Women18
Organometallic ruthenium(II) complexes containing NS donor Schiff bases: Synthesis, structure, electrochemistry, DNA/BSA binding, DNA cleavage, radical scavenging and antibacterial activities	G.Devagi, F.Dallemer, P.Kalaivani and R.Prabhakaran	Journal of Organometallic Chemistry	2018	2	13	Nirmala College for Women18
Organoruthenium(II) Complexes Ameliorates Oxidative Stress and Impedes the Age Associated Deterioration in <i>Caenorhabditis elegans</i> through JNK1/DAF16 Signalling	G.Devagi, A. Mohankumar, G. Shanmugam, S. Nivitha, F.Dallemer, P.Kalaivani, P. Sundararaj. R. Prabhakaran	Nature Scientific Reports	2018	2	4	Nirmala College for Women18

Problems encountered and resources required

More funds are required for expensive chemicals, repair and maintenance of the equipments. Faculty members seek more time, resources and opportunities to pursue research and accomplish their academic and administrative commitments.