B.S. Abdur Rahman

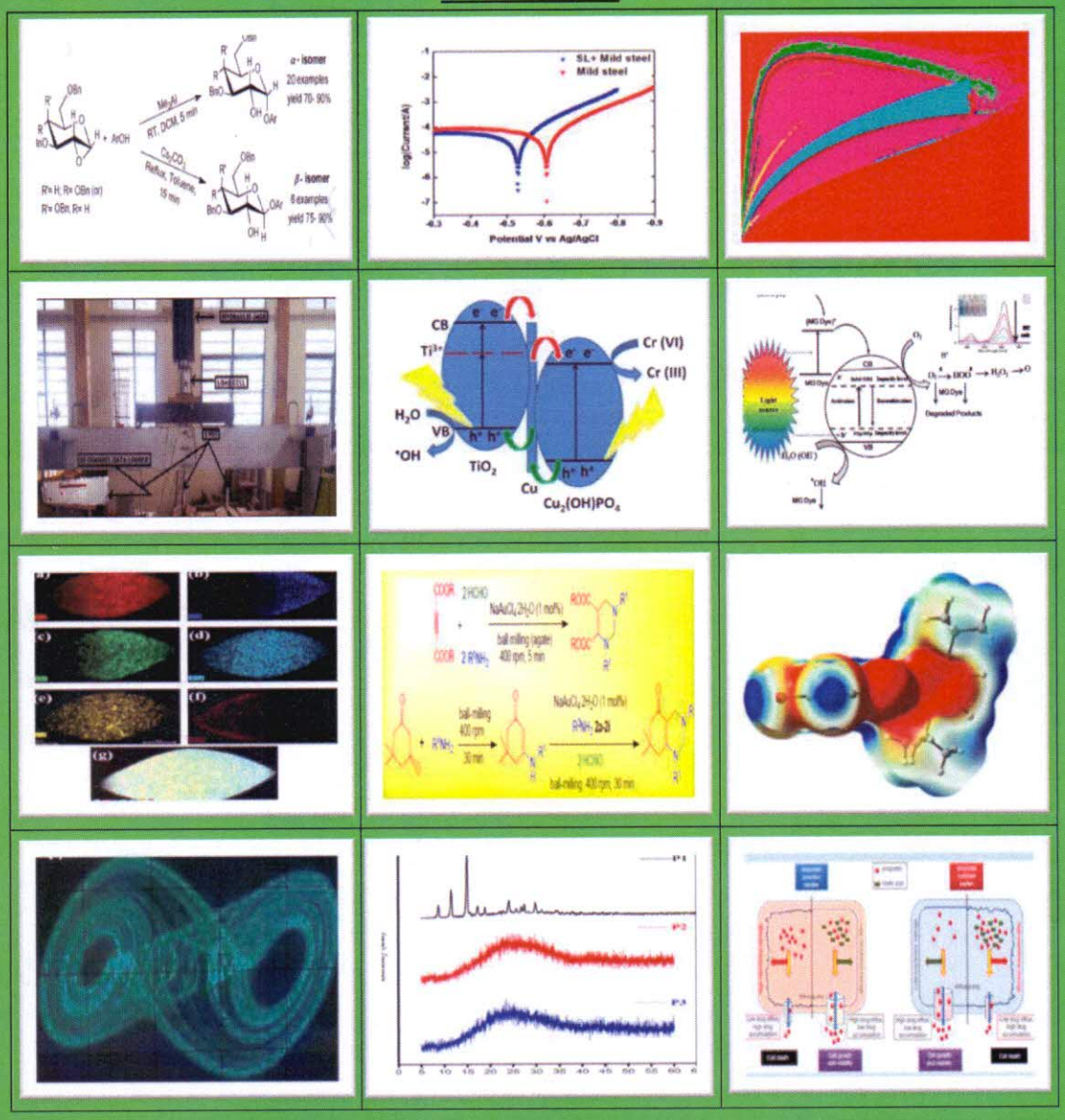
Crescent

Institute of Science & Technology

Deemed to be University u/s 3 of the UGC Act, 1956

REPORT ON OUTCOME OF EXTRAMURAL R & D PROJECTS

2010 – 2015



ESPAC –OFFICE OF CENTER FOR ENERGY, SPONSORED PROJECTS AND CONSULTANCY

(GOVERNMENT OF INDIA FUNDED PROJECTS)

सत्यमेव जयते

Submitted to

GOVERNMENT OF INDIA

DEPARTMENT OF SCIENCE & TECHNOLOGY, NEW DELHI

JULY – 2019

Technical report no: CRESCENT/ESPAC/EM-DST/ 91020722

REPORT ON OUTCOME OF EXTRAMURAL R & D PROJECTS 2010-2015 (DST, CSIR, DRDO)

ESPAC
OFFICE OF CENTER FOR ENERGY, SPONSORED PROJECTS AND CONSULTANCY

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सत्यमेव जयते

Submitted to
GOVERNMENT OF INDIA,
DEPARTMENT OF SCIENCE & TECHNOLOGY, NEW DELHI
JULY – 2019

Dr. A. Azad
REGISTRAR

B.S. Abdur Rahman
Crescent
Institute of Science & Technology
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ACCREDITED WITH "A" GRADE BY NAAC

Ref:no.45/reg/2019

DATE: 12.07.2019

To
Dr. Parveen Arora,
Advisor & Head
CHORD (NSTMIS) Division
Tel fax: 011-26523432.
Email: parora@nic.in

Subject: EXTRAMURAL R & D PROJECTS OUTCOME 2010-15 by Dr. Lalit Mohan (PI) Society For Environment And Development (SED), West Vinod Nagar, New Delhi - 92.

Ref: D.O. No: DST/NSTMIS/05/245/2016-17 (G), Dated: 06.05.2019.

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Dear Dr. Arora,

Please refer to your letter dated: 06.05.2019, requesting to send the information related to EXTRAMURAL R & D projects from central government sponsoring agencies during 2010-15.

We have now completed compiling the information from 16 projects and enclosed herewith as per the required format of DST.

The delay in sending response is mainly due to changes in our faculty of few departments. We expect more support from EXTRAMURAL R & D projects in the near future.

With best regards,

REGISTRAR

B.S. Abdur Rahman Crescent Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956

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Vice Chancellor

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FOREWORD

B.S. Abdur Rahman Crescent Institute of Science and Technology strives to be a Research Intensive Institution through various quality projects and research programmes by enhancement of required facilities with sustainable initiatives. Dean, Research office and Director, Centre for Energy, Sponsored Projects and Consultancy (ESPAC) office are fully supporting departments with various infrastructures facilities such as labs, resources persons, inviting eminent Research scientists both within India and abroad.

I am happy to learn that with high quality sponsored projects, Crescent has submitted project completion reports to the funding agencies and also published research papers as the outcome of the project. The vibrant faculty of Crescent has contributed significantly and published quality research publications in Indexed journals with innovative ideas from their work in the projects sponsored by government agencies such as DST, DBT, CSIR, DRDO, MOIT, MOEF, DAE-BRNS worth about Rs. 22 crores for the last 5 years.

Crescent has also executing projects in collaboration with industries and organizations. For example through industry institution cooperation we received a new car from M/s Ford Company to do further research on the car by our Automobile department. Another addition to our institute is establishment of 3 pilot scale plants by M/s Kankyo Cleantech related to conversation of waste plastic to burnable oil, waste food to biogas and waste water to reusable water etc. All these facilities will help our faculty to do more research on these technologies and innovatively come out with new ideas for improvement.

I am pleased to know that Director, ESPAC office has put up sincere effects not only compiling the information as per the requirement of the DST, but also highlighted our faculty work published in quality research papers. I expect more such publications similar to this compilation and sending the output generated from the projects to the funding agencies that are useful and beneficial to the society in general and industry in particular.

VICE CHANCELLOR

Date: 22.07.2019

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Advisor, Gujrat Technological University, Ahmedabad, Gujarat
RC Member, CSIR-NGRI, Hyderabad
Former: Director General, GERMI, Gandhi Nagar, Gujarat

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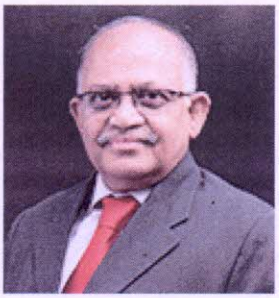

IN BRIEF

This report is an enthusiastic narration of new findings by our faculty through many research projects funded under DST - EXTRAMURAL R & D projects, Government of India during the years 2010-15. The results and findings of the study is immensely useful to various government agencies, policy makers, scientifc community and other stakeholders.

It provides step by step analysis on crucial matters and the information is useful for all types of persons-students, professionals, managers and decision makers. It is a unique tribute to even scientists who are involved in deep research to study different strategies to initiate, modify and advancement of research projects. In this report the main results of our research projects are provided with brief details about each item.

B.S. Abdur Rahman Crescent Institute of Science and technology is a renowned Quality Leadership Institution. Our institution is an intellectual destination that challenges conventional thinking and stimulates passion to redefine learning. We are also a registered Research Institute with DSIR, Ministry of Science and Technology, Govt. of India, New Delhi.

B.S.Abdur Rahman Crescent Institute of Science and Technology is "A Research Intensive Institution" lays greater emphasis on academics and research in its endeavor to become a premier institute contributing to the Scientific and Technological development of our Country. The research scholars of our institute are encouraged to publish research papers only in peer reviewed (Refereed) Journals with high impact factor. So far our institute has published 4911 research publications and completed more than 50 sponsored projects worth more than Rs. 22 crores. The Sponsored research is a major strength of our institution. Adequate research infrastructure facilities are essential to conduct research in thrust areas of societal needs. The state of art facilities are created with the help of funds from major funding agencies such as DST, DBT, CSIR, DRDO, MOIT, MOEF, DAE-BRNS etc. and also from the contribution by the Crescent management. For example, with BIRAC funding support of about 1.8 crores, we have initiated Crescent Innovation & Incubation Council (CIIC) in our institute premises.

Although we emphases on the research area of the faculty, through findings and output of the projects our principal investigators and faculty members have gained depth of knowledge in their study and presented the papers in many conferences, published in the form of research papers in national and international journals, filed a patent and also reported as book chapters.

I gratefully thank the CHORD, Department of Science and Technology (DST), Ministry of Science and Technology, Government of India for sponsoring the projects and provided the grants to us. I express my gratitude to government of India for its kind support towards our R&D projects and expect to do more in near future.

Place: Chennai

Date: 22/07/2019

Prof. T. Harinarayana

B.S. Abdur Rahman Crescent Institute of Science & Technology
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Brief Details of EXTRAMURAL R & D PROJECTS OUTCOME - 2010-15

Sl. No	Name of PI	Project Tile	Cost of the Project (Rs. in Lakhs)
1	Dr. S. Bhagavathy	Palladium catalyzed Buchwald Hartwig coupling of 2-C hydroxymethyl- D- glycols and aryl halides : Synthesis of functionalized C – Aryl Glycosides	42.60
2	Dr. D.Easwaramoorthy	Design of Zeozymes as biomimetic catalyst for the treatment of organic pollutants	13.60
3	Dr. J. William John Bosco	A novel access to indolizidine and quinolozidine alkaloids through stereo selective N-tethered intramolecular cyclopropanation of pyridine	44.00
4	Dr. J. William John Bosco	Diasteroselective intramolecular cyclopropanation of enol ethers derived from aminoacids: a novel access to aza-c-glycosides	13.70
5	Dr. J. Revathy.	Seismic retrofitting of prestressed concrete beams externally bonded with fibre reinforced polymer composites	17.04
6	Ms. R. Saai Harini	Bismuth titanate quantum dots for photo voltaic application	15.68
7	Dr. J. Thirumalai.	Preparation of rare-earth doped molyodate nanostructures using soft chemical route for opto electronic applications	23.20
8	Dr. K. Karthikeyan	Applications of Gold Catalysis for the Synthesis of Bioactive Heterocyclic and Natural Product Mimic	14.00
9	Dr. Revathi Purushothaman	Development of COF/Polymide composites with low dielectric constant for microelectronic applications	23.50
10	Dr. I. Raja mohamed	Investigation of chaotic and strange nonchaotic phenomena in coupled nonlinear circuits and systems	32.46
11	Dr. R. Vasanthakumari	Development of absorbing polymer product for efficient removal of oil spills in sea water	20.04
12	Dr. Soumen Bera	GPx1 gene polymorphisms and mitochondrial ROS signaling in cancer risk	24.70
13	Dr. Vajjiravel Murugesan	Synthesis of novel low band gap poymer materials for solar cell applications	23.78
14	Dr. Noor Aman Ahrar Mundari	Development of Graphene Sr TIO 3 based hybrid photocatalytic system for the production of solar fuels	24.98
15	Dr. Shazia Jamal	To study the effect of Diclofenac and Osmolytes on protein stability in Renal Dysfunction	13.60
16	Dr. Md Khurshid Alam Khan	Identifying the molecular basis of peroxidase activity of peroxiredosin 6 – an approach for designing antioxidant peptides and inhibitors	14.30
Total			**361.18**