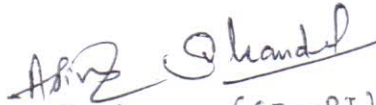


Council of Science & Technology U. P.
Vigyan Bhavan, 9, Nabiullah Road, Lucknow-226018

ANNUAL PROGRESS REPORT OF RESEARCH SCHEME

1. Title of Research scheme/project: **Synthesis and Characterization of Pure and Doped $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ (CCTO) For Microelectronic Applications**
2. Name of Department and Institution: **Department of Physics, Integral University, Lucknow**
3. Name and designation of the investigators:
 - I. **Dr. Mohd. Asim Siddiqui (Principal Investigator)**
Assistant Professor, Department of Physics,
Integral University, Dasauli, Kursi Road, Lucknow
 - II. **Dr. Vishal Singh Chandel (Co-Principal Investigator)**
Professor & Head, Department of Physics,
Integral University, Dasauli, Kursi Road, Lucknow
 - III. **Dr. Rajiv Manohar (Co-Principal Investigator)**
Professor, Department of Physics,
Lucknow University, Lucknow
4. Name of research Asstt./Technical personnel employed: **Mr. Sachin Tripathi**
5. Date of commencement: **22.07.2016**
6. Period upto which the scheme is tenable: **Two years**
7. Objective of the scheme/project (as approved in the original proposal): **Synthesis and Characterization of Pure and Doped $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ (CCTO) For Microelectronic Applications**
8. Period of report from **22.07.2016** to **21.07.2017**.
9. Detailed report of work done during this period along with major scientific contributions so far made under the project (excluding routine tasks, experiments, analysis performed).
10. Plan of work in the next year. (as approved in original technical programme of the proposal):
 - I. Survey of related literature and books;
 - II. Characterization of all the specimens using XRD, SEM, Photocatalytic and EPR-spectroscopic measurements.
 - III. Communication of the results to Journals
 - IV. Preparation of other doped sample

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(P. I) (CO - PI)
Department Of Physics
Integral University
Lucknow

11. Whether this project been concluded. If so, have the objective fully achieved and in what measure? if not, enumerate the unfinished task needed to bring into a logical conclusion.

12. Summary of the work done highlighting important finding both practical and scientific value: Results awaited.

13. Results which can be exploited on pilot or field scales: Results awaited.

14. List of publications as a result of the investigations carried out in the scheme in the following order giving name(s):

(a) Papers actually published: **Annexure-I**

(b) Papers presented at Scientific Meeting/Conference: **Annexure-II**

(c) Manuscript under preparation: The script will published after getting the complete characterization results.

Dated:


Signature of investigators-in-charge. 12/08/2017

Department Of Physics
Integral University
Lucknow


12.08.17

Signature of Head of Department
Department Of Physics
Integral University
Lucknow



Signature of Head of Department/Organization.

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Council of Science & Technology U.P.

Vigyan Bhawan, 9, Nabiullah Road, Lucknow-226018

UTILIZATION CERTIFICATE

Certificate that the grant of Rs. 3,20,000/- sanctioned vide Council's letter No. CST/D-725 dated 09.06.2016 has been properly utilized to the extent of Rs. 3,20,000/- (Rs. Three lakh Twenty thousand only till 21st July, 2017) for research work on the following project sanctioned by the Council in its letter No CST/D-725 dated 09.06.2016. Name of research project /work "Synthesis and Characterization of Pure and Doped $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ (CCTO) For Microelectronic Applications".

2. The details of grant utilized during the period from 22nd July 2016 to 21st July 2017 are as under:


(i) On salary of Research Assistant employed (Mr. Sachin Tripathi)
(Stipend 20,000/- per month from 22nd July 2016 to 21st July 2017) Rs. 2, 40, 000/-

(ii) On Contingencies Rs. 80,000/-

Total expenditure: Rs. 3, 20, 000/-

3. The period of research work/ project from 22nd July 2016 to 21st July 2017 and the result achieved are attached in Annexure-III.

Also certified that the grant has been utilized in accordance with the terms and conditions laid down by the Council and that the accounts there of will be got audited in the course/have/already been audited and the relevant extracts from the audit report are enclosed for information of the Council.


Signature of Investigator/s
Department of Physics
Integral University
Lucknow
12.08.17
(Co-PI)


Signature of Executive Head/Authority/Finance Officer

FINANCE OFFICER
INTEGRAL UNIVERSITY
LUCKNOW


Countersigned by Head of the Institution

Forwarded


Signature of Forwarding Authority Designation

REGISTRAR
INTEGRAL UNIVERSITY
LUCKNOW