

AMD Studentship Programme – 2009-10

PROSPECTUS

1 Introduction

ATOMIC MINERALS DIRECTORATE FOR EXPLORATION AND RESEARCH (AMD) is presently in the endeavor to increase its uranium exploration activities all over the country, so that the projected demand of uranium can be met to a large extent from the domestic resources. As the nuclear power generation is expected to grow by many orders of magnitude in near future, uranium demand also will concomitantly increase. AMD has already proved about 1,00,000 tonnes of uranium resources in different deposits located in various parts of the country. Potential areas are by now identified, where increased exploration and research efforts are planned, in order to locate more such deposits.

Areas favourable for uranium mineralisation are identified based on systematic investigations including airborne geophysical surveys, ground radiometric and geophysical surveys and exploratory drilling, which include Proterozoic Cuddapah basin, Andhra Pradesh; Bhima - Kaladgi Basins in Karnataka; Vindhyan - Bijawar basins in Madhya Pradesh, Rajasthan and Uttar Pradesh and the Cretaceous Mahadek basin in Meghalaya and other basins with similar litho-structural, tectonic and evolutionary similarities. Uranium anomalies and other favourability characteristics are well established in many of the target areas.

To take the exploration and research work on to an accelerated pace AMD has initiated all round collaboration with many premier professional and academic institutions of the country. The **AMD Studentship Programme (AMDSP)** is proposed to encourage postgraduate students in taking up short term project work in priority areas for uranium exploration. The programme is designed to attract large number of students from different universities and institutes by providing facilities and support, including financial support for field work and to set definite standards to ensure quality and commitment to the work. The work carried out by the students would form a part of the ongoing activity of AMD with substantial academic content.

2 Programme description

2.1 Overview

AMDSP has been intended to encourage M. Sc / M.Tech / M.Sc Tech students of various universities and institutions to take up project work in various priority field areas and laboratories of AMD. This project work should necessarily be part of the course curriculum such as dissertation or project work, leading to award of a postgraduate degree. The programme will involve submission of project report to the university, which will be evaluated in a viva-voce examination. The copy of the report and data generated by the study will be permanently stored in a knowledge repository of AMD, which will be available for continued study and reference, for both AMD scientists and the academia.

2.2 Scope

The programme will be open to all geosciences courses as well as in any other area related to mineral exploration such as Physics, Chemistry, Electronics and Instrumentation. The project work should lead to submission of a report to the concerned university / institution leading to the award of the postgraduate degree. The programme will be operative in all the seven Regions of AMD, viz., New Delhi, Bangalore, Shillong, Jamshedpur, Jaipur, Nagpur, Hyderabad, sectional headquarters at Visakhapatnam and Thiruvananthapuram and also in specialized groups and laboratories at headquarters, Hyderabad.

2.3 Preferred Project Topics

AMD will identify a number of short term project topics based on the priorities in uranium exploration and research. Students will be encouraged to choose one of the listed project topics, which will be given preference in approval by AMD. The list of preferred project topics will be available in AMD's web site or even otherwise the Regional Director of the respective Region/Head BSOI, Hyderabad may be contacted for identifying a project related to field. Field topics generally involve geological/structural mapping, radiometric survey, petromineralogical studies, geochemical surveys, exploration for beach placers. The students of Physics and electronics discipline may take up geophysical logging of boreholes and ground geophysical studies in mineral exploration. Other topics suggested by the universities outside the preferred list will also be considered based on the relevance of the work to AMD, but such topics should have field orientation.

2.4 Duration of Project Work

The project work will be for a minimum duration of eight weeks. **A minimum of four weeks will be devoted for the field work** and additional minimum four weeks for laboratory investigations. Laboratory investigation can be carried out either at AMD or at the university itself. **Projects related to allied areas also should include minimum four weeks of field work.**

2.5 Operation time

The project work will be carried out after approval by the students at a period that is suitable to the university or institution depending on the academic calendar. Students can indicate the tentative period suitable for them to take up the work in the application form.

2.6 Guidance

The projects will be guided by a project guide from the university / institution. All projects will also have an internal co-guide from AMD.

3 Eligibility

Final year M.Sc / M.Tech / M.Sc Tech students in field of Geology, Geophysics, Chemistry, Physics and other related subjects are eligible for this programme.

4 Application

Prescribed application format is available for download from AMD's website. Duly completed applications should be submitted through Head of the Department or Dean by post along with forwarding letter. However, the Head of the Department or Dean may ensure that not more than four applications are recommended/forwarded during the financial year (2009-10). If approved, intimation will be sent to the applicant through Head of the Department / Dean.

5 Approval

All applications received will be evaluated and approval will depend on:

- relevancy and significance of the project to AMD

- topicality
- academic merit of the student

6 Stipend

A lump sum grant of Rs.5,000/- will be awarded to each student approved for project work. Stipend is paid to partially cover the incidental expenditure the student may incur in the field areas. Students who are awarded stipend and other financial support from the university or from any other source will not be eligible for the stipend.

The amount will be paid after completion of four weeks of field work and will be based on the satisfactory progress of the project work as certified by AMD co-guide and submission of the final report.

7 Facilitation by AMD

Apart from identifying a co-guide for closely working, guiding and monitoring the work, AMD will also provide the following facilities:

1. Field transport as and when feasible.
2. Field support.
3. Scintillometers / Gamma-ray spectrometers required for the work.
4. Geophysical field instrumentation.
5. Laboratory facilities to the extent required.
6. Library facilities including temporary borrowing of books.
7. Internet browsing facilities, including full access to Science Direct.

AMD will not be under any obligation to provide lodging and boarding either in field areas or headquarters. Exceptions, if possible, will only be made for remote areas, where no other accommodation other than AMD's own camps exists in the near vicinity.

AMD will not be under any obligation to give preference to the participants of AMDSP in any of its future recruitments.

8 Facilitation by the University

The project work will be carried out under the overall guidance and supervision of a faculty member of the university. The faculty guide should look into the

involvement, motivation and commitment of the student and for that purpose co-ordinate adequately with the co-guide from AMD. In case of projects which are fully carried out at AMD, the project guides can be from AMD itself, if so desired by the university.

The university is also expected to provide:

1. Field equipment like brunton compass, geological hammer, water bottles, lens, streak plate, field bags, haversack and other minor items normally required for field work. Students are also required to have field clothing including field shoes/boots and cap.
2. Facilitation for carrying out laboratory part of the investigation, if so required / agreed upon.

9 Certification

AMD will give a certificate to all participants who have satisfactorily completed the project work. This certificate will be issued after completing the project work.

10 Project Report

A project / dissertation report will have to be submitted to the university on completion of the work. Students and universities will be encouraged to follow AMD's Project Report **Manual of Style and guidelines** for preparation of the report. A draft of the project report may be sent to AMD through the co-guide for approval. Two paper copies of the final report will be made available to AMD.

A soft copy of the complete report needs to be submitted as a single file in *pdf* format. Additionally the text part of the report should be submitted in *odt* or *rtf* formats. All basic data collected during the study should be submitted in *ods* or *xls* formats. Maps, plans or sections prepared in GIS or vector graphics tools should be submitted as standard *shp*, *dwg*, *dxf* or *svg* formats. Photographs, photo-micrographs and other illustrations need to be submitted in *jpg*, *png* or *tiff* formats.

11 Publication

The participants will be encouraged to publish the results of original research in reputed national or international journals, with prior approval of Director, AMD. Special preference will be given to publication of such papers in EARFAM and other publications of AMD.

12 Other Deliverables

All data generated by the project work will be deemed to be the property of AMD. A representative part of the field samples collected will also be retained by AMD.

Participants of this programme will be encouraged to continue further work in the same or related topics, as part of M.Phil or PhD, utilizing the accrued data and samples. In such cases, it will be necessary to acknowledge AMD's role and facilitation and forward all reports and other publications to AMD for record.

13 Intellectual Property Rights

All intellectual property and patent rights deriving from the study will remain solely with AMD.

14 More Information

Details of AMDSP, including the download of prospectus and application form, will be available at AMD's web site <http://www.amd.gov.in/>. More clarifications if required can be obtained from:

Additional Director (Research and Development),
Atomic Minerals Directorate for Exploration and Research,
1-10-153-156, Begumpet,
Hyderabad-500 629.

Phone: 040-27766472
Fax: 040-27762940

Email: adldir-rnd.amd@gov.in