

RAMS Educational Outreach Module



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http://www.csm.ornl.gov/internships/rams_05/abstracts/r_askia.pdf



Abstract

The Research Alliance in Math and Science (RAMS) Program at the Oak Ridge National Laboratory (ORNL) was established to provide rewarding research opportunities among DOE researchers, faculty and students at various colleges and universities. The program is based on the belief that collaborative research experiences among its participants is the best vehicle to identify, encourage, and train a more diverse workforce by providing a positive impact on those who participate in the summer internship program. While the RAMS program has helped produce some of today's leading graduate and doctoral students, maintaining communication with those summer participants has proven difficult resulting in less than optimal ability to pinpoint the direction that many of the students are taking in their careers. In executing a systematic approach to facilitate this task, a database tracking and portable module were developed to communicate with all past, present, and possible future RAMS students. These modules will effectively convey the message of the RAMS vision, to improve the U.S. competitive research edge while encouraging and promoting Science, Mathematics, Engineering, and Technology (SMET) research throughout the academic year.

Research Tasks

Improvements in existing methods that effectively communicate with past and current research participants are needed. Aimed to produce a portable module, the focus of this project was to develop a database system to implement various didactic policies that would ensure quality performance from individual students.

Methodology

- Develop and implement database tracking system
- Identify curriculum needed to assure readiness in summer program
- Use Quantitative Research methods to conduct a descriptive research survey study
- Develop a recruiting module to address workforce planning and underutilization at DOE facilities

Quantitative Research

Quantitative Research is an educational method used to collect numerical data to explain, predict, and/or control phenomena of interest. In conducting research for this quantitative purpose a descriptive survey was administered to all former and existing RAMS students to evaluate the concerns and practices of the research program. A descriptive study allows a researcher to identify patterns or trends that may be accepting or detrimental to its continuation.



Curriculum & Instruction

The Curriculum and Instruction module was designed to layout the expectations of all divisions associated with the Research Alliance in Math and Science Program. Implementing the various educational devices into the RAMS program would influence the communication, and expectations of the program through instructional guidance.

Tracking System (TS) Module

The database Tracking System (TS) is a newly designed module of the RAMS program that was implemented to organize data of all 75 existing and former students. This module was developed through a language script that allows a user to input and update information regarding classified research resources of each student. To ensure effectiveness, an automated message system is being added to meet all the needs of all participants.

Summary

With ongoing efforts to improve the RAMS program and encourage lasting relationships with ORNL, many elements have already proven to be quite adequate, and positive for both staff and students. Elements such as; faculty/mentor workshops, nation wide conferences, co-op programs, and summer internship appointments have been a huge success in the development of this program. To view ending results of this study, and possible recommendations, go to http://www.csm.ornl.gov/internships/rams_05/WebSiteDSa_askia/indexNew.html.



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