

Letter Inviting Akimel A-al Middle School Students to Submit an Application to join the
ASU Citizen Engineer-Scientist @ Kyrene After-School Program

August 29, 2011

Dear Student,

The Kyrene School District in collaboration with Arizona State University (ASU) is offering an after-school program called the **ASU Citizen Engineer-Scientist @ Kyrene**. It is our immense pleasure to invite you to submit an application to join this program. This invitation is extended to you, because your teachers and we feel that you will benefit from this experience. Based on student interest, we will accept 24 middle school students for this program. The program will be facilitated by Ms. Tara Dale, certified teacher from Kyrene Akimel-A-al Middle School and Ms. Brianna Eller and Ms. Lauren Ice. Ms. Eller and Ms. Ice are Science Foundation of Arizona (SFAz) K-12 Fellows. The SFAz K-12 Fellows are students who are enrolled in a doctoral (PhD) program in engineering or the sciences at ASU.

Selected middle school participants will engage in a hands-on exploration of **Alternative Energy**. Through this experience, students will explore questions such as: What is energy? What are our alternatives? Energy has been advantageous to humanity: Energy has made possible the technological advances that have brought humankind from the primitive to the advanced. Life is just plain better than it used to be, and this has been made possible by advances that took a great deal of energy. This unit will explore various types of energy and their uses culminating in the hands-on design of a renewable energy project.

The after-school program will meet from 4:00 pm to 5:30 pm in Kyrene Akimel A-al Middle School on **Tuesdays and Thursdays from October 4 to December 6, 2011** (no after-school meetings on October 11 and October 13 due to Fall Break; on November 22 and 24 during Thanksgiving week) over the course of one semester. There will be a required parent/family orientation on **Thursday, September 22, 2011, 6:00-7:30 pm** and a closing celebration on **Thursday, December 8, 2011, 6:00-7:30 pm**. The orientation and closing celebration will be held at the Kyrene School District, 8700 S Kyrene Road, Tempe. There is no cost or fee for your participation in this program.

If you are interested in joining the **ASU Citizen Engineer-Scientist @ Kyrene** after-school program, please complete the attached application packet and return to Ms. Tara Dale by Monday, September 5, 2011. If selected and you join the program, transportation from school after the program meeting ends at 5:30 pm will be your parents' responsibility. You will be informed of your selection to the program by Monday, September 19, 2011.

Sincerely,

Mr. Mike Deignan
Principal
Kyrene Akimel A-al Middle School
Kyrene School District

Dr. T. G. Ganesh
Assistant Professor
Engineering Education
Arizona State University, Tempe

To be completed by the Student AND signed by both the Student and the Parent

The ASU Citizen Engineer-Scientist @ Kyrene After-School Program Application Form

Return completed application packet by Monday, September 5, 2011 to Ms. Tara Dale.

Please **PRINT** the following information:

First Name	Last Name	ID Number	
Parent/Guardian's Name(s)		Home Phone Number	
Home Address		City	Zip
Email Addresses (for parents)			

Respond to the following prompts/questions:

1. Why do you want to join this program? What attracts you to a program like this?

2. What strengths do you bring to a program like this?

* Transportation from school after the program meeting ends at 5:30 pm is the parents' responsibility.

After-school program meetings run 4:00 – 5:30 pm, on two days of the week: Tuesdays and Thursdays.

Your signature indicates that you want to participate in this after school program.

X _____
Student Signature Date

Parent/Guardian signature indicates awareness that your child is applying to participate in the **ASU Citizen Engineer-Scientist @ Kyrene** after school program and that transportation is the parents' responsibility.

X _____
Parent/Guardian Signature Your relationship to student: Mother / Father / Other Date

Parental Letter of Consent for Minors
ASU Citizen Engineer-Scientist @ Kyrene

August 29, 2011

Dear Parent:

I am Dr. Ganesh, Assistant Professor of Engineering Education in the Ira A. Fulton Schools of Engineering at Arizona State University (ASU), Tempe Campus. I am conducting a research study with a team of ASU doctoral students and Kyrene Middle School teachers, titled the **ASU Citizen Engineer-Scientist @ Kyrene**. This research study is sponsored by the Science Foundation of Arizona and is aimed at developing the future citizen engineer-scientist by involving science and engineering doctoral students and their faculty in making public the research and development enterprise by working with K-12 educators and learners. Our research study is aimed at understanding the impact of an after-school program on students' learning and interest in science, technology, engineering, and mathematics (STEM) subjects and careers.

Your child's school principal, teachers, and I are inviting your child's participation, which will involve participation in the after-school program over a period of six to eight weeks. Participation involves meeting twice a week after-school at your child's school. The program will involve a total of 25-30 contact hours in the Fall 2011 semester with a meeting for 90 minutes each time, twice a week.

Your child will work in small groups. The school will provide your child with a snack at the start of each after-school program meeting. As a part of your child's participation we will collect information about the impact of this program on her/his interest in STEM subjects and careers and intent to select science and mathematics course work in high school through a questionnaire and other pre and post assessments. These assessments will be open-ended and may contain up to 5 prompts for students to respond or drawings designed to elicit what they already know about the content that they are to learn/ have learned in the after-school program and may not take more than 15 minutes each to complete. Any student data collected will be coded with a study ID so your child's identifying information will not be used in any research publications. This data collection may include one or two 15 minute focus group interviews, where five or six participants will be interviewed together in a group to help understand their interests as well perceptions about the program. This focus group interview will be audio-taped and transcribed. Your child's name will not be used in the transcribed report; instead a pseudonym will be used. The interview will not be recorded without your permission. If you give permission for this interview to be taped, you have the right, at any time, to ask that your child not participate in the video and/or audio-taped group interview.

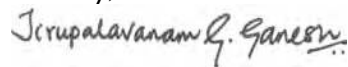
Some of your child's presentations as a part of the after-school program's activities may be photographed or video-taped for use in research presentations. In addition, photographs/clips of video-taped presentations may be used on the project website at Arizona State University or on print material published by Arizona State University. Your child's presentations will not be photographed or video-recorded without your permission. If you give permission for photography/video-taping, you have the right to withdraw this permission.

Your child's participation in this study is voluntary. If you choose not to have your child participate or to withdraw your child from the study at any time, it will not affect your child's grade and treatment at school. Likewise, if your child chooses not to participate or chooses to withdraw from the study at any time, there will be no penalty. The results of the research study may be published in scholarly journals, but your child's name will not be used, a pseudonym will be used instead.

Although there may be no direct benefit to your child, the possible benefit of your child's participation is increased interest in science, technology, engineering, and mathematics subjects and careers, and also increased knowledge about going to college or education beyond high school.

If you have any questions concerning the research study or your child's participation in this study, please do not hesitate to contact me.

Sincerely,



Dr. T. G. Ganesh
Assistant Professor, Engineering Education
Ira A. Fulton Schools of Engineering
Arizona State University
480.727.9375 • tganesh@asu.edu

**Parental Letter of Consent for Minors
ASU Citizen Engineer-Scientist @ Kyrene**

Return completed application packet by Monday, September 5, 2011 to Ms. Tara Dale.

By signing below, you are giving consent for your child _____
to participate in the above study.

Permission for your child to participate in program activities:

_____ (initials) **Yes**; I grant permission for my child to participate in the program.

Permission for your child to be photographed / video-taped during program activities:

_____ (initials) **Yes**; I grant the researchers' permission to photograph / video-tape my child during program activities.

_____ (initials) **Yes**; I grant the researchers' permission to use my child's name and photographs / clips of video-tape obtained of my child during program activities on the project website or in print materials to promote project activities and describe project impact.

Permission for your child to participate in audio-taped focus group interviews:

_____ (initials) **Yes**; I grant the researchers' permission to audio-tape the focus group interviews.

Parent/Guardian Signature

Parent/Guardian Printed Name

Date

If you have any questions about you or your child's rights as a subject/participant in this research, or if you feel you or your child have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Research Compliance Office, at 480.965.6788.

Written Student Assent Form

Return completed application packet by Monday, September 5, 2011 to Ms. Tara Dale.

The ASU Citizen Engineer-Scientist @ Kyrene After-School Program

I have been informed that my parent(s) have given permission for me to participate in a study to understand the impact of this after-school program on middle school students' learning and interest in science, technology, engineering, and mathematics subjects and careers.

I understand that this is a 25-30 hour after-school program that begins in September 2011 and ends in December 2011. The after-school program will meet from 4:00 pm to 5:30 pm on Tuesdays and Thursdays. I will be asked to participate in focus group discussions. Photographs, video and audio-taping may also be done of the discussions and my work in the program. Some of my project work may be collected from me. I may be asked to complete responses to prompts and questions.

My participation in this project is voluntary and I have been told that I may stop my participation in this study at any time. If I choose not to participate, it will not affect my grade in school in any way.

Permission to participate in program activities:

_____ (initials) **Yes**; I will participate in the program.

Permission to be photographed / video-taped during program activities:

_____ (initials) **Yes**; I give the researchers' permission to photograph / video-tape me during program activities.

Permission to participate in audio-taped focus group discussions:

_____ (initials) **Yes**; I give the researchers' permission to audio-tape the discussions I take part in.

Signature

Printed Name

Date