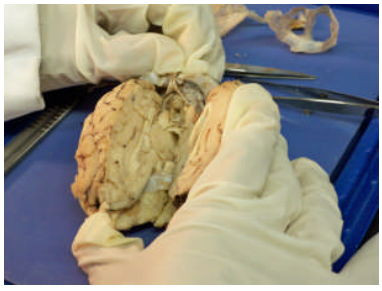
ECOTEK
Science at Work!

Summer 2011
Research Scientist Development Program



Program Overview
The purpose of the Research Scientist Development Program is to help students enhance their scientific skills through hands-on work in a research environment. It is also the primary way that we evaluate student scientists that have an interest in joining our program on a long-term basis. The work that students do range from learning how to develop and implement a research plan to learning how to make biofuel.

During the summer we offer four 1 week sessions that cover everything from making biofuel to isolating DNA to building an electric bike. Homework is given daily. After each session, the students are evaluated (e.g. timely completion of homework, pre-class preparation, proficiency when working in the lab, passion for learning). The top performing students in each session are given the opportunity to work on real-world research projects at Ecotek Lab with members of our Senior Science Research Team.

Who Can Attend?
Any student that meets the program eligibility requirements listed below can participate in the program

Program Eligibility Requirements
- Must be atleast 9 years old
- Must be in grades 5 thru 12
- Minimum 3.0 GPA
- Good work ethic
- Interest in science and global affairs
- Completed and approved student application

Program Benefits
After completing the Research Scientist Development Program, your child will be able to:
- Identify and use key science laboratory equipment
- Understand and follow basic lab safety procedures
- Develop and implement a plan for conducting advance science research
- Perform, document, and present research activities (including field work)

Topics Covered in Program
- Research Topic Selection/Planning
- Basic review of sciences
- Field Work/Experiment Planning
- Data Collection and Analysis
- Presentation of Research
- Publication of Research

Hands-on Science Experiments Performed During Program
- Lab Equipment ID and Use
- Climate Change Experiments
- Animal Dissections
- Hydroponic Farming
- Isolating DNA from organic material
- Making Biofuel
- Food Science Experiments
- Material Science Experiments

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Program Description

Program Sessions

Day 1 **Lab Safety/Lab Equipment and Research Planning Methods**

Student scientists will learn how to properly use a wide range of lab equipment ranging from microscopes to ph meters to bunsen burners. They will learn about safety procedures and how to work responsibly in a lab environment. They will also learn how to document and manage research information.

Day 2 **Environmental Science**

Student scientists will learn about water chemistry, soil chemistry and air quality/climate change. They will conduct hands-on experiments to understand probable hydrogen, identify waterborne pathogens, as well as evaluate the drinkability of water. They will also perform experiments to identify and isolate contaminants in soil and the air. As a part of this session student scientists will learn about international treaties that are designed to combat global warming.

Day 3 **Green Science-Biomaterials**

Student scientists will learn about the benefits of using earth friendly ingredients to make a variety of consumer products. They will do hands-on experiments to demonstrate the value and functionality of using organic materials to make everything from hand lotion to crayons.

Day 4 **Biology-Genetics and Anatomy**

Student scientists will learn about the anatomy of mammals. They will do hands-on dissections on animal cadavers to be able to identify the different mammal subsystems. They will also learn how to isolate the DNA of organic material.

Day 5 **Alternative Energy**

Student scientists will learn about biomass, bioethanol, biodiesel, hydrogen and wind based energy. They will do hands-on experiments using a variety of feedstocks to make and test fuel that can be used as an alternative energy source. They will also do experiments to validate the benefits of wind energy. As a part of this session, student scientists will learn about careers in the alternative energy field.

Program Instructor

Keith Young Sr-Lead Instructor
keiyoung@ecotek-us.com

Materials and Supplies*

Provided by Ecotek (includes lab coat, goggles, gloves, and science equipment, and hand-outs)

* Students will NOT be allowed to handle any dangerous chemicals or equipment during the Research Scientist Development Program.

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Participant Name_____

Participant's email_ _____

Street_____

City_____

State/province_____

ZIP or postal code_____

County_ _____

Country_____

Telephone_____

Gender_____

Birth date_____ Age_____
(must be at least 9yrs old)

School information
Name of the school you attend_____

Current grade_____

Cost
The cost to attend the MUN/Ecotek Program for summer 2011 is $400 per week. This fee covers core activities (lab work, field trips, supplies). Payment can be made via check made payable to Motor City Model UN-Ecotek Science Program. Do not send cash, and do not staple your payment to this form. Send payment along with completed application to:

EcoTek Lab
440 Burroughs, Suite 511
Detroit, Michigan 48202

Refund Policy
- 100% if cancellation is received at least three or more weeks before start of program
- 50% if cancellation is received two weeks before start of program
- No refund if cancellation is received less than two weeks before start of program

Meeting Times and Location
Meetings start promptly at 9:00am and end at 3:00pm. All activities are scheduled to take place at Ecotek Lab. In the event a site change is made, parents will be notified ahead of time. Parents are expected to drop off and pickup their child on time. Late pickups will be assessed a $20 fee for each occurrence. The term "late" is defined as any time following the dismissal of the students.

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Program Date (select all dates that apply)

_____ June 20-24, 2011

_____ June 27-Jul 1, 2011

_____ July 11-15, 2011

_____ July 18-22, 2011

Parent/guardian information—Parent/guardian must fill out the following.

Parent Name _____

Address _____

City _____ **State** _____ **Zip Code** _____

Email _____ **Cell Phone** _____

How did you hear about our program (check all that apply)?

____Counselor or teacher
____Previous participant
____Ecotek website
Other _____

_____

Health History

Ensuring your child's safety and health while participating in the ECOTEK Lab Program is important to us. To prevent the spread of communicable illnesses (e.g. flu, pink eye) and to ensure that no student is exposed to an unhealthy situation, every student must provide a medical report showing that they have had all vaccination shots and have had a physical assessment in the last six months from a local physician. This information has to be provided prior to joining any ECOTEK Lab Program.

While in the program, if a student becomes ill or show signs of illness while in our lab, they will be immediately restricted from continuing in the program and will not be allowed to return until they have received clearance from a local physician indicating that they are no longer ill and is not a health risk to other students in the lab.

Students that have allergies that are controlled by administering a pharmaceutical inhibitor (e.g. asthma inhaler), must bring have their medicines with them at all times when in ECOTEK Lab. Any information related to the administration of the inhibitor must be provided, in writing, to the ECOTEK Lab staff.

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Please list any health problems that your child has that we need to be aware of. Also, provide information about medications that your child is currently taking to treat their medical condition.

Medical Condition	Medication Treatment

_____
Parent Guardian Signature

_____
Date