



Center for Community OutReach Development (CORD)  
CHSB19 5<sup>th</sup> Floor  
933 19<sup>th</sup> Street South  
Birmingham, AL 35294-2041

October 15, 2015

## **2016 UAB-CORD CENTRAL ALABAMA REGIONAL SCIENCE & ENGINEERING FAIR**

Science Teachers and Administrators in the  
Central Alabama Regional Science and Engineering Fair Area,

The University of Alabama at Birmingham and the UAB Center for Community OutReach Development are excited to host the **Central Alabama Regional Science and Engineering Fair** **scheduled for March 5, 2016**. The fair will be a single-day event held at the UAB Campus Recreation Center located at 1501 University Blvd., Birmingham, AL 35294. Middle and high school students will set up their projects beginning at 7:30 am. Judging of projects will occur from 9:00 am – 12:00 pm. During the judging, sessions to inform middle and high school participant's parents about college selection, how to best prepare their children to be competitive for the best schools, the college application process and opportunities for funding of their child's college education will be offered. In addition, tours of the UAB Campus will be scheduled.

The following counties will be eligible to participate in the 2016 UAB-CORD Central Alabama Regional Science and Engineering Fair: Bibb, Blount, Calhoun, Cherokee, Chilton, Clay, Cleburne, Coosa, Dekalb, Etowah, Jefferson, Randolph, Saint Clair, Shelby, Talladega, Walker and Winston County.

We will conduct the traditional fair, thus selecting students to compete at the Alabama State Science and Engineering Fair (ASEF) and the Intel International Science and Engineering Fair (ISEF). We recognize that in past years many students did not meet the timing requirements set out by ISEF and were unable to compete. Therefore, students who are unable to meet the ISEF timetable requirement will be allowed to present at the 2016 CARSEF for non-ISEF-related awards and prizes. We expect to have at least 40 such awards. To enable teachers and students to submit the required application paperwork in an efficient and timely manner, enclosed is a flyer which invites you and your students to join us for *"Project/Application Paperwork Training Sessions."*

Please visit our website at [www.uab.edu/carsef](http://www.uab.edu/carsef) for additional information. Please also note that the **Deadline for all Applications to the UAB Central Alabama Regional Science and Engineering Fair (CARSEF) is January 29, 2016**. All entries will be reviewed by the CARSEF Scientific Review Committee. All presenters will be required to meet the fair's sponsorship, safety, animal and human use requirements, prior to being allowed to present. If the application deadlines pose an issue with the date of your fair please call the CARSEF office for other arrangements.

Thank you for promoting excellence in science, math and engineering education in Alabama. We look forward to seeing you and your students at the 2016 Central Alabama Regional Science and Engineering Fair (CARSEF) and to awarding prizes to your students!

Please feel free to contact us at (205) 934-5125 (CARSEF Office) or (205) 934-5171 (CORD main office) or you can reach us by email at [kjarrett@uab.edu](mailto:kjarrett@uab.edu).



J. Michael Wyss, Ph.D.  
CORD Director  
Professor of Cell Biology  
and Medicine

Shirley S. Ginwright  
CORD Program Director

Kevin A. Jarrett  
CORD Program Coordinator



Enclosures: 2016 CARSEF: Forms List, Applications, Training Session Flyer and Brochure

*For information regarding the  
2016 Intel International Science and Engineering Fair  
in Phoenix, Arizona visit  
[www.societyforscience.org](http://www.societyforscience.org)*

# UAB-CORD

## Central Alabama Regional Science & Engineering Fair (CARSEF)

### ~ FORMS REQUIRED FOR ALL PROJECTS ~

#### UAB CARSEF Individual or Team Entry Form

\*Form 1 - *Checklist for Adult Sponsor*

Form 1A - *Student Checklist*

*Research Plan/Project Summary*

\*Form 1B - *Approval Form*

*Abstract and Certification Form*

### ADDITIONAL FORMS

*Only required if the student is....*

*Conducting research in an institutional/industrial setting or any  
setting outside of school or home*

Form 1C - Regulated Research Institutional/Industrial Setting Form

*Conducting research involving human subjects, vertebrate animals, potentially  
hazardous biological agents, cell cultures and controlled substances*

\*Form 2 - Qualified Scientist Form

\*Form 3 - Risk Assessment Form

\*Form 4 - Human Subjects Form

\*Forms 5A & 5B - Vertebrate Animal Form

\*Form 6A - Potentially Hazardous Biological Agents Form

\*Form 6B - Human and Vertebrate Animal Tissue Form

*Conducting research that is a continuation from a previous year's project*

Form 7 - Continuation Projects Form

**ALL FORMS CAN BE FOUND ON OUR WEBSITE**

[www.uab.edu/carsef](http://www.uab.edu/carsef) or [www.uab.edu/cord](http://www.uab.edu/cord)

*Please note that all forms marked with (\*) must be signed and  
dated prior to experimentation!!*



# 2016 Central Alabama Regional Science & Engineering Fair (CARSEF) Individual Entry Form

Incomplete entry forms will not be processed  
PLEASE PRINT CLEARLY OR TYPE

Deadline  
January 29, 2016

Name of Student: \_\_\_\_\_ Age \_\_\_\_\_ Gender \_\_\_\_\_

Mailing Address (street, city, zip) \_\_\_\_\_

Telephone (home, cell) \_\_\_\_\_ E-Mail \_\_\_\_\_

School Name/District \_\_\_\_\_ Grade \_\_\_\_\_

School Address (street, city, zip) \_\_\_\_\_

Sponsoring Teacher \_\_\_\_\_ Email \_\_\_\_\_ Telephone \_\_\_\_\_

Local/school fair participated in/Date \_\_\_\_\_

Project Title \_\_\_\_\_

Which major category letter best describes your project? (Place letter in box)

Category descriptions are on the back of this entry form.

A. Biology (including microbiology)

B. Chemistry (including biochemistry)

C. Engineering

D. Environmental and Earth Sciences

E. Mathematics and Computer Sciences

F. Medicine and Health Sciences

G. Physical Sciences (including space science)

H. Behavioral and Social Sciences

I. Energy and Transportation

All applicants to the Regional Fair must complete this entry form along with the following five forms:

1. Form 1 - Checklist for Adult Sponsor
2. Form 1A - Student Checklist
3. Research Plan/Project Summary
4. Form 1B – Approval Form
5. Abstract and Certification Form

*My project meets all requirements for entry into the INTEL International Science and Engineering Fair, and I wish to compete for a position at the State or International Fair.*

*I am a middle school student and I understand that as such I will be competing for local prizes and for entry into the State (but not International) Fair.*

We certify that we will abide by the regulations of the Central Alabama Regional Science and Engineering Fair (CARSEF). **The project submitted won a 1<sup>st</sup>- 3<sup>rd</sup> place prize in a category at a school fair or is being certified by the teacher as representing a school.** Please call if your school fair will be held between January 29 and March 5 for entry into the March 5, 2016 CARSEF.

Signature of Student: \_\_\_\_\_ Signature of Parent: \_\_\_\_\_

Signature of Sponsoring Teacher: \_\_\_\_\_

**\*Note: You will be contacted via email with important CARSEF information. Please provide an accurate email address as requested above.**

Send completed applications to CARSEF, c/o UAB-CORD, 5<sup>th</sup> Floor CHSB19, 933 19<sup>th</sup> Street South, Birmingham, AL 35294-2041. For additional information, Call (205)934-5125 (CARSEF office) or (205)934-5171 (Cord main office) or e-mail us at [kjarrett@uab.edu](mailto:kjarrett@uab.edu).

## **CARSEF Category Descriptions**

### **A. Biology (including microbiology)**

Cell Biology  
Cell and Molecular Genetics  
Immunology  
Molecular Biology  
Antibiotics, Antimicrobials  
Bacteriology  
Microbial Genetics  
Virology  
Animal Development  
Animal Ecology  
Animal Husbandry  
Animal Pathology  
Animal Physiology  
Animal Population Genetics  
Animal Systematics

### **B. Chemistry (including biochemistry)**

General Biochemistry  
Metabolism  
Structural Biochemistry  
Analytical Chemistry  
Inorganic Chemistry  
Organic Chemistry  
Physical Chemistry  
General Chemistry

### **C. Engineering**

Bioengineering  
Civil, Construction, Chemical, Industrial,  
Electrical, Computer, and  
Mechanical Engineering  
Processing  
Material Science  
Thermodynamics, Solar  
Robotics

### **D. Environmental and Earth Science**

Climatology, Weather  
Geochemistry, Mineralogy  
Paleontology  
Geophysics  
Planetary Science  
Tectonics  
Air Pollution and Air Quality  
Soil Contamination and Soil Quality  
Water Pollution and Water Quality  
Bioremediation  
Ecosystems Management  
Environmental Engineering  
Land Resource Management, Forestry  
Recycling, Waste Management  
Plant Development  
Plant Ecology  
Plant Physiology  
Plant Systematics  
Plant Agriculture/Agronomy  
Plant Genetics  
Photosynthesis  
Plant Evolution

### **E. Mathematics and Computer Sciences**

Algebra  
Analysis  
Applied Mathematics  
Geometry  
Probability and Statistics  
Algorithms, Databases  
Artificial Intelligence  
Networking and Communications  
Computational Science, Computer Graphics  
Software Engineering, Programming Languages  
Computer System, Operating System

### **F. Medicine and Health Sciences**

Disease Diagnosis and Treatment  
Epidemiology  
Genetics  
Molecular Biology of Diseases  
Physiology and Pathophysiology

### **G. Physical Sciences (including space science)**

Astronomy  
Atoms, Molecules, Solids  
Biological Physics  
Instrumentation and Electronics  
Magnetics and Electromagnetics  
Nuclear and Particle Physics  
Optics, Lasers, Masers  
Theoretical Physics  
Theoretical or Computational Astronomy

### **H. Behavioral and Social Sciences**

Clinical and Developmental Psychology  
Cognitive Psychology  
Physiological Psychology  
Sociology

### **I. Energy and Transportation**

Aerospace and Aeronautical Engineering  
Aerodynamics  
Alternative Fuels  
Fossil Fuel Energy  
Vehicle Development  
Renewable Energies

***UAB CORD***

***empowering rising stars***

*Center for Community Outreach Development  
The University of Alabama at Birmingham*

# 2016 Central Alabama Regional Science & Engineering Fair (CARSEF)

## Team Entry Form

**Incomplete entry forms will not be processed**

PLEASE PRINT CLEARLY OR TYPE

Deadline

January 29, 2016

### Team Participants (up to 3 members):

#### Student 1 \*Team Leader\*

Name of Student \_\_\_\_\_ Age \_\_\_\_\_ Gender \_\_\_\_\_ Grade \_\_\_\_\_

Address (street, city, zip) \_\_\_\_\_

Telephone \_\_\_\_\_ E-mail \_\_\_\_\_

#### Student 2

Name of Student \_\_\_\_\_ Age \_\_\_\_\_ Gender \_\_\_\_\_ Grade \_\_\_\_\_

Address (street, city, zip) \_\_\_\_\_

Telephone \_\_\_\_\_ E-mail \_\_\_\_\_

#### Student 3

Name of Student \_\_\_\_\_ Age \_\_\_\_\_ Gender \_\_\_\_\_ Grade \_\_\_\_\_

Address (street, city, zip) \_\_\_\_\_

Telephone \_\_\_\_\_ E-mail \_\_\_\_\_

School Name/District \_\_\_\_\_ Telephone \_\_\_\_\_

School Address (street, city, zip) \_\_\_\_\_

Sponsoring Teacher \_\_\_\_\_ Email \_\_\_\_\_ Telephone \_\_\_\_\_

Local/school fair participated in/Date \_\_\_\_\_

Project Title \_\_\_\_\_

Which major category letter best describes your project? (Place letter in box)

Category descriptions are on the back of this entry form.

Teams will now compete in the scientific category of their research and will no longer be a separately judged category.

**A. Biology (including microbiology)**

**B. Chemistry (including biochemistry)**

**C. Engineering**

**D. Environmental and Earth Science**

**E. Mathematics and Computer Sciences**

**F. Medicine and Health Sciences**

**G. Physical Sciences (including space science)**

**H. Behavioral and Social Sciences**

**I. Energy and Transportation**

**All applicants to the Regional Fair must complete this entry form along with the following five forms:**

**1. Form 1 - Checklist for Adult Sponsor**

**2. Form 1A - Student Checklist**

**3. Research Plan/Project Summary**

**4. Form 1B - Approval Form**

**5. Abstract and Certification Form**

**Our project meets all requirements for entry into the INTEL International Science and Engineering Fair, and we wish to compete for a position at the State or International Fair.**

**Our project does NOT meet all timing or paperwork requirements for entry into the INTEL International Science and Engineering Fair, but we wish to compete for local prizes.**

**We are middle school students and we understand that as such we will be competing for local prizes and entry into the State Fair, but not for entry into International Fairs.**

We certify that we will abide by the regulations of the Central Alabama Regional Science and Engineering Fair (CARSEF). **The project submitted won a 1<sup>st</sup>-3<sup>rd</sup> place prize in a category at a school fair or is being certified by the teacher as representing a school.** Please call if your school fair will be held between January 29 and March 5 for entry into the March 5, 2016 CARSEF.

**Signature of Team Leader:** \_\_\_\_\_ **Team Leader's Parents:** \_\_\_\_\_

**Signature of Sponsoring Teacher:** \_\_\_\_\_

Send completed applications to CARSEF, c/o UAB-CORD, 5<sup>th</sup> Floor CHSB 19, 933 19<sup>th</sup> Street South, Birmingham, AL 35294-2041. For additional information, Call (205)934-5125 (CARSEF office) or (205)934-5171 (CORD main office) or e-mail us at [kjarrett@uab.edu](mailto:kjarrett@uab.edu).

### **CARSEF Category Descriptions**

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Cell Biology  
Cell and Molecular Genetics  
Immunology  
Molecular Biology  
Antibiotics, Antimicrobials  
Bacteriology  
Microbial Genetics  
Virology  
Animal Development  
Animal Ecology  
Animal Husbandry  
Animal Pathology  
Animal Physiology  
Animal Population Genetics  
Animal Systematics

Plant Systematics, Plant Genetics  
Plant Agriculture/Agronomy  
Photosynthesis  
Plant Evolution

#### **E. Mathematics and Computer Sciences**

Algebra  
Analysis  
Applied Mathematics  
Geometry  
Probability and Statistics  
Algorithms, Databases  
Artificial Intelligence  
Networking and Communications  
Computational Science, Computer Graphics  
Software Engineering, Programming Languages  
Computer System, Operating System

#### **B. Chemistry (including biochemistry)**

General Biochemistry  
Metabolism  
Structural Biochemistry  
Analytical Chemistry  
Inorganic Chemistry  
Organic Chemistry  
Physical Chemistry  
General Chemistry

#### **F. Medicine and Health Sciences**

Disease Diagnosis and Treatment  
Epidemiology  
Genetics  
Molecular Biology of Diseases  
Physiology and Pathophysiology

#### **C. Engineering**

Bioengineering  
Civil, Construction, Chemical, Industrial,  
Electrical, Computer, and  
Mechanical Engineering  
Processing  
Material Science  
Thermodynamics, Solar  
Robotics

#### **G. Physical Sciences (including space science)**

Astronomy  
Atoms, Molecules, Solids  
Biological Physics  
Instrumentation and Electronics  
Magnetics and Electromagnetics  
Nuclear and Particle Physics  
Optics, Lasers, Masers  
Theoretical Physics  
Theoretical or Computational Astronomy

#### **D. Environmental and Earth Science**

Climatology, Weather  
Geochemistry, Mineralogy  
Paleontology  
Geophysics  
Planetary Science  
Tectonics  
Air Pollution and Air Quality  
Soil Contamination and Soil Quality  
Water Pollution and Water Quality  
Bioremediation  
Ecosystems Management  
Environmental Engineering  
Land Resource Management, Forestry  
Recycling, Waste Management  
Plant Development  
Plant Ecology, Plant Physiology

#### **H. Behavioral and Social Sciences**

Clinical and Developmental Psychology  
Cognitive Psychology  
Physiological Psychology  
Sociology

#### **I. Energy and Transportation**

Aerospace and Aeronautical Engineering  
Aerodynamics  
Alternative Fuels  
Fossil Fuel Energy  
Vehicle Development  
Renewable Energies

# **“PROJECT / APPLICATION PAPERWORK TRAINING SESSIONS”**

**FOR THE UAB-CORD  
2016 CENTRAL ALABAMA REGIONAL  
SCIENCE AND ENGINEERING FAIR**

## **LOCATION**

**University of Alabama at Birmingham  
Center for Community OutReach Development (CORD)  
Community Health Services Bldg. (CHSB19)  
Room 501  
933 19th Street South, 5th Floor  
Birmingham, AL 35294-2041**

## **SESSION DATES**

*~All Sessions are from 10:00 am - 12:00 noon ~*

**JANUARY 23, 2016**

**Teacher/Parent/Student Training Session**

\*This session is for application/paperwork issues before application  
deadline on January 29, 2016\*

**FEBRUARY 20, 2016**

**Teacher/Parent/Student Session**

\*This session is for poster/project issues before the fair  
on March 5, 2016\*

**TO REGISTER FOR ONE OF THE “TRAINING SESSIONS”  
~CALL THE REGIONAL FAIR OFFICE AT CORD (205) 934-5125~**



## Dates to Remember

**January 29, 2016**  
**CARSEF Application**  
**Packet Deadline**

**March 5, 2016**  
**UAB Regional Fair (CARSEF)**  
(Birmingham, Alabama)

**April 1 - 2, 2016**  
**Alabama State Fair (ASEF)**  
(Huntsville, Alabama)

**May 8 - 13, 2016**  
**Intel International Fair (ISEF)**  
(Phoenix, Arizona)

### Sponsored in Part by:



## CARSEF At-A-Glance

7:00 - 8:30 am	Registration and Setup (Jr. & Sr. Division)
7:30 - 9:00 am	Display & Safety Review
8:00 - 9:00 am	Judges Briefing
9:00 - 10:00 am	Student/Parent Orientation
9:00 am - 12:00 pm	Judges Project Review (9-10am without students) (10am-12pm with students)
12:00 - 1:30 pm	Lunch
12:00 - 3:00 pm	Exhibit Hall Open to Public
1:00 - 4:00 pm	Judges Selection Session
1:30 - 3:30 pm	Campus Showcase
4:00 pm	Students Return to Rec. Center
4:30 - 5:30 pm	Awards Ceremony
5:30 - 6:30 pm	Project Breakdown (Jr. & Sr. Division)

Tentative Schedule  
(Subject to change)



## UAB-CORD 2016 Central Alabama Regional Science and Engineering Fair

For Middle and High School Students Grades 5-12

**Bibb**      **Elmore**  
**Blount**   **Etowah**  
**Calhoun**   **Jefferson**  
**Cherokee**   **Randolph**  
**Chilton**   **St. Clair**  
**Clay**      **Shelby**  
**Cleburne**   **Talladega**  
**Coosa**     **Walker**  
**Dekalb**    **Winston**



**March 5, 2016**

**UAB Campus Recreation Center**  
**1501 University Boulevard**  
**Birmingham, Alabama 35294**

## CARSEF

The University of Alabama at Birmingham (UAB) Center for Community Outreach Development (CORD) will host the Central Alabama Regional Science and Engineering Fair (CARSEF) at the UAB Campus Recreation Center, March 5, 2016. We will conduct the traditional fair, thus selecting students to compete at the Alabama State Science and Engineering Fair (ASEF) in Huntsville, Alabama, and the INTEL International Science and Engineering Fair (ISEF) in Phoenix, Arizona. Students who are unable to meet the ISEF timetable and/or requirements will be allowed to present at the regional fair and compete for the non-ISEF-related awards and prizes. Such students will not be eligible to advance to the State Fair and INTEL.



### Path to Intel ISEF

**To reach the Intel ISEF, students must participate in a high school or local science fair.**

Participation at the high school or local level enables students to compete in a regional or state fair (unless otherwise stated by your school rules).

Students are eligible to compete at the Intel ISEF if they win at the Regional or State level. The UAB-CORD Regional Science and Engineering Fair can send up to 4 finalists directly to the International Science and Engineering Fair.

## CARSEF Rules and Procedures

All students who wish to compete in the UAB Regional Fair must submit all required application forms by 5:00 pm, January 29, 2016. Forms may be e-mailed as PDFs, faxed or mailed to:

Central Alabama Regional Science and Engineering Fair (CARSEF)  
c/o CORD, Room 503, CHSB 19  
933 19th Street South  
Birmingham, AL 35294-2041

Phone: 205-934-5125

Fax: 205-934-5158

E-Mail: [kjarrett@uab.edu](mailto:kjarrett@uab.edu)

Visit our website, [www.uab.edu/cord](http://www.uab.edu/cord) and click on the [UAB-CORD Regional Science & Engineering Fair](#) link to find out more about CARSEF guidelines & requirements!

## CARSEF Application Forms

Application packets submitted to the CARSEF must include:

- UAB CARSEF Form (Individual or Team)
- Checklist for Adult Sponsor (Form I)
- Student Checklist (Form IA)
- Research Plan Form
- Approval Form (Form IB)
- Abstract and Certification Form

## General Science and Engineering Fair Requirements

Students who wish to compete for placement in the State or Intel ISEF must fulfill all timing issues and requirements of the International Fair. These include the following:

- 1) Any student in grades 9-12 or equivalent is eligible, none of whom has reached age 20 on or before May 1st preceding the Intel ISEF may compete in the Regional Senior Division. Any student in grades 5-8 may compete in the Regional Junior Division.
- 2) Each student may enter only one project which covers research done over a maximum of 12 continuous months between January 2014 and May 2015.
- 3) Team projects may have a maximum of three members.
- 4) Projects which are continuations of previous year's work and which require IRB/SRC approval must be re-approved prior to experimentation/data collection for the current year.
- 5) All projects must adhere to the Ethics Statement below.
- 6) Prior to experimentation, a local or regional Institutional Review Board (IRB) or Scientific review Committee (SRC) associated with the Intel ISEF-affiliated fair must review and approve project involving human participants, vertebrate animals, and potentially hazardous biological agents.

### ETHICS STATEMENT

Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include plagiarism, forgery, use or presentation of other researcher's work as one's own and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs or the Intel ISEF.