# THE $52^{\text {nd }}$ ANNUAL OZARKS SCIENCE \& ENGINEERING FAIR 

HAMMONS STUDENT CENTER MISSOURI STATE UNIVERSITY

April 3 - April 5, 2012


2012 WINNERS
Sponsored By:
Missouri State University - College of Natural \& Applied Sciences
Missouri State University Foundation
Associated Electric Cooperative, Inc.
Jordan Valley Innovation Center
Schneider Foundation
Positronic Industries
F \& H Food Equipment Company


# MASTER OF CEREMONIES 

MICHELLE NORGREN<br>EXECUTIVE DIRECTOR<br>OZARKS SCIENCE \& ENGINEERING FAIR<br>DR. TAMERA JAHNKE, DEAN<br>COLLEGE OF NATURAL \& APPLIED SCIENCES<br>PRESENTER OF AWARDS<br>

## OSEF COMMITTEE MEMBERS

EXECUTIVE DIRECTOR:
DISPLAY \& SAFETY:
ELEMENTARY FAIR:
PLACEMENT AWARDS:
SCIENCE DAY:
SPECIAL AWARDS:
VOLUNTEERS:

WEB PAGE DEVELOPMENT:

MICHELLE NORGREN
KEN MCCRORY
CHRISTINA KING
ADAM CRANE
KATHY SHADE
CHERYL SCHAEFER WRINKLE
SAMANTHA COOPER
CHRISTINA KING
LACEY GEIGER
SUE MCCRORY
LACEY GEIGER


## SCIENTIFIC REVIEW COMMITTEE

DR. TOM TOMASI, CHAIR
DR. JACK STEIERT, MICROBIOLOGY
BRIAN HIGH, CHEMISTRY
DR. MATTHEW FANETTI, HUMAN BEHAVIOR
DR. MICHAEL PFANDER, DVM, NONHUMAN VERTEBRATES


## SENIOR DIVISION GRAND PRIZE WINNERS \& ALTERNATES

(Grand Prize Awards Sponsored by: F \& H Food Equipment Company, Jordan Valley Innovation Center, Positronic Industries, Schneider Foundation \& Associated Electric Cooperative, Inc. - includes plaques \& trip to the Intel International Science \& Engineering Fair for the Grand Prize Winners.)

| GRAND PRIZE | Lauren Hargus <br> The Effect of the Chelator EDTA on the Enzymatic <br> Decomposition of $\mathrm{H}_{2} \mathrm{O}_{2}$ <br> Peggy Veach, Thayer High School |
| :--- | :--- |
| $\underline{\text { GRAND PRIZE }} \quad$Savannah Phifer <br> The Effects of Kefir <br> Pam Probert, Mansfield High School |  |
| $\underline{\text { GRAND PRIZE }} \quad$Meghan Hedden <br> The Effect of Curcumin on the Mitotic Division of <br> Allium Wakegi <br> Peggy Veach, Thayer High School |  |

(Grand Prize Alternate Awards sponsored by the Ozarks Science \& Engineering Fair; includes \$100 Cash Award.)

1st ALTERNATE Katie Hanson
Use Wood Additives to Remove Zinc Contamination
Pam Probert, Mansfield High School
2nd ALTERNATE Jennifer Wylie \& Abigail Wylie
The Effects of Caffeinated Coffee on Performance
Tabitha Shaver, Hartville High School

## IUNIOR DIVISION GRAND PRIZE WINNERS

 Sponsored by the Ozarks Science \& Engineering Fair( $\$ 75$ \& plaque to each Junior Grand Prize Winner \& Teacher; $\$ 75$ to each Junior Grand Prize Alternate \& Teacher)

| GRAND PRIZE | Justin Abresch <br> Take Your Vitamins <br> Jerry Thornsberry, Waynesville Middle School |
| :--- | :--- |
| ALTERNATE | Krista Shimizu <br> Got Milk? Not for Long! The Effects of Garlic on Preserving Milk <br> Laura Stroup, The Summit Preparatory |

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## JUNIOR DIVISION PLACEMENT AWARDS

## MEDICINE \& HEALTH (cont.)

| 3rd Place: | Pfifer Duerkop <br> Garlic Breath Or A Germy <br>  <br> Mouth? <br> Laura Stroup <br> The Summit Preparatory |
| :--- | :--- |
| 4th Place: | Hannah Talty <br> The Effect of Different <br> Exercises on the Heart <br> Miriam Jump <br> St. Joseph Catholic |

## MICROBIOLOGY

| 1st Place: | Mikaela Smith |
| :---: | :---: |
|  | Are Microbes My-Crobes? |
|  | Laura Stroup |
|  | The Summit Preparatory |
| 2nd Place: | Rose Huckfeldt |
|  | Spit Decision |
|  | Laura Stroup |
|  | The Summit Preparatory |
| 3rd Place: | Emily Barnes |
|  | Brushing Power |
|  | Debra Burgard |
|  | Manes R-5 Middle School |
| 4th Place: | Ashley McCoy |
|  | Effects of Bacterial |
|  | Growth on Animal Saliva |
|  | Lannie Hinote |
|  | Skyline Middle School |

PHYSICS

| 1st Place: | Allison Green <br> Bubble Gum Reveals a <br> Pedis to Mass |
| :--- | :--- |
|  | Relationship |
| Darlene Henne |  |
| Pleasant View Middle |  |
| 2nd Place: | Michael Sallee <br> The (N)Ice Show <br> Lynn Vogel <br> St. Agnes Middle School |

Ashley Pearce
Alicia Quick
Abrienna Burkhart
Liquid Magnets
Deborah Hawkins
Clever Middle School

## PHYSICS (cont.)

| 3rd Place: | Skyla Boyd <br> Effects of pH on |
| :--- | :--- |
|  | Absorbency |
|  | Lannie Hinote |
|  | Skyline Middle School |
|  | Jack Love |
|  | Paintball Accuracy |
|  | Laura Stroup |
|  | The Summit Preparatory |
| 4th Place: | Eric Munoz |
|  | Does Temperature Make |
|  | Tennis Balls Bounce? |
|  | Lynn Vogel |
|  | St. Agnes Middle School |
|  | Trenton Dobbs |
|  | The Effect of the Load |
|  | Position on the Travel |
|  | Distance |
|  | Debra Burgard |
|  | Manes R-5 Middle School |

ZOOLOGY

| 1st Place: | Katie Cardoza <br> Focus or No, That is the <br> Question <br> Laura Stroup <br> The Summit Preparatory |
| :---: | :--- |
| $2^{\text {nd }}$ Place: | Gaven Keith <br> Effects of Meat on Fish <br> Caught <br> Lannie Hinote <br> Skyline Middle School |
| 3rd Place: $\quad$Megan Thomas <br> Feathery Finds <br> Lynn Vogel |  |
| St. Agnes Middle School |  |



## MATH \& COMPUTERS

| 1st Place: | Andrew Gunnett <br> Birthday Paradox Reality <br> Ryan Edwards <br> Billings High School |
| :--- | :--- |
| 2nd Place: | Lexi Sherman <br> Correlation of Team Stats <br> with Team Success <br> Pam Probert <br> Mansfield High School |
| 3rd Place: | Ciara Montez <br> Tiling with Spidrons <br> Cindy Zind |
| Seymour High School |  |
| 4th Place: | Austin Stewart <br> A Novel Method of <br> Information Storage <br> Pam Probert <br> Mansfield High School |

## MEDICINE AND HEALTH

| 1st Place: | Lauren Hargus <br> The Effect of the Chelator <br> EDTA on the Enzymatic <br> Decomposition of $\mathrm{H}_{2} \mathrm{O}_{2}$ <br> Peggy Veatch <br> Thayer High School |
| :--- | :--- |
| $2^{\text {nd }}$ Place: | Savannah Phifer <br> The Effects of Kefir <br> Pam Probert |
| 3rd Place: | Rebsfield High School <br> Rebecca Abrudan <br> Ice Ice Baby: The <br> Development of a Reusable <br> Cold Pack <br> James Flora <br> Pleasant Hope High School |
|  |  |

4th Place: Taylour Arnall
Carlin Tompkins
Prescribing Potatoes: The
Effects of Solanum
Tuberosum on Blood
Pressure
Tabitha Shaver
Hartville High School

## MICROBIOLOGY

$\begin{array}{ll}\text { 1st Place: } & \text { Rebekah Dodge } \\ & \text { Can Physarum } \\ & \text { Polycephalum Find the } \\ & \text { Shortest Distance? } \\ & \text { Christina Shepard } \\ & \text { Nixa High School }\end{array}$
2nd Place: Katherine Ebersole
Aubrey Gardner
The Effects of Microbial
Agents in Liquid Foundation James Flora
Pleasant Hope High School
3rd Place: Canaan Kindle
Sam Appleby
Utilization of Various Food
Sources by Yeast
Pam Probert
Mansfield High School
4th Place: Allie Pritchett
The Effects of
Antimicrobials on the
Growth of E. coli
Christina Shepard
Nixa High School

## PHYSICS

1st Place: Emily Martina-Hood
Sound Meets Its Match
Christina Shepard
Nixa High School
2nd Place: Clay Smith
Jordan Lebahn
Effect of Adhesive and
Surface Integration
Pam Probert
Mansfield High School
3rd Place: Ashton Jones
Kristin Dorris
Sinister Cell Phones: The
Potential Effect of Cell
Phones on the Human
Body
Tabitha Shaver
Hartville High School
4th Place: Jaylin Dion-McEntyre Jones
What's The Point?
Kuishia Jones
Waynesville High School

ZOOLOGY

| 1st Place: | Spencer Haik |
| :---: | :---: |
|  | Effect of $\mathrm{CO}_{2}$ on Shell Formation |
|  | Steven Yonke |
|  | Glendale High School |
| 2nd Place: | Paige Grimes |
|  | Do Fish Have the Ability of |
|  | Memory Through Color |
|  | Recognition |
|  | Peggy Veatch |
|  | Thayer High School |
| $3{ }^{\text {rd }}$ Place: | Mackenzie Wheeler |
|  | Bird Color Attraction |
|  | Christina Shepard |
|  | Nixa High School |
| 4th Place: | Kaelan Travis |
|  | Does Rabbit Saliva Contain |
|  | Antimicrobial Properties? |
|  | Christina Shepard |
|  | Nixa High School |





| SPECIAJ」AWARDS |  |  |  |
| :---: | :---: | :---: | :---: |
| UNITED STATES NAVY/MARINE CORPS |  | THE REGIONAL FAIR DIRECTOR EMERITUS "SYLVIA SPEAR MEMORIAL | THE LAWRENCE E. BANKS, JR., MEMORIAL TECHNOLOGY FOR |
| Certificate of Award \& Medal |  | AWARD" | TEACHERS AWARD |
| Junior Division: | Krista Shimizu <br> The Summit Preparatory | \$25 Cash to a First Time Teacher | This award of $\$ 100$ cash and a certificate has been established in memory of Lawrence $E$. Banks, Jr., the former Dean of the Missouri |
|  | Skyler Grifin | Waynesville Middle School | State University College of Natural and |
|  | St. Agnes Middle School | THE JAMES K. TICE MEMORIAL TEACHER | Applied Sciences and a long-time friend and supporter of the Fair. |
|  | Mikaela Smith | AWARD |  |
|  | The Summit Preparatory | This award of \$100 cash and a certificate has | Dr. Banks was dedicated to education in the state of Missouri and was a strong proponent |
|  | Alison Green | been established in memory of James $K$. | of innovative educational projects at the K-12 |
|  | Pleasant View Middle | Tice, whose constant support and encouragement of Missouri's teachers and | level as well as higher education. In 2000, he received the Science Teachers' of Missouri |
|  | Katie Cardoza | students changed so many lives. | Distinguished Service Award in recognition of |
|  | The Summit Preparatory | Mr. Tice served for many years as a teacher, | his tireless support and commitment to science education. |
| Certificate of Award, Medal \& \$50 Cash |  | principal and superintendent of $K$ - 12 schools. Even after he retired from public education, |  |
| Senior Division: | Casey Weitzel | Mr. Tice continued his tireless dedication to | interest in technology, the recipient of this |
|  | Kate Hargis | improving educational opportunities for | award is encouraged to integrate technology |
|  | Parkview High School | everyone. He was devoted to creating learning communities, by integrating current | in their classroom. |
|  | Vinnie Marco | and emerging technologies into the | The recipient of this year's award is: |
|  | Hartville High School | classroom. |  |
|  | Emily Martina-Hood | Mr. Tice was a coach, a teacher, a mentor, a | Steve Yonke Glendale High School |
|  | Nixa High School | surrogate parent, and a friend. He never failed to say "I appreciate you". It is our hope | THE POSITRONIC TEACHER AWARD |
|  | Spencer Haik | that the recipient of this award also hears "We | THEPOSTRON |
|  | Glendale High School | appreciate you". | \$75 Cash Award |
| THE GARY KELL MEMORIAL AWARD |  | The recipient of this year's award is: | This cash award goes to the teacher (Junior or Senior Division) who has the most total |
| $\$ 250$ Cash Award to Teacher and \$250 Cash Award for Classroom Supplies |  | Ryan Edwards Billings High School | entries at the Fair: |
| Christina Shepard Nixa High School |  |  | Christina Shepard Nixa High School |
|  |  |  | OZARKS SCIENCE \& ENGINEERING FAIR |
| THE ROBERT W. PLASTER MEMORIAL |  |  | JUNIOR DIVISION TEACHER AWARDS |
| EXCELLENCE IN TEACHING AWARD |  |  |  |
| \$1,000 Cash Aw most Placement | do the Teacher with the wards in the Senior Division <br> tina Shepard <br> High School |  | This award of a Certificate of Award and a ticket to the Fair Recognition Breakfast is awarded to the teachers of the Junior Division First Place Category winners. The recipients of the Junior Division Teacher Awards for 2012 are: |
| THE MARY JEAN PLASTER MEMORIAL |  |  | Miriam Jump |
|  |  |  | Jerry Thornsberry |
| EXCELLENCE IN TEACHING AWARD |  |  | Laura Stroup |
|  |  |  | Debra Burgard |
| \$1,000 Cash Award to the Teacher with the |  |  | Lynn Vogel |
| Most Placement Awards in the Junior Division |  |  | Tim Harrison |
|  |  |  | Darlene Henne |

## SPECIAL AWARDS

OZARKS SCIENCE \& ENGINEERING FAIR
SENIOR DIVISION TEACHER AWARDS
This award of a Certificate of Award and a ticket to the Fair Recognition Breakfast is awarded to the teachers of the Senior Division First Place Category winners. The recipients of the Senior Division Teacher Awards for 2012 are:

Tabitha Shaver
Peggy Veach
Stephanie Blake
Allen VanNess
Pam Probert
Christina Shepard
Ryan Edwards
Steven Yonke

## OZARKS SCIENCE \& ENGINEERING FAIR

 JUNIOR DIVISION GRAND PRIZE TEACHER AWARDThis award of a plaque is awarded to the teacher of the Junior Division Grand Prize student project. The recipient of the OSEF Foundation Junior Division Grand Prize
Teacher Award for 2012 is:
Jerry Thornsberry
Waynesville Middle School

## OZARKS SCIENCE \& ENGINEERING FAIR

SENIOR DIVISION GRAND PRIZE TEACHER AWARD

This award of a plaque is awarded to the teacher(s) of the Senior Division Grand Prize student projects. The recipients of the OSEF Foundation Senior Division Grand Prize Teacher Award for 2012 is:

Peggy Veach
Thayer High School
Pam Probert
Mansfield High School

