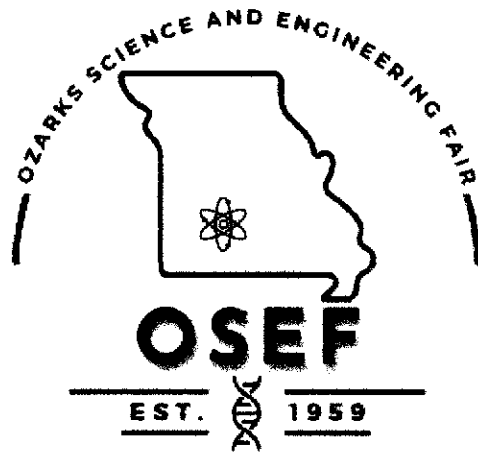


THE 66th ANNUAL OZARKS SCIENCE & ENGINEERING FAIR

HAMMONS STUDENT CENTER
MISSOURI STATE UNIVERSITY

April 2 through April 4, 2024

2024 WINNERS



Missouri State University – College of Natural & Applied Sciences
Missouri State University Foundation
Schneider Foundation
Cheryl Wrinkle



MASTER OF CEREMONIES

MICHELLE BREWER
EXECUTIVE DIRECTOR
OZARKS SCIENCE & ENGINEERING FAIR

DR. TAMERA JAHNKE, DEAN
COLLEGE OF NATURAL AND APPLIED SCIENCES
MISSOURI STATE UNIVERSITY
PRESENTER OF AWARDS



STEERING COMMITTEE MEMBERS

EXECUTIVE DIRECTOR:
DISPLAY & SAFETY:
PLACEMENT AWARDS:
SPECIAL AWARDS:
VOLUNTEERS:
MARKETING:

MICHELLE BREWER
TOM TOMASI
SAMANTHA COOPER
DENISE VINTON
HELLEN AKINYI
RYNE EMERICK



SCIENTIFIC REVIEW COMMITTEE

DR. TOM TOMASI, CHAIR
DR. MIRZA BABUR, MICROBIOLOGY
BRIAN HIGH, CHEMISTRY
DR. CARLY YADON, HUMAN BEHAVIOR
DR. MICHAEL PFANDER, DVM, NONHUMAN VERTEBRATES



SENIOR DIVISION GRAND PRIZE WINNERS & ALTERNATES

(Grand Prize Awards Sponsored by: MSU College of Natural & Applied Sciences, Schneider Foundation & Cheryl Wrinkle. - includes plaques & trip to the Regeneron International Science & Engineering Fair for the Grand Prize Winners.)

GRAND PRIZE

Joseph Tietze

Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft

Lebanon High School

Ryne Emerick

GRAND PRIZE

Nathan Wu

Detecting Early Melanoma Cancer via Machine Learning

Greenwood Lab School

Kristy Gilmore

1st ALTERNATE

Keith Bass

Implementation of a Proportional-Integral-Derivative (PID) Controller-emulating Feedforward Neural Network to Improve the Success Confidence of Autonomous Attitude Control for Low-Orbit Satellites

Camdenton High School

Andrew Fecteau

2nd ALTERNATE

Rylan Archer

Ionic Thrust: Manipulation of Electro-Hydrodynamics

Lebanon High School

Ryne Emerick

JUNIOR DIVISION GRAND PRIZE WINNERS

(Plaque to each Junior Grand Prize Winner & Teacher)

GRAND PRIZE

Sania Rehman

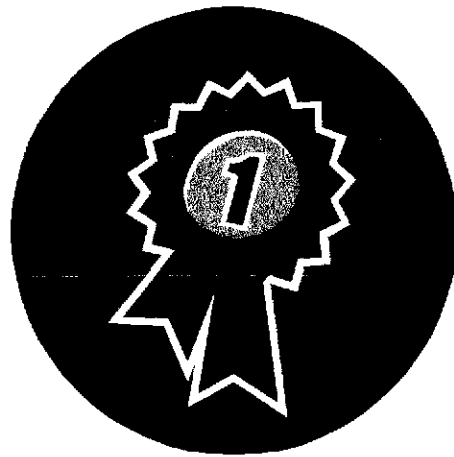
Facial Expression Recognition using Machine

Learning to predict Emotions

Scholars at Central

Elicia Ligon

THE 2024 JUNIOR DIVISION



PLACEMENT AWARD WINNERS!

Behavioral and Social Sciences

Junior

Honorable Mention

Clara Satterwhite	JR-BEH-0376	Scholars at Central
Whitley Dill	JR-BEH-0420	Marshfield R-1
Emma Morrison	JR-BEH-0420	Marshfield R-1

Third Place

Jackson Machin	JR-BEH-0396	Scholars at Central
Andy Jin	JR-BEH-0407	Scholars at Central

Second Place

Ethan Ethridge	JR-BEH-0361	Scholars at Central
Miho Yoshimatsu	JR-BEH-0399	Scholars at Central

First Place

Sania Rehman	JR-BEH-0478	Scholars at Central
--------------	-------------	---------------------

Category Awards Ceremony

Biochemistry

Junior

Second Place

Lyla Naslund	JR-BIO-0472	Camdenton Middle School
--------------	-------------	-------------------------

Botany

Junior

Honorable Mention

Gianna Toth	JR-BOT-0364	Scholars at Central
-------------	-------------	---------------------

Third Place

Elizabeth Cantrell	JR-BOT-0372	Scholars at Central
--------------------	-------------	---------------------

Second Place

Boston Hartman	JR-BOT-0423	Marshfield R-1
Archer Hoefler	JR-BOT-0423	Marshfield R-1

First Place

Jackson Bruns	JR-BOT-0475	Camdenton Middle School
---------------	-------------	-------------------------

Category Awards Ceremony

Chemistry

Junior

Honorable Mention

Matney Crawford	JR-CHE-0430	Marshfield R-1
Abigail Traugber	JR-CHE-0430	Marshfield R-1

Third Place

Devin Bhattacharyya	JR-CHE-0391	Scholars at Central
---------------------	-------------	---------------------

Second Place

Spencer Perl	JR-CHE-0500	Norwood R-1
--------------	-------------	-------------

First Place

Marion Miller	JR-CHE-0491	Norwood R-1
---------------	-------------	-------------

Category Awards Ceremony

Computer Science

Junior

Third Place

Gabriel Colvin	JR-COM-0412	Greenwood Lab School
Karamjot Singh	JR-COM-0412	Greenwood Lab School

Second Place

Micah Christian	JR-COM-0418	Marshfield R-1
Ethan Hammons	JR-COM-0418	Marshfield R-1
Adam Abdalla	JR-COM-0471	Greenwood Lab School

Earth and Planetary Science

Junior

Honorable Mention

Anna Harris	JR-EAR-0421	Marshfield R-1
Kason Peck	JR-EAR-0421	Marshfield R-1

Engineering

Junior

Honorable Mention

Jackson Henry	JR-ENG-0433	Marshfield R-1
Russell Johnson	JR-ENG-0433	Marshfield R-1
Braya Scott	JR-ENG-0479	Camdenton Middle School

Third Place

sawyer berkstresser	JR-ENG-0443	Marshfield R-1
Dylan Sowers	JR-ENG-0443	Marshfield R-1
Connor Boyle	JR-ENG-0446	Camdenton Middle School

Second Place

Noah Clark	JR-ENG-0439	Marshfield R-1
------------	-------------	----------------

First Place

Luke Patton	JR-ENG-0468	Camdenton Middle School
-------------	-------------	-------------------------

Environmental Sciences

Junior

Third Place

Linden Even	JR-ENV-0401	Scholars at Central
-------------	-------------	---------------------

Second Place

Cooper Self	JR-ENV-0469	Camdenton Middle School
-------------	-------------	-------------------------

First Place

Bryson Chadwell	JR-ENV-0493	Norwood R-1
-----------------	-------------	-------------

Category Awards Ceremony

Medicine and Health Sciences

Junior

Honorable Mention

Suhasmukul Santra	JR-MED-0366	Scholars at Central
-------------------	-------------	---------------------

Third Place

Ryan Radlund	JR-MED-0465	Camdenton Middle School
--------------	-------------	-------------------------

Second Place

Charles Boyle	JR-MED-0449	Camdenton Middle School
---------------	-------------	-------------------------

First Place

Zain Rehman	JR-MED-0467	Scholars at Central
-------------	-------------	---------------------

Category Awards Ceremony

Microbiology

Junior

Honorable Mention

Lindsleigh Todd	JR-MIC-0489	Norwood R-1
-----------------	-------------	-------------

Third Place

Ilyaan Khan	JR-MIC-0413	Greenwood Lab School
Taaha Khan	JR-MIC-0413	Greenwood Lab School
Cameron McQueary	JR-MIC-0413	Greenwood Lab School

Second Place

Chase Benedick	JR-MIC-0466	Camdenton Middle School
----------------	-------------	-------------------------

First Place

Maha Babur	JR-MIC-0365	Scholars at Central
------------	-------------	---------------------

Physics and Astronomy

Junior

Honorable Mention

Graham Heider	JR-PHY-0398	Scholars at Central
---------------	-------------	---------------------

Third Place

Arrington Knight	JR-PHY-0425	Marshfield R-1
------------------	-------------	----------------

Carli Massey	JR-PHY-0425	Marshfield R-1
--------------	-------------	----------------

Second Place

Brock Jensen	JR-PHY-0429	Marshfield R-1
--------------	-------------	----------------

Lincoln Perkins	JR-PHY-0429	Marshfield R-1
-----------------	-------------	----------------

First Place

Ian Johnson	JR-PHY-0470	Camdenton Middle School
-------------	-------------	-------------------------

Category Awards Ceremony

Zoology

Junior

Third Place

Greyson Wright	JR-ZOO-0368	Scholars at Central
Elizabeth Lawson	JR-ZOO-0402	Scholars at Central
Miranda Vancil	JR-ZOO-0480	Norwood R-1

Second Place

Lilly Finch	JR-ZOO-0486	Norwood R-1
-------------	-------------	-------------

First Place

Gavin Kurth	JR-ZOO-0459	Camdenton Middle School
-------------	-------------	-------------------------

THE 2024 SENIOR DIVISION



PLACEMENT AWARD WINNERS!

Behavioral and Social Sciences

Senior

Third Place

Katelyn Clouse SR-BEH-0410 Hartville High School

Second Place

Agata Golubchenko SR-BEH-0445 The Summit Preparatory School

Biochemistry

Senior

Honorable Mention

Haley Parker SR-BIO-0461 Hartville High School

Third Place

Max Hirschi SR-BIO-0452 Reeds Spring High School

Connor Love SR-BIO-0452 Reeds Spring High School

Category Awards Ceremony

Botany

Senior

Honorable Mention

Sophie Evans	SR-BOT-0490	Lebanon High School
--------------	-------------	---------------------

Third Place

Nicole Johnson	SR-BOT-0460	The Summit Preparatory School
----------------	-------------	-------------------------------

Second Place

Kelsey Daugherty	SR-BOT-0448	Lebanon High School
------------------	-------------	---------------------

First Place

Lindsey Prince	SR-BOT-0482	Lebanon High School
----------------	-------------	---------------------

Category Awards Ceremony

Chemistry

Senior

Third Place

Rielan Frisbie	SR-CHE-0455	Reeds Spring High School
Violet Hall	SR-CHE-0455	Reeds Spring High School
Alex Payne	SR-CHE-0455	Reeds Spring High School

Second Place

Sadie Rinck	SR-CHE-0499	Lebanon High School
-------------	-------------	---------------------

First Place

Allison Loughary	SR-CHE-0476	Springfield Central High School
------------------	-------------	---------------------------------

Computer Science

Senior

First Place

Nathan Wu	SR-COM-0485	Greenwood Lab School
-----------	-------------	----------------------

Category Awards Ceremony

Engineering

Senior

Honorable Mention

Baylee Randolph SR-ENG-0502 Lebanon High School

Third Place

Larry Quade SR-ENG-0501 Camdenton High School

Second Place

Rylan Archer SR-ENG-0462 Lebanon High School

First Place

Joseph Tietze SR-ENG-0473 Lebanon High School

Environmental Sciences

Senior

Honorable Mention

Talon Lemoine	SR-ENV-0450	Reeds Spring High School
Noah Norris	SR-ENV-0450	Reeds Spring High School
Iain Phillips	SR-ENV-0450	Reeds Spring High School

Third Place

Kasey Hicks	SR-ENV-0416	Lebanon High School
-------------	-------------	---------------------

Second Place

Sean Gallagher	SR-ENV-0415	Strafford Schools
----------------	-------------	-------------------

First Place

Mary Sellers	SR-ENV-0458	Reeds Spring High School
--------------	-------------	--------------------------

Medicine and Health Sciences

Senior

Third Place

Lucie Taylor SR-MED-0464 Hartville High School

Second Place

Jathin Bande SR-MED-0406 Springfield Central High School

Ethan Johnson SR-MED-0406 Springfield Central High School

First Place

Olivia McGruder SR-MED-0444 Lebanon High School

Microbiology

Senior

Third Place

Opal Antoszewski SR-MIC-0411 Lebanon High School

Second Place

Zebediah Bruna SR-MIC-0498 Lebanon High School

Category Awards Ceremony

Physics and Astronomy

Senior

First Place

Keith Bass

SR-PHY-0503

Camdenton High School

Zoology

Senior

First Place

Eleya Ligon

SR-ZOO-0359

Springfield Central High School

**THE 2024
JUNIOR & SENIOR
DIVISION**



**SPECIAL AWARD
WINNERS!**

Ozarks Science and Engineering Fair

ACS Chemistry Award-Junior Division

Marion Miller	The effect of fabric softer on flammability.	Norwood R-1
---------------	--	-------------

ACS Chemistry Award-Senior Division

Allison Loughary	An Investigation into the Effectiveness of Fingerprint Fuming	Springfield Central High School
------------------	---	---------------------------------

American Psychological Association

Agata Golubchenko	Importance of Psychology in Sport: Tools That Will Help Athletes Mental Preparation for Performance	The Summit Preparatory School
-------------------	---	-------------------------------

American Society of Mammalogists-Junior Division

Lilly Finch	The Relationship Between Mineral Blocks and Bull Preference.	Norwood R-1
-------------	--	-------------

DoD STEM Leadership Prize

Cooper Self	Slick Pistons	Camdenton Middle School
-------------	---------------	-------------------------

Grand Award - 1st Alt

Keith Bass	Implementation of a Proportional-Integral-Derivative (PID) Controller-emulating Feedforward Neural Network to Improve the Success Confidence of Autonomous Attitude Control for Low-Orbit Satellites	Camdenton High School
------------	--	-----------------------

Grand Award - 2nd Alt

Rylan Archer	Ionic Thrust: Manipulation of Electro-Hydrodynamics	Lebanon High School
--------------	---	---------------------

Grand Award - Jr

Sania Rehman	Facial Expression Recognition using Machine Learning to predict Emotions	Scholars at Central
--------------	--	---------------------

Grand Award - Sr

Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Nathan Wu	Detecting Early Melanoma Cancer via Machine Learning	Greenwood Lab School

Greater Ozarks Audubon Society-Conservation Award

Linden Even	The Final Straw	Scholars at Central
-------------	-----------------	---------------------

Ozarks Science and Engineering Fair

Lemelson Early Inventor Prize

Noah Clark	Automatic Dog Feeder	Marshfield R-1
------------	----------------------	----------------

Lisa Reece Memorial Award-Junior Division

Maha Babur	Microbes and Makeup Do different species of bacteria grow on the faces of people who wear makeup then those who dont?	Scholars at Central
------------	---	---------------------

Lisa Reece Memorial Award-Senior Division

Allison Loughary	An Investigation into the Effectiveness of Fingerprint Fuming	Springfield Central High School
------------------	---	---------------------------------

Lou and Nadine Moore Memorial Award

sawyer berkstresser	Saving our elders	Marshfield R-1
Dylan Sowers	Saving our elders	Marshfield R-1

Miles V. Barnhart Excellence in Science and Engineering Award

Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Nathan Wu	Detecting Early Melanoma Cancer via Machine Learning	Greenwood Lab School

Missouri Department of Conservation-Junior Division

Bryson Chadwell	The relationship between rotational grazing and N-P-K found in soil	Norwood R-1
-----------------	---	-------------

Missouri Department of Conservation-Senior Division

Mary Sellers	Educating the Future Generation on Invasive Species	Reeds Spring High School
--------------	---	--------------------------

Missouri State University Scholarship

Eleya Ligon	Maternal effects on the immune response of <i>Macrochelys temminckii</i>	Springfield Central High School
Olivia McGruder	Effects of Sodium Bicarbonate On Methotrexate Affected Livers in <i>Danio rerio</i> : An Embryological study	Lebanon High School
Mary Sellers	Educating the Future Generation on Invasive Species	Reeds Spring High School
Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Allison Loughary	An Investigation into the Effectiveness of Fingerprint Fuming	Springfield Central High School
Lindsey Prince	Unveiling Juglone's Potential: Targeting <i>Sericea lapedeza</i> in Invasive Plant Control	Lebanon High School
Nathan Wu	Detecting Early Melanoma Cancer via Machine Learning	Greenwood Lab School

Ozarks Science and Engineering Fair

Keith Bass	Implementation of a Proportional-Integral-Derivative (PID) Controller-emulating Feedforward Neural Network to Improve the Success Confidence of Autonomous Attitude Control for Low-Orbit Satellites	Camdenton High School
------------	--	-----------------------

MSPE Winners' Luncheon

Eleya Ligon	Maternal effects on the immune response of <i>Macrochelys temminckii</i>	Springfield Central High School
Olivia McGruder	Effects of Sodium Bicarbonate On Methotrexate Affected Livers in <i>Danio rerio</i> : An Embryological study	Lebanon High School
Mary Sellers	Educating the Future Generation on Invasive Species	Reeds Spring High School
Rylan Archer	Ionic Thrust: Manipulation of Electro-Hydrodynamics	Lebanon High School
Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Allison Loughary	An Investigation into the Effectiveness of Fingerprint Fuming	Springfield Central High School
Lindsey Prince	Unveiling Juglone's Potential: Targeting <i>Sericea lespedeza</i> in Invasive Plant Control	Lebanon High School
Nathan Wu	Detecting Early Melanoma Cancer via Machine Learning	Greenwood Lab School
Keith Bass	Implementation of a Proportional-Integral-Derivative (PID) Controller-emulating Feedforward Neural Network to Improve the Success Confidence of Autonomous Attitude Control for Low-Orbit Satellites	Camdenton High School

MSU CNAS Grand Prize Award-Junior Division

Sania Rehman	Facial Expression Recognition using Machine Learning to predict Emotions	Scholars at Central
--------------	--	---------------------

MSU CNAS Grand Prize Award-Senior Division

Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Nathan Wu	Detecting Early Melanoma Cancer via Machine Learning	Greenwood Lab School

MSU Dept of Biology Category Awards

Eleya Ligon	Maternal effects on the immune response of <i>Macrochelys temminckii</i>	Springfield Central High School
Kasey Hicks	Assessing the Impacts of Lead-Loaded Biochar Degradation on <i>Caenorhabditis elegans</i> Population Growth	Lebanon High School
Luicie Taylor	The Effects of Artificial Sweeteners on the Lifespan of <i>Drosophila melanogaster</i>	Hartville High School
Lindsey Prince	Unveiling Juglone's Potential: Targeting <i>Sericea lespedeza</i> in Invasive Plant Control	Lebanon High School
Zebediah Bruna	Enhancing EPS Degradation Through Probiotic Supplementation of <i>Zophobas morio</i>	Lebanon High School

MSU Dept. of Biology Category Awards-Junior Division

Ozarks Science and Engineering Fair

Maha Babur	Microbes and Makeup Do different species of bacteria grow on the faces of people who wear makeup then those who dont?	Scholars at Central
Suhasmukul Santra	Elucidating the Effects of Blood Types on Immunity and the Ability to Fight Infectious Diseases Better	Scholars at Central
Gavin Kurth	Crayfish mystery	Camdenton Middle School
Cooper Self	Slick Pistons	Camdenton Middle School
Jackson Bruns	Earth's Invisible Farmers	Camdenton Middle School

MSU Dept. of Biology Work Study Award

Zebediah Bruna	Enhancing EPS Degradation Through Probiotic Supplementation of Zophobas Morio	Lebanon High School
----------------	---	---------------------

NASA Earth System Science Award

Sean Gallagher	The effect of magnetic fields on hydrogen gas production rates from high-efficiency solar-powered water electrolysis with sodium hydroxide electrolyte.	Stafford Schools
----------------	---	------------------

NOAA Taking the Pulse of the Planet Award

Zebediah Bruna	Enhancing EPS Degradation Through Probiotic Supplementation of Zophobas Morio	Lebanon High School
----------------	---	---------------------

Regeneron Biomedical Science Award

Ethan Johnson	RAMDS: Retrieval Augmented Medical Diagnosis System	Springfield Central High School
Jathin Bande	RAMDS: Retrieval Augmented Medical Diagnosis System	Springfield Central High School

Ricoh Sustainable Development Award

Lindsey Prince	Unveiling Juglone's Potential: Targeting Sericea lespedeza in Invasive Plant Control	Lebanon High School
----------------	--	---------------------

Schneider Award - Junior Division

Ian Johnson	Take Me Out to the Ballpark	Camdenton Middle School
Jackson Bruns	Earth's Invisible Farmers	Camdenton Middle School
Sania Rehman	Facial Expression Recognition using Machine Learning to predict Emotions	Scholars at Central
Marion Miller	The effect of fabric softer on flammability.	Norwood R-1
Bryson Chadwell	The relationship between rotational grazing and N-P-K found in soil	Norwood R-1

Schneider Award - Senior Division

Eleya Ligon	Maternal effects on the immune response of <i>Macrochelys temminckii</i>	Springfield Central High School
Olivia McGruder	Effects of Sodium Bicarbonate On Methotrexate Affected Livers in <i>Danio rerio</i> : An Embryological study	Lebanon High School

Ozarks Science and Engineering Fair

Mary Sellers	Educating the Future Generation on Invasive Species	Reeds Spring High School
Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Allison Loughary	An Investigation into the Effectiveness of Fingerprint Fuming	Springfield Central High School

Smith Glynn Callaway Foundation-Junior Division

Maha Babur	Microbes and Makeup Do different species of bacteria grow on the faces of people who wear makeup then those who dont?	Scholars at Central
Charles Boyle	Smile Bright With Pearly Whites	Camdenton Middle School
Zain Rehman	Heart Disease Prediction through Ensemble Learning Techniques with Hyper Parameter Tuning	Scholars at Central
Sania Rehman	Facial Expression Recognition using Machine Learning to predict Emotions	Scholars at Central
Marion Miller	The effect of fabric softer on flammability.	Norwood R-1

Smith Glynn Callaway Foundation-Senior Division

Ethan Johnson	RAMDS: Retrieval Augmented Medical Diagnosis System	Springfield Central High School
Jathin Bande	RAMDS: Retrieval Augmented Medical Diagnosis System	Springfield Central High School
Olivia McGruder	Effects of Sodium Bicarbonate On Methotrexate Affected Livers in Danio rerio: An Embryological study	Lebanon High School
Agata Golubchenko	Importance of Psychology in Sport: Tools That Will Help Athletes Mental Preparation for Performance	The Summit Preparatory School
Allison Loughary	An Investigation into the Effectiveness of Fingerprint Fuming	Springfield Central High School
Zebediah Bruna	Enhancing EPS Degradation Through Probiotic Supplementation of Zophobas Morio	Lebanon High School

Society for In Vitro Biology

Zebediah Bruna	Enhancing EPS Degradation Through Probiotic Supplementation of Zophobas Morio	Lebanon High School
----------------	---	---------------------

Stan Howell Memorial Award

Jackson Bruns	Earth's Invisible Farmers	Camdenton Middle School
Lindsey Prince	Unveiling Juglone's Potential: Targeting Sericea lespedeza in Invasive Plant Control	Lebanon High School

Thermo Fisher Scientific Junior Innovators Challenge

Maha Babur	Microbes and Makeup Do different species of bacteria grow on the faces of people who wear makeup then those who dont?	Scholars at Central
Gavin Kurth	Crayfish mystery	Camdenton Middle School
Zain Rehman	Heart Disease Prediction through Ensemble Learning Techniques with Hyper Parameter Tuning	Scholars at Central
Luke Patton	Improving the Tools of Ignorance	Camdenton Middle School
Ian Johnson	Take Me Out to the Ballpark	Camdenton Middle School
Jackson Bruns	Earth's Invisible Farmers	Camdenton Middle School

Ozarks Science and Engineering Fair

Sania Rehman	Facial Expression Recognition using Machine Learning to predict Emotions	Scholars at Central
Marion Miller	The effect of fabric softer on flammability.	Norwood R-1
Bryson Chadwell	The relationship between rotational grazing and N-P-K found in soil	Norwood R-1

U.S. Agency for International Development (USAID)

Sadie Rinck	Feasibility of Lithium Sulfate and Other Concentrations in Place of Liquid Electrolytes in a Lithium Battery	Lebanon High School
-------------	--	---------------------

U.S. Metric Association

Luke Patton	Improving the Tools of Ignorance	Camdenton Middle School
-------------	----------------------------------	-------------------------

United States Air Force-Junior division

Russell Johnson	Wind powered generator	Marshfield R-1
Jackson Henry	Wind powered generator	Marshfield R-1

United States Air Force-Senior division

Joseph Tietze	Novel Application of Toroidal Propellers on Single Propeller Fixed-Wing Aircraft	Lebanon High School
Keith Bass	Implementation of a Proportional-Integral-Derivative (PID) Controller-emulating Feedforward Neural Network to Improve the Success Confidence of Autonomous Attitude Control for Low-Orbit Satellites	Camdenton High School

Women in Science-Junior Division

Maha Babur	Microbes and Makeup Do different species of bacteria grow on the faces of people who wear makeup then those who dont?	Scholars at Central
------------	---	---------------------

Women in Science-Senior Division

Kelsey Daugherty	Unveiling Salicylic Acid's Potential: Enhancing Tomato Plant Resilience Against Meloidogyne incognita Race 3	Lebanon High School
------------------	--	---------------------

Yale Science and Engineering Association

Keith Bass	Implementation of a Proportional-Integral-Derivative (PID) Controller-emulating Feedforward Neural Network to Improve the Success Confidence of Autonomous Attitude Control for Low-Orbit Satellites	Camdenton High School
------------	--	-----------------------

TEACHER AWARDS

THE ROBERT W. PLASTER MEMORIAL EXCELLENCE IN TEACHING AWARD

\$1,000 Cash Award and a certificate to the Teacher with the most Placement Awards in the Senior Division

Ryne Emerick
Lebanon High School

THE MARY JEAN PLASTER MEMORIAL EXCELLENCE IN TEACHING AWARD

\$1,000 Cash Award and a certificate to the Teacher with the Most Placement Awards in the Junior Division

Elicia Ligon
Scholars at Central

THE SYLVIA SPEAR MEMORIAL AWARD

\$50 Cash and a certificate to a First Time Teacher

Christian Madsen
Greenwood Lab Schools

THE JAMES K. TICE MEMORIAL TEACHER AWARD

This award of \$250 cash and a certificate has been established in memory of James K. Tice, whose constant support and encouragement of Missouri's teachers and students changed so many lives.

Mr. Tice served for many years as a teacher, principal and superintendent of K-12 schools. Even after he retired from public education, Mr. Tice continued his tireless dedication to improving educational opportunities for everyone. He was devoted to creating learning communities, by integrating current and emerging technologies into the classroom.

Mr. Tice was our coach, teacher, mentor, surrogate parent, and friend. He never failed to say "I appreciate you". It is our hope that the recipient of this award also hears "We appreciate you".

The recipient of this year's award is:

Aleth Rogers
Norwood R-1

THE LAWRENCE E. BANKS, JR., MEMORIAL TECHNOLOGY FOR TEACHERS AWARD

This award of \$250 cash and a certificate has been established in memory of Lawrence E. Banks, Jr., the former Dean of the Missouri State University College of Natural and Applied Sciences and a long-time friend and supporter of the Fair.

Dr. Banks was dedicated to education in the state of Missouri and was a strong proponent of innovative educational projects at the K-12 level as well as higher education. In 2000, he received the Science Teachers of Missouri Distinguished Service Award in recognition of his tireless support and commitment to science education.

In memory of Dr. Banks' enthusiasm and interest in technology, the recipient of this award is encouraged to integrate technology in their classroom.

The recipient of this year's award is:

Jennifer Cramer
Stoutland Schools

OZARKS SCIENCE & ENGINEERING FAIR JUNIOR DIVISION TEACHER AWARDS

This Certificate is awarded to the teachers of the Junior Division First Place Category winners. The recipients of the Junior Division Teacher Awards for 2024 are:

Elicia Ligon Amy Larrington
Central Scholars Camdenton Middle

Tim Mulford Aleth Rogers
Camdenton Middle Norwood R-1

OZARKS SCIENCE & ENGINEERING FAIR SENIOR DIVISION TEACHER AWARDS

This Certificate is awarded to the teachers of the Senior Division First Place Category winners. The recipients of the Senior Division Teacher Awards for 2024 are:

Ryan Emerick Elicia Ligon
Lebanon HS Central HS

Kristy Gilmore Richard White
Greenwood HS Reeds Spring

Andrew Fecteau
Camdenton HS

SCHNEIDER TEACHER RECOGNITION

In recognition of the time, effort, and dedication of our OSEF teachers over and above their regular classroom responsibilities.

\$500

\$750

Andrew Fecteau Amy Larrington
Tim Mulford Christian Madsen
Kristy Gilmore Aleth Rogers

Tabitha Shaver
Richard White

Jennifer Cramer
Bradley Pulliam

Tara Bonebrake

\$1,000

\$1,250

Ryne Emerick Elicia Ligon
Keaton Patterson
Aaron Tillman

OZARKS SCIENCE & ENGINEERING FAIR JUNIOR DIVISION GRAND PRIZE TEACHER AWARD

This 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 2024 is:

Elicia Ligon
Scholars at Central

TEACHER AWARDS

OZARKS SCIENCE & ENGINEERING FAIR **SENIOR DIVISION GRAND PRIZE** **ALTERNATES TEACHER AWARD**

This award of a certificate is awarded to the teacher(s) of the Senior Division Grand Prize Alternates student projects. The recipients of the OSEF Foundation Senior Division Grand Prize Alternates Teacher Award for 2024 is:

Andrew Fecteau
Camdenton High

Ryne Emerick
Lebanon High

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 2024 is:

Ryne Emerick
Lebanon High

Kristy Gilmore
Greenwood Lab School