

LRSEF

VIRTUAL FAIR

MASTERS

GE APPLIANCES a Haier company

2022

XG



AAK Louisville All4 Amazon SMILE American Society of Civil Engineers – Kentucky Section Anytime Waste Systems Atlas Technical Consultants Bakelite Synthetics Inc. **BC** Plumbing Company Carbide Industries, LLC Highlands Environmental, LLC Jefferson County Conservation District Kentuckiana Chapter of Hazardous Materials Managers Kentucky Gas Association

2022 Sponsors

Kentucky Science Center Kentucky Society of Professional Engineers **KPFF** Kroger Community Rewards Program Linebach Funkhouser, Inc. Louisville Chapter of Society for Neuroscience Louisville Water Company Lubrizol Advanced Materials Shield Environmental Associates, Inc. Specialty Earth Sciences Terracon Consultants, Inc. Trinseo The SESCO Group University of Michigan Alumni Club of Louisville



2022 Donors

Charlotte Gittelson Michael Gordon Corinne M. Greenberg CHMM* Leah Greenberg Jason B. Greenberg, Ph.D. Paul Greenberg Dara Griggs* Timothy Logan Griggs Cheryl Harris Amy Hall* Dawn Hall-Bibb* Tom Herman Ellen Hillenmeyer Sidonie Ho Isreal Hodges Jr.* Porsha Hodges Ravi Jayaram * **Glenda Jones** Joanne Kincaid Megean Kincaid Cheryl Kirby-Stokes

Maria Koetter Bryant Lewis Theola and Derrick Little Amy Lowen Elizabeth Mattei Eric Mattei Hope Mattei Dr. Michael Mattei Dr. Nicholas Mattei Theresa H. Mattei* Cristy McMahan George McNair* **Dorothy McNair** Keri Meador* Kate M Moreland Michael Moreland* Charles Muller Kaya Muller* Jennifer Mulvihill Ben Murr* Jessica Murr Chelsea Newhall

Bob Olsen* Mary Allen Peake Jeffrey Petruska* Sara Petruska Rhonda Poston* Terry A. Roach* Tracey Roach **Richard Sands** Catherine Senn Deborah Fuller Shwab* LS and Chandrika Srinivasan I-Hsuan Strauss Lindsay Strotman **Celeste Sutter** Karen Thompson Aimee Turner Kimberlee Turner Mike Turner Catherine Werner* F. Joseph Whittaker* Stuart J. Williams* Yinyin Wright

Susanne Wright Ethan Zitelli

In memory of Dr. Nancy Keck

In memory of Dr. Thomas H. Crawford

In honor of Dr. Robert Ackland & John Kurt Brueckner

*LRSEF Board of Directors



2022 Category Award Sponsors Junior

Animal Sciences (ANIM) — Shellie and Mark Garman Behavioral and Social Sciences (BEHA) — Kiwanis Club of Louisville

Biochemistry (BCHM) — In Memory of Dr. Nancy Keck Biomedical and Health Sciences (BMED) — In Honor of Dr. Robert Ackland & John Kurt Brueckner

Biomedical Engineering (ENBM) — Terracon Consultants, Inc.

Cellular and Molecular Biology (CELL) — The SESCO Group

Chemistry (CHEM) — In Memory of Dr. Thomas H.

Crawford

Computational Biology and Bioinformatics (CBIO) — Shield Environmental Associates Earth & Environmental Sciences (EAEV) — The Kentuckiana Chapter of Hazardous Materials Managers Engineering Mechanics (ENMC) — Specialty Earth Sciences

Environmental Engineering (ENEV) — AECOM Materials Science (MATS) — Lubrizol Advanced Materials Mathematics (MATH) — The Kentuckiana Chapter of Hazardous Materials Managers

Physics and Astronomy (PHYS) — Trinseo Plant Sciences (PLNT) — The Kentucky Chapter of the Air & Waste Management Association

Robotics and Intelligent Machines (ROBO) —

American Synthetic Rubber Co. (a Michelin company)



2022 Category Award Sponsors Senior

Animal Sciences (ANIM) — Highlands Environmental, LLC Behavioral and Social Sciences (BEHA) — Kiwanis Club of Louisville

Biochemistry (BCHM) — In Memory of Dr. Nancy Keck Biomedical and Health Sciences (BMED) — In Honor of Dr. Robert Ackland & John Kurt Brueckner

Biomedical Engineering (ENBM) — University of Michigan Alumni Club of Louisville

Chemistry (CHEM) — In Memory of Dr. Thomas H. Crawford

Computational Biology and Bioinformatics (CBIO) — The

Kentucky Chapter of the Air & Waste Management Association

Earth and Environmental Sciences (EAEV) — Linebach Funkhouser, Inc. Energy: Sustainable Materials and Design (EGSD) – The Werner Family

Environmental Engineering (ENEV) – All4 Materials Science (MATS) — Atlas Technical Consultants Microbiology (MCRO) — Anytime Waste Systems Plant Sciences (PLNT) — AAK Louisville Robotics and Intelligent Machines (ROBO) — American Synthetic Rubber Co. (a Michelin company) Systems Software (SOFT) — American Synthetic Rubber Co. (a Michelin company) Translational Medical Science (TMED) — Carbide Industries LLC



2022 Special Award Sponsors

School Awards for top three Junior & Senior Schools Sponsored by LRSEF: Trophies made by APAF Amazon Innovation Projects – KY Science & **Engineering Fair** American Chemical Society American Society of Civil Engineers/ Kentucky Section APAF– Asia Pacific American Forum of GE Appliances, a Haier Company Bakelite Synthetics Inc. **BC** Plumbing Company Best of Fair Awards – Junior & Senior, GE Appliances, a Haier Company Churchill Downs, Inc.

Jefferson County Conservation District Kentucky Chapter of Air & Waste Management Association Kentuckiana Chapter of Certified Hazardous Materials Managers Kentucky Gas Association **KPFF** Kentucky Science Center Kentucky Society of Professional Engineers Kentucky Science & Engineering Fair Louisville Chapter of the Society for Neuroscience Louisville Water Company Maryam's Charity, Inc













Turner Gooch

"Exploring Scale Remediation and pH"





Aisha Abdulbaqi

"The Effects of Surface Temperatures on the Visibility of Fingerprints"





Lucy Koerber

"Do Different Beverages or Artificial Sweeteners Affect Lactase Activity?"





Agnes Loeser "Milkweed Extract Impacts PTP-1B and Cell Division"





AMERICAN METEOROLOGICAL SOCIETY AWARD

Julia Keeney

"Carbon-Scrubbing Insulation with Polyurethane Foam"



American Meteorological Society



AMERICAN PSYCHOLOGICAL ASSOCIATION AWARD Margaret Meador

"The Effect of Rosa Damascena and Lavandula Angustifolia on Reducing Human Stress Levels"





AMERICAN SOCIETY OF CIVIL ENGINEERS AWARD

Todd Niemann

"Pier Brace: Shapes and Drag Resistance"





AMERICAN SOCIETY OF CIVIL ENGINEERS AWARD

Nate Shields

"Exploring Tsunami Wave Energy Dissipators"



LRSEF 2022 VIRTUAL FAIR

ASM MATERIALS EDUCATION FOUNDATION

Lila Glaser

"The Effects of Thermochromic Pigments on Bioplastics"





ASM MATERIALS EDUCATION FOUNDATION

Finn Oetken

"Exploring the Creation of Electrically Conductive Glass"





ASSOCIATION FOR WOMEN GEOSCIENTISTS AWARD Johanna Hawley

"Does the Sinuosity of Streams Affect Erosion?"





ASSOCIATION FOR WOMEN GEOSCIENTISTS AWARD

Ellie Jones "Exploring How Temperature Affects Magnet Strength"





COMMUNITY IMPACT AWARD

Francis Fendig

"Electrolytes and Membranes Roles in Hydrogen Production Through Electrolysis"





CREATIVE PROJECT AWARD

Gavin Thomson

"Functional Physics: Sound Analysis Using Machine Learning"





BC PLUMBING COMPANY AWARD

Turner Gooch

"Exploring Scale Remediation and pH"





Amina Albarqawi

"The Impact of Aquaponic and Soil Systems on the Growth of Radish Plants"





Grady Amick

"Brace Yourself: A Device Monitoring Medical Device Usage Compliance"



LRSEF 2022 VIRTUAL FAIR

Iris Apple

"Signaling Transduction and Learning: A Molecular Basis in Plants"



LRSEF 2022 VIRTUAL FAIR

Drew Ashley

"Phylogenetic Analysis of Omicron Gene Sequences in the Kentuckiana Region"





Annika Chadha

"Building an Air Flow Sensor to Monitor Room Air Replacement for Safety Against COVID and Other Diseases"





Grayson Clark

"Grayson's Science Fair on Distracting Noises"



LRSEF 2022 VIRTUAL FAIR

Tasneem Faiz

"The Effect of Solution Type on Electrolyte Levels"





Maxwell Griffin

"Star Track: An Automated Radio Telescope"





"Carbon-Scrubbing Insulation with Polyurethane Foam"





Maylin Kidwell

"Do Pips on Gaming Dice Introduce a Bias?"



LRSEF 2022 VIRTUAL FAIR

Ifrah Shaik

"PostureBeepAI: Posture Detection and Alert Program"





Shazia Shaik

"Project DeepWater: Using AI Deep Learning for Water Quality"





BROADCOM MASTERS NOMINEES

Katelyn Stroud

"Crumb Rubber Playground Pads May Cause Cell Toxicity in Children"





BROADCOM MASTERS NOMINEES

James Welch

"Creating a Robotic Gripper"





CHURCHILL DOWNS ENGINEERING AWARD

Emary Thomas "The Effects of Sucralose on Mystery Snails' Behaviors"





DEPARTMENT OF DEFENSE STEM LEADERSHIP PRIZE

Maxwell Griffin

"Star Track: An Automated Radio Telescope" Sacred Heart Model School, Louisville, KY





GE ASIAN PACIFIC AMERICAN FORUM -CLEAR THINKER AWARD Annika Chadha

"Building an Air Flow Sensor to Monitor Room Air Replacement for Safety Against COVID and Other Diseases"



GE APPLIANCES a Haier Company Asian Pacific American Forum



GIBSON FAMILY AWARD

Shazia Shaik

"Project DeepWater: Using AI Deep Learning for Water Quality"



JEFFERSON COUNTY CONSERVATION DISTRICT AWARD 1st PLACE Amina Albarqawi

"The Impact of Aquaponic and Soil Systems on the Growth of Radish Plants"





JEFFERSON COUNTY CONSERVATION DISTRICT AWARD 2nd PLACE Jacob Quinn

"Seeing the Effects That Antioxidants Have on Biofuel Raw Material





JEFFERSON COUNTY CONSERVATION DISTRICT 3rd PLACE Johanna Hawley "Does the Sinuosity of Streams Affect Erosion?"





AMAZON INNOVATION AWARD

Octane Hinojosa "Copper vs Silicon Solar Cell"





AMAZON INNOVATION AWARD

Ester Line

"Exploring The Impacts of Covid Mask Wearings on Exercise"





AMAZON INNOVATION AWARD

Hayden Ramsey

"Parkinson's Disease: Exploring The Combined Exposure Of Herbicides"





KPFF ENGINEERING ACHIEVEMENT AWARD

Zoey Van Zee "Truss Me, I'm an Engineer"





KENTUCKY CHAPTER OF AIR & WASTE MANAGEMENT AWARD

Josie Dunn

"Metal Remediation Using Fish Bones"





LOUISVILLE WATER COMPANY AWARD

Josie Dunn

"Metal Remediation Using Fish Bones"

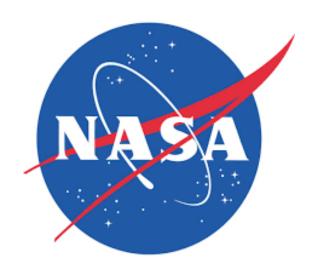




NASA EARTH SYSTEMS SCIENCE AWARD

Kai Nakamura

"Comparing Thrust Production: Exploring Potassium Chlorate and Nitrate"





THAT'S GEOGRAPHY! CULTIVATING EMPATHY FOR THE EARTH AWARD Charles Hummel

"Exploring the Effect of Mixed Plastic Leachates on Human and Soil Bacteria"





NATIONAL OCEANIC & ATMOSPHERIC ASSOCIATION AWARD

Nate Shields

"Exploring Tsunami Wave Energy Dissipators"





OFFICE OF NAVAL RESEARCH AWARD

Luke Conway

"Hydrophobic Coatings Effect Submarine Skin Friction?"





OFFICE OF NAVAL RESEARCH AWARD

Meredith Elder

"Exploring Power Line Galloping"





OFFICE OF NAVAL RESEARCH AWARD

Lucy Koerber

"Do Different Beverages or Artificial Sweeteners Affect Lactase Activity?"





RICOH USA, INC. AWARD

Todd Niemann

"Pier Brace: Shapes and Drag Resistance"

RICOH imagine. change.



LEMELSON EARLY INVENTOR PRIZE

Drew Ashley

"Phylogenetic Analysis of Omicron Gene Sequences in the Kentuckiana Region" St. Francis of Assisi School, Louisville, KY





U.S. AIR FORCE ACHIEVEMENT AWARD

Elli Keeley-Fine

"A Concern for Veterans: Exploring Plastic Burn Pit Smoke Toxicity







U.S. METRIC ASSOCIATION AWARD

Lucy Koerber

"Do Different Beverages or Artificial Sweeteners Affect Lactase Activity?"





AMERICAN CHEMICAL SOCIETY AWARD

Samahir Dirie

"Skin Moisturizer"





AMERICAN CHEMICAL SOCIETY Sydney Breitenstein & Isabella Keyzer

"How is Water's Ability to Freeze Affected By Other Substances?"





AMERICAN CHEMICAL SOCIETY AWARD

Krish Gupta

"Biodegradation of Phthalate Esters in Landfills using Bacterial Dehydrogenase Consortium"





AMERICAN CHEMICAL SOCIETY AWARD

Magaret Beatty

"Kentucky Native Plants: Agents Against Cancer?"





AMERICAN PSYCHOLOGICAL ASSOCIATION

Suchita Tipirneni

"Now You See Me, Now You Don't..."



American Psychological Association



COMMUNITY IMPACT AWARD

Gia Patel

"Which Product Works Best for People With Eczema?"



LRSEF 2022 VIRTUAL FAIR

CREATIVE PROJECT AWARD

Magaret Beatty "Kentucky Native Plants: Agents Against Cancer?"





BC PLUMBING COMPANY AWARD

Menah Ali & Maggie Hall "Does Salt Make Water Boil Faster?"





FIRST BUILD SCHOLARSHIP Nishu Anekere, Harrison Gover & Sahil Krishnani

"Water Pollution Detection Using Autonomous Drone Hardware and Software"



LRSEF 2022 VIRTUAL FAIR

FIRST BUILD SCHOLARSHIP AWARD

Logan Lewis

"The Spectrominator - A Transversely Excited Atmospheric Lasing System"





GE ASIAN PACIFIC AMERICAN FORUM -CLEAR THINKER AWARD Zaheeb Tariq

"Making Accessing Information Easy Using an Automated System with Python"



GE APPLIANCES a Haier Company Asian Pacific American Forum



GIBSON FAMILY AWARD

Taylor Thompson

"Future of Farming: How Does the Way We Farm Affect the Results?"



AMAZON INNOVATION AWARD

Tanner Aslan

"Exploring Inverse Kinematics & Procedural Animation"





Nishu Anekere, Harrison Gover, Sahil Krishnani

"Water Pollution Detection Using Autonomous Drone Hardware and Software"





KPFF ENGINEERING ACHIEVEMENT AWARD

Andrew Key & Isaac Meffert





KY AIR & WASTE MANAGEMENT ASSOCIATION WASTE MANAGEMENT & CONSERVATION AWARD Krish Gupta

"Biodegradation of Phthalate Esters in Landfills using Bacterial Dehydrogenase Consortium"





KENTUCKY CHAPTER OF CERTIFIED HAZARDOUS MATERIALS MANAGERS AWARD

Journee Abernathy

"Can Microorganisms Mitigate Plants with High Levels of Salt?"





KENTUCKY CHAPTER OF CERTIFIED HAZARDOUS MATERIALS MANAGERS AWARD

Dorcas Matsoumou

"The Purification Process of a Valuable Resource"





LOUISVILLE CHAPTER OF THE SOCIETY FOR NEUROSCIENCE AWARD Suchita Tipirneni "Now You See Me, Now You Don't..."



LRSEF 2022 VIRTUAL FAIR

MU ALPHA THETA NATIONAL MATHEMATICS HONOR Dane Paprocki "Can Humans Generate Truly Random Numbers?"







MU ALPHA THETA NATIONAL MATHEMATICS Veenasravani Pendyala

"The Sensory Potential of Synaptopodin³







OFFICE OF NAVAL RESEARCH AWARD

Sophia Cheng

"The Most Efficient Method of Cleaning Oil Spills to Prevent Further Marine Pollution"





OFFICE OF NAVAL RESEARCH AWARD

Sahil Chhabra

"Genome Engineering of Bacteriophage MooMoo"





OFFICE OF NAVAL RESEARCH AWARD

Vaishu Pendyala

"Impact of Chemokines on Immune Cells in Pediatric Medulloblastoma Tumor Cells"





RICOH USA, INC. AWARD

Paris Boles & Lillian Long

"Hydroponic Lettuce"

RICOH imagine. change.



SOCIETY FOR IN VITRO BIOLOGY AWARD

Journee Abernathy

"Can Microorganisms Mitigate Plants with High Levels of Salt?"





STOCKHOLM JUNIOR WATER PRIZE

Amelia Dries

"pH Levels in the Ohio River"





STOCKHOLM JUNIOR WATER PRIZE

Aryanna Fisher

"Capillary Action"





U.S. AGENCY FOR INTERNATIONAL DEVLOPMENT (USAID) SCIENCE CHAMPION Kevin Brothersward

"Found: Reuniting Families Using Facial Recognition"





U.S. AGENCY FOR INTERNATIONAL DEVLOPMENT (USAID) SCIENCE CHAMPION Krithik Nadimpaiy

"The Road to Developing an Artificial Pancreas"





U.S. AIR FORCE ACHIEVEMENT AWARD

Eldino Kilim

"Can The Shape of an Airfoil Effect Fuel Consumption?"







U.S. METRIC ASSOCIATION AWARD

Veenasravani Pendyala

"The Sensory Potential of Synaptopodin"





YALE SCIENCE & ENGINEERING ASSOCIATION AWARD

Karthik Nadimpally

"Using Multivariate Time Series Forecasting Neural Networks" to Predict Stock Prices"



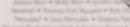


F 2020 sponsors 1 Salts and half it is

ANCES

or secondary

Non-Rosen Support of Support Bill Support And the state of t the of a local descent of a support of with here are + logers 5. The lowership havened



Managara Superior

CATEGORY AWARDS

Research Johnson press AATS.

> Water and Ascorney Page - 8475-3

Oliver Zitzer

"The Effect of Noise Pollution on Fish"

Sponsored By:





Emary Thomas

"The Effects of Sucralose on Mystery Snails' Behaviors"

Sponsored By:





"Does Climate Change Affect Growth in Vanessa Cardui Butterfly?"

Sponsored By:





Emma Diehl

"Exploring the Purpose of Cicada Distress Call"

Sponsored By:





ANIMAL SCIENCES HIGH SCHOOL

Brooke Bond

"Music Affecting Behavior"

Sponsored By:



HIGHLANDS ENVIRONMENTAL, LLC Environmental Consulting





ANIMAL SCIENCES HIGH SCHOOL

Samuel Shumway

"How Does Ants' Speed Change Based on the Repetition of Traveled Pheromone Paths?"

Sponsored By:



HIGHLANDS ENVIRONMENTAL, LLC Environmental Consulting





ANIMAL SCIENCES HIGH SCHOOL

Bhavyasree Puchakayala

"The Perfect Environment for Terrestrial Isopods"

Sponsored By:



HIGHLANDS ENVIRONMENTAL, LLC Environmental Consulting





Bella Holtgrave

"Implicit, Explicit Attitudes and Impulsivity and Alcohol Use In Teens"







Gracyn Stockwell

"Does an Elevated Heart Rate Affect Decision Making in Children?"







Sam Church

"Reaction Time to Senses: Does Smell Matter?"







Grayson Clark

"Grayson's Science Fair on Distracting Noises"







BEHAVIORAL & SOICAL SCIENCES Renelleda Saint-Hilaire & Andrea Salazar Cortez

"The Effects of Social Classes on Weight Loss"







BEHAVIORAL & SOICAL SCIENCES HIGH SCHOOL

Safi Fofana

"The Effect of the Tempo of Music on People's Mood"







BEHAVIORAL & SOICAL SCIENCES HIGH SCHOOL

Aisha Mullick

"Effects of Different Pressure Types of the Development of Muscle Dysmorphia in High School Students"

Sponsored By:







BEHAVIORAL & SOICAL SCIENCES HIGH SCHOOL

Suchita Tipirneni

"Now You See Me, Now You Don't..."

Sponsored By:







Ellery Reynolds

"A Molecular Exploration: Vinyl Flooring and its Role in Leukemia"

Sponsored By:





"Milkweed Extract Impacts PTP-1B and Cell Division"

Sponsored By:





Lucy Koerber

"Do Different Beverages or Artificial Sweeteners Affect Lactase Activity?"

Sponsored By:





BIOCHEMISTRY HIGH SCHOOL

" **Magaret Beatty**"Kentucky Native Plants: Agents Against Cancer?"

Sponsored By:





BIOCHEMISTRY HIGH SCHOOL

Krish Gupta

"Biodegradation of Phthalate Esters in Landfills using Bacterial Dehydrogenase Consortium"

Sponsored By:





George Bryant

"Designing an Early Detection Device for Diabetic Neuropathy"

Sponsored By:





Ethan Reynolds

"Designing a Heel Cup for Sever's Disease"

Sponsored By:





Grady Amick

"Brace Yourself: A Device Monitoring Medical Device Usage Compliance"

Sponsored By:





Callan Petruska

"Testing the Properties of Agarose Axonal Conduits"

Sponsored By:





BIOMEDICAL ENGINEERING HIGH SCHOOL

Krithik Nadimpally "The Road to Developing an Artificial Pancreas"

Sponsored By:



Alumni Club of Louisville, KY





BIOMEDICAL ENGINEERING HIGH SCHOOL

Bismah Rana

"Non-Invasive Glucose Monitoring"

Sponsored By:



Alumni Club of Louisville, KY





Hayden Ramsey

"Parkinson's Disease: Exploring The Combined Exposure Of Herbicides"

Sponsored By:





Margaret Meador

"The Effect of Rosa Damascena and Lavandula Angustifolia on Reducing Human Stress Levels

Sponsored By:





Elli Keeley-Fine

"A Concern for Veterans: Exploring Plastic Burn Pit Smoke Toxicity"

Sponsored By:





Tasneem Faiz

"The Effect of Solution Type on Electrolyte Levels"

Sponsored By:





BIOMEDICAL & HEALTH SCIENCES HIGH SCHOOL

Emmanuel Edwards

"The Effects of Music on Pulse and Respiration"

Sponsored By:





BIOMEDICAL & HEALTH SCIENCES HIGH SCHOOL

Katy Cano "Real Scent Vs. Artificial Scent"

Sponsored By:





BIOMEDICAL & HEALTH SCIENCES

Katey Buszkiewicz

"Comparison Between Family Fingerprints"

Sponsored By:





BIOMEDICAL & HEALTH SCIENCES HIGH SCHOOL

Benjamin Cullens & Abby Ramsey "The Effect of Sugary Drinks on Tooth Color"

Sponsored By:





CELLULAR & MOLECULAR BIOLOGY Katelyn Stroud

"Crumb Rubber Playground Pads May Cause Cell Toxicity in Children"

Sponsored By:







CELLULAR & MOLECULAR BIOLOGY Charlotte Connally

"Synergism: Magnetic Fields Decrease the Need for a Novel Cancer Therapy"

1st

Sponsored By:







CELLULAR & MOLECULAR BIOLOGY Zaynab Pervez

"Endogenous Dipeptides Regulate Myosin ATPase During Skeletal Muscle Aging"





CELLULAR & MOLECULAR & MOLECULAR BIOLOGY HIGH SCHOOL

"Do Citric Acid Sensitive Taste Neurons Innervate More Taste Bud Cells that Transduce Sour Tastes?"





CELLULAR & MOLECULAR BIOLOGY Veenasravani Pendyala

"The Sensory Potential of Synaptopodin"





"Avoiding Cancer: Nitrates and Nitrites in Vegetables"

Sponsored By:





Kai Nakamura

"Comparing Thrust Production: Exploring Potassium Chlorate and Nitrate

Sponsored By:





Aisha Abdulbaqi

"The Effects of Surface Temperatures on the Visibility of Fingerprints

Sponsored By:





Turner Gooch

"Exploring Scale Remediation and pH"

Sponsored By:







Maggie Hall & Menah Ali "Does Salt Make Water Boil Faster?"

Sponsored By:







Hadley Pearls Project"

Sponsored By:





CHEMISTRY HIGH SCHOOL

Sydney Breitenstein & Isabella Keyzer

"How is Water's Ability to Freeze Affected by Other Substances?"

Sponsored By:







Samahir Dirie

"Skin Moisturizer"

Sponsored By:





COMPUTATIONAL BIOLOGY & BIOINFORMATICS Jacob Holtgrave

"Does Smoking Increase the Risk & Severity of Skin Cancer"

Sponsored By:







COMPUTATIONAL BIOLOGY & BIOINFORMATICS Drew Ashley

"Phylogenetic Analysis of Omicron Gene Sequences in the Kentuckiana Region"

Sponsored By:







COMPUTATIONAL BIOLOGY & BIOINFORMATICS Andrew Park

"Identifying the Transcription, Translation, and Functionality of Circular RNAs Using High-Throughput Sequencing Data"







COMPUTATIONAL BIOLOGY & BIOINFORMATICS Sharini Shah

"Outcomes of Tricuspid Valvectomies on IV Drug Users with Infective Endocarditis"







COMPUTATIONAL BIOLOGY & BIOINFORMATICS HIGH SCHOOL Bella Norman & Sarisha Lohano

"Predicting Mycobacteriophage Gene Start Sites Using Artificial Intelligence"







COMPUTATIONAL BIOLOGY & BIOINFORMATICS HIGH SCHOOL "Analysis on an Extend Chronic Wound Model"







EARTH & ENVIRONMENTAL SCIENCE Patrick Galla

"Exploring Microfiber Migration in Soil"







EARTH & ENVIRONMENTAL SCIENCE Johanna Hawiey

"Does the Sinuosity of Streams Affect Erosion?"







EARTH & ENVIRONMENTAL SCIENCE Jackson Briley

"Effects of Foliage Density on Near Road Pollution Levels"







EARTH & ENVIRONMENTAL SCIENCE HIGH SCHOOL Jamiah Brown

"How does acid rain effect soil?"

Sponsored By:



Linebach • Funkhouser, Inc. environmental compliance & consulting





EARTH & ENVIRONMENTAL SCIENCE HIGH SCHOOL Aiddan Robinson & Ben Kane

"Fluidized Bed Salt"

Sponsored By:



Linebach • Funkhouser, Inc. environmental compliance & consulting





EMBEDDED SYSTEMS MIDDLE SCHOOL

Elise Aubrey

"The Cane-Eye: A Pothole-detecting Cane for the Visually Impaired"





EMBEDDED SYSTEMS MIDDLE SCHOOL

Louie Murr

"Developing an Artificially Intelligent Device to Detect Vape Use"





EMBEDDED SYSTEMS MIDDLE SCHOOL

Annika Chadha

"Building an Air Flow Sensor to monitor room air replacement for safety against COVID and other diseases"





EMBEDDED SYSTEMS HIGH SCHOOL Sahil Krishnani, Nishu Anekere & Harrison Gover

"Water Pollution Detection Using Autonomous Drone Hardware and Software"





ENERGY: SUSTAINABLE MATERIALS & DESIGN MIDDLE SCHOOL Thomas Galla

"Improving Dye-Sensitized Solar Cells with Sodium Alginate"





ENERGY: SUSTAINABLE MATERIALS & DESIGN MIDDLE SCHOOL Jacob Quinn

"Seeing the Effects That Antioxidants Have on Biofuel Raw Material"





ENERGY: SUSTAINABLE MATERIALS & DESIGN MIDDLE SCHOOL Frances Fendig

"Electrolytes and Membranes Roles in Hydrogen Production Through Electrolysis"





ENERGY: SUSTAINABLE MATERIALS & DESIGN MIDDLE SCHOOL Emily Koch-Serrano

"Constructing PEM Fuel Cells"





ENERGY: SUSTAINABLE MATERIALS & DESIGN MIDDLE SCHOOL LAMYA HICKMAN

"The Effect of Storage Temperature on Batteries Lifespan"





ENERGY: SUSTAINABLE MATERIALS & DESIGN HIGH SCHOOL Malachi Barnes

"How Extreme Cold Effects Batteries, and How We Can lessen the Effect"

Sponsored By:

The Werner Family





ENERGY: SUSTAINABLE MATERIALS & DESIGN Matthew Casey, Isaac Miller & Hool Andrew Coleman

"Fuel Cell Car"

Sponsored By:

The Werner Family





ENGINEERING TECHNOLOGY: STATICS & DYNAMICS MIDDLE SCHOOL ZOEY VAN ZEE

"Truss Me, I'm an Engineer"







ENGINEERING TECHNOLOGY: STATICS & DYNAMICS MIDDLE SCHOOL MIDDLE SCHOOL

"Exploring Power Line Galloping"







ENGINEERING TECHNOLOGY: STATICS & DYNAMICS MIDDLE SCHOOL MASON NUNN

"Exploring Earthquake Tuned Mass Dampers"







ENGINEERING TECHNOLOGY: STATICS & DYNAMICS MIDDLE SCHOOL MAXWEIL Griffin

"Star Track: An Automated Radio Telescope"







ENGINEERING TECHNOLOGY: STATICS & DYNAMICS HIGH SCHOOL Addison Siwicki

"Mousetrap Powered Vehicle"





ENGINEERING TECHNOLOGY: STATICS & DYNAMICS HIGH SCHOOL Eldino Kilim

"Can The Shape of an Airfoil Effect Fuel Consumption?"





Seth Niemann

"Increasing Milkweed Effectiveness to Clean Oil Spills with Desiccants"







Mckenna Riley

"Exploring Microfiber Remediation with Food Waste"







Julia Keeney

"Carbon-Scrubbing Insulation with Polyurethane Foam"







Josie Dunn

"Metal Remediation Using Fish Bones"







Malick Diallo

"Comparison Between Natural and Synthetic Material Water Filters"







Sophia Cheng

"The Most Efficient Method of Cleaning Oil Spills to Prevent Further Marine Pollution"







Dorcas Matsoumou

"The Purification Process of a Valuable Resource"







Journee Abernathy

"Can Microorganisms Mitigate Plants with High Levels of Salt?"







MATERIALS SCIENCE MIDDLE SCHOOL Reagan Fleming

"Exploring Strengths of Bio-plastics After Exposed to Sunlight Using Antioxidants"







MATERIALS SCIENCE MIDDLE SCHOOL

Finn Oetken

"Exploring the Creation of Electrically Conductive Glass"







MATERIALS SCIENCE MIDDLE SCHOOL

Silas Noonan

"Exploring the Effects of a Vacuum on Biofoam"







HIGH SCHOOL Jaxson Liening "Analyzing the Dimensional Stability of Fabrics"

Sponsored By:







MATERIALS

SCIENCE

MATHEMATICS MIDDLE SCHOOL

Gus Reinhart

"Exploring the Fractal Dimensions of Melanoma"







MATHEMATICS MIDDLE SCHOOL

Maylin Kidwell

"Do Pips on Gaming Dice Introduce a Bias?"







MATHEMATICS MIDDLE SCHOOL

Owen Singer

"Correlating Anxiety and Depression with Coronavirus Cases and Deaths"









Nehemiah Borland

"Testing the Chaos Theory with M&Ms"







MATHEMATICS HIGH SCHOOL

Jaden Marshall

"The Science of The Bank Shot"







MATHEMATICS HIGH SCHOOL

Jordan Weiss

"The Monty Hall Problem"







Charles Hummel

"Exploring the Effect of Mixed Plastic Leachates on Human and Soil Bacteria"





Ella McGee

"Effects of Various Sugars on Specific Gravity when Fermenting Kombucha"





Marlowe Jeffreys

"Exploring the Effects of Different Sodas on Streptococcus Mutans"





Calla Magnuson

"City vs. Country Honey; Which Kills Bacteria More Efficiently"





Carlos Figueredo Zamora "Toothpaste Competition"







Isabella Martinez

"The Effect of the Amount of Time a Mask is Worn on the Quantity of Bacteria"







Muhilan Balasubramanian

"Effect of Homeopathic Disinfectants on Cultured Bacteria from the School Environment"







Sahil Chhabra

"Genome Engineering of Bacteriophage MooMoo"







Leland Bernauer

"Composite, Aluminum, Wood; Which Bat Produces the Most Exit Velocity?"

Sponsored By:







PHYSICS &

ASTRONOMY

MIDDLE SCHOOL

PHYSICS & ASTRONOMY MIDDLE SCHOOL

Ellie Jones

"Exploring How Temperature Affects Magnet Strength"





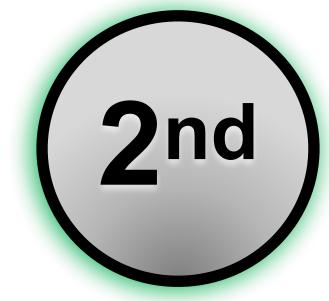


PHYSICS & ASTRONOMY MIDDLE SCHOOL

Christopher Kehdy "Magnet Gun"

Sponsored By:

TRINSEO





PHYSICS & ASTRONOMY MIDDLE SCHOOL

Penelope Harris

"Exploring How Weathering & Temperature Affect the Performance of Golf Balls"

Sponsored By:

TRINSEO





PHYSICS & ASTRONOMY HIGH SCHOOL

Fernando Salazar Cortes

"Physics in a pinball machine"





PHYSICS & ASTRONOMY HIGH SCHOOL Aidan Koenig, Isabelle Hottman & Robert Rupley "Multi-Design Bridge Test"





PHYSICS & ASTRONOMY HIGH SCHOOL

Logan Lewis

"The Spectrominator - A Transversely Excited Atmospheric Lasing System"





PHYSICS & ASTRONOMY HIGH SCHOOL

Curtis Feller

"Running Water: How Does Temperature Vary?"





Ava Thompson

"How Can Seed Priming Affect Drought Tolerance?"







Eva Donis

"Climate Change and Salinity Effects Plants"







Iris Apple

"Signaling Transduction and Learning: A Molecular Basis in Plants"







Amina Albarqawi

"The Impact of Aquaponic and Soil Systems on the Growth of Radish Plants







PLANT SCIENCES HIGH SCHOOL

Zakariya Hassan

"The Effect of Protein Supplements on Plant Growth"

Sponsored By:







Lillian Long & Paris Boles "Hydroponic Lettuce"

Sponsored By:





PLANT SCIENCES HIGH SCHOOL

Ciarra Russell

"The Effect of pH on Plant Growth"

Sponsored By:





PLANT SCIENCES HIGH SCHOOL

Taylor Thompson

"Future of Farming: How Does the Way We Farm Affect the Results?"

Sponsored By:





ROBOTICS & INTELLIGENT MACHINES Shazia Shaik

"Project DeepWater: Using AI Deep Learning for Water Quality"







ROBOTICS & INTELLIGENT MACHINES James Welch

"Creating a Robotic Gripper"







ROBOTICS & INTELLIGENT MACHINES HIGH SCHOOL "Solar Powered Robot"







SYSTEMS SOFTWARE MIDDLE SCHOOL

Isaac Given

"Refugee Transportation Help: An App to Help Refugees with Transportation"





SYSTEMS SOFTWARE MIDDLE SCHOOL

Rihaan Kapoor

"A Machine Learning Algorithm to Predict Disease Outbreak"





Fahmeeda Mohammad

"Hacking the Air-Gap: Stealing Info from a Computer Disconnected From the Internet"





SYSTEMS

SOFTWARE

SYSTEMS SOFTWARE MIDDLE SCHOOL

Ifrah Shaik

"PostureBeepAI: Posture Detection and Alert Program"





SYSTEMS SOFTWARE HIGH SCHOOL

Tanner Aslan

"Exploring Inverse Kinematics & Procedural Animation"

Sponsored By:







SYSTEMS SOFTWARE HIGH SCHOOL

Kevin Brothers

"Found: Reuniting Families Using Facial Recognition"

Sponsored By:







Karthik Nadimpally

"Using Multivariate Time Series Forecasting Neural Networks to Predict Stock Prices"

Sponsored By:







SYSTEMS

SOFTWARE

HIGH SCHOOL

SYSTEMS SOFTWARE HIGH SCHOOL

Zaheeb Tariq

"Making Accessing Information Easy Using an Automated System with Python"

Sponsored By:







TRANSLATIONAL MEDICAL SCIENCE MIDDLE SCHOOL

Caroline Cotton

"Neoplasms: Exploring Their Creation and Cure with Kentucky Native Plants"





TRANSLATIONAL MEDICAL SCIENCE MIDDLE SCHOOL

Harrison Jeffreys

"Does UV Exposure Effect Sunscreen Toxicity?"





TRANSLATIONAL MEDICAL SCIENCE MIDDLE SCHOOL

Leah Rasnake

"Exploring Blood Coagulation: The Effect of Native American Plant Extracts





Ornella Massy "Acne"

Sponsored By:





Tuqa Saedi "Dandruff"

Sponsored By:





Gia Patel

"Which Product Works Best for People with Eczema?"

Sponsored By:





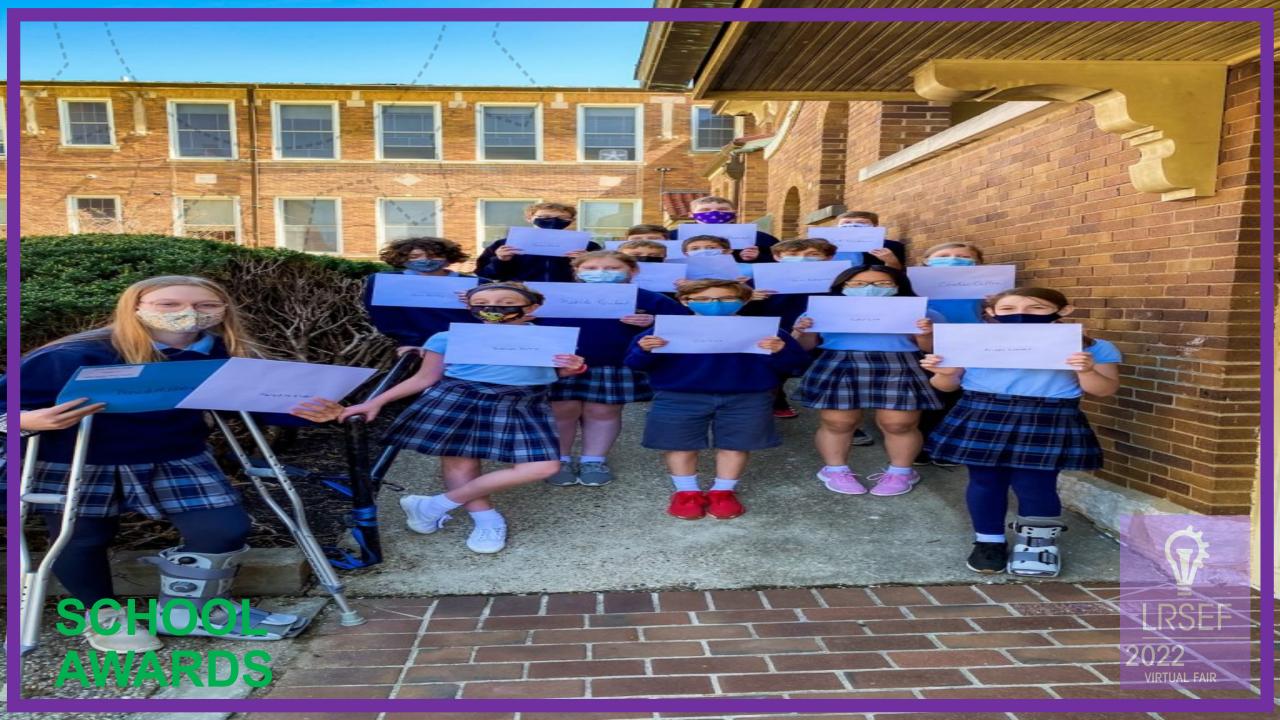
Vaishu Pendyala

"Impact of Chemokines on Immune Cells in Pediatric Medulloblastoma Tumor Cells"

Sponsored By:







LRSEF SCHOOL AWARDS JUNIOR

J. Graham Brown School





LRSEF SCHOOL AWARDS JUNIOR

Nur Islamic School of Louisville





LRSEF SCHOOL AWARDS JUNIOR

St. Francis of Assisi School





LRSEF SCHOOL AWARDS SENIOR

Central High School Louisville, Kentucky





LRSEF SCHOOL AWARDS SENIOR

Ballard High School





LRSEF SCHOOL AWARDS SENIOR

Eastern High School Louisville, Kentucky

1st





GE BEST OF FAIR AWARD JUNIOR

Julia Keeney

"Carbon-Scrubbing Insulation with Polyurethane Foam" St. Francis of Assisi School, Louisville, KY





GE BEST OF FAIR AWARD JUNIOR

Maylin Kidwell

"Do Pips on Gaming Dice Introduce a Bias?" Noe Middle School, Louisville, KY





GE BEST OF FAIR AWARD JUNIOR

Ifrah Shaik

"PostureBeepAl: Posture Detection and Alert Program" Nur Islamic School of Louisville, Louisville, KY





GE BEST OF FAIR AWARD SENIOR Nishu Anekere, Harrison Gover & Sahil Krishnani

"Water Pollution Detection Using Autonomous Drone Hardware and Software" Gatton Academy of Science & Mathematics, Bowling Green, KY





GE BEST OF FAIR AWARD SENIOR

Karthik Nadimpally

"Using Multivariate Time Series Forecasting Neural Networks to Predict Stock Prices" Ballard High School, Goshen, KY





GE BEST OF FAIR AWARD Senior Sarisha Lohano & Bella Norman

"GenFind - Predicting Mycobacteriophage Gene Start Sites Using Artificial Intelligence" Gatton Academy of Science & Mathematics, Bowling Green, KY





GE BEST OF FAIR AWARD SENIOR

Veenasravani Pendyala

"The Sensory Potential of Synaptopodin" North Oldham High School, Goshen, KY





GE BEST OF FAIR AWARD SENIOR

Suchita Tipirneni

"Now You See Me, Now You Don't..." Ballard High School, Louisville, KY







THANK EACH STUDENT THAT VIRTUAL LOUISVILLE REG ON FAIR, AS WELL AS THE PARE BOARD MEMBERS THAT WO EAR'S EVENT AS SUCCESSE

Fhank YOU

PATED

NCE &

GES

RD TO

T WAS.

SCI

RKED