Maine State Science Fair
Saturday, March 24, 2018
Thomas College

List of Awards

Grand Awards

1st Grand Award – Noah Robinson, Bangor High School
*Determining the Priming Effect of Voting on Category of Building of Polling Location*

2nd Grand Award – Tyler Delargy, Bangor High School
*Developing a Tactile Depth Map for the Blind*

3rd Grand Award – Ibrahim Saleh, Greely High School
*Reliability and Efficiency of 3D Printed Microfluidic Devices When Used in Ocean Acidification Testing*

Scholarship Awards, The University of Maine

Nick Baron, Old Town High School
Alexander Bloomer, Bangor High School
Anna Briley, Greely High School
Emily Hanscom, Telstar High School
Kiara Kemptthorne-Curiel, Washington Academy
Ryan Kinney, Bangor High School
Mackenzie Ladd, John Bapst Memorial High School
Hallie Macdougal, Watershed School
Madelaine Panici, Greely High School
Noah Robinson, Bangor High School
Margaret Turcotte Seavey, Bangor High School
Gina Vo, Bangor High School
Scholarship Awards, University of New England

Hayden Black, Nokomis Regional High School
Emma Gould, Morse High School
Grace Harman, John Bapst Memorial High School
Joshua Smestad, Nokomis Regional High School
Dana Tasker, Nokomis Regional High School

Scholarship Awards, University of New England

Alex Facq, Watershed School
Andrea Grossmann, John Bapst Memorial High School

Scholarship Awards, University of New England

Tabitha Bell, Old Town High School
Lauren Underhill, Nokomis Regional High School

Category Awards

Animal Sciences - Behavior & Physiology
- **1st award** - Josephine Ek, Robert W Traip Academy, *The Toxicity of Plastic Wax Worm Waste*
- **2nd award** - Serena Blasius, Medomak Valley High School, *The Effect of a Low Impact Warm-up on the Mobility of the Hind Limb Joints in Equines*
- **3rd award** - Natalie Shields, Medomak Valley High School, *Effects of Essential Oils on Ticks*

Animal Sciences - Ecology & Other Studies
- **1st award** - Nick Baron, Old Town High School, *Effects of Host Vegetation on Cannibalism in the Colorado Potato Beetle*
- **2nd award** - Jacob Cote and Acacia Johnston, Presque Isle High School, *The Correlation Between Bird and Prey Populations and Habitat Shifts*
- **3rd award** - Rebecca Collins, Presque Isle High School, *The Effect of Oceanic Oscillations on the Spring Arrival Dates of Migratory Birds*
Behavioral & Social Sciences - Clinical, Neurological, Physiological & Other Studies
- 1st award - Micah Pietraho, Brunswick High School, Language Similarity through N-Graph Frequency
- 2nd award - Emily Hanscom, Telstar High School, Determining a Dancer’s Dominant Foot
- 3rd award - Harris Millette, Dexter Regional High School, Do Video Games Actually Affect the Moral Decisions of Teens?

Behavioral & Social Sciences - Cognitive & Social Sciences
- 1st award - Noah Robinson, Bangor High School, Determining the Priming Effect of Voting on Category of Building of Polling Location
- 2nd award - Madelaine Panici, Greely High School, A Comparative Study of Habits of Work Grading at Greely High School
- 3rd award - William Lehan, Bangor High School, Researching a Correlation between Gullibility, Income, and Religion

Biomedical Sciences - Applied Biomedical Sciences
- 1st award - Ijeoma Obi, Bangor High School, Production of Bacterial Cellulose for the Application of an Adhesive Bandage Substitute
- 2nd award - Brett Kusnierz, Dexter Regional High School, Measuring Impact on Football Helmets: Prototype vs High School Level Helmet
- 3rd award - Safa Saleh, Greely High School, Tissue Engineering Using Plant-Based Scaffolds

Biomedical Sciences - Cellular & Molecular Biology & Pathophysiology of Human Disease
- 1st award - Lily Waddell, Bangor High School, A Novel Combination Therapy for the Treatment of Breast Cancer: Targeting DNA Repair Mechanisms with Talazoparib and RI-1
- 2nd award - Meg Lander, John Bapst Memorial High School, A Mouse Model for Adipose Neuropathy
- 3rd award - Minjeong Kim, Gould Academy, Mechanism of Pulmonary Fibrosis in Mammalian Lung Cells

Chemistry & Materials
- 1st award - Jaylee Rice, Nokomis Regional High School, Will It Dissolve? How Ink Dissolves When Combined with Various Solvents
- 2nd award - Nicholas Jacobs, Bangor High School, Modeling Mechanical Properties for Additive Manufacturing under Quasi-Static Loads
• **3rd award** - Gaelan Boyle-Wight and Marta Opie, Telstar High School, *Kale Wax*

**Computer Science & Mathematics**
- **1st award** - Alexander Moreira, Old Town High School, *Expanding Nth Dimensional Volume Equations of Higher Dimensional Spheres to Fractional and Irrational Dimensions*
- **2nd award** - Spencer Campbell, Bangor High School, *Development of an Inexpensive 3D Triangulation Program*
- **3rd award** - Taki Ishimura and Massimo Daul, Mount Desert Island High School, *Designing a Neural Network to Decide if a Web Comment Should Be Censored*

**Energy**
- **1st award** - Emma Raven, Greely High School, *Geometric Optimization of Photovoltaic Modules*
- **2nd award** - Kiara Kempthorne-Curiel, Washington Academy, *Optimization of Algae Pellet Production for Heat Pellet Stoves*
- **3rd award** - Naomi Noack, Bangor High School, *Effect of Water Wheel Dimensions and Design on Efficiency and Voltage Generated by a Small-Scale Overshot Water Wheel*

**Engineering**
- **1st award** - Tyler Delargy, Bangor High School, *Developing a Tactile Depth Map for the Blind*
- **2nd award** - Anthony Caccese, Bangor High School, *Designing an autonomous braking system for a rollator walker*
- **3rd award** - Zheyuan Liu, Gould Academy, *Suitcase Packaging*

**Environmental Sciences - Climate & Weather**
- **1st award** - David Rubin, Bangor High School, *A Novel Model for the Effects of Climate Change on Forest Composition and Water Quality in Maine*
- **2nd award** - Melissa Tian, Bangor High School, *Analysis of Maine’s Climate Through the Data Collection of Precipitation and Oxygen Isotope Ratios*
- **3rd award** - Madeline Ahola, Bangor High School, *Reducing Global Warming by Constructing a Greener Cement*

**Environmental Sciences - Oceans & Coasts**
- **1st award** - Ibrahim Saleh, Greely High School, *Reliability and Efficiency of 3D Printed Microfluidic Devices When Used in Ocean Acidification Testing*
• **2nd award** - Olivia Kelly, Islesboro Central School, *The Effects of Road Salt Additive Magnesium Chloride on Uni-Cellular Phytoplankton in a Marine Environment*
• **3rd award** - Emma Gould, Morse High School, *The Effect of Ocean Acidification on Calcifying Phytoplankton*

**Environmental Sciences - Water Quality**
• **1st award** - Maddie Brookings, Bangor High School, *Monitoring the Effects of Stormwater on Maine Lakes and Ponds*
• **2nd award** - Mei Tian, Bangor High School, *Infusing Cellulose-Based Materials with Layered Double Hydroxides for Remediation of Phosphorus from Stormwater*
• **3rd award** - John Connors, Bangor High School, *Studying Conditions of Tributaries of the Aroostook River*

**Microbiology**
• **1st award** - Meaghan Caron, Bangor High School, *Madi Drop and Chlorine Water Treatment Effects on the Cleanliness of Kenduskeag Source Water*
• **2nd award** - Anna Briley, Greely High School, *Enhancement of Bioremediation using Sonic Waves*
• **3rd award** - Erin McCarthy, Bangor High School, *Creating a HEPA Filter to Eliminate Legionnaires Disease by Using Polymer Microspheres to Simulate Legionella Bacteria*

**Physics & Astronomy**
• **1st award** - Margaret Turcotte Seavey, Bangor High School, *Photometric Study of Main Sequence Stars for Potential Planetary Systems*
• **2nd award** - Grace Kirkpatrick, John Bapst Memorial High School, *Analyzing Tone of Brass Instruments of Varying Makes and Models*
• **3rd award** - Daniel Snider, Watershed School, *Finding the Shape of the Lunar Orbit*

**Plant Sciences - Agriculture**
• **1st award** - Gina Vo, Bangor High School, *Testing the Effects of Biochar and Vermicompost Tea in Aquaponics*
• **2nd award** - Brooke Rethman, Maine School of Science and Mathematics, *Are Basil Plants Affected by H2O2 in Hydroponic Growth?*
• **3rd award** - Michaela Jordan, Cheverus High School, *The Effect of Indole-3-Butyric Acid and 6-Benzylaminopurine on the Mass of Echeveria Norma at Different Temperatures*
Plant Sciences - Ecology, Pathology & Physiology

- **1st award** - Amara Ifeji, Bangor High School, *Testing the Effectiveness of Mycorrhizae in the Phytoremediation of Heavy Metals (Cu and Zn) from Stormwater*

- **2nd award** - Elyse Daub, Bangor High School, *Designing an Optimal DNA Extraction from Host Eastern White Pine (Pinus strobus L.) Xylem Tissue to Increase Yields of a Native Pathogen, Caliciopsis pinea*

- **3rd award** - Hannah Dunn, Bangor High School, *The Effects of Soil Quality on Cronartium Ribicola - Affected White Pine Trees*

Special Awards

**American Meteorological Society Award** - David Brown, Bangor High School; Rebecca Collins, Presque Isle High School

**Association for Women Geoscientists Award** - Maddie Brookings, Bangor High School

**Intel Excellence in Computer Science** - Spencer Campbell, Bangor High School

**Mu Alpha Theta Mathematics Award** - Alexander Moreira, Old Town High School

**NASA Award** - David Rubin, Bangor High School

**NOAA Award** - Ibrahim Saleh, Greely High School

**Society for Science & the Public Award for Community Innovation** - Madelaine Panici, Greely High School

**Winner of the Solve It! Challenge** - Matthew Hartt, Old Town High School

**Stockholm Junior Water Prize** - John Connors, Bangor High School; Andrea Grossmann, John Bapst Memorial High School; Mei Tian, Bangor High School

**The Jackson Laboratory Future Innovator** - Gordon Doore, Bangor High School; Ahmed Saleh, Greely High School; Taylor Sullivan and Colby Folsom, Old Town High School

**The Reach Center Award** - Joshua Chun, Belfast Area High School; Emma Gould, Morse High School; Marta Opie and Gaelan Boyle-Wight, Telstar High School; Natalie Shields, Medomak Valley High School

**Yale Science and Engineering Association Award** - Grace Kirkpatrick, John Bapst Memorial High School