

INDIANA JUNIOR ACADEMY OF SCIENCE

Report for 2011

Approximately 120 students and teachers representing eight schools attended the annual fall meeting of the Indiana Junior Academy of Science held at Indiana University Bloomington on November 7, 2011.

Dr. Laura Wasylenki, IU Geological Sciences Department gave a keynote address titled *"Heavy metal and not-so-heavy metal: isotopes of transition elements and what they can tell us"* that was very well received by the students and teachers. Five competitions and tours of several research labs in Psychological and Brain Sciences, Chemistry, and Kinesiology filled out the remainder of the day followed by the awards ceremony. A brief description and a list of winners for each are outlined below.

1. The Problem Solving Exam

This exam provides students with a fun and meaningful exercise in scientific knowledge and problem-solving skills. Two students from each school who are selected by their sponsoring teacher take the exam. Plaques are awarded to the top two team winners. Certificates are awarded for 3rd & 4th place.

This year's winners were:

1st Place – Jennifer Reagin & Beata Strubel, Noblesville High School

2nd Place – Tyler Barnes & Trevor Sprouse, Northwestern High School

3rd Place – Justin Skycak & Stacie Skwarcan, Marian High School

4th Place – Crysta Terry & Josh Roesener, East Noble High School

2. The Issues Presentation Competition

This competition encourages students to learn about the political, social, and scientific issues surrounding the selected topic. This year, the topic was *"In the 17th century, sunspots virtually disappeared from the face of the sun for several decades, and the global climate became much cooler. Solar physicists have recently found evidence that the sun may be entering another period of reduced solar activity which may lead to another period of global cooling. How should governments and the public respond to this potential, short-term reprieve from global warming?"* Each competitor gives a five minute presentation on the topic without the use of visual aids. The students are judged by a panel of peers, and the finalists are then judged by a panel of undergraduate students. A plaque is awarded to the top student, all finalists receive a certificate.

This year's finalists were:

Roshni Bag, University High School

Connor Burke, Marian High School

Sutton Roach, Mitchell High School

Melissa Ullmer, Northwestern High School

This year's Issues winner: Melissa Ullmer, Northwestern High School

3. Science Olympiad Competition

This year we held one Science Olympiad competition called "Ecology." Students answered questions involving content knowledge and process skills in the area of ecology and adaptations in featured North American biomes.

This year's winners were:

1st Place –Loren Garatoni & Stacie Skwarcan, Marian High School

2nd Place – London Wolff & Shannon Smith, Indiana Academy of Science, Mathematics, & Humanities

3rd Place – Ameilia McReynolds & Hannah Pimley, Noblesville High School

4th Place – Ben Embry & Christian Seidle, Mitchell High School

4. *The Research Paper Competition*

This competition allows students who have carried out an original scientific investigation the opportunity to present their work publicly. Students who wish to compete in this event submit an abstract of their work to the IJAS Director in early October.

Twenty-six abstracts were submitted for review and the top twelve finalists were selected by a panel of impartial abstract judges from IU Bloomington and IU Northwest. At the IJAS meeting, the finalists give a 10-minute poster presentation to a panel of judges who evaluate them on originality, research procedures, and presentation skill. The second and third place winners receive a plaque. The first place winner receives a plaque and a \$1,000 scholarship from the Indiana Academy of Science to attend any Indiana College or University.

This year's winners were:

1st Place – 87.1 points: Roshni Bag, University High School

2nd Place – 85.1 points: Jennifer Reagin, Noblesville High School

3rd Place – 84.4 points: Brandon Wysong, Northwestern High School

4th Place – 84.2 points: Jenna Jordan, Northwestern High School

5th Place (tie) – 82.9 points: Conner Burke, Marian High School

5th Place (tie) – 82.9 points: Kathryn Merklng, East Noble High School

6th Place – 81.7 points: Lane Fulton, North Daviess High School

7th Place (tie) – 79.0 points: Patrick Worthey, East Noble High School

7th Place (tie) – 79.0 points: Scott Woodruff, North Daviess High School

8th Place – 78.6 points: Beata Strubel, Noblesville High School

9th Place – 76.3 points: Meagan Harshman, Northwestern High School

10th Place – 76.1 points: Hannah Pimley, Noblesville High School

5. *The Outstanding School Award*

The Outstanding School Award is given to the school with the most participation points. To calculate this score, credit is given for every abstract submitted, more credit for those abstracts accepted for the Research and for Outstanding Junior Scientist competitions, and finally for rank scores for the top presentations. Each school received credit for entering students in the Issues Competition, for having a judge at the Issues presentations, and for entering students in the Problem Solving Exam and Science Olympiad Competition. More credit was given to the winners.

The top three schools and the teachers representing them today are:

1st Place – 46 points: Northwestern High School

2nd Place – 41 points: Marian High School

3rd Place – 32 points: Noblesville High School

6. *The Outstanding Junior Scientist Competition*

This event recognizes those students who are exemplary in overall scholarship as well as scientific ability and achievement.

Each school may nominate two students for this competition. The top ten nominees are then selected to compete at the IJAS meeting, where they are interviewed by a panel of judges. The Outstanding Junior Scientist is selected based upon his/her academic record, involvement in original research and extracurricular scientific activities, and the interview. The second and third place winners receive plaques and the Most Outstanding Junior Scientist receives a plaque and a \$1,000 scholarship from the Indiana Academy of Science to attend any Indiana College or University.

This year's winners were:

1st Place – 258.34 points: Tyler Barnes, Northwestern High School

2nd Place – 224.99 points: Conner Burke, Marian High School

3rd Place – 213.61 points: Kathryn Merking, East Noble High School

4th Place – 206.00 points: Patrick Worthey, East Noble High School

5th Place – 202.18 points: Tracy Scott, Marian High School

6th Place – 201.84 points: Jennifer Reagin, Noblesville High School

7th Place – 171.60 points: Lane Fulton, North Daviess High School

8th Place – 168.10 points: Brandon Wysong, Northwestern High School

9th Place – 150.40 points: Scott Woodruff, North Daviess High School