

# INDIANA JUNIOR ACADEMY OF SCIENCE

Report for 2003  
Submitted November 20, 2003

Over 160 students and teachers representing 14 schools attended the annual fall meeting of the Indiana Junior Academy of Science held at Indiana University Bloomington on November 10, 2003.

The following seven activities comprise the major portion of the Junior Academy meeting:

## 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 individual winners and certificates are given to the students who placed 3<sup>rd</sup>-5<sup>th</sup>.

This year's winners were:

### Individual Students

- 1<sup>st</sup> Place – Reid Merryman, Marian High School
- 2<sup>nd</sup> Place – James Myers, Warren Central High School
- 3<sup>rd</sup> Place – David Matly, Northwestern High School
- 4<sup>th</sup> Place – Scarlett Marshall, Paoli Jr-Sr High School
- 5<sup>th</sup> Place – Clayton Marshall, Eastern High School

Top Schools – From each school, their two students' scores are combined and the top schools are recognized.

- 1<sup>st</sup> Place – Marian High School
- 2<sup>nd</sup> Place – Northwestern High School
- 3<sup>rd</sup> Place – Warren Central High School
- 4<sup>th</sup> Place – Paoli Jr-Sr High School
- 5<sup>th</sup> Place – North Daviess 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 "Considering the risks, should the U.S. develop biological weapons?". 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 winning student.

This year's winners were:

- 1<sup>st</sup> – Emily Drabek, Eastern High School
- 2<sup>nd</sup> – Andrea Melcher, Northwestern High School
- 3<sup>rd</sup> – Paul Baranay, Marian High School
- 4<sup>th</sup> – Sondra Lynn, North Daviess High School

## 3. *Science Olympiad Competitions*

This year we held two Science Olympiad competitions. In the morning session, the students competed in the "Write It, Do It" event and were tested on their communication skills. In the afternoon session, the students competed in the "Mystery Architecture" event. They were given a bag of materials and were asked to build an aqueduct that could transfer 100 mL of water to a beaker.

Write It, Do It winners were:

- 1<sup>st</sup> Place – Jen zmirski & Deanna Lind, Marian High School
- 2<sup>nd</sup> Place – Blake Merrel & Michael Vas, Northwestern High School

Mystery Architecture winners were:

- 1<sup>st</sup> Place – Aaron Tedrow & Anthony Lewis, Eastern High School
- 2<sup>nd</sup> Place – Lacey, Echo, Stacey, & Marina, North Daviess 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. The abstracts are reviewed by a panel of impartial judges, and twelve student finalists are selected. At the IJAS meeting, these students 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 Hoosier Association of Science Teachers to attend any Indiana College or University.

This year's winners were:

- |                        |   |
|------------------------|---|
| 1 <sup>st</sup> Place  | Reid Merryman, Marian High School<br>"Does Triclosan Inhibit the Growth of Gram-Negative and Gram-Positive Bacteria?"   |
| 2 <sup>nd</sup> Place  | Clayton Marshall, Eastern High School<br>"A Comparative Study of Southern Indiana Urban and Rural Tardigrade Populations Due to Seasonal Environmental pH Changes." |
| 3 <sup>rd</sup> Place  | Kaleb Naegeli, Northwestern High School<br>"Interactions of Sugar Substitutes with Warfarin Sodium and Fluoxetine Hydrochloride."                                   |
| 4 <sup>th</sup> Place  | Brandon Hood, Noblesville High School   |
| 5 <sup>th</sup> Place  | Angie Sells, Eastern High School  |
| 6 <sup>th</sup> Place  | Ben Brewer, Eastern High School<br>Richa Sharma, Warren Central High School   |
| 7 <sup>th</sup> Place  | Megan Downey, Northwestern High School  |
| 8 <sup>th</sup> Place  | Ryan Koerber, Graceland Christian Academy<br>Thomas Pottanat, Castle High School  |
| 9 <sup>th</sup> Place  | Meeghan Miller, Marian High School  |
| 10 <sup>th</sup> Place | Kristopher Premier, Marian High School  |

#### 5. *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:

1 <sup>st</sup> Place	Ann Chi, Terre Haute South Vigo High School
2 <sup>nd</sup> Place	Clayton Marshall, Eastern High School
3 <sup>rd</sup> Place	Thomas Pottanat, Castle High School
4 <sup>th</sup> Place	Reid Merryman, Marian High School
5 <sup>th</sup> Place	Dawn Dietrich, Eastern High School
6 <sup>th</sup> Place	Brandon Hood, Noblesville High School
7 <sup>th</sup> Place	Charlotte Swartzentruber, North Daviess High School
8 <sup>th</sup> Place	Ashley Cenicerros, Marian High School
9 <sup>th</sup> Place	Melissa Hartman, Northwestern High School
10 <sup>th</sup> Place	Ashley Padgett, Paoli Jr-Sr High School

## 6. *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. More credit was given to the winners.

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

1 <sup>st</sup> Place	Marian High School, Ken Andrzejewski
2 <sup>nd</sup> Place	Eastern High School, Sharon McElroy
3 <sup>rd</sup> Place	Northwestern High School, Patty Zeck

## 7. *Educational Tours*

Educational tours of the *Cadaver Lab*, *Archaeology*, *Center for Genomics and Bioinformatics*, and *Speech & Hearing Sciences* were given twice during the day to give all students attending an opportunity to get an up-close and personal look at some of the great research opportunities the IU Bloomington campus has to offer.

Many thanks to the following people for their assistance in making this annual meeting go so smoothly:

***Ms. Jocelyn Bowie, Director***  
Office of Recruiting  
College of Arts & Sciences  
Writing the Problem Solving Exam

***Dr. Allan Gutstadt, Professor Emeritus***  
California State University  
Geology  
Judging the OJS Competition & Abstract Judge

***Dr. Diane Henshel, Faculty***  
IU School of Public and Environmental Affairs  
Abstract Judge

***Dr. Caty Pilachowski, Faculty***  
IU Astronomy Department  
Judging the OJS Competition

***Dr. Joseph Near***  
IU Medical Sciences  
Abstract Judge

***Dr. Michael Gross, Research Geneticist***  
IU Biology Department  
Judging the OJS Competition

***Dr. Cathrine Reck***  
IU Chemistry Department  
Abstract Judge

***Dr. Randy Arnold***  
IU Chemistry Department  
Judging the OJS Competition

***Dr. Roger Innes***

***Dr. John Bollinger***

IU Department of Biology  
Research Judge

***Dr. Steve Wietstock***  
IU Department of Chemistry  
Research Judge

***Ms. Stephanie Roberts, Undergraduate Student***  
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***Mr. Ben Carollo, Director***  
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