



Ohio JSHS

43rd OHIO JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM

2006 ANNUAL REPORT

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Table of Contents

| | |
|-------|---|
| 3-5 | Symposium Highlights |
| 6-9 | Symposium Awards |
| 10 | Symposium Evaluation |
| 12-13 | Symposium Participants |
| 14 | Future Plans |
| 15 | Acknowledgements |
| 15 | Appendices |
| | Appendix I - 2006 Ohio JSHS Evaluation Form 16-19 |
| | Appendix II - 2006 Ohio JSHS Evaluation Results 20-29 |
| | Appendix III - The 43rd Annual Ohio JSHS Program . . . 30-77 |



43rd Ohio Junior Science and Humanities Symposium

The University of Toledo

March 22-24, 2006

The 2006 Ohio Junior Science and Humanities Symposium was held in Toledo, Ohio, on the campus of The University of Toledo. The program featured six Student Research Paper Sessions, a Research Poster Session, the Annual Banquet with the Keynote Address by Dr. John Idoine, and a concluding Awards Ceremony. The students presenting posters were divided into three categories for judging and awards: eighth grade, ninth/tenth grade, and eleventh/twelfth grades.

Research topics ranged from

“The Effectiveness of Toilet Paper in Preventing Fecal-Hand Contamination” and *“The n-Queens Problem on Nonstandard Chess Boards”* to *“The Effects of Paper Sludge on Effluent from Reclaimed Surface Mine Sites”*, *“The Effect of Aggregate Hardness on the Correlation Factor of the Flexural and Compressive Strength of Concrete”*, and *“The Neutralization of Volatile Organic Compound Through the Use of Polyethyleneimine Nanofibers”* to name a few of these cutting-edge research endeavors.



The symposium began on Wednesday afternoon with registration at the Clarion Hotel Westgate, Toledo. At 6:00 p.m. an informal meeting of all student presenters (Paper and Poster), student delegates, student session chairpersons, teachers, and the symposium staff was held to acquaint participants with the Ohio JSHS agenda and to address their questions and concerns. Students, guests and parents were then transported on University buses to the Recreation Center on The University of Toledo campus. This visit during the first evening to the University’s recreational facilities serves as an effective ice-breaker. Here, participants enjoyed a pizza dinner followed by team building activities as well as free time. Paper presenters were given time to upload their presentations and to familiarize themselves with the audiovisual equipment. All student presenters, student delegates, teachers, parents, and guests stayed overnight in the Clarion Hotel.



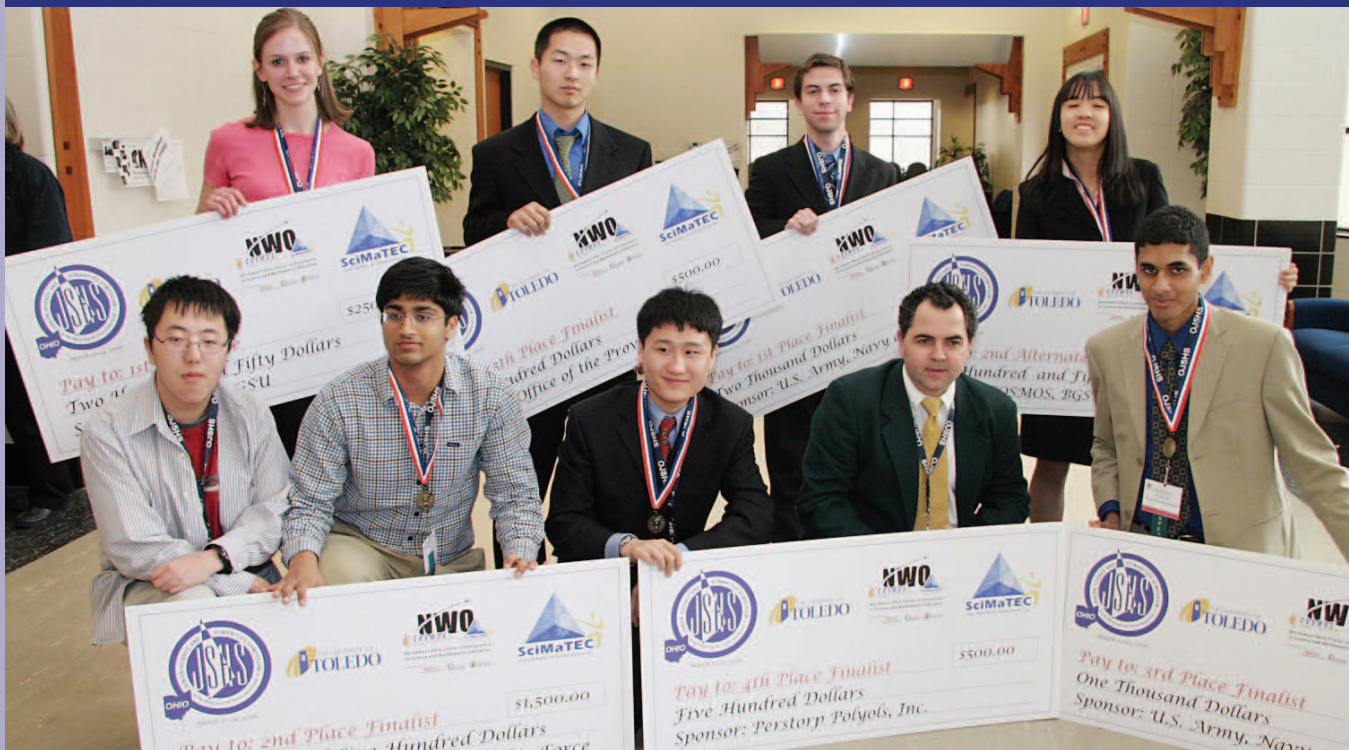
On Thursday morning all participants enjoyed a buffet breakfast at the Clarion Hotel. They were then transported to The University of Toledo where registration continued. The poster presenters set up their poster displays to be judged later in the afternoon. Following registration, opening remarks, and welcomes, the First and Second Paper Sessions were held. At the conclusion of the Second Paper Session, symposium participants walked to the International House on the campus of The University of Toledo where a buffet luncheon was enjoyed by all.

After lunch, the Third and Fourth Paper Sessions were held. The Poster Session followed the Fourth Paper Session where all participants were allowed time to view the posters and to interact with the student researchers. Afterwards, the Ohio JSHS participants were transported back to the Clarion Hotel. The evening featured the Annual Banquet where Dr. John Idoine of Kenyon College was the Keynote Speaker. In an excellent and very enjoyable presentation, he highlighted his research on creating 3D nuclear images. The evening concluded with a card tournament for the students, open activities, and an adult reception.

On Friday morning, participants enjoyed a buffet breakfast, checked out of their rooms, and were transported to The University of Toledo for the concluding sessions. At the University, the symposium continued with the Fifth and Sixth Paper Sessions. Following lunch in the Student Union, Toledo Zoo volunteers interacted with the students in a live animal demonstration. Afterwards, Dr. Jon Secaur, a high school teacher from Roosevelt High School, assisted Ms. Szelagowski, Ohio JSHS Coordinator, in conducting the Awards Ceremony. The top seven Research Paper presenters and the top three Poster presenters from each category were individually recognized and presented with a certificate and a medallion. Additionally, the “Best in Show” Poster winner was honored and awarded a trip to the National JSHS. (See Appendix III for the complete Symposium Program)



SYMPOSIUM AWARDS



2006 OHIO JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM AWARDS

Research Paper Awards

1st Place Winner

Daniel Litt

Orange High School

- \$2,000 College Scholarship sponsored by the U. S. Army, Navy, and Air Force. Presents Research Paper at the National JSHS with expenses paid. Chance to compete for a \$16,000 Scholarship and a trip to the London International Youth Science Forum (LIYSF).

2nd Place Winner

Madhav Chopra

Hoover High School

- \$1,500 College Scholarship sponsored by the U. S. Army, Navy, and Air Force. Presents Research Paper at the National JSHS with expenses paid. Chance to compete for a \$16,000 Scholarship and for the LIYSF trip.



3rd Place Winner

Saumitra Thakur

Sylvania Southview High School

- \$1000 College Scholarship sponsored by the U. S. Army, Navy, and Air Force. Delegate to the National JSHS with expenses paid.

4th Place Winner

James Wang

Hoover High School

- \$500 Award sponsored by Perstorp Polyols, Inc. Delegate to the National JSHS with expenses paid.

5th Place Winner

Wang Pan

Sylvania Northview High School

- \$500 Award sponsored by the Office of the Provost, The University of Toledo. Delegate to the National JSHS with expenses paid.

1st Alternate

Kara Riggs

Big Walnut High School

- \$250 Award sponsored by PRISM, Bowling Green State University

2nd Alternate

Amy Liu

Hoover High School

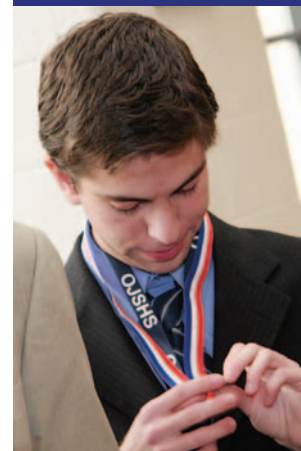
- \$250 Award sponsored by COSMOS, Bowling Green State University

2006 Thomas Alva Edison Award

Alex Liber

Sylvania Southview High School

- \$100 Award sponsored by EEES, The University of Toledo



Research Poster Awards

Best in Show Award

Yifei Feng

Sylvania Southview High School

– Delegate to the National JSHS with expenses paid

Outstanding Poster: 1st Place - 9th and 10th Grade Award

Holly Choi

Sylvania Southview High School

– \$50 Award sponsored by SciMaTEC, The University of Toledo

Outstanding Poster: 1st Place - 11th and 12th Grade Award

Yifei Feng

Sylvania Southview High School

– \$50 Award sponsored by SciMaTEC, The University of Toledo

Outstanding Poster: 2nd Place - 9th and 10th Grade Award

Isabel Pereira de Almeida

Bowling Green High School

– \$25 Award sponsored by the Department of Biological Sciences,
The University of Toledo

Outstanding Poster: 2nd Place - 11th and 12th Grade Award

Lindsey Jorlando

Sylvania Southview High School

– \$25 Award sponsored by the Department of Biological Sciences,
The University of Toledo

Outstanding Poster: Honorable Mention - 9th and 10th Grade

Ruth Chang

Sylvania Southview High School

Outstanding Poster: Honorable Mention - 11th and 12th Grade

Jiayun Lu

Sylvania Southview High School





Outstanding Poster: 8th Grade

1st Place:

Dustin Lewis, Buckeye Valley Middle School

2nd Place:

Amanda Roden, Buckeye Valley Middle School

Honorable Mention:

Leesha Clevenger, Buckeye Valley Middle School

Colonel George F. Leist Distinguished Teacher Award

Hans Glandorff

Bowling Green High School

- Trip to the National JSHS with expenses paid. Sponsored by the U. S. Army, Navy and Air Force and the Ohio JSHS.



SYMPOSIUM EVALUATION



Several aspects of the symposium were highly rated. Some of those aspects included the quality of the student research paper presentations, paper session chairpersons, student poster presentations, the hotel and symposium accommodations, printed program with photos, clarity of scheduled activities in the program, and guidelines for presentation of papers and posters.

Written comments representing what the participants liked included:

- The professional and collegial atmosphere with respect among students and adults alike. Positive and supportive experience for my students!
- Just about everything
- The amount of freedom makes the experience a lot of fun. I learned a lot from all of the presentations and had fun at the hotel and rec center.
- The fact that the presentations are not in a hotel. Students are not tempted to leave and wonder off – They are more focused on the event! Zoo presentation was good!
- Tightness and follow through of schedule
- The food, the freedom, the zoo guys, the interesting papers
- Everything!
- Having the kids have something to do while waiting for judges results
- All participants are treated well, which helps to encourage further participation
- The interaction of the students with each other and of course the presentations by the students

A copy of the evaluation form and complete results are enclosed (Appendices I and II).

On-line registration served to simplify the registration process for both the students and the Ohio JSHS staff. We intend to continue to utilize its advantages this coming year along with extensive email communication.

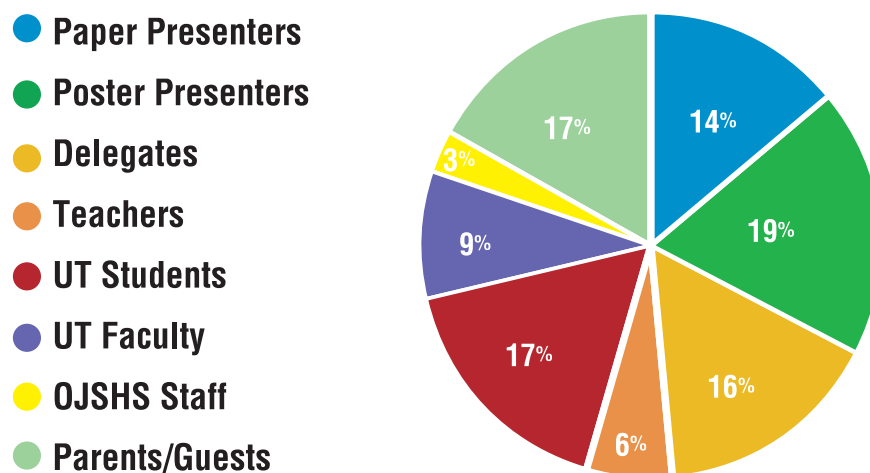




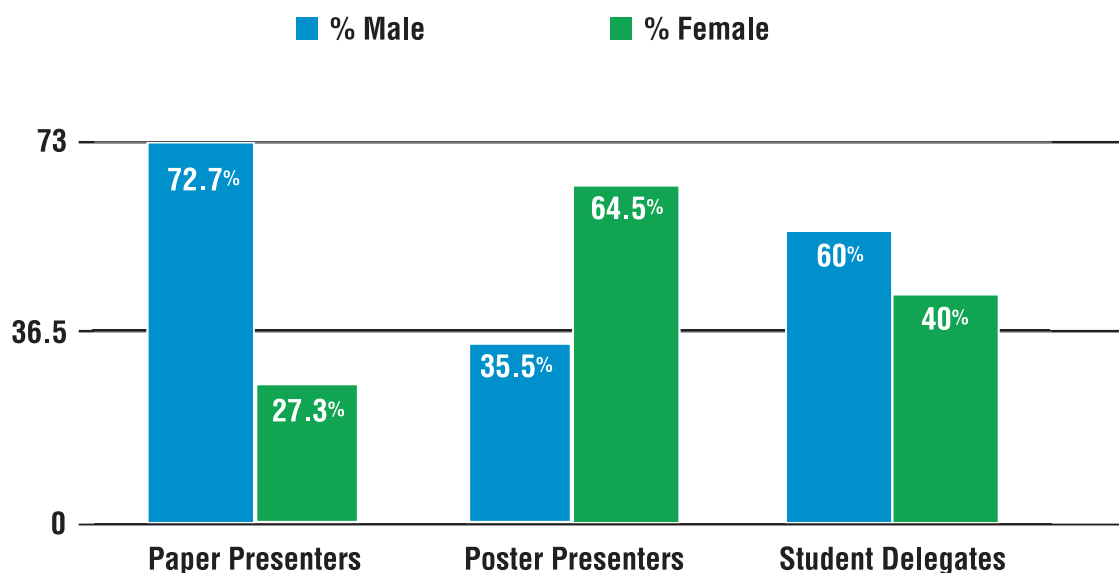
SYMPOSIUM PARTICIPANTS

The 2006 OJSHS had 160 participants. High School participants included 22 Student Paper Presenters, 31 Student Poster Presenters, and 25 Student Delegates. Nine high school teachers attended the symposium along with many parents who attended at least one of the day sessions. Thirteen University faculty members served as judges for the Paper and Poster Sessions. Seven UT student representatives assisted with every aspect of the program while twenty additional UT students served as campus guides and chaperones.

A strong effort was made to invite potential paper presenters for next year's symposium as shown by the numbers of the student delegates that were invited and the large number of poster presenters.



The following table shows a distribution of papers and posters by gender.





Paper Presenters

Belyukov, Alex
 Chopra, Madhav
 Chou, Michael
 Corkran, Gregory
 Johnson, Laura
 Liber, Alex
 Litt, Daniel
 Liu, Amy
 Melkote, Kapil
 Ng, Julia
 Pan, Wang
 Prasad, Aakrit
 Ratnam, Vivek
 Riggs, Kara
 Salari, Bijan
 Sinha, Jyotiraditya
 Steed, Jared
 Thakur, Saumitra
 Wang, James
 Woolverton, Lyssa
 Yoho, Rachel
 Zorick, Max

Poster Presenters

Ackerman Sherry
 Atkins, Rebecca
 Azzi, Vicki
 Bembry, Celeste
 Borowczak, Marie
 Bouzat, Facundo
 Chang, Ruth
 Choi, Holly
 Clevenger, Leesha
 Dadowski, Sheridan
 Ferenc, Kristin
 Hall, Ethan
 Halmbacher, Nick
 Heisey, Tiara
 Hughes, Tanner

Johnson, Lewis
 Jorlando, Lindsey
 Kenney, Claire
 Lee, Rebecca
 Leopold, Eric
 Lewis, Dustin
 Lu, Jiayun
 Martinez, Adam
 Mayer, Christopher
 McDermott, Ross
 Osborne, Jordan
 Pereira de Almeida, Isabel
 Peteya, Jennifer
 Quinn, Brian
 Roden, Amanda
 Tebbe, Hope

Delegates

Braun, Taylor
 Bryant, Sean
 Datta, Samit
 Ellis, Tory
 Engoren, EB
 Feng, Kurt
 Folley, Tarrah
 Fritz, Chris
 Fryberger, Kelly
 Galazyuk, Anton
 Gavozzi, Teddilyn
 Godec, Mary
 Heitkamp, Stacy
 Hu, Marie
 Mazzei, Erica
 Ng, Adrian
 Piller, Jason
 Pinkie, Ben
 Poulson, Russell
 Ratnam, Maya
 Santiago, Elijah
 Shaddy, Sophia

Smidi, Anwar
 Taylor, Cade
 Taylor, Dominique
 Tricozzi, Tony

Teachers

Connie Hubbard
 Jon Secaur
 Penny Cobau
 Kristen Frizzell
 Deanne Nowak
 Hans Glandorff

Judges

Paper
 Mr. Daniel Yaussy
 Mr. Gerald Szelagowski
 Dr. Mandy Heddle
 Dr. Karl Schwenk
 Dr. Jon Bjorkman

Poster
 Mrs. Brenda Leady
 Dr. Jill Trendel
 Dr. Anjali Gray
 Dr. Doug Leaman
 Dr. Carla Johnson
 Dr. Jeffrey Sarver
 Dr. Max Funk
 Dr. Sally Harmych

UT Student Representatives

Lewis Blevins
 Katy Smith
 Brianne Sturt
 Laura Helpin
 Courtney Schlenker
 Katie Schneider
 Amal Dudar
 20 student chaperones/
 campus guides

University Faculty

Dr. Emilio Duran
 Dr. Patricia Komuniecki
 Ltc. Robert Schaefer
 Dr. Carol Bresnahan

Staff

Carol Hepner
 Linda Hegedus
 Donna Braswell
 Kati Szelagowski
 Dale Leady
 Lisa Addis
 Iris Szleagowski

Parents/Guests

Litt, Jonathan
 Steed, Janis
 Yoho, Linda
 Halmbacher, Glen
 Halmbacher, Julie
 10 parent day visitors

FUTURE PLANS



Tentative reservations have been made to hold the 2007 Ohio JSHS on the University of Toledo campus with participants staying at the Clarion Hotel Westgate, Toledo. The 2007 Symposium will be held on March 21 through March 23.

One of our main goals will be to increase the number and quality of the research posters with the hope that the poster presenters will come back as paper presenters. A small committee was named to work on this project.

Emphasis will continue to focus on building stronger communication with the schools throughout Ohio by collaborating with the Science Education Council of Ohio (SECO). The “web page” for the Ohio JSHS is up and running (www.ojshs.org) where we will continue to update the website. Complete information for registration will be posted on the web page for the 2007 Symposium. An initial mailing to the science departments of ALL schools in the state of Ohio and to the students who earned a superior rating at State Science Day will be made in November. In the past, the Ohio JSHS preferentially attracted students from Northwest Ohio. We will make every attempt to extend an invitation to as many high school students from Ohio and make it truly an Ohio JSHS.

Efforts will be made to increase the number and size of sponsored scholarship awards for participants of future symposia. A subcommittee from the Advisory Board is actively seeking award money from different sources. Finally, we will try to listen and implement some of the suggestions mentioned in the evaluation form.

To help with these efforts, the Ohio JSHS has once again employed an associate director. A loyal friend and supporter of the JSHS, Ms. Szelagowski, has been hired to help coordinate the symposium. I am happy to report that support for our symposium has been very strong from all university levels.



Acknowledgments

Our sincere appreciation is extended to The Academy of Applied Science, Inc., the U.S. Army Research Office, the U.S. Office of Naval Research, the U.S. Air Force Research Office, the U.S. Army Department of Military Science (The University of Toledo) and the Northwest Ohio Center of Excellence for their support, assistance and cooperation in making the 2006 Ohio JSHS at The University of Toledo a successful and rewarding experience for Ohio's high school science students.

Lastly, we would like to thank the following local sponsors for their generosity in supporting the 2006 Ohio JSHS.

- Department of Biological Sciences, The University of Toledo
- Office of the Provost, The University of Toledo
- SciMaTEC, The University of Toledo
- PRISM, Bowling Green State University
- COSMOS, Bowling Green State University
- Perstorp Polyols, Inc., Toledo
- Libbey Glass, Inc., Toledo
- The Toledo Zoo
- Lisa Addis, Graphic Designer, NWO Center

Appendices

- I. 2006 Ohio JSHS Evaluation Form
- II. 2006 Ohio JSHS Evaluation Results
- III. The 43rd Annual Ohio JSHS Program



APPENDIX I

Ohio Junior Science and Humanities Symposium Evaluation - General Form

Members of the Ohio Junior Science and Humanities Symposium Program Evaluation Committee seek ways to improve next year's Symposium. We appreciate both your ratings and written comments. *Please deposit completed evaluation forms and pencils in the appropriate boxes at the registration desk.* Thank you for your assistance.

- I. Listed below are several components of the Ohio Junior Science and Humanities Symposium. Please rate the quality of the components by filling in the appropriate lettered bubble on the attached computer answer sheet as follows:

A = Excellent, B = Good, C = Average, D = Fair, and E = Poor.

Then, add your written comments about the Symposium on page 3.

1. Location of Symposium
2. Facilities (Clarion: Atrium, Ballrooms, Restrooms, Pool, etc.)
3. Hotel Rooms
4. Administrative Mailings and Notices
5. Registration
6. Printed Program with Photos
7. Wednesday Informational Meeting
8. University of Toledo Recreation Center
9. Pizza Dinner
10. Games (Recreation Center)
11. University of Toledo Facilities
12. Opening Remarks: Thursday Morning
13. Paper and Poster Session Chairpersons
14. Students Presenting Papers (Thursday, Friday)
15. Students Presenting Posters (Thursday)

16. Breakfast at Clarion (Thursday, Friday)
17. Meal at International House
18. Meal at Student Union
19. Hospitality Room for Students
20. Adult Reception (Adults only, please)
21. Breaks
22. Refreshments
23. Audiovisual Equipment and Videotaping
24. Bus Transportation
25. Thursday's Banquet
26. Keynote Speaker: Dr. John Idoine, "Creating 3D Nuclear Images"
27. Thursday's Evening Activities: Card Tournament/Pool
28. Friday's Room Check-out
29. General Flow of the Program
30. Brochure
31. Clarity of Scheduled Activities in the Program
32. Judging of Research and Paper Presentations
33. Judging of Research Posters
34. Selection of Winners (Papers)
35. Selection of Winners (Posters)
36. Awards Presentations
37. Cash Awards
38. Certificates and Prizes
39. Souvenirs (pins, UT's Folder, pen, pencil,...)
40. T-shirts
41. Publicity
42. Website
43. General Overall Evaluation of the Symposium
44. Evaluation Form

II. Program evaluation completed by (check one):

- Participant Presenting Paper
- Participant Presenting Poster
- Session Chairperson
- Secondary School Delegate
- Secondary School Teacher
- Elementary/Middle/Junior High School Student
- Committee Member
- School Administrator
- Retired
- Business and/or Industrial Representative
- Agency Representative
- Parent
- Secondary School Student
- University Faculty
- University Student
- Research Adviser/Mentor
- Judge
- Other (please specify): _____

III. If you had an opportunity to say one word about this year's Symposium, that word would be _____.

A. I like the following features of the Symposium:

B. I disliked the following features of the Symposium:

- IV. Features you would like to see added to next year's Symposium: Please list the names of speakers with their affiliations, alternative locations, tours, change in dates of the program and possible changes in format of the program. Please be specific.
- V. What features of this year's Symposium would you like to see deleted from next year's Symposium?
- VI. General Comments

Please deposit the completed computer form, the survey with the comment sheet, and the pencil in the appropriate boxes at the registration desk.

Thank you very much and have a safe trip home.

APPENDIX II

Ohio Junior Science and Humanities Symposium 2006 Evaluation Results

49 evaluations were recorded.

Section I. Rate the quality of the components:

1. Location of symposium

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 0 |
| Good | 12 |
| Excellent | 37 |
| Omitted | 0 |

5. Registration

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 3 |
| Good | 14 |
| Excellent | 29 |
| Omitted | 0 |

2. Facilities

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 1 |
| Good | 12 |
| Excellent | 35 |
| Omitted | 0 |

6. Printed programs with photos

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 2 |
| Good | 4 |
| Excellent | 43 |
| Omitted | 0 |

3. Hotel Rooms

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 3 |
| Good | 22 |
| Excellent | 21 |
| Omitted | 0 |

7. Wednesday Informational Meeting

| | |
|-----------|----|
| Poor | 0 |
| Fair | 3 |
| Average | 4 |
| Good | 17 |
| Excellent | 22 |
| Omitted | 0 |

4. Administrative Mailings & Notices

| | |
|-----------|----|
| Poor | 3 |
| Fair | 0 |
| Average | 4 |
| Good | 17 |
| Excellent | 24 |
| Omitted | 0 |

8. University of Toledo Recreation Center

| | |
|-----------|----|
| Poor | 0 |
| Fair | 2 |
| Average | 3 |
| Good | 8 |
| Excellent | 29 |
| Omitted | 0 |

9. Pizza Dinner

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 5 |
| Good | 20 |
| Excellent | 17 |
| Omitted | 0 |

10. Games (Recreation Center)

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 6 |
| Good | 13 |
| Excellent | 21 |
| Omitted | 0 |

11. University of Toledo Facilities

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 1 |
| Good | 12 |
| Excellent | 35 |
| Omitted | 0 |

12. Opening Remarks: Thursday morning

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 4 |
| Good | 17 |
| Excellent | 27 |
| Omitted | 0 |

13. Paper and Poster Session Chairpersons

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 1 |
| Good | 15 |
| Excellent | 32 |
| Omitted | 0 |

14. Students Presenting Papers (Thurs, Fri)

| | |
|-----------|----|
| Poor | 0 |
| Fair | 2 |
| Average | 1 |
| Good | 5 |
| Excellent | 40 |
| Omitted | 0 |

15. Students Presenting Posters (Thursday)

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 3 |
| Good | 13 |
| Excellent | 32 |
| Omitted | 0 |

16. Breakfast at Clarion (Thurs, Fri)

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 2 |
| Good | 9 |
| Excellent | 33 |
| Omitted | 0 |

17. Meal at International House

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 6 |
| Good | 22 |
| Excellent | 18 |
| Omitted | 0 |

18. Meal at Student Union

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 0 |
| Good | 9 |
| Excellent | 30 |
| Omitted | 0 |

19. Hospitality Room for Students

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 3 |
| Good | 13 |
| Excellent | 27 |
| Omitted | 0 |

20. Adult Reception (Adults only, please)

| | |
|-----------|---|
| Poor | 0 |
| Fair | 0 |
| Average | 1 |
| Good | 2 |
| Excellent | 8 |
| Omitted | 0 |

21. Breaks

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 4 |
| Good | 10 |
| Excellent | 34 |
| Omitted | 0 |

22. Refreshments

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 8 |
| Good | 13 |
| Excellent | 25 |
| Omitted | 0 |

23. Audiovisual Equipment and Videotaping

| | |
|-----------|----|
| Poor | 1 |
| Fair | 0 |
| Average | 7 |
| Good | 18 |
| Excellent | 21 |
| Omitted | 0 |

24. Bus Transportation

| | |
|-----------|----|
| Poor | 0 |
| Fair | 2 |
| Average | 7 |
| Good | 14 |
| Excellent | 21 |
| Omitted | 0 |

25. Thursday banquet

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 3 |
| Good | 15 |
| Excellent | 24 |
| Omitted | 0 |

26. Keynote Speaker: Dr. John Idoine

| | |
|-----------|----|
| Poor | 3 |
| Fair | 1 |
| Average | 8 |
| Good | 15 |
| Excellent | 16 |
| Omitted | 0 |

27. Thursday Evening Activities: Cards/Pool

| | |
|-----------|----|
| Poor | 0 |
| Fair | 1 |
| Average | 4 |
| Good | 15 |
| Excellent | 20 |
| Omitted | 0 |

28. Friday Room Check-out

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 4 |
| Good | 11 |
| Excellent | 29 |
| Omitted | 0 |

29. General Flow of the Program

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 2 |
| Good | 13 |
| Excellent | 34 |
| Omitted | 0 |

30. Brochure

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 4 |
| Good | 10 |
| Excellent | 33 |
| Omitted | 0 |

31. Clarity of Scheduled Activities

| | |
|-----------|----|
| Poor | 0 |
| Fair | 0 |
| Average | 2 |
| Good | 6 |
| Excellent | 41 |
| Omitted | 0 |

32. Judging of Research & Paper Presentations

| | |
|-----------|----|
| Poor | 0 |
| Fair | 2 |
| Average | 6 |
| Good | 15 |
| Excellent | 22 |
| Omitted | 0 |

33. Judging of Research Posters

| | |
|-----------|----|
| Poor | 1 |
| Fair | 2 |
| Average | 9 |
| Good | 14 |
| Excellent | 19 |
| Omitted | 0 |

34. Selection of Winners (Papers)

| | |
|-----------|----|
| Poor | 2 |
| Fair | 0 |
| Average | 6 |
| Good | 8 |
| Excellent | 22 |
| Omitted | 0 |

35. Selection of Winners (Posters)

| | |
|-----------|----|
| Poor | 1 |
| Fair | 0 |
| Average | 4 |
| Good | 11 |
| Excellent | 23 |
| Omitted | 0 |

36. Awards Presentations

| | |
|-----------|----|
| Poor | 1 |
| Fair | 0 |
| Average | 2 |
| Good | 10 |
| Excellent | 27 |
| Omitted | 0 |

37. Cash Awards

| | |
|-----------|----|
| Poor | 1 |
| Fair | 0 |
| Average | 3 |
| Good | 8 |
| Excellent | 29 |
| Omitted | 0 |

38. Certificates and Prizes

| | |
|-----------|----|
| Poor | 1 |
| Fair | 0 |
| Average | 1 |
| Good | 11 |
| Excellent | 29 |
| Omitted | 0 |

39. Souvenirs (Pins, UT's Folder, pen . . .)

| | |
|-----------|----|
| Poor | 0 |
| Fair | 2 |
| Average | 1 |
| Good | 11 |
| Excellent | 32 |
| Omitted | 0 |

40. T-shirts

| | |
|-----------|----|
| Poor | 0 |
| Fair | 2 |
| Average | 6 |
| Good | 9 |
| Excellent | 31 |
| Omitted | 0 |

41. Publicity

| | |
|-----------|----|
| Poor | |
| Fair | |
| Average | 4 |
| Good | 17 |
| Excellent | 23 |
| Omitted | |

42. Website

| | |
|-----------|----|
| Poor | |
| Fair | 3 |
| Average | 10 |
| Good | 14 |
| Excellent | 19 |
| Omitted | |

43. General Overall Evaluation

| | |
|-----------|----|
| Poor | |
| Fair | |
| Average | |
| Good | 15 |
| Excellent | 31 |
| Omitted | |

44. Evaluation Form

| | |
|-----------|----|
| Poor | |
| Fair | 2 |
| Average | 2 |
| Good | 20 |
| Excellent | 20 |
| Omitted | |

II. Program evaluation completed by

participant presenting paper
participant presenting poster
session chairperson
secondary school delegate
secondary school teacher
elementary/middle/junior high school student
committee member
school administrator
retired
business and/or industrial representative
agency representative
parent
secondary school student
university faculty
university student
medical school faculty
medical school student
research adviser/mentor
judge
other

III. If you had an opportunity to say one word about this year's symposium, that word would be...

| | |
|---------------------------------|---------------|
| Impressive | Interesting |
| Awesome | Inspiring |
| Good | Interesting |
| Memorable | Smooth |
| Interesting | Fun |
| Good | Excellent |
| Fascinating | Enthralling |
| Boring! | Jam-packed |
| Memorable | Great |
| Awesome! | Informative |
| Interesting | Interesting |
| Interesting | Long |
| Intriguing | Tenacious |
| Fun | Competitive |
| Great! | Fun |
| Competitive | Inspirational |
| Fun | Intriguing |
| Interesting | Inspiring |
| Passionate – in ref to projects | Informative |
| Excellent | Educational |
| Fantastic | Interesting |
| Great | Enriching |

A. I liked the following features of the symposium:

- The facilities were appropriate.
- Room 1116
- The meals & rec. activities are great!
- I really enjoyed the rec center and the food.
- Food, free
- Food courts, pool, breaks, pizza dinner, recreation center
- Starbucks, breaks, pool, some food & drinks
- The pool time & hotel rooms. Some presentations were awesome!
- The professional and collegial atmosphere with respect among students and adults alike. Positive and supportive experience for my students!
- Papers, rec center
- Just about everything
- I appreciate the vast numbers of seating areas
- The amount of freedom makes the experience a lot of fun. I learned a lot from all of the presentations and had fun at the hotel and rec center.
- The fact that the presentations are not in a hotel. Students are not tempted to leave and wonder off –They are more focused on the event! Zoo presentation was good!
- UT rec
- Opportunity to present Research Prizes
- Tightness and follow through of schedule
- The food, the freedom, the zoo guys the interesting papers
- Everything!
- Having the kids have something to do while waiting for judges results
- All participants are treated well, which helps to encourage further participation
- The interaction of the students with each other and of course the presentations by the students
- We were well taken care of and well fed
- Breaks food location
- Paper presentations Free lunch!
- I liked everything but the following, love the Zoo animals
- Smoothly-run, good food, lots of food, good activities, got out of school
- The people the activities
- Structure professionalism
- Free time meeting new people, Excellent paper presentations, good food.
- Breadth of topics, good food! fun, friendly students, hospitality room.
- Everything
- Presentations and food
- The breaks were nice to have this year the card games at the Red center were fun too. It was good to have only 3 presentations at the last session of each day the Zoo was a nice addition.
- The new added breaks
- Rec center, Zoo, Breakfast
- The rec center, paper presenters, Thursdays banquet
- Treating the students with respect-giving them freedom, trusting them to be responsible
- No changes, maybe Zoo visitation of possible
- Presentations, posters
- Student presentations professional atmosphere, collegiality

- All facilities were very good. I appreciate the “no cost.” Being a teacher, I would not have the money to come and stay
- Smooth flow of schedule, interesting presentations
- Facilities, food, presentations

B. I disliked the following features of the symposium:

- The reliability on buses to move back and forth between facilities.
- Rec games at Clarion
- The hotel pool
- The banquet entertainment was very long
- I found the speaker at the banquet interesting but very long
- Science – too much
- The paper presentations, the taping of the doors, the banquet speaker
- All of the long boring talk of things I don’t care about
- The slide show after the banquet
- Introductions, lengthy explanations of rules
- The fact that there was not a dance-off
- I disliked the lack of discipline of the viewers during the presentations
- Some of the presentations were a little long! but overall, I had a great time.
- The pointer was wimpy – didn’t show up on most slides – MCO use to have one that was substantial – showed up as an arrow.’
- Pool in hotel
- Slow keynote speaker
- I didn’t really dislike anything
- Nothing really
- Speaker Thursday night limited to end by 8:30. Excellent speaker, just very weary after the long of day
- Nothing
- Nothing! Everything was great!
- The website and servers were constantly crashing
- Walking to the International House
- Lack of judges for poster presenters
- Posters judges were more rushed towards the end
- Time constraints, length of keynote presentation, poster room set-up (did not like the easels), judges of senior/junior posters
- Long speech from keynote, too long at rec center
- Random room assignments
- Long keynote speaker, too long at rec center
- Rec center basketball courts and soccer fields full the whole time, keynote was a bit lengthy
- None
- Poster judging – too lengthy
- At the rec center, we were not allowed to use the basketball courts because the college kids were playing full court basketball/volleyball. Maybe next year, reserve at least one court just for OJSHS kids to play on.
- Missing papers due to poster presentation
- The projector did not have a red light
- None

- I question the benefit of having 8th grade students stay during the entire event. I think if a parent stays with them it might be appropriate.
- Parking is difficult.
- The short time length of presentations, the fact that the projector's colors were skewed.
- The early times I had to get up in the mornings, only one person can present for team projects.

IV. Features you would like to see added to next year's symposium

- A tour of the campus and explanation of how symposium participants can use these facilities. Time for the students to walk around the campus would be nice as well.
- More Rec. game at Toledo U.
- More free time.
- Next year it would be fun to have a dance.
- I would like a dance.
- A little more free time.
- Longer Breaks, more freedom.
- Longer breaks, more freedom.
- I'd like to see more free time at hotel and maybe make the symposium last another day maybe add a dance in one of the rooms in the hotel.
- Could it be possible to locate a relevant and yet more "entertaining" speaker as well for Thursday evening? Zoo personnel- Jack Hanna, NASA personnel- Neil Armstrong? (John Glenn .
- More engaging keynote speaker. Guy from last year was good. Put more healthy food in room 1116, there was way too much junk in there.
- Dance-off.
- Nothing!
- Liked the set up of the symposium.
- UT Rec. everyday, no staying nights.
- More bottled water in refreshment room.
- Maybe tours of somewhere, at least some water at the pizza dinner.
- Reference the advisory board info.
- Rethink 8th grade part. Have them come up on Wednesday night. Poster judge on Thursday and then go home? Having less \$ spent on a few means more can be served
- I would like to see a parallel program for the 8th graders, explaining the next step past the scientific method, discussing research techniques and presentation advice.
- Consider inviting past students to return to talk about what they are doing now. Consider having an alumnae association- maybe about to utilize for financial support as well as other support.
- We'd like a court to be reserved at the rec. center.
- Judges that actually specialize in the areas of science presented, tables for all poster presentations.
- More disco, not enough dancing.
- More unstructured free time.
- Early bus or way back to hotel after rec. center.
- It would be great if we could change the date to a little later than now, since district science day was this weekend, we should move the symposium back to Hilton.
- It's all good.
- Drinks at the pizza dinner, earlier email notifications and an updated website, esp. about the time limit changes, more fruit, a healthy food to snack on.
- I liked the zoo animals!

- Have paper presenter longer time to speak.
- T-shirt sizes other than large, Banquet speaker that is more dynamic and not as long, coffee and water during the presentations.
- TIME LIMITATIONS ARE A PROBLEM.
- I recommend moving the dates to April. March is filled with parent-teacher conferences, local, district and regional science and engineering fairs. Tours of Campus or Department Poster Presentations.
- More presentation time.
- It would be good if that both students can be present for a team project.

V. Features you would like to see deleted from next year's symposium.

- Rec. games from clarion.
- The walk from UT to the International house.
- I don't think anything should be deleted.
- The guy who talked forever Thursday at the banquet, but not deleted just shortened
- Taping of the doors, banquet speakers.
- Banquet speaker too long.
- The slide show after the banquet.
- None/ it could be scheduled to adjourn an hour earlier without losing anything? (I really don't know how).
- Unhealthy food.
- The ignorant food court workers.
- Banquet.
- There is some waste.
- Provide 1/2 - 3/4 hour poster session viewing during a break prior to judging and more interactive activity before banquet. Slightly shorter time period (not greater than 45 min.) for banquet speaker or more interactive panel (i.e. panel of previous presenters and what they are currently doing or speaking that could interview those past students and present findings).
- Bad angle of the group picture or different location.
- Shorter time at rec. center, shorter keynote presentation (unfortunately most high-schoolers do not have that long of attention spans).
- I really enjoyed all of the events.
- Have 8th graders come for one day only.
- The extremely long keynote speech, good but long.

VI. General comments

- The symposium is well fun and a good experience.
- Awesome.
- It was a good time.
- It was a lot of fun! As an 8th grader I enjoyed all of the opportunities!
- I enjoyed the hotel and pool.
- Overall the symposium was good it was worth coming.
- I came here to have fun! The trip was boring!
- It was kind of boring.
- This was an awesome time.

- This program values and recognized students for high levels of research and applications and sends the message to our future scientists that they are respected and needed! It is very exciting to be a small part of this process.
- I had a lot of fun and was amazed at the paper presentations.
- The program is a lot of fun. What a great learning experience.
- If we are going to have lots of posters (which is a good thing) then we should have more poster judges or allow more time for that process. Several students felt rushed- High School teachers who are present can help with 8th grade judging.
- It was pretty sweet.
- It was a great experience.
- Good program, good learning experience.
- Thank you so much.
- Please send me something that I can forward to my company's PR and gifts department. They were interested in our regional Intel but wanted to do it all- but \$25,000 was too much. A state event might be more to their interest Janis Steel- The Scotts-Miracle Gro Company (we can discuss via email).
- Very well organized. A pleasant experience for all attendees.
- Great conference as usual.
- Enjoyable, well run and smooth program.
- It was a very fun experience. I learned a lot.
- Need more judges for poster presentations, there wasn't enough time, judges were rather rushed.
- I felt it ran very smoothly. There were no big problems at all.
- Over all, great program.
- Very good a lot of fun.
- Overall positive atmosphere, great Euchre tournament.
- Another great year for the OJSHS!
- Excellent program, competitive presenters.
- Did the best we could!! The program serves a need to encourage research and educate
- Quality presentations.
- Please continue this opportunity for student. This is an excellent way to see what other schools are doing in science research.
- Nice symposium overall.