



Academy of Applied Science



Forty-Sixth Annual

Southeastern Michigan

**Junior Science and
Humanities
Symposium**

**Program
2010**

**WAYNE STATE
UNIVERSITY**

**McGregor Memorial Conference Center
Detroit, Michigan**

March 25 and 26, 2010

Forty-Sixth Annual
SOUTHEASTERN MICHIGAN
JUNIOR SCIENCE AND HUMANITIES
SYMPOSIUM

Thursday and Friday, March 25th and 26th, 2010

SPONSORED BY

WAYNE STATE UNIVERSITY
College of Education

in cooperation with

U.S. Army Research Office - Research Triangle, NC

U.S. Naval Research Office

U. S. Air Force Research Office

U.S. Army Tank - Automotive Command
Research, Development, and Engineering Center
Warren, MI

Academy of Applied Science - Concord, New Hampshire

National Association of Secondary School Principals

**OBJECTIVES OF THE
JUNIOR SCIENCE AND HUMANITIES
SYMPOSIUM PROGRAM**

- 1. To promote research and experimentation in the sciences, mathematics and engineering at the high school level.*
- 2. To recognize the significance of research in human affairs and the importance of humane and ethical principles in the applications of research results.*
- 3. To search out talented youth and talented teachers; recognize their accomplishments at symposia and encourage their continued interest and participation in the sciences, mathematics, and engineering.*
- 4. To expand the horizons of research-oriented students by exposing them to opportunities in the academic, industrial, and governmental communities.*
- 5. To enlarge the number of future adults capable of conducting research and development.*

In order to accomplish these objectives, we enlist the active participation of our local communities in improving the education of our children.

ADMINISTRATION OF JSHS

Dr. Maria M. Ferreira

Associate Professor and Coordinator of Science Education, College of Education, Wayne State University
Director and Coordinator of JSHS

JSHS ADVISORY BOARD

Mr. Jeff Conn

Senior Lecturer
College of Science—Physics
Wayne State University

Mr. Brian Derowski

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Retired Technical Director of U.S. Army
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Associate Professor
Center for Molecular Medicine & Genetics
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Dr. Steven Ilmer

Associate Dean for Research, College of Education
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Experimental Condensed Matter Physics
Wayne State University

Dr. Daniel Kashian

Assistant Professor, Biological Sciences
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Assistant Dean, Teacher Education Division
College of Education
Wayne State University

Dr. Eva Powers

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Wayne State University

Dr. Claude A. Pruneau

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Physics
Wayne State University

Mr. Kevin Rashid

Honors Curriculum Coordinator
Wayne State University

Dr. David Rueda

Assistant Professor- Chemistry
Wayne State University

Dr. Paula Wood

Dean, College of Education
Wayne State University



Welcome

*from the JSHS Director
Dr. Maria Ferreira*

Dear Students, Teachers, Parents and Colleagues,

It is my great privilege to welcome you to the 46th annual Junior Science and Humanities Symposium (JSHS) of Southeast Michigan. Once again we have a group of very talented young men and women from schools throughout southeast Michigan who will share their research with us. I would like to thank the teachers and mentors for the guidance they provided students throughout the research process and their parents for the support that such activities entail.

An event such as this one can not be accomplished by one person alone and I would like to express my gratitude to those who every year help make this event possible: the members of the Advisory Board, judges, speakers and the administration of the College of Education at Wayne State University. A special thanks to Ms. Margaret Hoard for her help in the planning and running of the symposium and to Ms. Deborah Scales and the students from the Edward “Duke” Ellington Conservatory of Music & Art for gracing us with their music during the interlude.

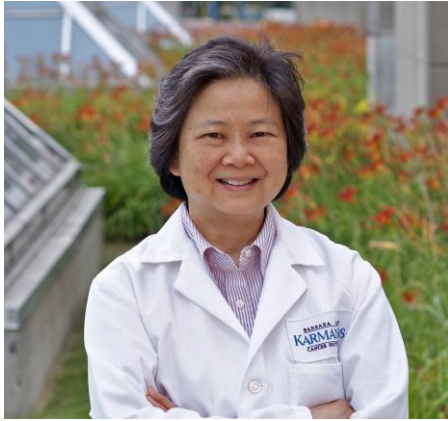
I would like to take this opportunity to give you a short overview of the history of the JSHS, for those who might not be familiar with this wonderful program. The JSHS was established in 1958 by the U. S. Army Research Office. In 1995 the Office of Naval Research and in 1997 the U. S. Air Force joined the army in funding of the symposium. However, the Academy of Applied Sciences administers all facets of the program.

The primary aim of the JSHS is to promote research among high school students. Every year, more than 10,000 students and their teachers participate in forty-eight regional symposia held on university campuses across the country and in Alaska, Puerto Rico and the Department of Defense schools in Europe and the Pacific. Students presenting at the regional symposia have the opportunity to receive significant awards in the form of scholarships, payable to the university of their choice. The first, second and third student finalists at each of the regional symposium receive \$2000, \$1500, and \$1000 respectively, and all five finalists are invited to attend the National JSHS. The two finalists at each regional symposium present their research once again at the National JSHS where they have the opportunity to receive additional awards. The three finalists in each of the categories at the National JSHS receive \$16,000.00, \$6,000.00 and \$2,000.00 respectively in scholarships and the first place finalist in each category is invited to participate in an expense-paid trip to the London International Youth Science Forum, which brings every year over 400 participants from 60 nations. For additional information about the JSHS please visit: <http://www.coe.wayne.edu/ted/JSHS/index.htm>

Thank you for participating in this year’s symposium. I hope your experience is a memorable one.

Maria M. Ferreira, Director JSHS

Keynote Speaker



Professor Wei-Zen Wei
Karmanos Cancer Institute & School of
Medicine, Wayne State University

Professor Wei-Zen Wei received her B.S. in 1973 in Plant Pathology from the National Taiwan University in Taiwan. In 1975 she received her Master's in Medical Microbiology from the Upstate Medical Center from SUNY in Syracuse (NY) and a Ph. D. in Biology from Brown University in 1978. In 1983 she joined the Karmanos Cancer Institute where she is a professor, a position she shares with the Department of Immunology and Microbiology in the School of Medicine at Wayne State University. Since 1996, Professor Wei has been researching breast cancer immunotherapy and is presently leading a team of researchers at Karmanos in a study investigating the effects of vaccines.

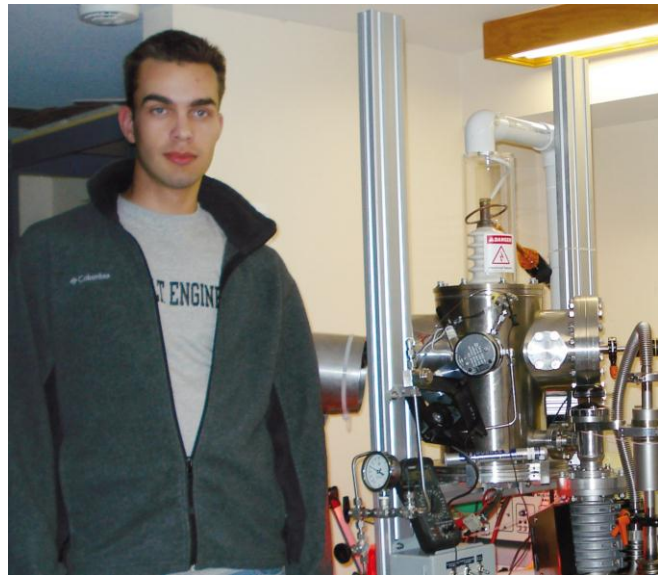
that could potentially be used to prevent or cure breast cancer

Professor Wei's accomplishments are many: has received over 6 million dollars in grants; is author in 67 journal articles, 9 books and book chapters, and 73 abstracts. She has made many presentations all over the world and is the recipient of the 2008 Karmanos Cancer Institute, Scientific Distinction Award and 2009 Crain's Health Care Heroes Award. In 2004 she was also featured in the WNIC radio show "Remarkable Woman" with Florin Marks. Today Professor Wei will share her work related to the use of vaccines in the prevention and treatment of cancer.

Where Are They Now?



Ana Lyons – JSJS Finalist – 2008
Ana is presently a sophomore at the Massachusetts Institute of Technology (MIT), majoring in biology.



Thiago Olson – JSJS Finalist – 2007
Thiago is presently a junior at Vanderbilt University, with a double major in engineering and physics.

Ana and Thiago will discuss how their participation in the JSJS impacted their current experiences in college and future research interests.

Interlude with Music

The Edward “Duke” Ellington Jazz Band & “Satin Strings”



The Duke Ellington Jazz Band is an after-school rehearsal group comprised of middle school students from the Edward “Duke” Ellington Conservatory of Music and Art. The students are mentored by the jazz staff of the University of Michigan and perform compositions by Freddie Hubbard and Herbie Hancock to name a few. The group recently performed at the University of Michigan Jazz festival, one of only two middle school jazz bands performing at the festival. **Mr. Herbert Cage directs the band.**



The Edward “Duke” Ellington “Satin Strings” is currently made of musically talented students from grades 4 through 8. The group’s most recent performances include: the Noel Night celebration in Detroit’s Cultural Center, Breakfast with Santa, Prince Hall Mason awards program, Michigan Band & Orchestra Association Solo & Ensemble Festival (MSBOA), and at an educators’ symposium at Wayne State University. Ms. Deborah Scales directs the “Satin Strings.”

The Duke Ellington “Satin Strings”

Campus Tour

The Barbara Ann Karmanos Cancer Institute: <http://www.karmanos.org/>



Located in midtown Detroit, within the Detroit Medical Center Area, Karmanos is one of 40 National Cancer Institute-designated comprehensive cancer centers in the United States. It serves more than 6,000 new patients annually on a budget of \$216 million, conducting more than 700 cancer-specific scientific investigation programs and clinical trials. The Karmanos Cancer Center is among the nation's best cancer centers, through the commitment of 1,000 staff, including nearly 300 faculty members, and supported by thousands of volunteer and financial donors. The Karmanos Cancer Institute is a unique, urban-based integrated center of research, patient care and education, dedicated to the prevention, early detection, treatment and eventual eradication of cancer. Those participating in the campus tour will have the opportunity to visit some of the research labs at the Karmanos Cancer Center.

The Karmanos Center is located at 4100 John R.
Detroit, MI 48201-2013
(800) 527-6266

PROGRAM

THURSDAY AND FRIDAY, MARCH 25 AND 26, 2010

THURSDAY, MARCH 25, 2010

2:30 p.m. - 3:30 p.m.

REGISTRATION

Lobby
McGregor Memorial Conference Center
Wayne State University

3:30 p.m. - 4:00 p.m.

OPENING SESSION

Room B/C, McGregor

PRESIDING:

Dr. Maria Ferreira, Director, JSHS
Associate Professor of Science Education
College of Education
Wayne State University

WELCOME/OVERVIEW OF WAYNE STATE UNIVERSITY:

Dr. Craig Roney, Assistant Dean Teacher Education Division
College of Education, Wayne State University

ORIENTATION:

Dr. Maria Ferreira
JSHS Director and Coordinator

4:00 p.m. - 6:00 p.m.

PRESENTATION OF STUDENT PAPERS

McGregor Conference Center

PRESENTATIONS

SECTION I ROOM E, MCGREGOR

MODERATOR: **Dr. Ann Sodja**, Biology Department – Wayne State University

STUDENT PRESENTERS:

Hannah Cheriyan

“Genes or Other Means? The Effect of Environment vs. Genes on the Incidence of Allergies”

Phoebe Huberty

“Analysis of Ruminant Protozoal Viability”

Andrew Jakubowski

“An Examination of the Relationship Between Patient Satisfaction Scores and Staff Perception of Patient Satisfaction Scores at Spectrum Health”

Srivarsha Koripella

“The Effect of Nutrients and Oxygen on Decomposition of Nuisance Algae”

Travis Mazer

“The Impact of Space-like Atmospheres on Tardigrade Cryptobiosis”

Conor Nicholl

“Temperature, Sulfide, and Sulfate Levels in Sites 1 and 2 of Bean Creek and Distinct Depths of Devils Lake with a Reference to Fall Turnover in Devils Lake”

JUDGES:

Dr. David Grueber, Science Education – Wayne State University

Indrajyoti Indra, Biology Department - Wayne State University

Ms. Katrina Prantzos, TARDEC

SECTION II ROOM F, MCGREGOR

MODERATOR: Dr. Christy Chow, Chemistry Department – Wayne State University

STUDENT PRESENTERS:

Gina Calco

“THE Quantification of Melamine in Adulterated Dairy Products Using a Variety of Analytical Techniques”

Supriya Jalukar

“Using 3-methyl-catechol as an alternative to Aminochrome in the Study of Parkinson’s Disease”

Kathryn Luczek

“An Exploratory Study of Electrocatalytic Reduction Strategies for Synthetic Bio-Oil Using Small Samples”

Joel Simons

“Product Falsification: Olive Oil”

Nithya Vijayakumar

“Characterizing Novel Loci Important for Demyelinating Peripheral Neuropathy: A Study of SOX10 Regulated Enhancers at BCAS3 and DLG4”

Shirley Wu

“Proteasome Inhibition and Apoptosis by the Designated DSF-analogue #39 in MDA-MB-231 Breast Cancer Cells”

JUDGES:

Dr. Lori Pile, Biology Department – Wayne State University

Dr. Peter Andreana, Chemistry Department – Wayne State University

Mr. Steven Martin, TARDEC

SECTION III ROOM G, MCGREGOR

MODERATOR: **Dr. Russell Finley**, School of Medicine – Wayne State University

STUDENT PRESENTERS:

Disha Bora

“Dendrimer-Dexamethasone Conjugates/Nanodevices for Targeted Delivery”

Siddhartha Jena

“High Cholesterol Impairs Water and Gas Transport in Red Blood Cells”

Alisha Kamboj

“The Determination of a Biomarker for Breast Cancer through a SELEX Procedure”

Thomas Kennedy

“Spinal Cord Dopamine Activity After Injections of Morphine: A Dose Response and Time Course Study”

Louie Moran

“Analysis of GAP-43 In Mammalian Models of Alzheimer’s Disease”

Sherwin Wu

“Glucosaminyl (N-acetyl) Transferase 2 (GCNT2) Gene Expression Highly Correlates with Metastatic Capacity in Breast Cancer Cell Lines and Promotes the Epithelial-Mesenchymal Transition (EMT) Program”

JUDGES:

Dr. David Rueda, Chemistry Department – Wayne State University

Dr. Alice Hudder, Institute of Environmental Health Sciences – Wayne State U.

Dr. Karen Myhr, Biology Department – Wayne State University

SECTION IV ROOM H, MCGREGOR

MODERATOR: Dr. Rubye Holloway

STUDENT PRESENTERS:

Chelsea Angel

“Differentiation of Blood Spatter Analysis on Moving Objects at Various Velocities”

Joseph Billian

“Reconstructing the Paleoecologic and Trophic Structure of a Fossil Mammalian Community from the Eocene of Wyoming”

John Capodilupo

“Analyzing the Clustering of Point Sources in the 74MHz VLSS Survey”

Evan Fletcher

“Improving the Efficiency of a Galactic Interaction Simulation”

Kristyna Nunzio

“Backward Associative Strength in Short Term Memory and the Effects on False Recall”

Alexis Snyder

“The Effects of Chitosan Tablets on Vitamin Absorption”

JUDGES:

Dr. David Cinabro, Physics Department – Wayne State University

Dr. Amanda Solem, Chemistry Department – Wayne State University

Mr. Daniel Kosinski, TARDEC

SECTION V ROOM I, McGREGOR

MODERATOR: **Dr. Vladimir Chernyak**, Chemistry Department – Wayne State University

STUDENT PRESENTERS:

Shubhangi Arora

“Identification and Characterization of Genes in C. albicans that Confer Multi-drug Resistance”

Mimi Chen

“Construction of a Restriction Enzyme Set for the Detection of Bio-Barcode Assay”

Namhun Kim

“FBG1 and APC-2 Interaction in Cell Cycle Control”

Emily Mancewicz

“The Anti-Proliferative effects of Chemotherapeutic Drugs on Mouse Mammary Tumor Cells”

Shuaib Raza

“Effect of Osteold on Stress and Strain Distribution in Human Cancerous Bone”

Rachel Rudlaff

“The Effect of Combining Drugs on Swine Respiratory Disease (SRD) Pathogens”

JUDGES:

Dr. Donna Kashian, Biology Department – Wayne State University

Mr. Shahriar Shidfar, TARDEC

6:00 p.m.- 6:30 p.m.

INTERLUDE
Room B/C McGregor

Student Poster Presentations
Music by students from the Edward “Duke” Ellington Conservatory of Music and Art

6:30 p.m.- 8:30 p.m.

BANQUET SESSION
Room LM – Lower Level, McGregor Conference Center

PRESIDING: **Dr. Maria Ferreira**
Director, JSHS

SPEAKER: **Professor Wei-Zen Wei**
Professor, School of Medicine, Cancer Institute
Wayne State University

TOPIC: “DNA Vaccines in Cancer Prevention and Therapy”

ANNOUNCEMENT OF FRIDAY’S STUDENT PAPERS:

Dr. Maria Ferreira
Director, JSHS

FRIDAY, MARCH 26, 2010

8:15 a.m. - 8:45 a.m.

CONTINENTAL BREAKFAST

Lobby: McGregor Memorial Conference Center
Wayne State University

8:45-11:30 a.m.

CAMPUS TOUR:

(wait in breakfast area for tour guides)

9:30 a.m. - 11:45 a.m.

Final Judging

McGregor Conference Center, Room I

Moderator:

Dr. Thomas Edwards, Mathematics Education – Wayne State University

Judges:

Dr. Dan Kashian, Biology Department - Wayne State University

Dr. Janice Rueda, Nutrition and Food Science - Wayne State University

Dr. Padu Karur, Physics Department – Wayne State University

Dr. Ava Zeineddin, Science Education – Wayne State University

12:00 p.m.-1:30 p.m.

LUNCHEON BANQUET

Room LM – Lower Level, McGregor Conference Center

PRESIDING:

Dr. Maria Ferreira

College of Education

WELCOME:

Dr. Michele Grimm

Associate Dean, College of Engineering

SPEAKERS:

Kevin Rashid, Honors Program – Wayne State University

TOPIC:

Undergraduate Research Opportunities at Wayne State University

Ana Lyons & Thiago Olson

TOPIC:

Where Are they Now? Two former JSHS finalists talk about how their participation in the JSHS impacted their college experiences and future research interests.

1:30 p.m. - 2:15 p.m.

CLOSING SESSION

PRESIDING: **Dr. Maria Ferreira**
Director, JSHS

AWARDS: **Presentation of Student Speaker Awards**
Dr. Maria Ferreira, Director

PRESENTATION FROM STUDENT FINALIST

EVALUATION OF PROGRAM:

Participants please complete evaluation forms



STUDENT RESEARCH PAPERS

Name	School	City
Chelsea Angel	Kalamazoo Area Math & Science Center	Kalamazoo
Shubhangi Arora	Novi High School	Novi
Joseph Billian	Kalamazoo Area Math & Science Center	Kalamazoo
Disha Bora	Detroit Country Day School	Beverly Hills
Gina Calco	Kalamazoo Area Math & Science Center	Kalamazoo
John Capodilupo	Catholic Central	Grand Rapids
Mimi Chen	Detroit Country Day School	Beverly Hills
Hannah Cheriyan	Detroit Country Day School	Beverly Hills
Evan Fletcher	Kalamazoo Area Math & Science Center	Kalamazoo
Phoebe Huberty	Kalamazoo Area Math & Science Center	Kalamazoo
Andrew Jakubowski	Catholic Central	Grand Rapids
Supriya Jalukar	Troy High School	Troy
Siddhartha Jena	International Academy	Bloomfield Hills
Alisha Kamboj	Kalamazoo Area Math & Science Center	Kalamazoo
Thomas Kennedy	Catholic Central	Grand Rapids
Namhun Kim	Troy High School	Troy
Srivarsha Koripella	Troy High School	Troy
Kathryn Luczek	Catholic Central	Grand Rapids
Emily Mancewicz	Catholic Central	Grand Rapids
Travis Mazer	Kalamazoo Area Math & Science Center	Kalamazoo
Julia Miller	Kalamazoo Area Math & Science Center	Kalamazoo
Louie Moran	Catholic Central	Grand Rapids
Conor Nicholl	Addison High School	Addison
Kristyna Nunzio	Catholic Central	Grand Rapids
Shuaib Raza	Troy High School	Troy
Rachel Rudlaff	Kalamazoo Area Math & Science Center	Kalamazoo
Alexis Snyder	Roseville High School	Roseville
Joel Simons	Battle Creek Math and Science Center	Battle Creek
Nithya Vijayakumar	Detroit Country Day School	Beverly Hills
Shirley Wu	Detroit Country Day School	Beverly Hills
Sherwin Wu	Detroit Country Day School	Beverly Hills

STUDENT PARTICIPANTS

Name	School	City
Chelsea Angel	Kalamazoo Area Math & Science Center	Kalamazoo
Shubhangi Arora	Novi High School	Novi
Sneha Bency	Roseville High School	Roseville
Joseph Billian	Kalamazoo Area Math & Science Center	Kalamazoo
Disha Bora	Detroit Country Day School	Beverly Hills
Gina Calco	Kalamazoo Area Math & Science Center	Kalamazoo
John Capodilupo	Catholic Central	Grand Rapids
Mimi Chen	Detroit Country Day School	Beverly Hills
Hannah Cheriyan	Detroit Country Day School	Beverly Hills
Brittany Coulter	Roseville High School	Roseville
Ryan D'Mello	Kalamazoo Area Math & Science Center	Kalamazoo
Leana Danesh	Roseville High School	Roseville
Evan Fletcher	Kalamazoo Area Math & Science Center	Kalamazoo
Ciara Gray	Roseville High School	Roseville
Samantha Gray	Roseville High School	Roseville
LiYuan Huang	Troy High School	Troy
Phoebe Huberty	Kalamazoo Area Math & Science Center	Kalamazoo
Brianna Hunt	Roseville High School	Roseville
Devin Indoby	Deckerville High School	Deckerville
Andrew Jakubowski	Catholic Central	Grand Rapids
Supriya Jalukar	Troy High School	Troy
Siddhartha Jena	International Academy	Bloomfield Hills
Alisha Kamboj	Kalamazoo Area Math & Science Center	Kalamazoo
Thomas Kennedy	Catholic Central	Grand Rapids
Namhun Kim	Troy High School	Troy
Srivarsha Koripella	Troy High School	Troy
Kathryn Luczek	Catholic Central	Grand Rapids
Emily Mancewicz	Catholic Central	Grand Rapids
Travis Mazer	Kalamazoo Area Math & Science Center	Kalamazoo
Nicole McLeod	Roseville High School	Roseville
Julia Miller	Kalamazoo Area Math & Science Center	Kalamazoo
Louis Moran	Catholic Central	Grand Rapids
Kevin Nash	Roseville High School	Roseville
Conor Nicholl	Addison High School	Addison
Michael Nocita	Roseville High School	Roseville
Kristyna Nunzio	Catholic Central	Grand Rapids
Johnathon Ostrowski	Roseville High School	Roseville
Radhika Sharma	Kalamazoo Area Math & Science Center	Kalamazoo
Shuaib Raza	Troy High School	Troy
Rachel Rudlaff	Kalamazoo Area Math & Science Center	Kalamazoo
Tushar Shetty	Troy High School	Troy
Alexis Snyder	Roseville High School	Roseville
Nithya Vijayakumar	Detroit Country Day School	Beverly Hills
Tyler Wardle	Roseville High School	Roseville
Sharita Williams	Roseville High School	Roseville
Marqaelah Williams	Roseville High School	Roseville
Rosemarie Wisniewski	Roseville High School	Roseville
Shirley Wu	Detroit Country Day School	Beverly Hills
Sherwin Wu	Detroit Country Day School	Beverly Hills

**TEACHER/SUPERVISOR/ADMINISTRATIVE
PARTICIPANTS**

Name	School	City
Robert Anemone	Kalamazoo Area Math & Science Center	Kalamazoo
Rebecca Brewer	Troy High School	Troy
Margaret Day	Troy High School	Troy
Brian Derowski	Deckerville High School	Carsonville
Ferne (Bud) Ellis	Addison High School	Addison
Leigh Ann Eriks	Catholic Central	Grand Rapids
John Goudie	Kalamazoo Area Math & Science Center	Kalamazoo
Gene Menton	Detroit Country Day School	Beverly Hills
Chrystal Osinski	International Academy	Bloomfield Hills
Emily Pohlonski	Novi High School	Novi
John Reinowski	Roseville High School	Roseville
Scott Wheeler	Roseville High School	Roseville

Judges

Dr. Peter Andreana
Chemistry Department
Wayne State University

Dr. Vladimir Chernyak
Chemistry Department
Wayne State University

Dr. Christy Chow
Chemistry Department
Wayne State University

Dr. David Cinabro
Physics Department
Wayne State University

Dr. Thomas Edwards
Mathematics Education
Wayne State University

Dr. Russell Finley
School of Medicine
Wayne State University

Dr. David Grueber
Science Education
Wayne State University

Dr. Rubye Holloway
Science Administrator
Detroit Public Schools

Dr. Alice Hudder
Institute of Toxicology
Wayne State University

Dr. Indrajyoti Indra
Biology Department
Wayne State University

Dr. Padu Karur
Physics Department
Wayne State University

Dr. Dan Kashian
Biology Department
Wayne State University

Dr. Donna Kashian
Biology Department
Wayne State University

Mr. Daniel Kosinski
TARDEC- U.S. Army Tank Automotive Research
Development & Engineering Center

Mr. Steven Martin
TARDEC- U.S. Army Tank Automotive Research
Development & Engineering Center

Dr. Karen Myhr
Biology Department
Wayne State University

Dr. Lori Pile
Biology Department
Wayne State University

Ms. Katrina Prantzalos
Electrical Engineer – TARDEC- U.S. Army Tank
Automotive Research
Development & Engineering Center

Dr. David Rueda
Chemistry Department
Wayne State University

Dr. Janice Rueda
Nutrition and Food Science
Wayne State University

Mr. Shahriar Shidfar
TARDEC-U.S. Army Tank Automotive Research
Development & Engineering Center

Dr. Ann Sodja
Biology Department
Wayne State University

Dr. Amanda Solem
Chemistry Department
Wayne State University

Dr. Ava Zeineddin
Science Education
Wayne State University

SPECIAL ARRANGEMENTS AND ACKNOWLEDGMENTS

Doris E. Cousens, Director

National Junior Science & Humanities Symposium
Academy of Applied Science

Dr. & Mrs. Herbert Dobbs

Association U.S. Army, Detroit Chapter

Dr. Thomas Edwards

Associate Professor of Mathematics Education
Wayne State University

Dr. Michele Grimm

Associate Dean for Academic Affairs, Engineering
Wayne State University

Ms. Margaret Hoard

TED Secretary, College of Education
Wayne State University

Mrs. Sandra Jenkins

TED Division Secretary, College of Education
Wayne State University

Jeff Conn

Physics Department
Wayne State University

Debbie Moore

McGregor Conference Center

Ms. Joyce Martin

Administrative Assistant, College of Education
Wayne State University

Mr. Kevin Rashid

Honors Program
Wayne State University

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World-Class Education in the Real World