

# HONOR SEMINARS

of  
Metropolitan  
Dayton

**2004 - 2005  
Forty Third  
Annual Report**

***Honor Seminars  
Of  
Metropolitan Dayton, Inc.***

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Annual Report***

***2004 - 2005***

Honor Seminars of Metropolitan Dayton, Inc.  
140 East Monument Avenue

Dayton, OH 45402

## ***FOREWORD***

The Honor Seminars of Metropolitan Dayton was organized in 1962 as a non-profit corporation having as its goal the function of providing for outstanding area high school students the opportunity to learn from and interact with highly qualified professional people from the greater Dayton area. To accomplish this goal, two separate seminar programs are established each year for selected juniors and seniors as an extracurricular activity. Effective use of the community resources is thereby utilized to develop the student who has demonstrated the desire and ability for high achievement. These seminars have been directed toward the understanding and appreciation of advances in modern sciences, technologies, and the humanities. They are meant to provide enrichment to the students' background, to aid in the development of independent thinking and the stimulation of individual creativity, and to lend assistance in defining personal career objectives. This annual report represents completion of 43 years of service to the community.

In 1973, the Honor Seminars of Metropolitan Dayton, Inc. joined the Affiliate Societies Council of the Engineering and Science Foundation of Dayton to provide Honor Seminars with a permanent headquarters address.

Seminar programs in recent years have been directed toward increased participation of the students and have emphasized discussions of the topics with seminar leaders. This mode of operation has helped to make the contents of the seminars meaningful to the students and to satisfy their intellectual curiosities. Many of the seminars are conducted within the working environments of the individual seminar leaders, permitting them to use a variety of demonstration materials pertinent to their profession and permitting the students to acquire deeper insights into the functions performed by these professionals in today's society. Honor Seminars is an educational program established in the spirit of voluntary participation. All operations of the program are conducted without compensation or honoraria for the service of the individuals. The continued success of the Honor Seminars program is the direct result of the strength of the seminar leaders who constitute the faculty and the foresight of the

officers and members of the Board of Directors. These professional individuals give gladly of their time and efforts to bring their knowledge and experience in a wide variety of fields. Their individual contributions are pointed out in this annual report of the activities for 2004-2005. Students of exceptional ability and promise are selected on an impartial basis from the public and private schools of the greater Dayton metropolitan area. The Principals and Counselors of these schools prior to the student's junior year provide nominations of candidates. An experienced Admissions Committee determines the selection of students from those nominated by the participating schools. Those students who displayed and maintained through their weekly attendance the very highest level of interest, initiative, talent, and scholarly activity are listed in this report of activities.

This year, as in the past, the program for the junior students was directed toward the basic sciences and mathematics in preparation for the senior program. Building on the junior year base, the senior program involves more applications technology and provides the senior students with opportunities to gain insight into work being performed at the leading edge of scientific endeavor.

The Honor Seminars of Metropolitan Dayton, Inc., serves a unique and fundamental need for the Montgomery-Greene County community. The cooperation and backing of the companies and institutions with which the seminar leaders and board members are affiliated have been substantial. The generous financial support provided by the many participating organizations in this community is appreciated and indicative of their desire to maintain this exceptional opportunity for our outstanding high school students. The Dayton Area Chamber of Commerce recognizes The Honor Seminars of Metropolitan Dayton, Inc., as an ongoing benefit to the community which merits contributory support from sponsoring organizations.

## **Senior Participants 2004 – 2005**

### **Bellbrook High School**

**Nolan R. Fink** 1374 Wild Ivy Way  
Dayton 45440

**Megan E. Easley** 2181 Tanbark Trail  
Xenia 45385

### **Brookville High School**

**Rosa M. Barnett** 10091 Air Hill Rd.  
Brookville 45309

**Bradley A. Sewell** 15550 Lexington Salem Rd.  
West Alexandria 45381

### **Carroll High School**

**Elizabeth J. Phillips** 822 Wilfred Ave.  
Dayton 45410

**Christopher M. Pitstick** 1792 Union Rd.  
Xenia 45385

**Chris M. Hodapp** 1065 Firewood Dr  
Beavercreek 45430

**Katherine A. Schmidt** 383 Winding Trail  
Xenia 45385

**Chistina M. Carter** 1951 N. Springcrest Ct.  
Beavercreek 45432

**Ryan L. Beaty** 4291 Emmajane Ct.  
Beavercreek 45440

### **Centerville High School**

**Kelcye A. McDonough** 7260 Bigger Lane  
Dayton 45458

**Alyssa Y. Chen** 2127 Belleville Lane  
Dayton 45459

**Connor P. Burke** 8740 Centerridge Point  
Dayton 45458

**Andy A. Lin** 2112 Pelwood Drive  
Dayton 45459

**Randal G. Morgan** 211 Brookway Road  
Dayton 45459

**Madhumitha Ravikumar** 10119 Gallatin Court  
Dayton 45458

**Daniel J. Yoon** 349 Jenny Lane  
Dayton 45459

**Samiya L. Saklayen** 10351 Yellow Locust Lane  
Dayton 45458

**Jeeah Lee** 1131 Red Ash Court  
Dayton 45458

**Fairborn High School**

**Christopher P. Kowalchuk** 4984 Appaloosa Trail  
Fairborn 45324

**Miami Valley School**

**Ian F. Rymer** 1789 Schnebly Road  
Xenia 45385

**Jeffrey S. Zabinski** 5263 Clearcreek Trail  
Yellow Springs 45387

**Miamisburg High School**

**Nicole A. Fontaine** 9714 Pellston Way  
Miamisburg 45342

**Northmont High School**

**Michael A. Holdgreve** 8480 Crestway Dr.  
Clayton 45315

**Spring Valley Academy**

**Laura L. Jones** 4930 Coulson Drive  
Dayton 45418

**Vandalia Butler High School**

**Ashley E. Price** 9012 Fredrick Pike  
Dayton 45414

**Morgan R. L. Albert** 1121 Bristol Drive  
Vandalia 45377

**Sagar N. Patel** 451 Timberwind Lane  
Vandalia 45377

**West Carrollton High School**

***Stephanie A. Wheeler***

5201 Lindbergh Blvd  
West Carrollton 45449

***Heather M. Brooks***

4 William St.  
West Carrollton 45449

**Xenia High School**

***Kyle W. Keller***

43 Sexton Drive  
Xenia 45385

## **Seminars of the Senior Participants**

<b>Dr. Tamara Chelette</b> Air Force Research Laboratory	<b><i>Agile Flight Simulation</i></b>
<b>Mr. Doug Peterson</b> Aeronautical Systems Center	<b><i>Risk Management and Software Safety</i></b>
<b>Prof. Bob Brecha</b> University of Dayton	<b><i>Trapping of Ultra-cold Atoms</i></b>
<b>Prof. Michele Wheatly</b> Wright State University	<b><i>Comparative Genomics</i></b>
<b>Mr. Steve Prinzivalli</b> WHIO-TV	<b><i>Meteorology</i></b>
<b>Prof Mark Goltz</b> Air Force Institute of Technology	<b><i>Applications of Creative Techniques to Clean Up Ground Water</i></b>
<b>Dr James Grote</b> Air Force Research Laboratory	<b><i>Fiber Optics Communication</i></b>
<b>Dr Cheri Adams</b> Director of Astronomy	<b><i>Explorers</i></b>
<b>Dr Doug Dudis</b> Air Force Research Laboratory	<b><i>Fuel Cells</i></b>
<b>Mr. Raymond Wasky</b> Northrop Grumman, Xon Tech	<b><i>Space Weather and Its Effects on Technology and the Environment</i></b>
<b>Dr Michael Eismann</b> Air Force Research Laboratory	<b><i>Hyperspectral Imaging</i></b>
<b>Dr Dan Goldman</b> University of Dayton	<b><i>Science and the Paranormal</i></b>
<b>Dr Philip Amburn</b> Aeronautical Systems Center	<b><i>Scientific Visualization</i></b>
<b>Prof John Fortman</b> Wright State University	<b><i>Chemistry of Flight</i></b>
<b>Prof John Miller</b> Air Force Institute of Technology	<b><i>Operations Research</i></b>
<b>Prof Sarah Tebbens</b> Wright State University	<b><i>Tsunamis: Understanding the December 26, 2004 Indonesian Disaster</i></b>
<b>Prof James A. Lott</b> Air Force Institute of Technology	<b><i>Semiconductor Vertical Cavity Surface Emitting Lasers: Six 'Easy' Pieces</i></b>

**Dr Ruth Pachter**  
Air Force Research Laboratory

**Mr Larry Perkins**  
Air Force Research Laboratory

**Dr. Tim Wood**  
Wright State University

**Prof (Emeritus) Matt Kabrisky**  
Air Force Institute of Technology

**Dr Chris Bozada**  
Air Force Research Laboratory

**Dr Ken Schepler**  
Air Force Research Laboratory

***Computational Chemistry and Materials  
Science: Modeling and Reality***

***Materials and Process Technology  
Transition***

***Strange Beasts in a Strange Land:  
Hunting Bryozoans in Thailand***

***Self-awareness in Humans and Other  
Animals***

***Careers and Innovations in High-  
Performance Microelectronics***

***The Magic of Nonlinear Optics***

## **Junior Participants 2004 – 2005**

### **Alter High School**

**Anna M. McCrate** 641 Stoneybrook Dr.  
Kettering 45429

**Kevin E. Wenzke** 10615 Willow Brook Rd.  
Dayton 45458

### **Brookville High School**

**Bryan J. Connolly** 6440 Wellbaum Rd.  
Brookville 45309

**Matthew D. Hoffman** 10488 Upper Lewisburg-Salem Rd.  
Brookville 45309

**Sean A. Thomas** 10913 Providence Rd.  
Brookville 45309

**Scott T. Lathrop** 222 Maple St.  
Brookville 45309

**Sean A. McDaniel** 5121 Keener Rd.  
Brookville 45309

**Emily S. Moler** 10930 Wolf Creek Pike  
Brookville 45309

**Steven R. Wampler** 9151 Upper Lewisburg-Salem Rd.  
Brookville 45309

### **Carroll High School**

**Diane M. Buchwalder** 1781 Sunnymead Rd.  
Xenia 45385

**David P. Bailey** 491 Wenlan Ct.  
Beavercreek 45430

### **Centerville High School**

**Katie E. Sears** 9530 Quailwood Tr.  
Centerville 45458

**Kevin Y. Chen** 1240 Beech Trail  
Centerville 45458

**Ravi K. Gupta** 6941 Abington Green Ct.  
Centerville 45459

**Jae W. Park** 515 Crawley Run #208  
Centerville 45458

**Erica L. Tan**

320 Alston Woods Ct.  
Centerville 45459

**James L. Heuser**

7825 Raintree Rd.  
Centerville 45459

**Greeneview High School**

**Ronnie M. Pease**

4386 Webb Rd.  
Jamestown 45335

**Kettering-Fairmont High School**

**Heather L. York**

1951 Craig Dr.  
Kettering 45420

**Miami Valley School**

**Peter C. Williams**

715 Woodbourne Tr.  
Centerville 45459

**M. Mackenzie Cramblit**

6575 Grants Walk Ln.  
Dayton 45459

**Madeline N. Dunfee**

4604 Carroll Lee Ln.  
Middletown 45044

**Northmont High School**

**Aaron M. Arroyo**

375 Winterset Dr.  
Englewood 45322

**Jordon D. Gruber**

6440 S. Wheelock Rd  
West Milton 45383

**Monica R. Christian**

10203 Brookville-Phillipsburg Rd.  
Brookville 45309

**Stebbins High School**

**Susan S. Fernandes**

4991 'C', Broughton Pl.  
Dayton 45431

**Vandalia Butler High School**

**Brett C. Rismiller**

270 Mecca Dr.  
Vandalia 45377

**Bradley S. Hurak**

2179 Sierra Mist Ct.  
Dayton 45414

**Phillip M. Grice**

10400 Cassell Rd.  
Vandalia 45377

**Xenia High School**

**Jacob Z. Shapiro**

39 Sexton Dr  
Xenia 45385

**Julie N. Merriman**

1753 Ireland Rd.  
Xenia 45385

**Jennifer N. Szynski**

1189 Glen Kegley Dr.  
Xenia 45385

**Yellow Springs High School**

**Aaron J. Zaremsky**

401 Pleasant St.  
Yellow Springs 45387

**Carey H. Dixon**

640 Wright St.  
Yellow Springs 45387

**Tina H. Chen**

4680 Snypp Rd.  
Yellow Springs 45387

## **Seminars of the Junior Participants**

<b>Col David Walker</b> Air Force Research Lab Vice Cmdr	<b><i>Operational AF Engineers</i></b>
<b>Mr. Dan Bibby</b> Montgomery County Coroner's Office	<b><i>Forensic Science</i></b>
<b>Dr. John Raquet</b> AFIT School of Engineering	<b><i>GPS</i></b>
<b>LtCol JoAnn Erno</b> Air Force Research Lab, Propulsion	<b><i>Flight Test</i></b>
<b>Ms Cheri Adams</b> Boonshoft Museum of Discovery	<b><i>The Cosmic Dance</i></b>
<b>Dr. Paul Fleitz</b> Air Force Research Lab, Materials	<b><i>Laser Technology</i></b>
<b>Dr. Tim Bunning</b> Air Force Research Lab, Materials	<b><i>Liquid Crytsals</i></b>
<b>LtCol Rich Vanarsdel</b> Air Force Research Lab, Human Effectiveness	<b><i>Human Vision</i></b>
<b>Dr. Rajesh Naik</b> Air Force Research Lab, Materials	<b><i>Biotechnology</i></b>
<b>Maj. Kent Tiffany</b> Air Force Research Lab, Air Vehicles	<b><i>Unmanned Aerial Vehicles (UAVs)</i></b>
<b>Dr. Steven Rogers</b> ICAD, Inc.	<b><i>Medical Imaging</i></b>
<b>Dr. Joe Haus</b> University of Dayton	<b><i>Nanophotonics Research</i></b>
<b>Dr. Rick Bartell</b> AFIT, School of Engineering	<b><i>Laser Technology</i></b>
<b>Dr. Dan Voss</b> Wright State University	<b><i>Statistics "Precision Guesswork"</i></b>
<b>Ms. Marcy Szynski</b> US Army Corps of Engineers	<b><i>History of the Corps</i></b>
<b>Maj Adam McDonald</b> AFIT, School of Engineering	<b><i>Target Recognition</i></b>

**Dr. James Gord**  
Air Force Research Lab, Propulsion

**Prof. Matt Kabrisky, Emeritus**  
Air Force Institute of Technology

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88<sup>th</sup> Weather Squadron

**Dr. Brad Liebst**  
AFIT, School of Engineering

**Dr. Maury Docton**  
IAMS – Proctor and Gamble

***Photon Power***

***Biomedical Engineering-Parts I & II***

***Meteorology***

***History of Flight***

***Nutrition Development***

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## **Committee Chairmen**

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**Air Force Research Laboratory, Sensors Directorate**
- Ms. Lola Turner Signom**  
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## **CONTRIBUTORS**

Companies and individuals throughout the Greater Dayton Area provide generous support to the Honor Seminars of Metropolitan Dayton, Incorporated. Some of the donors wish to remain anonymous. Following is a list of those donors, which have given their permission to be listed in this report.

**John P. Williamson**

**Tien & Kelly Chen**

**Mark and Mary Ruth Shearer**

**Ashwani Sachdeva**

**Larry and Diane Welborn**

**Mark Levy**



*The ancient Greek art in our corporate logo is known as the "Lamp of Knowledge" which is symbolic of the major goal of Honor Seminars. It represents the academic achievement and dedication of self-improvement through life long learning. Thus, it is appropriate to encompass this art within our corporate logo.*

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