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2014 OMC WINNERS

<table>
<thead>
<tr>
<th>Grade</th>
<th>1st Place</th>
<th>2nd Place</th>
<th>3rd Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th</td>
<td>Alan Xie</td>
<td>Zachary Weaver</td>
<td>Jayshree Rajan</td>
</tr>
<tr>
<td>5th</td>
<td>George Chen</td>
<td>Nikhil Vijai</td>
<td>Divij Lankalapalli</td>
</tr>
<tr>
<td>6th</td>
<td>Ishaan Chansarkar</td>
<td>Richard Tang &amp; Alex Wang (tie)</td>
<td>Michelle Zong</td>
</tr>
<tr>
<td>7th</td>
<td>Allen Yang</td>
<td>Alan Guo &amp; Richard Liu (tie)</td>
<td>Tiffany Huang &amp; Jaesung Lim (tie)</td>
</tr>
<tr>
<td>8th</td>
<td>Peter Zhu</td>
<td>Joshua Ku</td>
<td>Grace Tian</td>
</tr>
<tr>
<td>9th</td>
<td>Varan Srikanth</td>
<td>Nathan Tong</td>
<td>Anirudh Rangasamy</td>
</tr>
<tr>
<td>10th</td>
<td>Richard Huang</td>
<td>James Zhu</td>
<td>Alvin Zhang</td>
</tr>
<tr>
<td>11th</td>
<td>Peter Tian</td>
<td>Ethan Knapp</td>
<td>Jordan Buxton</td>
</tr>
</tbody>
</table>
April 18, 2015

Dear 2015 Ohio Mathematics Contest Participant:

Wright State University is honored once again to host the Ohio Mathematics Contest. As someone personally and professionally committed to expanding access to all types of education for all students, I am especially pleased to be part of these efforts aimed at fostering an interest in and mastery of math skills on the part of young people.

Numerical literacy enhances the lives of all Ohioans and expands the educational options for students planning to pursue post-secondary education. Increasing the number of students who are passionate about and proficient in mathematics helps the state and our nation keep its competitive edge economically, while cultivating the skills necessary to solve some of the world’s most significant problems.

So, I commend the Dayton Branch of the Korean-American Scientists and Engineers Association, the Wright State University Department of Mathematics and Statistics and numerous community volunteers for providing this opportunity to students. It is a critical part of ensuring that our state takes advantage of all its intellectual and human capital.

Best wishes for a fun and productive event!

Kimberly Barrett, Ph.D.
Vice President for Multicultural Affairs and Community Engagement
Wright State University
April 18, 2015

Dear Friends:

I would like to congratulate the Dayton Branch of the Korean-American Scientists and Engineers Association as well as the Department of Mathematics and Statistics at the Wright State University for organizing and hosting the Ohio Mathematics Contest.

This event stimulates interest in mathematics and plays a critical role in leading the region’s future development. I commend you for sponsoring this event and being strong advocates for engagement in science, technology, engineering, and mathematics (STEM).

Supporting STEM education inspires young people to attain further achievement in math and science and leads to a brighter workforce in tomorrow’s high-tech companies. Attracting and retaining talented young leaders through events like the Ohio Mathematics Contest is essential for Ohio’s economic development and competitiveness in the 21st Century. Your dedication and experiences will strengthen and enrich not only the lives of students, but the wellbeing of the community and Ohio as a whole.

I extend my support and admiration to the success of the event. I wish you all the best in the years to come.

Sincerely,

Sherrod Brown
United States Senator
April 18, 2015

Greetings,

I would like to extend my sincere congratulations to the Dayton Branch of the Korean-American Scientists and Engineers Association and Wright State University as you host the 2015 Ohio Mathematics Contest (OMC) in Dayton.

The OMC will bring together hundreds of students in grades 4-11 to compete in math contests for the chance to win scholarships and other monetary awards. And, for the first time, the contest will offer an opportunity for high school students to participate in a physics exam! I commend the OMC for emphasizing the importance of math, promoting STEM fields, and for encouraging students to think about their future.

Good luck to all students participating in today’s event! Excellence in math and science is a gateway to a variety of careers in today’s increasingly technological society. I admire you for your initiative to challenge yourself and enhance your math and science skills.

Thank you to today’s event sponsors and everyone who had a role in making this year’s contest a reality. Best wishes for another successful event.

Sincerely,
SCHEDULE OF EVENTS

12:30 – 1:20  Registration  Lobby of Oelman

1:20 – 1:45  Presentation of the Colors & Orientation for Students and parents  109 Oelman

2:00 – 3:30  Exams

<table>
<thead>
<tr>
<th>Grade</th>
<th>Time (min)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 4</td>
<td>60</td>
<td>103 Oelman</td>
</tr>
<tr>
<td>Grade 5</td>
<td>60</td>
<td>125 Oelman</td>
</tr>
<tr>
<td>Grade 6</td>
<td>60</td>
<td>132 Oelman</td>
</tr>
<tr>
<td>Grade 7</td>
<td>60</td>
<td>165 Brehm</td>
</tr>
<tr>
<td>Grade 8</td>
<td>60</td>
<td>165 Brehm</td>
</tr>
<tr>
<td>Grade 9</td>
<td>90</td>
<td>171 MM</td>
</tr>
<tr>
<td>Grade 10</td>
<td>90</td>
<td>171 MM</td>
</tr>
<tr>
<td>Grade 11</td>
<td>90</td>
<td>171 MM</td>
</tr>
</tbody>
</table>

2:00 – 2:50  Bridging the Gap-Addressing the workforce Crisis in STEM  (for parents)  109 Oelman

3:10 – 3:40  Solving Situational Mysteries I  (for lower grades)  165 Brehm

3:10 – 4:50  • Physics Demonstration and Lab

4:50  • Display Tables (Lobby 109 Oelman)

3:40 – 4:30  Carl Friedrich Gauss  (for all students)  132 Oelman

3:40 – 4:15  Optics and Nature: A fun discussion of some first Principles  (for upper grades and parents)  125 Oelman

4:15 – 4:50  Why is Math so important to Mother Nature?  (for upper grades and parents)  125 Oelman

4:15 – 4:50  Solving Situational Mysteries II  (for all students)  165 Brehm

4:30 – 5:00  Refreshments  Lobby of Oelman

~ 6 ~
5:00 – Award Ceremony 109 Oelman
6:00
M.C. Dr. Don Nugyn
Ms. Marsha Bonhart
Welcome Remark
Dr. Kimberly Barrett
Presentation of Awards
Dr. Kimberly Barrett
Dr. Kathy Englsch
WSU ROTC Cadets

“Special Thanks to the office of the President, office of the Provost, the College of Science & Mathematics, and Department of Mathematics and Statistics, Wright State University for their generous support of the Ohio Mathematics Contest”

CLASSROOM MAP
"Bridging the Gap - Addressing the Workforce Crisis in STEM"

Cassie B. Barlow
Executive Director of the Aerospace Professional Development Center, WSU

The National Math and Science Initiative, citing evidence from the US Department of Commerce, states that STEM job creation will outpace non-STEM jobs 17% to 9.8% over the next ten years. The Dayton Region has averaged about 3,000 degrees in STEM fields per year and an additional 300+ certificates. It has been estimated that there will be 111,446 STEM jobs in the Dayton Region by 2024. That is a growth of 13,538 jobs from 2014, and a growth rate of 14%. Ohio is making a concerted effort to address these workforce needs through multiple statewide programs that bring together the industry with educational institutions across the state. This talk will discuss those programs and the way forward for the state of Ohio to continue to build upon our national STEM prominence.

(Target Audiences: Parents)

“Optics and Nature: A fun discussion of some first Principles”

Steve Worrell, CEO, Riverain Technologies

The presentation will discuss some optical principles that lead to spectacular, everyday observations in nature due to the basic laws of reflection, refraction and scattering of light. Additionally, we will discuss how these same laws can be used in engineering to create useful devices in medicine, communications and military applications. A basic, intuitive and simple mathematical presentation will allow participants to understand and appreciate these basic principles and how they effect “what we see” and how they can be manipulated for our benefit.

(Target Audiences: HS Students & Parents)
“Why is Math so important to Mother Nature?”
Jim Noel
NOAA/National Weather Service/Ohio River Forecast Center
Ever wonder where science would be without math? We hear a lot of talk about how important super computers are to weather and climate forecasting. We hear how important the oceans, atmosphere and land are to weather and climate forecasting. But what is the glue that makes science and weather and climate work? Math! Just how is math used? How many math calculations does it take to make weather and climate forecasts. What happens if a small math error in tens of thousands of lines of computer code is missed? What is the link between science, computers and math? How can you make a difference in the future as we evolve toward multi-disciplinary sciences? We will discuss these topics and more.
Without Math we would not be able to make weather and climate forecasts! We need bright Math stars like you for our future.
(Target Audiences: HS Students & Parents)

“Solving Situational Mysteries: An Exercise in Logic, Detail, and Mind Expansion”
Betsy Stone Witt, Adjunct Instructor
Wright State University Math Department
This workshop will challenge the students to solve mysteries by asking yes/no questions to lead them to the solution. Where did an elderly lady hide her prized diamond? Why did hiccups send a man to the hospital? Often the answer is simple but this is exactly why we don’t think of it! There are two sessions, each involving different puzzles. One session is for younger students only; the other session includes all students interested in attending.
(Target Audiences: All Students)
"Carl Friedrich Gauss"
Patrick Craig, WSU Alumni

What is the difference between “pure” and “applied” mathematics?

Carl Friedrich Gauss (1777-1855), known to many as “The Prince of Mathematicians,” made many discoveries in number theory, algebra, and differential geometry early on in life. In 1801, the very first asteroid was discovered – and then promptly “lost” on the other side of the sun. Applying his vast mathematical talent, Gauss took up the challenge of finding the asteroid with only a tiny amount of available data. Astronomers used Gauss’ solution to successfully recover the asteroid, Ceres, in December of 1801. Pat Craig, a part-time WSU faculty member and Dayton’s Outreach Astronomer, will tell the story of the amazing mathematical prodigy and his journey from “math for math’s sake” to math in the service of science.

(Target Audiences: All Students)

"The Power of Mathematical Simulations"
Adrian Palomino
Analee Miranda, USAF AFRL

The Society of Professional Hispanic Engineers will describe how mathematicians, scientists, and engineers work together to develop simulation tools that are important to entertainment, medical, and automobile industries just to name a few. We will show you some neat tools that have been developed through the use of mathematics, engineering, and computer science. Join us to create a realistic 3D human face model from your photograph in minutes using FaceGen Modeler and get a chance to use our Moving Human Electromagnetic Simulator that determines some of your physical body measurements directly from a Kinect sensor!

(Workshops/Demonstrations. Target Audiences: All Students)
2015 OMC VOLUNTEERS

SukKyun Ahn          Cassie B. Barlow          Kimberly Barrett
Marsha Bonhart       Yuqing Chen             Maria Clark
Patrick Craig        Maria Emery             Kathy Engisch
Lin Fei              Albert Florentine       Qingbo Huang
Peggy Kelly          Brendan Kim             Qun Li
EulJi Lim            Analee Miranda          Orlando Monzon
Don Nguyen           Jim Noel                Sarah Olsen
Adrian Palomino      Doug Petkie             Erik Potts
Ron Richardson       Lee Seoh                Munsup Seoh
Abby Sharp           George Strobel          SangHee Strobel
Verne Vince Taylor   Larry Turyn             Hui Wan
Chris Weller         Ena Weller              Betsy Witt
Steve Worrell        Yvonne Wyrick           Lynne Yengulalp
WSU Army ROTC Color Guards & Cadets

(CDT Brookshire      CDT Collier             CDT Emrick
CDT Frees            CDT Gosling             CDT Howard
CDT Kramer           CDT Maddux              CDT Maggart
CDT Molton           CDT Myers               CDT Ntwali
CDT Poff             CDT Powell              CDT Puckett
CDT Raynor           CDT Robinson            CDT Snyder)

Funny Math Jokes

• Why did the boy eat his math homework? Because the teacher told him it was a piece of cake.
• Why did the math book look so sad? Because it had so many problems.
• Why do plants hate math? Because it gives them square roots
• What 4 days of the week start with the letter ‘t’? Tuesday, Thursday, today and tomorrow

From http://www.kidsmathgamesonline.com/funstuff/mathjokes.html

~ 11 ~
The Raider Battalion Cadets are dedicated to succeed and excel physically, academically and in all the dimensions of leadership. We hope you become a part of our team and become part of the less than 1% of the U.S. population who serves our country as a commissioned officer! Army ROTC and Wright State University offer a variety of merit-based scholarships and incentives for AROTC cadets.

For more info, contact Mr. Vince Taylor
ph: 937-775-2581 e-mail: verne.taylor@wright.edu

Asian American Council, Dayton
President: Dr. Vilma Helms

Miami Valley Math Circle
The Greater Miami Valley Math Circle has started in the fall of 2014 as Wright State Math Club. As it’s getting more attention from students, parents and teachers, it grew as “Greater Miami Valley Math Circle”.

Most recent activity was having seminars with Dr. Po-Shen Loh (title “The Wonders of Probability”), who is a professor at Carnegie-Melon University and the National Lead Coach for the US International Math Olympiad Team. Three groups (Beginning, Intermediate and Advanced) are meeting biweekly (10:30am-12:00pm) on Saturdays at WSU.

The Circle maintains this website
http://iis.stat.wright.edu/GMVMC.High/