



VOL. 74
NO. 8



APRIL 2016

Columbus Engineer

Official Publication of the Franklin County Chapter of the
Ohio and National Societies of Professional Engineers

PRESIDENT'S MESSAGE

By Paul F. Junk, PE, PS, FCC President



I was lucky enough to be team with an OSU student in Computer Science while proctoring during the Local MathCounts. I got a chance to pick his brain about what is being taught in computer science. He was programing in JAVA and some other languages. That reminded me when I learned programing, engineers learn

FORTRAN and business majors learn COBAL. Students now would not believe how difficult it was to get computer time and input data. Input consisted of punch cards with one line of code on each card. The stack of cards (the order of cards was important) was taken to window at the computer center (students did not get into the computer room). The processing was only done by batch runs. It took a minimum of four hours turn-a-round time to get the results. Then you learn of the typing errors. After the typing errors were corrected, the following runs where used to correcting the logic of the code. You were lucky if you got two runs a day and the printouts and the cards piled up. The only output available was the line printer (monitors were not used) so graphics and pictures were very primitive, but some people where very inventive with "X's" and "O's". Computer hacking was not known at the time. Computers were not used in any of my other courses because access and time were so difficult.

Then computers became more common place with the advent of the TRS-80, Apple II and others. Programing was done in BASIC. Few readymade programs were available so you designed you own programs. Being interactive made programs easier and quicker (no more 4 hours wait between runs). Without punch cards, programs and data were saved on voice cassette recorders (before disks). Later I was able to get online with a zippy 300 baud modem over the phone line using the phone handset in a cradle (text mode mostly). At the Engineers Week Luncheon, Rob Decker (our Keynote Speaker) mentioned the design team used a Commodore 64 which took three nights for the structural analysis on the Magnum Roller-coaster at Cedar Point in 1989.

I was privileged to have worked at two county engineer offices where I help introduced the use of computers. The county engineers in both offices did not see a need for computers and got along fine without them. The first need for computers was payroll. I taught the staff how to do payroll on a VisiCalc spreadsheet. In Fayette County, I was privileged to work in the same office with my mother-in-law and it was interesting instructing my mother-in-law (who had no computer experience) how to use VisiCalc to do payroll. In Washington County, the mouse was just being introduced. It was a newfangled experience for the touch-typing secretary to take her hands off the keyboard to move among the cells. As computers developed, there was a debate among county engineers when to buy a computer. Get the current available computer system now or wait for next improved one. The goal was to be cost effective. It was like merry go round, when do you jump on. Now they all have taken the jump, you can find a computer in all 88 counties.

Computers have come a long way and have been integrated into our lives. We use them at work and social media has changed the way we interact with other people. At the State MathCounts, most students had cell phones with more computing power then the first computers and most of tests were timed with a cell phone as a stop watch. I wonder if the current students will have as much fun learning computers as my generation.



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OSPE-FCC March Luncheon Program

Date: Thursday, April 21, 2016

Place: La Scala Restaurant
4199 W. Dublin Granville Rd., Dublin

Registration: 11:30 am

Lunch: 11:50 am

Speaker: 12:00 pm

Closing Remarks: 1:00 pm

Cost: Members: \$20.00 & Non-Members: \$30.00.

Registration: Visit fccospe.com. Pay at door or online at (www.fccospe.org). No access to computer contact Jim Arnold, 614-299-2133, to help with registration.

Program: "Oil and Gas Pipeline Corrosion." The research at the Institute for Corrosion and Multiphase Technology (ICMT) at Ohio University concentrates on internal corrosion. Internal corrosion is today's major problem in the oil and gas wells and transportation lines, where much of the oil and gas emerge with water, sand, and other impurities. Those impurities include carbon dioxide, hydrogen sulfide, and organic acids, and these, when mixed with water, can cause corrosion of the steel wall and catastrophic failure. For more than two decades, researchers and students have worked side by side, sponsored by a consortium of the world's leading oil and gas, engineering and chemical companies, to come up with new ways to deal with the internal corrosion of wells and lines that carry crude oil and gas to the refineries, often across hundreds of miles of land and ocean floor. Ohio University boasts the largest research facility of its kind in the world and its expertise is sought from all corners of the globe. What is unique about the facility is its size and the number of large scale multiphase flow loops for studying corrosion under realistic conditions.

The Institute has seven such large systems as well as some smaller flow loops and a host of high pressure/high temperature autoclaves, which are ideal for long-term

projects. This variety of equipment and broad expertise enables ICMT researchers to do deal with a wide variety of research requests that come from all corners of the world. The research work done by Ohio University provides sponsoring companies with knowledge that can help them design, build and operate oil and gas lines with more confidence, particularly when it comes to remote and previously in accessible locations that constantly present new challenges.

Presenter: Professor Srdjan Nestic, is Director of the Institute for Corrosion and Multiphase. Professor Nestic has 27 years of experience. His education is multi-national. He earned his B.Sc. from University of Belgrade, Yugoslavia, in the Department of Mechanical Engineering. He earned his M.Sc. at University of Belgrade, Yugoslavia, also in the Department of Mechanical Engineering. His Ph.D. was awarded by the University of Saskatchewan, Canada, in the Department of Chemical Engineering. Professor Nestic has taught at the University of Queensland, Brisbane, Australia in ME, and part time at the University of Oslo, in Norway. He has been at the Ohio University since 2002.

A certificate for 1 hour of Professional Development for attending the program will be presented at the luncheon.



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Environmental Facilities Geotechnical Materials

FCC IMAGINE ENGINEERING REPORT

We are wrapping up yet another successful year for Imagine Engineering. This year we reached over 1,300 students at 22 schools in our chapter area. From over 700 entries, this year's winners are:

- 1st place- Ayawha Gladden, Bishop Fenwick, Zanesville
- 2nd place- Evelyn J. Krauss, Carlisle Elementary, Delaware
- 3rd place- Ajay Paynter, Bishop Fenwick, Zanesville

Thank you again to all of our dedicated volunteers. Without your time, expertise, and enthusiasm this program would not be what it is.

School Name	Number of Students	Entries
Ervin Carlisle Elementary	105	42
St. Mary School (Delaware)	38	21
Scioto Darby Elementary	42	42
Hebron Elementary School	133	64
George Washington Elementary	60	33
Northwood Elementary	85	44
Our Lady of Peace School	22	21
Sonshine Christian Academy	20	4
St. Mary School	24	9
Holy Trinity	15	
Elgin Elementary School	90	15
Delaware Christian School	18	18
Grace Christian School	42	42
Summit Road Elementary	100	80
Avery Elementary School	72	46
Duncan Falls Elementary	135	97
Roseville Elementary	32	5
Dresden Elementary	62	12
Bishop Fenwick School	28	13
Adamsville Elementary	39	6
John McIntire	97	22
Mill Valley	82	77
Total -	1341	713

22 schools, 10 volunteers

FCC Auxiliary April Meeting

The Auxiliary to the Franklin Co. Chapter of OSPE will meet for a noon luncheon at La Scala Restaurant, 4199 W. Dublin-Granville Rd., Dublin, on Tuesday, April 19.

Donna Lawrence of the Fairfield Historical Society will give a program about Ohio's First Ladies. Jane Smith will give the invocation and lead the pledge of allegiance. Hostess is Betty Cuniberti. For reservations call Jean Mitchell, 614-262-7071.

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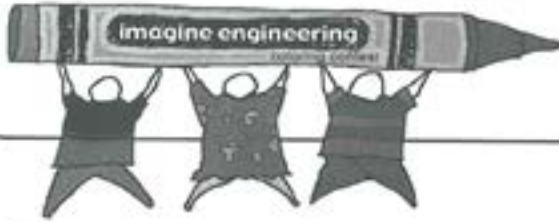
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Directions:

- 1) Print your name, your school's name, and your teacher's name here.
- 2) Think about what engineers do in your hometown.
- 3) Draw and color an original picture of engineers working.
- 4) Turn in your art to your teacher by the deadline announced in class.
Your teacher will need to return artwork to your Ohio Society of Professional Engineers' volunteer by his or her deadline.
- 5) We will notify the state's top three winners.

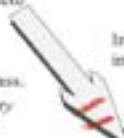
Thanks for participating, and **HAVE FUN!**

Prizes:

The 1st, 2nd and 3rd place statewide winners will win:

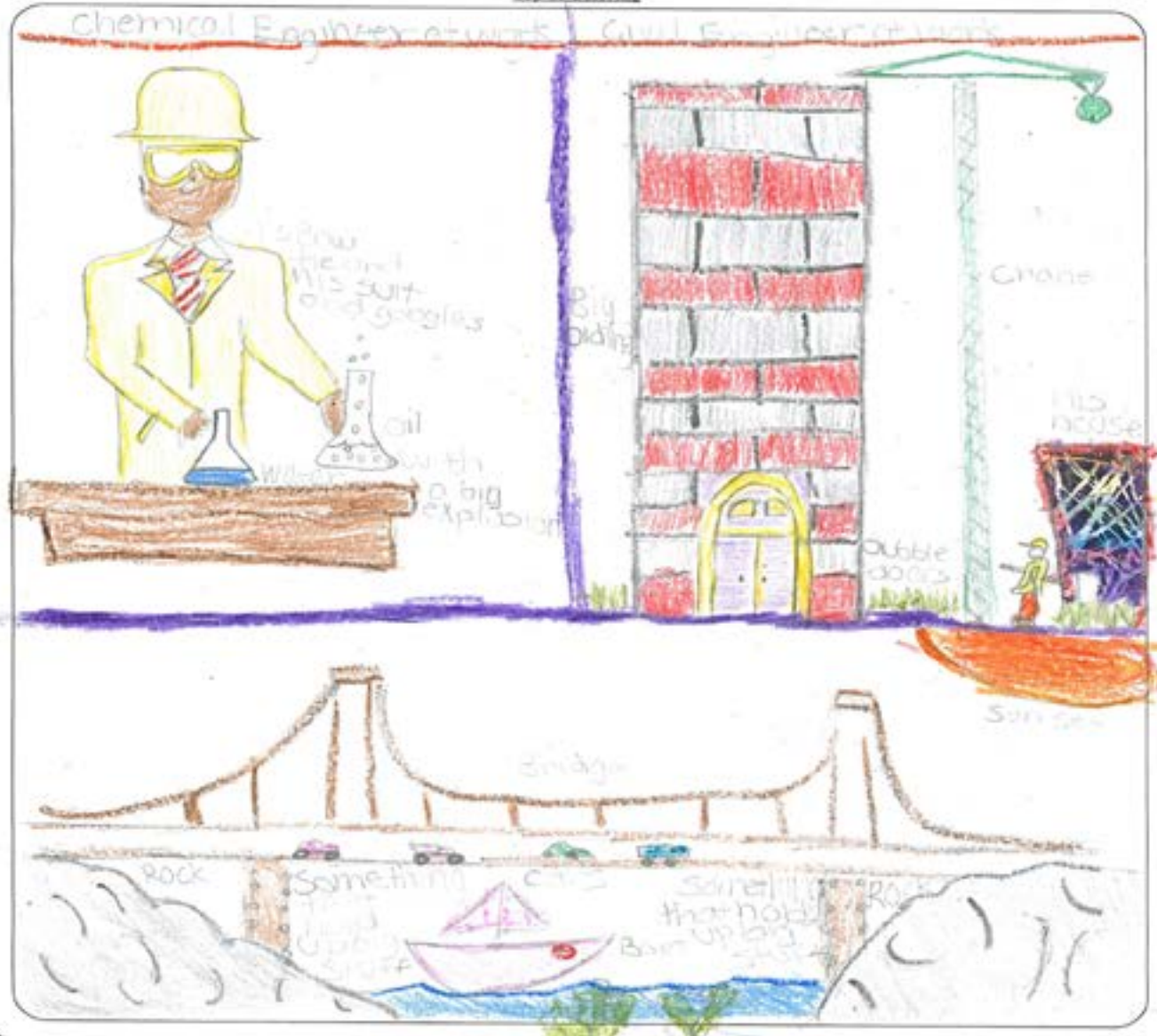
- 1st -- Telescope (\$200 value)
- 2nd -- Big Screen Microscope (\$60 value)
- 3rd -- MathShark Skill Game (\$40 value)

In addition, the 1st place winner will have his/her art and school photo published in **OhioENGINEER** magazine!



Name: Andrew Gladish
 School and City: Proctor Heights Township
 Your Teacher's Name: Mrs. Wolfe

Top of Coloring



1st Place



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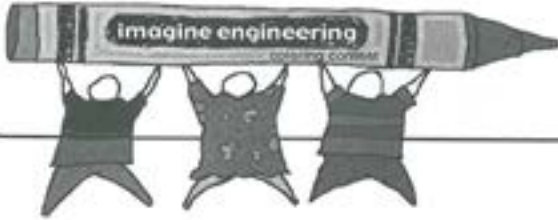
In addition, the 1st place winner will have his/her art and school photo published in **OHIOENGINEER** magazine!

Name: Evelyn Krauss
School and City: Carville Elementary - Delaware
Your Teacher's Name: Livingston

Top of Coloring



2nd Place



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Directions:

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In addition, the 1st place winner will have his/her art and school photo published in *OhioENGINEER* magazine!

Name: Ajay Payer
 School and City: Bishop Fenwick Zanesville
 Your Teacher's Name: Mrs. Wolfel

Top of Coloring



3rd Place

Central Ohio Engineers Week Luncheon

The Central Ohio Engineers Week Luncheon was held February 25 at Villa Milano in Columbus, Ohio. There were 11 professional organizations participating, APCD, ACEC, ASCE, ASH, ASHRAE, APWA, ECC, IEEE, ITE, OSPE/FCC and WTS. Approximately fifty high school and middle school students participated at no cost.



Photo By OSPE

A proclamation signed by the governor and lieutenant governor recognizing engineers and Engineers Week was presented by Dennis Irwin, PhD, PE, President OSPE.

The Keynote Speaker was Rob Decker, Senior Vice President at Planning & Design for the Cedar Fair Entertainment Company. His Topic "Valravn – Building a World Record Breaking Roller Coaster". His presentation discussed the various design issues associated with development of Valravn, the world's longest, tallest and fastest Dive Coaster. Valravn is expected to open this spring at Cedar Point Sandusky, Ohio.



Keynote Speaker

There were numerous industries, consultants, professional and technical organizations that provided financial support for the program.

E-Week Luncheon Photos



Villa Milano Dinner Hall



Presentation Colors- Photo By OSPE



FCC Members- Photo By OSPE

Engineer For A Day (EFAD)

FCC 2016 EFAD Interim Coordinator: C.R. Weaver, PE

EFAD is an annual program developed and organized, during the National Engineer's Week, to engage students (High School seniors and juniors) with an interest in Engineering as a profession or career path to discover and learn the real world first-hand knowledge of the role of an Engineer. The overall aim of this program is to influence the students toward making an informed decision of the Engineering Profession. It is hoped that this first-hand, real world interaction with the Engineer's role will impact the students' future career choice as an Engineer.

The activities for the day of the program are planned around helping the students learn and understand engineering work, engineering business, and the activities of the company, engineering discipline and engineering challenges.

The program was very successful this year boasting about twice as many students as we typically have participate, nine new companies and seven new schools!

Over the years we have seen the field of engineering evolve. This program allows us to look into the window of tomorrow by working with the energetic students of today. The local glimpse into that window suggests the aerospace, bioengineering, biomedical, bioscience, computer and software are growing interest areas compared with the more traditional civil, chemical, electrical, and mechanical disciplines.

This year's EFAD program was held on Wednesday, February 24th, and included 119 students from the following participating schools:

- Bishop Hartley High School
- Bishop Watterson High School
- Canal Winchester
- Centennial High School
- Columbus Downtown High School
- Columbus Alternative
- Columbus School for Girls
- Dublin Coffman High School
- Eastmoor Academy
- Grandview Heights High School
- Grove City High School
- Hilliard Darby High School
- Independence High School
- Metro Early College High School
- Reynoldsburg STEM School
- Walnut Ridge High School
- Westerville North High School
- Westerville South High School
- Whetstone High School

The companies that participated in the 2016 EFAD program were:

- American Electric Power Transmission
- Advanced Engineering Consultants
- Applied Engineering Group
- American Structure Point Inc.
- ARCADIS
- CDM Smith Inc.
- City of Columbus
- Crawford Murphy & Tilly
- Emerson Network Power
- EMH&T
- Franklin County Engineer's Office
- Hull & Associates, Inc.
- MJ Engineering
- ms Consultants, Inc.
- MWH Americas Inc.
- Patrick Engineering
- Shirk & O'Donovan Consulting Engineers, Inc.
- Stantec Consulting Services
- Terracon Consultants, Inc.
- T&M Associates

The Franklin County Chapter – OSPE is looking for additional engineering entities to host students for the EFAD program next year. Next year the EFAD program will occur on Wednesday, February 22nd, 2016. Please contact C.R. Weaver at (crweaver@columbus.gov) if you are interested in assisting young students prepare for their academic and professional journey in the fascinating world of engineering!

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FIRST CLASS

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Franklin County Chapter
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2016 CALENDAR

Apr. 12	5:30 p.m.	FCC Board Meeting @ Korda Nemeth
Apr. 15	5:00 p.m.	Deadline for May Columbus Engineer
Apr. 21	11:30 a.m.	Program: Oil & Gas Pipeline Corrosion - Srdjan Nestic, Chemical Eng., OU
May 10	5:30 p.m.	FCC Board Meeting @ Korda Nemeth
May 16	5:00 p.m.	Deadline for June Columbus Engineer
May ??	6:30 p.m.	Annual Spring Banquet / Officer Installation
June 2-4		OSPE Spring CPD Conference & Annual Meeting - Cleveland Airport Marriott
July (TBA)		FCC Budget Meeting Location to be announced



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