



## IEEE Dayton Section Committee Meeting

Open to all - please attend our Section meetings and get your ideas heard!

**Next Meeting February 20<sup>th</sup> 6PM  
ASC building**

For more info—contact Stephen L. Hary, PhD, Secretary, Dayton Section [stevehary@ieee.org](mailto:stevehary@ieee.org)



## TechFest 2013

on President's Day weekend  
**Saturday, Feb 16, from 10 to 6  
and Sunday, Feb 17, from 11 to 5**  
at Sinclair's Ponitz Center Bldgs 12 & 13.

TechFest™ is free family fun with science, technology, engineering and math (STEM). Participate in approximately 70 hands-on experiences with STEM exhibits, demonstrations and games.

Mark your calendars to bring your kids, grandkids, neighbors, etc. The website for information is <http://www.ascdayton.org/TechFest/>

**Dayton Section Computer Society Meeting  
Tuesday, 19 February 2013 \* 11:30-12:30 PM**

## Unreal UDK: The Future of Indie Game Development

**SPEAKER: Daniel J. Picard Jr., Ball Aerospace and Technologies Corp.**

**PLACE: InfoSciTex**

4027 Colonel Glenn Hwy, Suite 210, Dayton, OH 45431-1672

Just West of intersection with National Rd/Grange Hall Rd, in Signal Hill TechneCenter (building 4027 is the left-most of the 3 buildings)

**RSVP:** Dave Perez, [david.c.perez@computer.org](mailto:david.c.perez@computer.org) or (937) 904-5486. Pizza & soft drinks provided for \$3/person - RSVP (Name, e-mail, phone, citizenship, IEEE member?, Computer Society member?, pizza?) required. Meeting open to all.

**ABSTRACT:** Daniel (DJ) Picard will speak about quick game development with the Unreal Development Kit (UDK) and their scripting language UnrealScript. The talk will cover a very general overview of development with UDK and how to quickly get a sample game up and running using the UDK's simple & intuitive interface. He will go into simple scripting in UnrealScript that can be used for character AI, networking, animation and sounds. Base models will be used that have been designed by his wife or are freely available online.



## Dayton Section Officers 2013

### OFFICERS

**Chair:** Dr. Robert L. Ewing 937-528-8122

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**Treasurer:** Barbara Frantom 528-8171

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**Secretary/Pace Co-chair:** Stephen Hary 528-8727

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**Past Chair:** Richard J. Thomas 937-431-5954

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**Fall Lecture Series:** Jacqueline Toussaint-Barker

**Fellow Nomination Chair:** Dr Paul McManamon

**Industry Representative:** Don Scarpero 438-0361

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### ACTIVE CHAPTERS

#### AEROSPACE & ELECTRONICS SYSTEMS SOCIETY(AES)

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and Shaun Frost [Shaun.Frost@wpafb.af.mil](mailto:Shaun.Frost@wpafb.af.mil)

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#### PEAL Society:

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#### Photonics (formerly LEOS) Society:

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#### Signal Processing Society:

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#### Systems, Man & Cybernetics Society & Engineering in Medicine & Biology Society (SMCS & EMBS)

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## Call for Science Day Judges

One of IEEE-Dayton section's most visible services in the community at large happens when we honor area high school students whose exhibits at area science fairs that best advance the electrical engineering profession. Winners receive a prize and an invitation to our spring awards banquet.

We will be sending delegations to events on two Saturdays in March and are looking for a few good engineers to help with judging:



### **First Event:**

Event: Montgomery County Science Day  
Date: Saturday, March 2, 2012  
Breakfast: N/A  
Orientation: 8:30 am  
Judging: 9:00-12:00 noon  
Awards: 1:15 pm  
Location: College Park Center  
Corner of Stewart & Brown  
UD Campus, Dayton

### **Second Event:**

Event: Western District Science Day  
Date: Saturday, March 16, 2012  
Breakfast: 7:30 am  
Orientation: 8:30 am  
Judging: 9:00-12:00 noon  
Awards: 2:00 pm  
Location: Beacom/Lewis Gym  
CSU Campus, Wilberforce

**Contact Gary Lynch (252-4779 or [gary.lynch@ieee.org](mailto:gary.lynch@ieee.org))** if you are interested. Preference will be given to people we couldn't work into the schedule last year.

***Support your section, nurture a future engineer, and help lift IEEE's reputation in the public eye.***

## Unreal UDK

*Cont. from Page 1*

**BIO: DJ Picard** is a Cyber Security Engineer and Ethical Hacker for Ball Aerospace and Technologies Corp., working with the 711th HPW at WPAFB. He currently researches various attack and defense methods for both computers and human subjects. He has been experimenting with malware and game programming for many years researching various methods for network transmission of large data streams for character positions and anti-cheat methodologies for online games.

He has a Bachelor of Science in Computer Engineering Technology from the University Of Cincinnati College Of Applied Science, and is currently attending the DePaul University for a Masters in Computer Science with a focus on Massively Multiplayer Online Game architecture.

He lives in Beavercreek, Ohio, with his wife. His hobbies include TCP/IP protocol development, network hacking, distributed systems API development, and game engine development.



Dr. Robert Ewing  
Chairman

For 2013, our IEEE Dayton Section now **celebrates 70 years**, where it was established & founded in 1943 as the IRE Dayton Section. A strong reason for its' formation was in part to the Radar research being done at Wright-Patterson Air Force Base during World War II. The radar research brought several hundred engineers to the Dayton area. Before 1943, the IRE Cincinnati Section had been the only Section active for Southern Ohio with the University of Cincinnati leading the activities and meetings.



During the initial formation of the Dayton Section at the Dayton Engineers Club, the National Aerospace and Electronics Conference (**NAECON**) was building its roots from our new Dayton Section members such as Charles F. Kettering and Colonel Edward Deeds (See photo below- 1948 NAECON Organizing Committee). NAECON is now the oldest and premier IEEE Conference presenting research in all aspects of theory, design, and applications of aerospace systems and sensors since 1948.



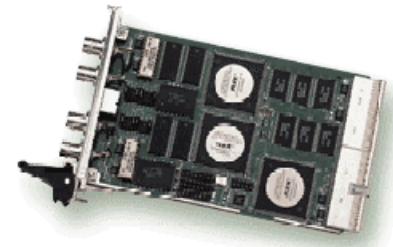
**1948 NAECON Organizing Committee**

**The Pioneer Award** has been given yearly since 1949. Created by NAECON in 1949, the Pioneer Award has recognized the numerous outstanding people for their contributions in the electrical and electronic fields. As NAECON grew, the IEEE Dayton Section and the IEEE and Aerospace & Electronic Systems Society became the co-sponsors for the conference and always honored the Pioneer Award winners at their gala banquet. The importance of this award has grown to become the international premier award of the Aerospace Electronic Systems Society. This award is given for an accomplishment where the system/concept had initially been developed at least 20 years prior to the year of the award to ensure proper historical perspective.

## Chairman's Corner Cont. from Page 4

Some of our local Dayton IEEE members have been very honored by the Pioneer Award, the following are the citations;

- 1978 - *Peter R. Murray - "Pilotless Aircraft"*
- 1987 - *Rudolph A. Stampfl (co-winner with Peter H. Werefels) - "Weather Satellite Automatic Picture Transmission"*
- 1992 - *William C. Eppers - "Laser Systems"*
- 1993 - *William F. Bahret - "Stealth Technology"*
- 2003 - *William M. Brown, William Russell Boario (with co-winner Jack L. Walker) - "Developments in Fine Resolution Synthetic Aperture Radar"*
- 2004 - *Erwin C. Gangl - "Multiplex Data Bus Standard" [i.e. Mil-Std-1553]*



1968 - Mil-Std-1553  
First Digital Avionics  
Interface Standard



*Erwin Gangl*

In addition to the 2004 Pioneer Award, **Erwin Gangl** was just recently elected to **IEEE Fellow (2013)** for development of digital avionics intra-communication systems and Mil-Std-1553. Both of these awards are *very significant* and reflect an excellent career with major contributions to industry. Our IEEE Dayton Section is very proud of Erv Gangl's achievements in addition to his long term involvement with NAECON!

*Congratulations*

*Erv Gangl*

*Dayton Section Member  
Pioneer Award Winner  
& 2013 IEEE Fellow*

## Dayton IEEE Display Case

On December 4<sup>th</sup>, 2012, the Dayton IEEE Section placed a Display Case at the Wright Brothers Institute Tech<sup>^</sup>Edge Innovation and Collaboration Center. The purpose of the display case is to highlight the many Dayton based IEEE member's contributions to the field of electrical engineering. Mr. Les McFawn, the Director of the Wright Brothers Institute, welcomed attendees and gave a presentation highlighting the significant capabilities of the Innovation and Collaboration Center, a facility that aims to bring together diverse joint teams working toward rapid solutions to pressing national and regional needs. The purpose of the IEEE Display Case in the Tech<sup>^</sup>Edge lobby is to inspire the many Tec<sup>^</sup>Edge visitors to help further innovation in the engineering profession, and encourage STEM students to join and participate in an IEEE Student Section when attending college.



Left to right: Erwin Gangl, AESS Awards Chairman, Les McFawn, WBI Director, Dr. Robert Ewing, AESS Executive VP and Chair of the Dayton Section, and Dr. Steven Hary, Secretary Dayton Section

At our upcoming **IEEE Dayton Section Awards Banquet** on April 27th, our keynote speaker will be **Vic Bonneau**, president of Electrical Power for GE Aviation Systems. GE Aviation has built a new **Electrical Power Integrated Systems Research and Development Center (EPISCENTER)** on the University of Dayton campus in Dayton. The \$51 million center is built on eight acres of the University of Dayton's campus on River Park Drive. The University will work with CityWide Development Corp. to build the facility to GE's specifications. "The center's close proximity to Wright-Patterson Air Force Base and the University of Dayton Research Institute is important in order to provide significant new support to the Air Force Research Labs and the University," said Vic Bonneau. "The University's researchers will work with GE to develop and deploy cutting-edge computer modeling, simulation and analysis of advanced, dynamic electric power systems design and controls". "It's rare for a global company of GE's stature to locate a new research facility on a college campus, but this is the future for leading universities," said Daniel J. Curran, president of the University of Dayton. "Dayton is establishing itself as a national center for aerospace research and development -- and the University of Dayton is a significant contributor. Together, GE and University of Dayton researchers will create new advanced electrical power technologies. The applications are endless -- from new power systems for aircraft to longer-range electric cars to smarter utility power grids for more efficient delivery of electricity. This is the bold kind of technology-based economic development initiative that this region and our state need."

**IEEE Dayton  
Section Award  
Banquet  
Sat April 27**



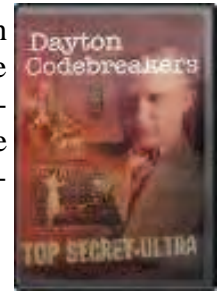
Finally, 2012 also marked the **formation of the IEEE Dayton Section Power & Energy Society and Industry Applications Society and Power Electronics Society Joint Chapter**. The Chairman of the PEAL is Dr. Hao Huang who is the Chief Technologist of GE Aviation Systems – Power. As Dr. Huang indicates, "The chapter executive committee members are: Vice Chair – Dr. Dan Schweickart (AFRL), Secretary – Dr. Xiaochuan Jia (GE), PACE Chair – Dr. Bang Tsao (UDRI), Membership Chair – William Feaster (), Treasurer – Kevin Yost (AFRL), GOLD Representative – Seana McNeal (AFRL), and Web Master – Alex Kavouras (WSU). The name of the chapter is called PEAL that comes from the selected key letters in the names of the three societies. The purpose of this chapter is to help the IEEE members of these three societies in the Dayton area and to assist the growth of the local electrification businesses. To date, the chapter has about 80 members." The IEEE Dayton Section congratulates Dr. Huang and his leadership in the formation of the PEAL!

**In summary our IEEE Dayton Section of 70 years is providing state-of-the art opportunities for our IEEE members.** In representing state-of-the art opportunities, the IEEE Dayton Section was proud to host (in conjunction with the Cincinnati Section) the IEEE-USA 2012 meeting with Dr. Ewing as the General Chair. It was the first time in history that this meeting has come to southwest Ohio. The IEEE -USA Conference is a forum for IEEE students, (undergraduate and graduate), researchers and practitioners interested in collaborative exploration of theory, design and applications targeting innovative collaborative tools within the IEEE. The 2012 theme was "Innovation taking Flight". Dr. Charles Camarda, a senior adviser for innovation to the Office of Chief Engineer at Johnson Space Center, discussed the NASA collaborations Dr. Camarda served as a mission specialist on the Space Shuttle Discovery (STS-114) in 2005, the first flight after the Space Shuttle Columbia disaster. The Return to Flight astronauts docked with the International Space Station and evaluated new procedures for Shuttle safety, inspection and repair. The crew traveled through space for two weeks and 5.8 million miles before landing safely at Edwards Air Force Base in



California. Our local Dayton Section, Deborah Anderson talked about her father, Joseph Desch, who as an electrical engineer for the National Cash Register Co. (NCR), led the **top secret codebreaking operations in Dayton, Ohio, during World War II**. His electronics laboratory designed and manufactured the advanced machine needed to read the encrypted communications of the German Navy's Enigma machine. Desch and his colleagues kept the project secret for 50 years.

<http://www.daytoncodebreakers.org/>



Dr. Chris Baker of Ohio State University discussed innovation between academics and industry. Dr. Hao Huang of General Electric talked about "Next Generation Power Systems - Vision for Midwest."

Today, in the period of corporate mergers, downsizing, layoffs, re-assignments, increased hours and workloads, engineers are under more stress than usual and must work together and inspire innovation (per Tec^Edge, IDCAST and GE). Our challenge in life is to continuously improve our ability to learn, know what is right and to have the courage to always do the right thing to inspire our future IEEE generations for the next 70 years! If you wish to serve on the IEEE Dayton Section Committee, please attend our Section meetings, with the next one being February 20<sup>th</sup>. It will give you a chance to make a difference for the Dayton area by inspiring and mentoring our future engineering students (IEEE Student Chapters) in building collaborative connections between industry, academics and government. **Only IEEE can do this!**

*Dr. Robert L. Ewing, Chair*

## IEEE Dayton Section Award Banquet

Mark Your Calendar! On **Saturday, 27th of April**, we will hold our annual IEEE Dayton Section awards banquet at the Charity Early Auditorium at Sinclair Community College. David and Kathrine Perez are organizing the banquet.

The IEEE Dayton Section Banquet is our most important event of the year and the support from our IEEE Dayton Section is critical and appreciated! Reconnect with Peers and Friends!

## Miami Valley Consultants Network

held once monthly on a Friday, at 11:30,  
at the Engineers Club  
Please make reservations at 937-228-248.

## Announcing the first Dayton Python Workshop for women and their friends

**April 5-6, 2013!**

The Workshop is a free, friendly, hands-on, beginners' introduction to computer programming. In one short weekend (a Friday evening and a Saturday), participants get a real handle on programming for practical tasks, using the easy yet powerful Python language... while having a fun time with new friends!

It's designed for true beginners to programming - absolutely no programming or computer experience is assumed. (Even experienced programmers have enjoyed the workshop, though - so long as they're new to Python!)

We'll enjoy food and a great venue at New Horizons in Fairborn.

**Space is limited, so please sign up at**

<http://tinyurl.com/day-py-workshop>

## CALL FOR PAPERS

### *THE 4th INTERNATIONAL GREEN COMPUTING CONFERENCE (IGCC13)*

[www.green-conf.org](http://www.green-conf.org)

**June 27-29, 2013 in Arlington, Virginia**

IGCC13 will provide a forum for presenting and discussing innovative research on a broad range of topics in the fields of sustainable and energy-efficient computing, and computing for a more sustainable planet.

#### **Important dates**

**Paper submission: February 15, 2013**

Notifications sent to authors: April 15, 2013

Camera-ready papers due: May 1, 2013

Nominations for the Russ and Noble Professional Awards are now being accepted

**Due Date: March 1**

Go to <http://ewh.ieee.org/r2/dayton/nobleruss.html>  
for more info



Prefer to get the mailed version of the Mini? Contact Bob Cooper 298-2062 or [Bobc9101@sbcglobal.net](mailto:Bobc9101@sbcglobal.net)

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