



*The  
Institute of  
Electrical and  
Electronics  
Engineers*

c/o G. Beam  
6449 Ventura Drive  
Slatington, PA 18080

**DINNER DANCE INVITATION ENCLOSED**

*...In this issue...*

**Chair's Column**

**Walter B Morton Paper Contest 50th Anniversary**

**Upcoming Events:**

**IEEE Dinner Dance - April 5 - Sun Inn - Bethlehem**

**Morton Contest & Dinner - April 17 - Lehigh University**



*The Lehigh Valley*

# IEEE Newsletter

*Institute of Electrical and Electronics Engineers*

February 2008

## Chairman's Column

I normally have an opinion for just about everything. But, I find myself at a loss in coming up with an opinion of where electronics engineering is going. Actually, I'm searching for ideas for revitalizing the home-based garage engineer, much like the self-made radio engineers that romanticized amateur ham radio operator era. Further, I'm also searching for ideas of how IEEE can help the process.

It used to be that one could experiment with designs of electronics circuits at home or in the lab and build all manner of electronic gadgetry. We could build everything from small transistor radios to Ham transmitters. However, it just seems to me that it is harder for the amateur tinkerer to take advantage of all the advancements that are being made in nanotechnology and microelectronic mechanical systems (MEMS).

First of all, most of the new MEMS and nano-components are so small you need a magnifier to align and place them on the circuit board. The traditional breadboard is of little use for these densely packed, surface mounted chips that require us to use adaptors. At my last count there were approximately 39 different IC packages and circuit board footprints and just as many breadboard adapters for all these new chips. Okay, so with some work on our part and soldering practice we can get around some of these practical impediments.

Normally, one starts with the design. In the old days, this meant pencil and paper, and perhaps a few books. Today, this requires the need of a computer and some high performance design software like MATLAB, SIMULINK, PSPICE, MAPLE, FPGA Design, PCB Design, PADS, CAD and more. Some of the outputs of these applications are neither portable nor compatible and the investment is significant, adding yet another impediment to the tinkerer. Laying out

the PCB is no easy challenge either. Aside from the PCB design and mastering the software, one would probably need to email the design to a PCB manufacturing house and wait a couple of weeks to get the board.

Have I mentioned the spec sheets? You'll need the computer to review the spec sheets because nobody publishes paper spec sheets anymore. To take full advantage of the state-of-the-art chip, you'll probably need a specialized adaptor connected via a USB interface to a computer to program the chip.

As for the test equipment and power supplies, all of it needs to be over-voltage protected and very well regulated because today's nanochips are low voltage and very sensitive. Clocks need to be more accurate than most home designers can make them and timing analysis is a new aspect to the overall prototyping.

In short, to answer my question, today's young engineers are forced to do most if not all their design work either in the university lab or at the facilities of the corporation where they work where they have access to the specialized software, equipment, and technical library. Though technological advancements enabled smaller cell phones, cameras, computers, and other circuit miniaturization, the innovation that used to come from just tinkering in the garage may be hampered. A question begs to be asked, "How can IEEE help facilitate the design and prototyping process for up and coming engineers?" If electronics engineering is moving from garages into high tech labs, how can IEEE sections and chapters get young engineers excited about innovating on their own--and in their own garages?

*Leopoldo M. Mayoral*  
*Chairman, LVS-IEEE*

---

## Lehigh Valley Engineering Council (LVEC) Web Page

The LVEC web page list activities of its member societies. Some of these may be of interest to IEEE members. The web page can be found at [www.lvengineer.org](http://www.lvengineer.org).

# Walter B. Morton Student Papers Contest Celebrates its 50<sup>th</sup> Anniversary

## Mr. David DeCampli will be the Keynote Dinner Speaker

What were you doing in 1959? If you were an Electrical Engineer in the Lehigh Valley, you will recall that this was the first year of the technical papers contest among the colleges with Student Branches in the Lehigh Valley Section of the American Institute of Electrical Engineers (AIEE). The year 1959 was four years before the Institute of Radio Engineers (IRE) merged with AIEE to form IEEE. At that time, the AIEE Section included the territory west of the Susquehanna River, including Lewisburg, Bucknell, Lafayette and Lehigh were the only participants in the "**Walter B. Morton Student Papers Contest**". That was fifty years ago.

When the Lehigh Valley Section of IEEE organized in 1963, the western boundary was set east of the Susquehanna River, so Bucknell University was lost to the Section. In order to make a viable contest the 1963 Section Executive Committee decided to keep Bucknell in the contest. Presently, six schools are eligible for the contest — Bucknell University, Lafayette College, Lehigh University, Penn State—Wilkes Barre, University of Scranton and Wilkes University.

The contest was conceived as a memorial to Walter B. Morton, a principal engineer at Pennsylvania Power and Light Co. A memorial gift from Mr. C. S. Brangan of Philadelphia provided prize money for the contest. The initial gift specified a single \$100 yearly prize for 20 years. Through astute investment and management by the Lehigh Valley Section, the Walter B. Morton contest has continued for more than the intended twenty years. In fact, this year we celebrate its 50<sup>th</sup> anniversary.

This year is special in that April 17, 2008 will be the 50<sup>th</sup> contest date. Previous contest winners are invited to share in this year's celebration and to be recognized for their legacy. The contest will be held at Lehigh University in Sinclair Auditorium starting at 1:00 PM. As usual, a panel of practicing engineers will judge the oral and written presentations. Later that day, winners will be announced and prizes awarded at the joint IEEE Section and Pennsylvania Society of Professional Engineers Chapter dinner. Contestants will be guests of the Section at the dinner meeting, which will begin at 6:00 PM in Room 308 at the University Center. Parking is available in

the parking garage next to the Alumni Memorial Building on Brodhead Avenue.

Our 50<sup>th</sup> Anniversary Walter B. Morton Contest dinner speaker is Mr. David DeCampli, President of PPL Electric Utilities, who will present an "**Electricity Outlook – 2008 and Beyond**". It is a timely topic as PPL Electric Utilities consumer rates, capped since 1997, are projected to end by December 31, 2009. The impending deadline is causing some Pennsylvania customers to shop for better rates and ask many pertinent questions. For example,

- How has deregulation impacted utilities and customers?
- What market factors are contributing to increasing PPL EU electric prices?
- How do PPL EU rates compare to other utilities in the region?
- What is PPL EU doing to help business customers prepare for the future?
- Finally, what would be the impact of a rate cap extension on the utility and the customer?

Your Lehigh Valley IEEE Section looks forward to hosting a well-attended 50<sup>th</sup> Anniversary Walter B. Morton Contest and dinner. It is anticipated that the 21<sup>st</sup> Century student technical paper topics will be stimulating, the conversations between former student paper winners and this year's winners exciting, and the evening's talk on the cost of electrical power for the consumer interesting.

The dinner, coordinated by the Lehigh Valley Section and co-hosted by the Electrical and Computer Engineering Department, features a choice of a beef or seafood main course. Reservations are required for the dinner, which cost \$25. Phone or e-mail your reservations to: Don Talhelm (dlt0@lehigh.edu), George Beam (gebeam@pplweb.com, 610-774-5056) or Gary Smullin (gary@smullin.com, 610-868-6666) by April 4th. Checks payable to IEEE LVS may be sent to PPL, c/o George Beam, Treasurer, 2 N. Ninth Street, Floor N-5, Allentown, PA 18101-1179.



**UPDATE  
e-mail  
ADDRESSES**

Since the Section is using e-mail as the primary method of communication with the membership, it is every member's responsibility to keep IEEE headquarters informed of changes in e-mail addresses. If you have an e-mail address and have not been receiving meeting notices, it may be because your address in the database is incorrect. Changes can be made easily by accessing [www.IEEE.org](http://www.IEEE.org).

# ***Lehigh Valley Section of IEEE***

***Cordially invites you and your guests  
to attend the annual***

## ***Recognition Night / Dinner Dance***

***On Saturday, April 5, 2008***

***Sun Inn  
564 Main St.  
Bethlehem, PA***

***Program will include:  
Recognition of IEEE Fellows***

***Buffet Style Gourmet Hors D'oeuvres  
Wine Pairing  
Dancing  
Door prize raffle***



## ***Dinner Dance Program***

<b><i>6:30 p.m.</i></b>	<b><i>Doors open, food and wine available</i></b>
<b><i>7:00</i></b>	<b><i>Welcoming remarks</i></b>
<b><i>7:15</i></b>	<b><i>Dancing to the music of Hartz and Cook</i></b>
<b><i>8:00</i></b>	<b><i>Fellows recognition</i></b>
<b><i>8:30 – 10:00</i></b>	<b><i>Desserts, wine available. Dancing</i></b>

***Also: Raffle of Door Prizes***

### ***Caterer***

## ***Bettina Castagno***

*See following pages for detailed menu information*

### ***Wine Provider***

## ***Sandcastle Vineyards***

*Two glasses of wine included with each ticket. Additional bottles of wine available for purchase.*

*See following pages for winery details*

### ***Tickets***

<b><i>Member and Guest</i></b>	<b><i>\$40 each</i></b>
<b><i>Fellow and Guest</i></b>	<b><i>\$25 each</i></b>
<b><i>Non-Members</i></b>	<b><i>\$50 each</i></b>

***(Make checks payable to LVS-IEEE)***

Reservations are required before March 21, 2008.

***Ticket Sellers***

***Allentown:***                      ***George Beam***      ***610 774 5056***  
   ***Glen Offord***      ***610 332 5588***  
   ***Robert Peruzzi***    ***610 712 3303***

***Bethlehem:***                      ***Don Talhelm***      ***610 838 9389***

***Easton:***                              ***William Jemison***    ***610 330 5425***

To obtain tickets, contact one of the above sellers or mail the form below to:

Robert Peruzzi,  
719 4<sup>th</sup> Ave.  
Bethlehem, PA 18018

---

IEEE and LVEC Dinner Dance – April 5, 2008

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Buffet Style Gourmet Hors D'oeuvres,  
includes two glasses of wine

Number: \_\_\_\_\_

Member and Guest      \$40 each  
Fellow and Guest        \$25 each  
Non-Members             \$50 each

***Make check payable to LVS-IEEE***

# **Menu Information**

## **Caterer: Bettina Castagno**

### **Cocktail Party Stations:**

#### **Station One:**

Imported Cheeses- French Feta, Marinated Fresh Mozzarella and Basil  
Mediterranean Olive Assortment  
Roasted Garlic Hummus  
Roasted Vegetable Anti-Pasto  
Syrian Herb Toasted Pita

#### **Station Two:**

Fruit & Cheese Board  
Baguettes & Imported Crackers  
Fresh Seasonal Fruit, Berries, Pineapple  
Sharp Aged Cheddar, Orange and Date White Stilton  
Imported Swiss, Brie Layered with Toasted Pine nuts and Roasted Peppers

#### **Station Three**

Skewered Chicken Basted in an Apricot Curry Sauce  
Skewered Chicken Basted in Ginger, Sesame Soy Sauce  
Roasted Portobello Mushroom Sandwiches with Asian Tahini Dressing

#### **Station Four:**

Smoked Salmon Platter with Black Bread and Caper Cream Cheese  
European Cucumber and Herbed Goat Cheese Canapés  
Mini Assorted Italian Sandwiches ( meats and vegetarian)

#### **Station Five:**

Assorted Mini Desserts, Fancy Chocolates  
Coffee Bar

### **Winery Information**

Sandcastle Winery: <http://www.sandcastlewinery.com>

# Sun Inn Information

<http://www.suninnbethlehem.org>

The Sun Inn has served townspeople and visitors to Bethlehem with unsurpassed hospitality since greeting its first guests in 1760

***Partake of the history and hospitality of the Sun Inn!***

Located in the heart of Historic Bethlehem

