



# SPEC *Sheet*

**SOCIETY OF PLASTICS ENGINEERS – CLEVELAND SECTION**

January 2014 Vol. 57 No. 5

[www.specleveland.org](http://www.specleveland.org)

Editor: [Bruce Bille](#)

## High Performance Composites by Andrew Rich of Element 6 Consulting Monday, January 13, 2014

Quaker Station  
135 S. Broadway Street  
Akron, Ohio 44308

### Agenda:

- 4:30 Board Meeting  
5:30 Social/Networking/Cash Bar  
6:15 Dinner  
Technical presentation follows dinner

**Price:** Member and/or guest \$25.00  
Retired \$20.00  
Student and/or guest \$5.00

### Quick Clicks:

[Directions to the Meeting](#)  
[President's Message](#)  
[SPEC Survey](#)  
[Cleveland Section Status](#)  
[SPE-Cleveland Website](#)

Reservations must be in by noon on Friday, Jan. 10<sup>th</sup> with  
Mark Holtman at [holtman@uakron.edu](mailto:holtman@uakron.edu) or 330-972-6008.

### 2013 – 2014 Section Officers and Board of Directors

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Gary Casterline  
[gcasterline@gmail.com](mailto:gcasterline@gmail.com)  
C: 330-240-2543

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#### **Director**

Dan Crist  
[mail@cmd-tip.com](mailto:mail@cmd-tip.com)  
W: (330)225-8080

## ***President's Message***

By Gary Casterline



Hi everyone,

Thanks to all of you who gave me well wishes about my hernia surgery I had just before the Thanksgiving Weekend. Actually it was pretty much the same number of people that come from Cleveland to the monthly SPE meetings. That is not a big group at all. I admit I did not tell many of you about my surgery, so I should not be surprised at the outcome. However, we did tell about 255 of you about the last two meetings and I believe we ended up with 7-9 people there from Cleveland and most of those were board members. I know I have sung this song before, but it just does not seem right that the Cleveland Section of the Society of Plastics Engineers should go out of business due to lack of interest. Maybe there are nostalgic reasons why you or you get your company to pay for the annual dues, but there is still more to it than that. Maybe we should merge with a section that is far away since nobody is going to attend a meeting anyway. Someone remind me that this is the last time I am going to mention it, but we could really use 3-5 new board members if we are going to continue as an independent section.

We are helping to sponsor a TOPCON with Akron and the Extrusion Division in mid-March. It is being held at Case Western Reserve University. This is our own jewel of a college doing great research in polymers right here in the Cleveland area. A very insightful program has been developed on Continuous Compounding and the first afternoon of the program will also showcase the Case facilities for polymer research. I know the University of Akron and Kent State are doing great things too and it is pretty cool that our universities are really keeping our area a center of expertise in polymers. Please try to attend this TOPCON and invite your colleagues to join you.

Gary

### ***Please Give Us Your Inputs!***

This is a critical time for the Cleveland Section of the Society of Plastics Engineers. We are asking our members to provide us with their inputs to help us improve our program, to create value to the membership, and in turn, drive up participation .

Please click on the link below and take this short 8-question survey:

<https://www.surveymonkey.com/s/FMMVYKZ>

## **SCREW TIPS**

### **FOR PLASTIC INJECTION MOLDING**

**3 PIECE RING VALVES**

**5 PIECE RING VALVES**

**BALL CHECK VALVES**

**POPPET CHECK VALVES**



**COMPONENT MANUFACTURING AND DESIGN**

3121 Interstate Parkway, Brunswick, OH 44212

Phone: 330 225 8080

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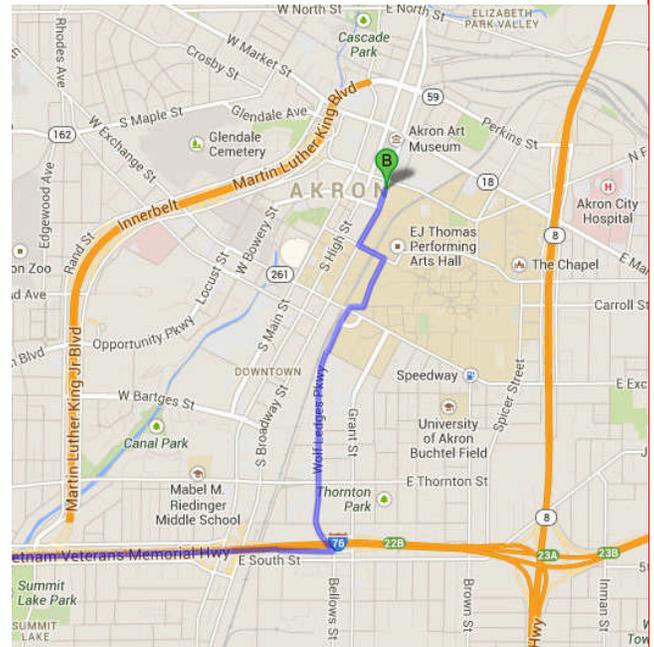
Fax: 330 225 8777

Internet: [www.cmd-tip.com](http://www.cmd-tip.com)

## Directions to January 13<sup>th</sup> Meeting

From Cleveland, take I-77 South.  
 Rte 21 will merge with I-77S at Exit 145 near Richfield.  
 At Exit 136, I-77 and Rte. 21 split.  
 Stay on I-77 South towards Akron.  
 I-76 will merge with I-77S at Exit 129. Stay on I-77S.  
 Take Exit 22B, turning left on Wolf Ledges/Grant St.  
 Cross Exchange St, and turn left to stay on Wolf Ledges  
 At Wolf Ledges' dead end, turn left on University Ave.  
 Turn right on S. Broadway St.  
 Quaker Station will be located 0.2 miles on right.

*(click on map to open map in new browser window)*



## Future SPE Cleveland Section Programs

Month	Date	Topic	Location
February	10	Molders Night	Quaker Station, Akron
March	11	Keynote Speaker-Extrusion TOPCON	CWRU, Cleveland
April	14	Tour of Automation Plastics	Automation Plastics, Aurora
May	12	Moldex Presentation and Awards Night	Concept2Production, Macedonia
May	19	Awards Night---Akron	Quaker Station, Akron



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**GARY CASTERLINE**  
PRESIDENT



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## *About the January Speaker*



**Andrew Rich** has been a Research Engineer for DaimlerChrysler and Plasan Carbon Composites where he developed several novel manufacturing processes for carbon fiber, and has also worked in Market Development for two Carbon Nanotube companies, Hyperion Catalysis International in Cambridge, MA, and Nanocyl in Belgium. He was instrumental in the development of three patented dispersion techniques for multi-wall carbon nanotubes, and one for a carbon fiber manufacturing process at high volume, which is going into production on the 2014 Corvette. He has an MS in Manufacturing Engineering and an MBA, and is currently the Chairman of the Board of the Composites Division of the SPE, (Society of Plastics Engineers), and a Board member of the New England Nanotech Association.

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## *About the January Program*

Composites can offer mass reduction and energy savings in many transportation fields, but always come at some cost. The majority of the extra cost is not in the materials, which are more expensive, but in the processing, which is significantly more complicated. This talk will discuss the major cost factors of producing composites, and the process improvements that can change those cost structures. We will touch on aerospace, automotive and trucks and busses, as they pertain to this topic. Finally, the potential of nanocomposites to make inroads into this new material technology will be discussed and we will hopefully attempt to shed light on whether the reality matches the hype.

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## *Cleveland/Akron Hosting March TOPCON*

The Society of Plastics Engineers Extrusion Division and the Cleveland/Akron Sections will host a Continuous Compounding Topical Conference (CCT 2014) on March 11-13, 2014 at Case Western University in Cleveland, OH.

This program will feature 20+ presentations by industry experts and will include a review of fundamental mixing technologies on Day 1, continuous compounding core technologies and case studies on Day 2, and advanced/cutting edge technologies on Day 3.

A tour of the prestigious Case Western University laboratories will augment the technical program and provide 1st hand knowledge of extrusion and analytical equipment, techniques and practices.

Get the details here: <http://bit.ly/SPE-CCT-2014> and see the flyer at the end of this newsletter.

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## *Akron Hosting September TPE TOPCON*

Akron Section SPE will co-host 2014 TPE TOPCON "Building New Bonds" to be held at the Hilton Fairlawn Hotel from September 16-18, 2014. **Paper abstracts are due January 31, 2014.**

See the flyer at the end of this newsletter or click here <http://bit.ly/SPE-TPE-2014> for event details.

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## ***From the SPE-Cleveland Board***

The SPE Cleveland Section Officers and Board of Directors Want to Wish All Section Members and Their Families Happy Holidays and A Prosperous New Year!

The SPE Cleveland Section has had a mixed year. Our membership has stabilized at almost three hundred, the finances are in the black by almost one thousand dollars for the first time in five years and we will be having a Topcon in Cleveland for the first time in ten years.

Unfortunately, this may all come to an end by June of 2014, because six months from now we will not have enough leadership to continue. Last spring we sent an email to inform the membership of this impending problem. We asked for a vote on direction for the future of SPE Cleveland section, comments and volunteers to help. The results were very dismal. Less than 4% bothered to reply! Of the ones who did reply:

- The majority voted to revitalize the section.
- The option to merge with another section received the second most votes.
- No-one voted to deactivate the section.

We also had one person volunteer and he is now on our board. The board was dismayed over this outcome. The 280 members who wouldn't even bother to take the few seconds needed to check one box and hit reply is an example of the apathy that is killing our section. However, the entire board volunteered to stay on one more year to work on saving the section.

Unfortunately, as of this writing we only have a total of four officers and directors who will continue into the 2014-2015 year. This is not enough to meet SPE Section Charter requirements.

What should we do?

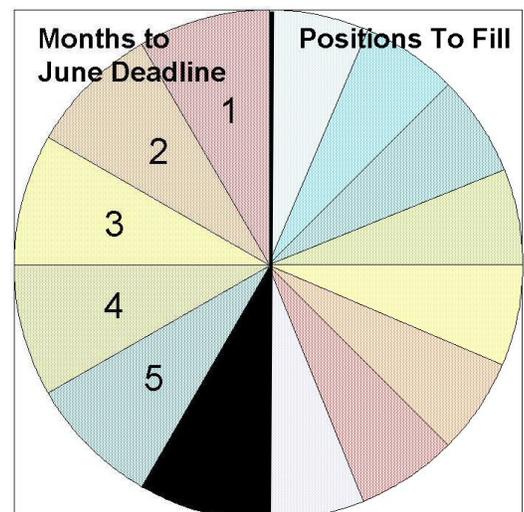
The Current Section Officers and the Board of Directors are determined to not let the section fail from apathy. We need to increase communication in the section. We want to know what we are doing well and what we could change to make the section more valuable to our members. We want to know what you like or don't like about our meetings and how we could improve. We would like to hear from members on why the Cleveland Section has been and is important to them. We would like to know your opinion on how the section should reward members who serve on the committees, the board of directors and are the officers.

Starting immediately we will:

1. Display the countdown to doom which will now appear in the next six newsletters.
2. You will get a monthly update on the successes and failures in this campaign to save the Cleveland Section.
3. You will be contacted by newsletter, email, phone calls and in person to get your input on this situation and what we can do about it.

In closing, we know this will not be an easy battle. Apathy has been the status quo of most section members. We all need to work hard to turn this around. We think each one of us has to look in the mirror and except our part in saving or killing the Cleveland Section.

Where do you stand?





# SOCIETY OF PLASTICS ENGINEERS

Cleveland Section

## COLLEGE SCHOLARSHIPS

### AWARDS OF UP TO \$1000 EACH

#### FOR STUDENTS WITH AN EXPRESSED OR DEMONSTRATED CAREER INTEREST IN THE PLASTICS INDUSTRY

#### **APPLY TO:**

**SPE Cleveland Section**

Attn: Gary Casterline

7895 Raglan Drive

Warren, OH 44484

**Email:** gcasterline@gmail.com

**Entry must be POSTMARKED by March 14, 2014**

#### Eligibility

1. Applicants must be
  - a. Seniors in good standing at a public or private high school
  - b. Students in good standing at either a four-year/two-year technical program or Master's/Doctorate Program.
2. High school seniors must show acceptance at a two or four year college.
3. Preference will be given to students who are members and/or whose parents are members of the Society of Plastics Engineers.
4. Applicants must have local ties to the Northeast Ohio area.

#### Criteria

1. Applicants must have demonstrated or expressed interest in the plastics industry.
2. Applicants must be majoring in or taking courses that would be beneficial to a career in the plastics industry. This would include but are not limited to plastics engineering, polymer science, chemistry, physics, chemical engineering, mechanical engineering, industrial engineering, business administration.
3. Financial need of applicant will be considered.

#### Application Procedure

1. Complete the application form.
2. A high school or college transcript of grades.
3. Two references. A high school or college instructor is recommended at minimum.
4. A one to two page typed statement telling why the applicant is applying for the scholarship, the applicant's qualifications, experience, and background with the plastics industry, and applicant's educational and career goals.

#### Awards

Scholarships will be awarded at the discretion of the Society of Plastics Engineers Scholarship Committee. Scholarships are awarded for one year only, but may be rewarded annually for up to three additional years.

The Society of Plastics Engineers scholarships are awarded without regard to race, sex religion, age or national origin. The Society of Plastics Engineers will not award scholarships to applicants who are not qualified and reserves the right not to award a scholarship in a given year if it so chooses.

# **SOCIETY OF PLASTICS ENGINEERS - CLEVELAND SECTION**

## **SCHOLARSHIP APPLICATION FORM**

### **AWARDS OF UP TO \$1000 EACH**

APPLICANT: Please complete this form in as much detail as possible. Use extra sheets of paper if required. We may contact your counselor/advisor and references for information. We may also contact the applicant for a formal interview. This application is good only for the school year listed. You must re-apply each year.

Date \_\_\_\_\_

For School Year: **2014-2015**

Name \_\_\_\_\_ Home Phone Number \_\_\_\_\_

Street \_\_\_\_\_ Apartment \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

High School \_\_\_\_\_ Counselor \_\_\_\_\_

College \_\_\_\_\_ Advisor \_\_\_\_\_

Intended occupation or career interest \_\_\_\_\_

How will the proposed course of study help you in your intended occupation? \_\_\_\_\_

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On separate paper, please write a one or two page discourse describing your interest and enthusiasm in pursuing a career in the plastics industry.

List two academic references (instructors or supervisors), including addresses and telephone numbers, who are familiar with your scholastic activities, work habits and interests.

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Please list other loans, grants, scholarships and reimbursement programs available to you.

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Send to: Gary Casterline      Application Postmarked Deadline: **March 14, 2014**  
7895 Raglan Drive  
Warren, OH 44484

Or Scan and email to: [gcasterline@gmail.com](mailto:gcasterline@gmail.com)

Mar-Bal Fact:

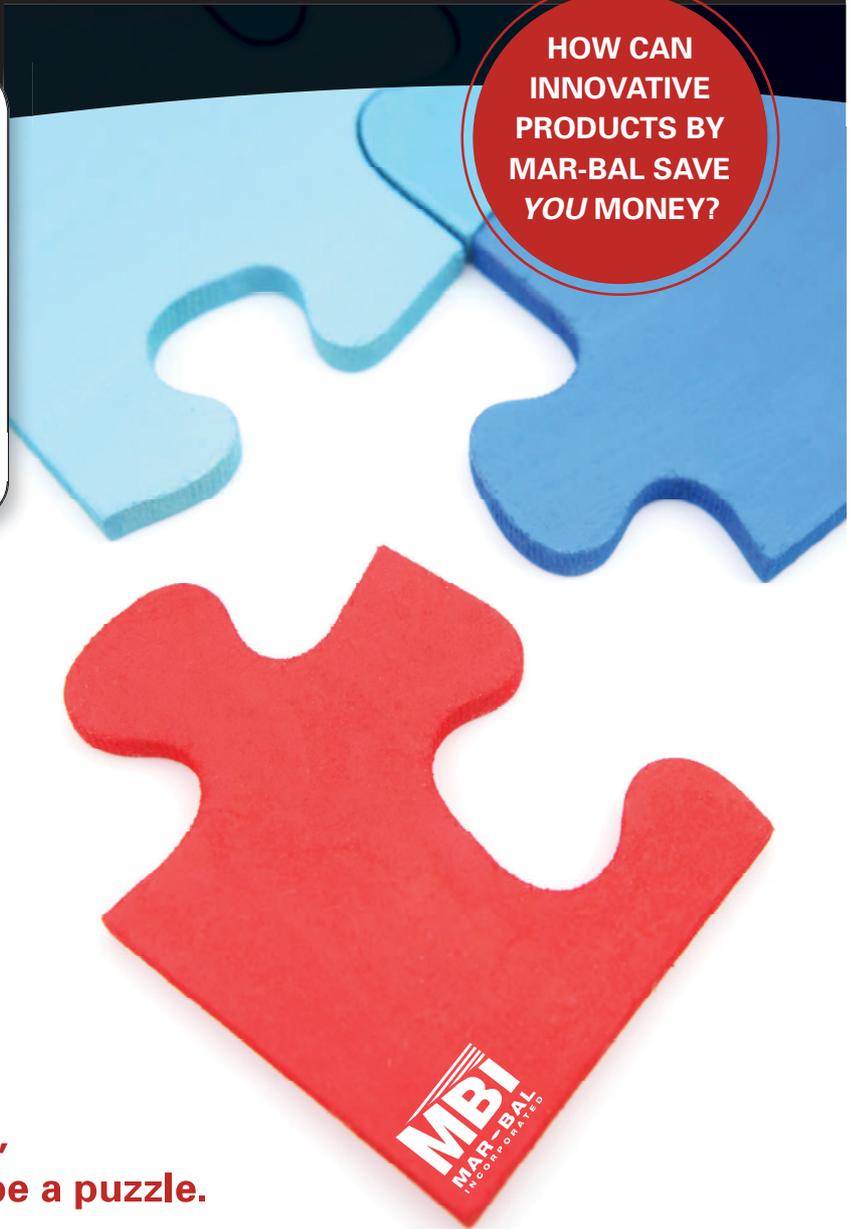
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————— MEANS —————  
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**AT MAR-BAL, WE UNDERSTAND THAT USING TOO MANY PARTS COULD BE COSTING YOU MONEY.**

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**Don't miss this "high tech" event!**

**March 11-13, 2014, Case Western Reserve, Cleveland OH**

The Society of Plastics Engineers Extrusion Division and the Cleveland/Akron Sections will host a Continuous Compounding Topical Conference (CCT 2014) on March 11-13, 2014 at Case Western University in Cleveland, OH. This program will feature 20+ presentations by academia and industry experts and will include a review of fundamental mixing technologies on Day 1, continuous compounding core technologies and case studies on Day 2, and advanced/cutting edge technologies on Day 3.

A tour of the prestigious Case Western University laboratories will augment the technical program and provide 1<sup>st</sup> hand knowledge of extrusion and analytical equipment, techniques and practices.

In addition, a tabletop display area and reception will allow you to mix and meet with colleagues and industry experts.

### **Program Agenda**

#### **Optional ½ Day Fundamentals Session - March 11, 2014**

- Review of Extruder Types and the Unit Operations of Extrusion- Joe Golba, PolyOne Corp.
- Primer on Mixing for Melt Compounders- Prof. Ica Manas-Zloczower , Case Western Reserve University
- Feeding and Dosing of Raw Materials for Productivity and Profitability- Jaime Gomez , Coperion-K-Tron International
- Extruded Product Management for Customer Satisfaction- Chris Case, Reduction Engineering

#### **Core Compounding Technologies and Case Studies - March 12, 2014**

*Morning session: The Melt Compounder's Extruder Tool Kit*

- Mixing with Single Screw Extruders- Tim Womer, TW Womer and Associates, LLC
- TriVolution™ in Single Screw Kneading- Michael Lazorchak, B&P Process Equipment
- Co-Rotating, Intermeshing Twin Screw Extrusion- Paul Andersen, Coperion

- Counter-Rotating, Non-Intermeshing Twin Screw Extrusion- Chris Tucker, NFM Welding Engineers
- Direct Extrusion- Tips, Test Results and Reasoning- Charlie Martin, Leistritz
- Coupling Melt Compounding with Injection Molding for Increased Profitability- Matt Sieverding Krauss-Maffei /Berstorff

*Afternoon session: Case Studies in Melt Compounding and Reactive Extrusion*

- Liquid Color and Additive Melt Injection- Andrew Overend, PolyOne/ColorMatrix
- Latest Developments in Processing Biomaterials- Kim Young & Alex Utracki, Coperion
- One Step Polymer Chain Extension by Reactive Extrusion- Ying Shi, A. Schulman Inc.
- Reactive Extrusion Based Chain Extension For Engineering Nanocomposite Theology- Joe Golba, PolyOne Corporation

## 21<sup>st</sup> Century Compounding Technologies - March 13, 2014

*Morning session: Process Monitoring and Control*

- Keynote Speaker: Prof. Joao Maia, Case Western Reserve University
- On-Line Viscometry Measurement Techniques- Monica Gneuss, Gneuss, Inc.
- Measuring On-Line Color- Bob Furlan, Equitech International
- On-Line FT-NIR Developments and Options- Herman He, Thermo Scientific
- A New Paradigm in Process Control- Prof. Zhiqiang Gao, Cleveland State University

*Afternoon session: Process Simulation for Design, Scale-Up, and Troubleshooting*

- One Dimensional Process Simulation for Twin-Screw Compounding – Limitations and Opportunities- Adam Dreiblatt, Century Extrusion
- Applying Ludovic 1D Twin Screw Extrusion Simulation for the Analysis and Scale-Up of Melt Compounding and Reactive Extrusion Processes- Jane Spikowski, PolyOne Corporation
- Ximex™ 3D Process Simulation- Philippe David , Sciences Computers Consultants
- New Options for TSE Process Simulation- Prof. David Bigio, University of Maryland
- “Simulation Applied to SSE and/or Die Design- John Perdikoulis, Compuplast
- Simulation via the Manufacturing and Polymer Portal- Rich Markham, PolymerOhio

For the latest program details see this link: <http://www.alec-usa.com/speccompoundingtopcon2014.htm>

**Corporate sponsors:** ACS Group, Brabender Technologie, Bay Plastics Machinery, Coperion-K-Tron, Gala Industries, Gneuss, Leistritz, Plastics Technology Magazine, Schenck AccuRate and Steer-America.

A limited number of corporate sponsorships are still available for \$1000. To become a sponsor, please contact Charlie Martin at [cmartin@alec-usa.com](mailto:cmartin@alec-usa.com) or by phone, 908/685-2333, x616.

### Cost to register:

SPE member	\$425 on or before Feb. 15 <sup>th</sup> , \$475 thereafter
Non-member	\$525 on or before Feb. 15 <sup>th</sup> , \$575 thereafter (includes 1 year SPE membership)

The optional March 11<sup>th</sup> Fundamentals session is included in the conference registration fee, if attended as a stand-alone event the price is \$200

To register: See this link <http://www.4spe.org/spe-extrusion-conference-2014> or call Sarah Scovens @ 908/685-2333 or [sscovens@alec-usa.com](mailto:sscovens@alec-usa.com)

Hotel information: These hotels are all walkable to the event, when making the reservation request the "Case Western" discounted rate

- Courtyard Marriott - 2021 Cornell Rd, Cleveland OH, Ph: (216) 791-5678 (\$139/night, 0.4 miles)
- Doubletree by Hilton -10660 Carnegie Ave, Cleveland OH, Ph: (866) 430-2692 (\$126/night, 0.4 miles)
- Intercontinental - 9801 Carnegie Ave, Cleveland, OH Ph: (216) 707-4100 (\$225/night, 0.8 miles)