Engineers Week Dinner Meeting

Topic: “High Speed Robot Systems for High Throughput Applications”

One Hour of PDH Credit Offered

Speaker: Stephen Derby  
Associate Professor - Mechanical, Aerospace and Nuclear Engineering, Rensselaer Polytechnic Institute  
and President - Distributed Robotics LLC

Date: Thursday, January 28th

Time: 6:30 PM Pizza, Cookies and Soda  
7:00 PM Lecture

Place: George M. Low Center for Industrial Innovation (CII), Room LOW 3051 in Rensselaer Polytechnic Institute (RPI) Troy, NY

RSVP by Noon Wednesday January 27th, 2010

Contact either:  
Lewis Stitt (stittl@asme.org or 518.266.3540)  
David Smith (smithd2@asme.org or (518) 385-1234)

Abstract:

There are applications for automation that are still not addressed with today’s robotic arms. These range from handling food items to sorting packages for the US Postal Service. Two of the most widely used high speed pick and place robotic systems used today have a limit of 150 – 160 pick and places a minute.

A new type of robot, called the Treadbot, has been created (see figure). It was designed for high speed pick and place operations that range from creating and packaging food items to order picking items at a warehouse. The overall concept of this new design is to both remove the return stroke found in most existing robots as well as to never require the overall robot system to come to rest. Neither the distance of the transfer motion or the overall workspace size determines the cycle time with this new design. Extending the transfer motion range is simply a matter of configuring additional modular units. This design can be scaled to various sizes and speeds depending on the application. Configurations yielding a throughput rate of 1000 picks per minute are possible. A discussion of the Treadbot’s (US Pat. No 6,688,451) throughput will be presented and a comparison made to standard SCARA and Delta configuration robots.

This program will offer One hour of PDH credit. Cost for the PDH credit is $10 – to help the Hudson-Mohawk section defray costs for program materials and accreditation fees.

Speaker:

Dr. Stephen Derby has been an associate professor of Mechanical, Aerospace and Nuclear Engineering in Rensselaer Polytechnic Institute since 1986. He is the president of Distributed Robotics LLC. Dr. Derby received his Bachelor, Master and PHD from Rensselaer Polytechnic Institute.

Dr. Derby is a member of ASME, associate editor of ASME Journal of Mechanical Design, member of ASME Mechanisms Committee and member of ASME Material Handling Committee. Dr. Derby’s research is funded by National Science Foundation, NASA, General Motors, IBM and more than 30 other Industrial companies.

The majority of his research over the last 25 years has been in robotics and automation. His research for industrial companies have included the designing of special purpose automation processes and workcells, the design and construction of a computer based modular robotic assembly cell, and the material handling of flexible materials.
**Dinner:**

This event is an informal dinner, with Pizza, cookies and soda.

**Cost:**

$5 – cost for the pizza, cookies and drink.

Students are free (with valid student ID).

$10 – cost for the PDH credit (extra).

Lecture Only (No Dinner, no PDH credit) – Free

The Hudson Mohawk section of the ASME is subsidizing this meal. Students from all local colleges (with valid student ID’s) are welcome and will be charged the discounted student fee.

**Reservations:**

To reserve your slice of pizza and/or PDH handout materials, contact Lewis Stitt at 518.266.3540 or stittl@asme.org or David Smith at (518) 385-1234, or smithd2@asme.org by noon Wednesday January 27th. **E-mail contact is preferred.**

PDH materials will be available to those that have notified us beforehand that they desire PDH credit.

If you are attending the lecture only, please respond anyway so we can arrange for adequate seating.

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**Message from the Section Chair**

I want to start off this month’s column by wishing everyone a happy and prosperous new year. We are kicking off 2010 with an interesting presentation of a new kind of robotic system. This meeting is being held in conjunction with the RPI student section. PDH credit is being offered for this meeting. I am looking forward to seeing you there.

We are currently working with the local section of the AIAA, AIAA’s Distinguished Lecturer Program, and the ASME student section at Union College for this year’s Engineers Week event. Dr. Roger Launius, a senior curator with the Smithsonian Institution’s National Air and Space Museum in Washington, D.C. will give a presentation on the Moon as a target for human exploration and eventual settlement. The program is planned for February 18th at Union College and will be an event worthwhile attending. Stay tuned for details.

Best Regards,

**David Smith**

Chairman - Hudson-Mohawk Section

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**Distribution of Section Newsletter**

The Hudson Mohawk newsletter is posted at: [http://sections.asme.org/hudson-mohawk/](http://sections.asme.org/hudson-mohawk/)

Once each newsletter is posted on the Section’s web page, an e-mail notification and link to the above website is sent to members who have e-mail addresses in the ASME member database. If you are an active member of ASME and did not receive an e-mail notification, please go to the ASME web site and update your membership information. Additionally, please make you’re your e-mail service does not block e-mail sent from ASME. [http://members.asme.org/myasme/login/myasme.cfm](http://members.asme.org/myasme/login/myasme.cfm)