

The Shot Peener

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IN THIS ISSUE:

From the Desk of
.....Page 3

Letters-On-Line
.....Page 4

Upcoming
Workshops
.....Page 5

Curve Fitting for
Shot Peening Data
Analysis
.....Page 6

ICSP8
Information
.....Page 32

Herb's Solutions
.....Page 33

News Releases
.....Page 34

Upcoming Events
.....Page 38

Workshop 2002
Information
.....Page 39

And much, much
more!

Investing in the future of shot peening: Professor Christine Corum

Professor Christine Corum impacts shot peening at a very fundamental level—she teaches students, some of whom will go into automotive and aerospace jobs. She is an Associate Professor of Mechanical Engineering Technology (MET) at Purdue University, where she teaches courses related to materials, manufacturing and quality control. According to Christine, “We are exposing students to shot peening that aren’t familiar with it. These students will become consumers of shot peening when they are working in the automotive and aerospace fields.”



Christine and the Purdue Shot Peening Center

In addition to her responsibilities as a Professor, Christine has been a tremendous asset in setting up the Purdue Shot Peening Center. The center was established as a fee-based, not-for-profit consortium that will provide research and development funding for fundamental shot peening theory and practice.

Because the Shot Peening Center is supported by the shot peening industry, not through Purdue funding, Christine has devoted her own time to the project. Many companies have donated products and funds to make the center a reality, including a shot peening machine from Progressive Technologies. Purdue is committed to the Center and the machine has received a prominent place in the manufacturing lab where space is at a premium. The machine is invaluable to Purdue’s MET department—Christine’s mechanical engineering technology students can get hands-on experience without leaving the campus.

Christine says that once the Center has an air dryer for the shot peening machine,* shot peening will become a part of the undergraduate and graduate curriculum. Right now shot peening topics are covered through independent study programs. One student is working on a number of cast steel and cut wire shot samples that are being analyzed for size and shape using both computer image analysis and traditional screen

sieve analysis in a project titled “Image Analysis Validation of Shot Peening Media” that was started with funding through a Purdue Research Foundation grant. Christine and an undergraduate student are working jointly on this project. Analysis tools were donated by W. S. Tyler and shot samples have been donated by Ervin Industries and Premier Shot Company.

The Center will also be used for shot peening fatigue testing specimens currently used in one of the MET undergraduate courses - Applied Strength of Materials. This is a required course for students and is taught every semester. MET students will begin to be introduced to shot peening through the curriculum no later than Spring 2002 depending on the availability of an air dryer.

Background Information

Christine received a B.S. in Metallurgical Engineering from the University of Missouri-Rolla and an M.S. in Industrial Engineering from Purdue University. She is a member of ASM International, the American Society for Quality, the American Society of Engineering Education, and the counselor for the Purdue student chapter of the Society for Women Engineers. Her industrial background is in the metallurgical and quality control areas of the steel industry.

She was introduced to shot peening after coming to Purdue and plans to use her experience and interest in quality and manufacturing to support activities in the shot peening area. ○

*** The Purdue Shot Peening Center needs an air dryer to be used with the compressed air source for the shot peening machine (200 cubic ft. per minute capacity). Cost is estimated to be \$4,000-\$5,000. The Center is not able to peen without it. If you are interested in donating an air dryer, contact Christine at (765)494-7530 or clcorum@tech.purdue.edu.**