ASM Eastern NY March Dinner Meeting
Wednesday, March 16th, 2016

Join us for networking, dinner, & a technical presentation at The Century House

997 New Loudon Rd, Latham NY 12110
Phone: (518) 785-0931

Social Hour: 5:30 pm
Dinner: 6:30 pm
Talk: 7:30pm

Issues Related to Additively Manufactured Titanium Medical and Dental Devices
Julius Bonini, P.E.
Engineering Manager
Lucideon M+P, Schenectady, NY

Abstract

The use of additive manufacturing (AM) methods to fabricate titanium implants and medical devices with integrated porous surface structures has presented new challenges to this industry. AM methods, such as electron beam manufacturing and Direct Metal Laser Sintering as applied to titanium devices, create unique and complex porous surface structures. However, significant metallurgical problems have been encountered. This presentation will describe the various AM methods currently in use. The issues surrounding four specific problems related to the application of this technology will then be described: cleanliness of implanted components, particle shedding and wear, general microstructural problems, and unusual surface conditions found on as-manufactured AM titanium components.

About the Presenter

Julius is the engineering manager at Lucideon M+P in Schenectady, NY. He joined Lucideon in early 2010. He is responsible for leading evaluations and failure investigations on a wide range of materials for a diverse roster of clients, working both in the laboratory and at clients’ sites. He is currently focusing on healthcare applications including medical implants, medical devices and surgical and dental instruments. He has over 30 years of experience in failure analysis. He also has significant experience in corrosion, wear,
fatigue, heat treatment, castings, surface treatment, powder metallurgy, welding, MIM, and the analysis of contamination. In recent years, he has worked with the FDA and ASTM to help establish regulatory practices and standards for AM.

Julius holds a Bachelor’s Degree in Materials Engineering from the University of Illinois at Chicago and a Bachelor’s Degree in Mathematics from Loyola University of Chicago. He is a licensed Professional Engineer and holds multiple patents.

RSVP dinner choice by **Friday 2pm, March 11, 2016**

Hannah Smith -- 518-395-6830 -- hsmith247@yahoo.com

**Dinner Choices**

Salmon in a lemon dill beurre blanc,
Or sirloin steak with roasted garlic & cabernet demi-glace,
Or spinach tortellini with roasted red peppers, artichoke hearts, & black olives in a pesto cream

**Cost:** $20/professionals and guests; $10/retirees; $10/students

**Directions:**