“Fundamentals of Nitinol”
Wednesday, January 18th, 2017

**Minnesota Chapter ASM** hosts Kristopher Vietmeier, St. Jude Medical, Wednesday, January 18th, 2017 at the Green Mill in Plymouth, Minnesota. His presentation is on the “Fundamentals of Nitinol.”

**Abstract**
Since its discovery in the 1960’s, understanding of nitinol has come a long way. Nitinol, an equiatomic Nickel/Titanium alloy, has both superelastic and shape memory behavior. Properly designed and processed, Nitinol can overcome limitations of other materials to answer challenging design problems. Applications of nitinol can now be found in many industries today, including; aerospace, automotive, appliances, clothing, medical devices, mobile devices, sporting goods and construction. In this presentation, we’ll start with a brief review of nitinol history. I’ll review and demonstrate nitinol’s shape memory and superelastic behavior and the material properties associated with these behaviors. Finally, we’ll review how its properties are adjusted through processing and measured using standard test methods.

**Biography**
Kristopher Vietmeier has more than 20 years of experience in development of Nitinol medical device products and processes. He is a Principal R&D engineer at St. Jude Medical with a Bachelor of Science in Mechanical Engineering from the University of Minnesota, Twin Cities. Commercial nitinol devices that Kris has been a development team member of include the Radius™ self-expanding Coronary Stent (BSC), EPIC™ Vascular Self-Expanding Stent (BSC), Innova™ Vascular Self-Expanding Stent (BSC), and Portico™ Transcatheter Aortic Heart Valve (SJM).
Meeting Information

**Reservations:** It’s important to make reservations and equally important to make reservations **EARLY** for planning and catering. Reservations for the meeting are due on **Friday, January 13th at 12:00 PM**, and they can be made by going to [www.mnasm.org](http://www.mnasm.org).

**Refunds:** Refunds are not provided after the reservation due date because we are charged for it. If payment is not made online at the time the reservation is made, you will be invoiced for the reservation.

**Payment:** When you arrive, you or your company may pay by **credit card, cash, or check** made payable to “ASM MN Chapter.” Discover, Master Card, Visa, and American Express are accepted. Payment is due at check-in.

**Hotel Information:** If you are planning an overnight stay, make your room reservation on your own by calling 763.553.1600 (Ramada Plymouth Hotel and Conference Center are connected to the meeting area.).

**Membership:** For ASM Minnesota Chapter membership, contact one of the board members, email joyclifford@comcast.net, or go to [www.asminternational.org](http://www.asminternational.org), It is equally important to keep your profile updated and to not let your membership lapse.

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**Schedule**

5:30 Social  
6:15 Dinner  
7:00 Talk

**Cost**

$30 Nonmembers  
$25 Members  
$10 Students

Go to [www.mnasm.org](http://www.mnasm.org) to register.

**Location**

The Green Mill is located northwest of the Twin Cities at the southeast intersection of Highway 55 and 494 in an industrial park area, south on Xenium and west on 26th Ave. N.

**Green Mill Restaurant**

2705 Annapolis Lane N  
Plymouth, MN  55441  
763.553.9000

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**SUSTAINING MEMBERS**

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- MED-TEK, INC.
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“Artistic Metalsmithing” Holiday Social

Minnesota Chapter ASM hosted Heather Doyle, artistic metalsmith and Director at the Chicago Avenue Fire Arts Center (CAFAC) Thursday, December 15th at the Green Mill in Plymouth for the monthly meeting and holiday social. Approximately 35 people attended the event. Minnesota Chapter ASM thanks the following meeting sponsors for their support: Allied High Tech, CPP Minneapolis Operation, Crane Engineering, Ebatco, and Materials Evaluation & Engineering. Please consider returning your support by giving these businesses your patronage.

Seminar Sponsors

This year’s annual one-day seminar will be held Wednesday, February 22nd at Hennepin Technical College in Brooklyn Park, Minnesota from approximately 9 am to 4 pm, with breaks for exhibits and lunch. This year’s theme is “Failure Analysis” (more on page four).

Advertisers and vendors are welcome to purchase display table to market their service or product during check-in, breaks, and lunch. Vendor display tables are $180 for sustaining member companies and $200 for non-sustaining member companies. Sign up for your space by registering for the seminar at www.mnasm.org.
Failure Analysis Seminar Wednesday, February 22nd

Ever had a material failure? Perhaps a coating peeling off, a weld that just won’t remain welded, maybe a little creep rupture getting on your nerves? Well, plan to join us as the Minnesota Chapter of ASM presents our “Failure Analysis” seminar at Hennepin Technical College in Brooklyn Park, Minnesota on Wednesday, February 22nd. The seminar runs from approximately 9 AM – 4 PM (with breaks for exhibits and an always fabulous lunch prepared by the Hennepin Tech Culinary School). In this year’s seminar, we will be exploring various areas of failure analysis from nine experts in their respective fields. Subject matter in these presentations includes analysis of failures as well as methods for analysis of materials and systems to reduce or eliminate product failures. All presentations include time for Q&A with the presenters and are equivalent to five (5) Professional Development Hours. This is your opportunity to network with experts in the failure analysis community. Individual presentation topics, include:

- Failure Analysis in Coating Technologies for Medical Devices
- “More than just a ‘Pretty Picture’: Use of Finite Element Analysis in Failure Analysis
- Failure Analysis of Welds
- Electrical Connector Failures: Material Factors and Failure Analysis Methods
- Processing Factors Affecting Material Performance in Marine Environments
- Failure Analysis of Bicycle Components
- Ferrium C64 Steel: Thermomechanical Process Optimization for High Cycle Fatigue Resistance
- Creep Rupture Failure of Plastics
- Scratch Testing for Evaluation of Scratch Resistance and Interfacial Adhesion Strength of Coatings

Register early to save your place at www.mnasm.org. The costs are $135 for ASM members, $160 for non-members. (Though we have confirmed our speakers and topics, the standard disclaimer applies: Presenters and topics subject to change due to unforeseen circumstances.)

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<td>TOUR of Lake Region Medical</td>
<td>Lake Region</td>
<td>340 Lake Hazeltine Drive Chaska, MN</td>
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<tr>
<td>Wednesday October 12th</td>
<td>Student - Industry Networking Event</td>
<td>Vivian Ferry</td>
<td>U of M Amundson Hall Minneapolis, MN</td>
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<td>Wednesday November 16th</td>
<td>“Composite Materials”</td>
<td>Dr. Saeed Ziaee</td>
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<td>Thursday December 15th</td>
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<td>Wednesday February 22nd</td>
<td>Annual Full Day Seminar “Failure Analysis”</td>
<td>Various Speakers / Professional Dev. Hours Cert. Available (5)</td>
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<td>Thursday March 16th</td>
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