

The Past, Present, And Future Of DENIM

DENIM 2015

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DENIM 2015



abstract

This talk will include a brief discussion about what has happened so far in DENIM, followed by some thoughts regarding its current state. Most of the talk, however, will be about what we as a community want and can do as DENIM goes forward. It is hoped that this will begin a larger discussion from within our member facilities and our international community. Potential collaboration, knowledge sharing and the International DENIM Committee (IDC) will be discussed.

When I Started My Engineering Career...

What (we are)

An meeting for 'Engineers' by 'Engineers'

Focused around the design, realization and operation of neutron scattering instruments (and associated systems)

- **a-political**
- **non-affiliated (neither nation or facility)**
- **voluntary**
- **non profit making**

Work! often very hard work, but it does not mean that it can not be fulfilling and also sometimes be fun !

What (we are) not

- A lobby group
- A sales platform
- A scientific conference
- A holiday for engineers 😊



<http://www.isis.stfc.ac.uk/news-and-events/events/2012/design-and-engineering-of-neutron-instruments13307.html>

DENIM 2012

- over fifty multidisciplinary engineers
- ISIS (UK), Delft University (the Netherlands), Institute of High Energy Physics - CSNS (China), ESS-S (Sweden), ANSTO (Australia), NIST (USA), SNS (USA), Consorcio ESS-BILBAO (Spain), Paul Scherrer Institut (Switzerland) and from Germany: TU Munich, Forschungszentrum Juelich and Helmholtz-Zentrum Berlin



DENIM 2012



Technical presentations were as follows:

- *The new TOF spectrometer NEAT vacuum vessel - L Drescher - HZB Berlin*
- *Newly adopted metrology and alignment tools at the NIST Center for Neutron Research D Adler - NIST*
- *SNS HYSPEC (Beamline 14B) - D Anderson/M Harvey - SNS*
- *Instrument development and projects at ZAT, R Hanslik – ZAT*
- *Recent developments in motion control in extreme environments at PSI, T Gahl – PSI*
- *Interlock systems and EMC shielded electronics rooms at ISIS - S Birch - ISIS*
- *Choppers at ISIS - P Galsworthy - ISIS*
- *Magnetic bearings for neutron choppers, E Mazzei & J Smithanik, SKF*

DENIM²⁰¹³

Tomorrow's Beamlines

Oak Ridge



DENIM²⁰¹³

Tomorrow's Beamlines

Neutron Sciences Directorate • Oak Ridge National Laboratory
Oak Ridge, Tennessee, USA • October 8-9, 2013

<http://neutrons-old.ornl.gov/conf/denim/>

DENIM 2013

Tomorrow's Beamlines

- 76 attendees
- 14 Talks
- 9 Breakout Sessions

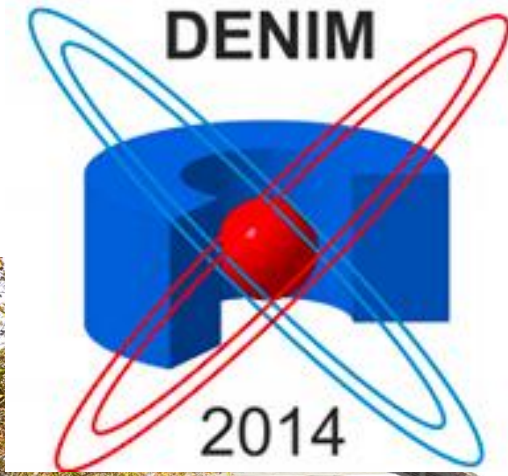




A Study of Neutron Beam Shutter Options at the ESS
VISION T0 Chopper Vibration
Challenges of Long Beamlines
Challenges of measuring long things
NSE at SNS
ISIS TS2 Phase II Beamlines Update
The SNS Second Target Station
TOPAS
ESS Status
Considerations of RAS in Instrument Design
Corelli Detector Modules
Neutron Imaging Facilities at FRM II
Linear Position Sensitive Detector Design
PTP Based Timing System for TOF Instruments

Phil Bentley, ESS
Blake Van Hoy, ORNL
Leigh Perrott, ISIS
Joe Error, SNS
Christoph Tiemann, Juelich
Nick Webb, ISIS
Ken Herwig, SNS
Hans Kaemmerling, Julich
Rob Connatser, ESS
Iain Sutton, ESS
Kevin Berry, SNS
Elbio Calzada, FRM II
Nathan Johnson, GE RS
Daniel Yen, GE RS

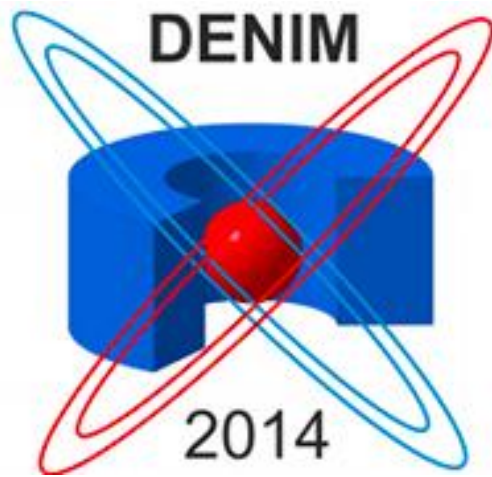
DENIM



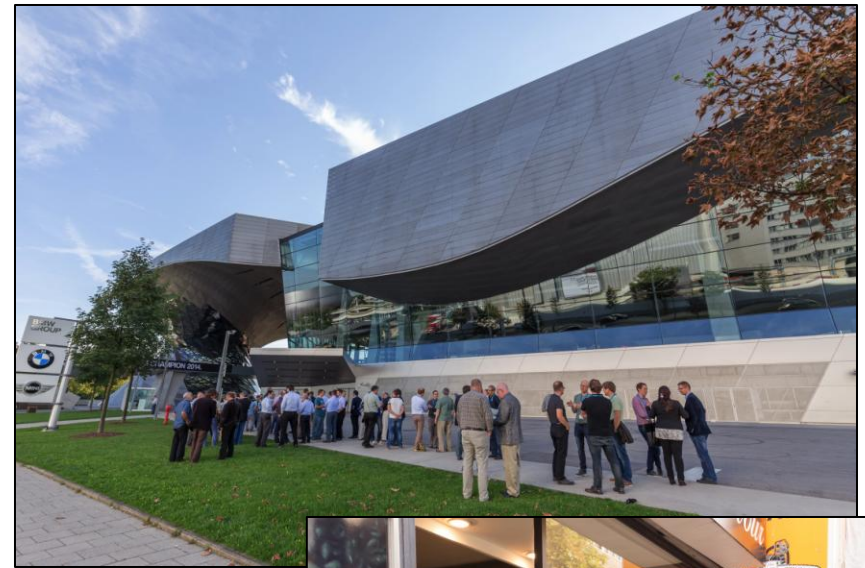
Ismaning



http://www.fz-juelich.de/jcns/EN/Leistungen/ConferencesAndWorkshops/JCNSWorkshops/History/2014DENIM/_node.html



- 90 participants attending
- 21 talks
- organized at the FRM2 by MLZ, together with Technische Universität München, Forschungszentrum Jülich and Forschungszentrum Geesthacht



DENIM 2015 – At BNC



- 130+ Attendees
- 36 talks
- Poster Session and Exhibitors short industrial presentation
 - 7 posters
- Published proceedings



DENIM 2015

DENIM On LinkedIn

- <https://www.linkedin.com/grp/home?gid=4404967>

The screenshot shows the LinkedIn interface for the DENIM Neutron Instrument Engineers group. At the top, there's a navigation bar with the LinkedIn logo, a search bar, and various icons. Below that, a banner for a safety management demo is visible. The group header includes the DENIM logo, the group name "Neutron Instrument Engineers", 55 members, and a "Member" button. A menu below the header offers options like "Discussions", "Promotions", "Jobs", "About", "Search", and "Manage".

The main content area features a "Start a discussion with your group" section with a text input field. Below this, a post by Iain Sutton, the group leader, is displayed. The post title is "The next steps for DENIM? And so DENIM enters its fourth edition, ever growing stronger. It's proven itself as a forum but i feel it's time to imagine taking this to the next level ..who's interested?". The post text discusses the community's growth and future plans. It has 10 comments, 1 like, and was posted 7 months ago. A user named Barton Bailey is shown to have liked the post.

On the right side, there are two informational boxes. The first, "Changes for messaging group members", explains updates to rules to prevent abuse. The second, "Your group contribution level", shows a progress bar at the "Getting Started" stage.

At the bottom right, there is an advertisement for "Connectivity Counts on You" by TE Connectivity, featuring a diagram of a person and a company logo with bidirectional arrows, and a "Learn More" button.

DENIM Successes

- **Nick Webb's airpad talk from 2014**
 - Nick surveyed DENIM participants about their experiences with airpads
 - He used the data to improve his own application
 - Greatly reduced the development time for his design
 - Cited in a design review for an upgrade at SNS

Questionnaire Results

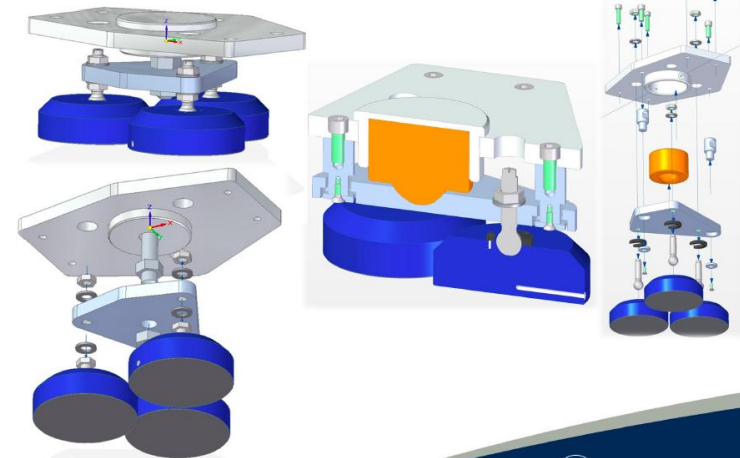
Every System was Different

- Air pads - Most people using orifice type airpad
- Floor - 50% use granite floors and 50% use epoxy floors
 - Rotary drive – Off the shelf stages
- Start / Stop – shallow acceleration curves

Common Problems

- Air pad height misalignment
- Keep mass close to the centre of gravity
- Make sure the air pads can lift a much higher load than actual pay load
 - Getting the floor level is very important
 - Don't attempt to move the system too quickly

Air Pad Misalignment



International DENIM Committee (IDC)

| First Name | Last Name | Facility | Telephone | e-mail |
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| Paris | Constantin | ANSTO | (+61) 2 9717 3613 | prc@ansto.gov.au |
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International DENIM Committee (IDC)

Are you from a facility not listed?

If so, please contact me!

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How Are We Doing So Far?

- **What do you like best about DENIM?**
- **What do you like least?**
- **Are the talks too long or too short?**
- **Are the talks too technical, or not technical enough?**
- **Should there be breakout sessions?**
- **Should there be poster sessions?**
- **Should there be more time to network?**
- **Should vendors be given the opportunity to give talks?**
- **What should we be doing that we are not doing?**
- **What should we stop doing?**

How Are We Doing So Far?

- Where should DENIM be held?
- If it is outside of Europe, are you more likely to attend, or less likely to attend, or does it make a difference?
- Are parallel sessions OK?
- How do you feel about standing in front of everyone else and “showing your warts”?
- How do you feel about listening to others stand in front of everyone and “showing their warts”?

How Are We Doing So Far?

What Else?

How Are We Doing So Far?

Share your opinions and suggestions with your IDC representative, or directly with me!

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The Future Of DENIM

- **Collaboration?**
 - Tell your IDC representative if you are interested or if you have a project or idea that could benefit from collaboration
- **Knowledge Sharing**
 - As of today, the event websites for each year are still running
 - Presentations from each event are posted
 - We cannot expect the event websites to be maintained forever
 - A permanent website for sharing information

The Future of DENIM

What do you think DENIM could be doing in the future?

- Contact your IDC representative, or me with your ideas

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DENIM 2016 – At _____