The South African Chapter of the Heavy Haul, namely, South African Heavy Haul Association (SAHHA), was launched at the first successful Heavy Haul Conference held on 8th and 9th September 2014, Emperors Palace, Johannesburg, South Africa. The board member organizations of the SAHHA are Transnet Freight Rail, Transnet Engineering, University of Pretoria (Chair in Railway Engineering), University of the Witwatersrand, University of Cape Town, South African Institution of Civil Engineers (R&H Division) and South African Society of Railway Engineering (SASRE). The establishment of the South African version of the Heavy Haul Forum will ensure that the technical knowledge and case studies shared at International Heavy Haul Association (IHHA) level are cascaded locally for the advancement of Southern African Railways development. In addition, this will also provide an opportunity for technical advancements originating from South Africa to be shared at the international stage.

Following this successful launch, on 8 & 9 October 2015, SAHHA and University of Pretoria will co-host a 2 day Technical Workshop. We are delighted to have international guest presenter, Mr. Michael Roney, a retired General Manager, Track and Structures and Chief Engineer with Canadian Pacific as part of the workshop proceedings. In addition to Michael, we have a number of other international and local railway experts that will present and share learnings on some of the most interesting and value adding topics.

The first day will cover maintenance aspects of infrastructure and rolling stock. The day will close with a cocktail function which will provide networking opportunity for delegates. The second day will focus on operations, design and technological advancements. During the second day, delegates will have an opportunity to hear about the latest update on heavy haul developments. Lastly, key learnings of the recent International Heavy Haul Conference which was held in Pert, Australia, in June 2015 will also be shared.

The presenters are experts and leaders in their areas of specialization. We expect robust discussions related to how we improve the performance of our Railways.

I look forward to seeing you at this technical workshop.

Kind regards,

Brian Monakali
Chairman of SAHHA

FUTHER REGISTRATION DETAILS

To attend as a delegate, please fill in the registration form attached and submit together with proof of payment as per instructions on form.

Note that the workshop will earn you 2 CPD points as a delegate attending the 2 days.

For more information, please send an email to admin@saheavyhaul.co.za or

Call Amanda on 083 700 8473 or Kihisha on 071 899 2940.
TECHNICAL WORKSHOP – PROPOSED AGENDA
HOSTED BY SAHHA AND THE UNIVERSITY OF PRETORIA
8-9 OCTOBER 2015
Birchwood Hotel (provisional), JOHANNESBURG, SOUTH AFRICA

KEY NOTE SPEAKER

Michael Roney
Mr. Roney is an independent consultant in railway engineering and management. He retired as General Manager, Track and Structures and Chief Engineer with Canadian Pacific where he was responsible for track standards, rail maintenance, bridge design, geotechnical groups, and automated track inspection processes. He had a 32-year career with Canadian Pacific, North America’s safest and 6th largest railway, in engineering and maintenance-of-way. He has also worked with the National Research Council of Canada as General Manager of their Rail Division, with BHP’s Melbourne Research Labs, and with Queen’s University at Kingston, Ontario, where he has a master’s degree in Civil Engineering. He is past Chairman of the International Heavy Haul Association, past Chairman of CPC S Transom Limited, and past Chairman of the 2011 IHHA conference on the theme: “Railroading in Extreme Environments.” Mr. Roney is a past president of the American Railway Engineering and Maintenance-of-Way Association and on the Institution of Mechanical Engineers Editorial Board for the Journal of Rail and Rail Rapid Transit. He was a joint author of both of the preceding text books published by the International Heavy Haul Association outlining guidelines for best practice for heavy haul railways.
## PROGRAMME

### THURSDAY 8 OCTOBER 2015: MAINTENANCE

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<thead>
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<th>Time</th>
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<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>7h30-8h30</td>
<td>REGISTRATION</td>
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<tr>
<td>8h30-8h45</td>
<td>WELCOME</td>
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<td>Brian Monakali</td>
<td>Executive Manager, Strategy and Long Term Planning, Transnet Freight Rail SAHHA Chairperson &amp; IHHA Board Member</td>
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<tr>
<td>8H45-10h15</td>
<td>SESSION 1</td>
<td>FUNDAMENTALS OF WHEEL/RAIL INTERACTION</td>
<td>Michael Roney</td>
<td>Retired General Manager, Canadian Pacific, Canada</td>
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<td>10h15-10h30</td>
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<td>10h30-11h00</td>
<td>SESSION 2</td>
<td>MAINTAINING OPTIMUM WHEEL/RAIL PERFORMANCE</td>
<td>Michael Roney</td>
<td>Retired General Manager, Canadian Pacific, Canada</td>
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<tr>
<td>11h00-11h30</td>
<td>SESSION 3</td>
<td>TOOLS FOR MAKING THE RIGHT DECISIONS IN WHEEL/RAIL MANAGEMENT</td>
<td>Michael Roney</td>
<td>Retired General Manager, Canadian Pacific, Canada</td>
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<tr>
<td>11h30-12h00</td>
<td>SESSION 4</td>
<td>OPTIMISING MECHANISED TRACK MAINTENANCE ON HIGH TRAFFIC DENSITY LINES - Orex line as a case study</td>
<td>Pieter van Blerk</td>
<td>General Manager, Plasser Rail South Africa</td>
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<td>12h00-13h00</td>
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| 13h00-13h30 | 5       | UPDATE ON CURRENT AND NEW RESEARCH RELATED TO INFRASTRUCTURE & ROLLING STOCK                | Prof. Hannes Grabe  
Chair in Railway Engineering, University of Pretoria  
Mr John Kanameyer  
Acting Chief Engineer, Technology Management, Transnet Freight Rail |       |         |
| 13h30-14h00 | 6       | MAINTENANCE EFFECTIVENESS  
- What role does maintenance play in improving business performance?  
- Case study of the Coal Line | Mr Brian Monakali  
Executive Manager, Transnet Freight Rail |       |         |
| 14h00-14h30 | 7       | TRACK GEOMETRY  
- What is acceptable  
- What are the practical implications of revising SA standards to international standards | Dr Robert Frohling  
Principal Engineer, Technology Management, Transnet Freight Rail |       |         |
| 14h30-15h00 | 8       | INNOVATION  
- Innovation at the Aurizon Network | Mr Chris Brown  
Civil Asset Manager, Aurizon, Australia |       |         |
| 15h00-15h15 |         | TEA                                                                                       |                                              |       |         |
| 15h15-16h35 | 9       | UCT PAPERS  
Introduction to research and training activities on railway bridges and structures the University of Cape Town (20 Min)  
Dynamic Testing and Monitoring of a Heavy Haul Railway Viaduct (20 Min)  
Dynamic Testing and Fatigue Analysis of Steel Railway Bridges (20 Min)  
Reliability Analysis of Railway Bridges: Integrating FEM with Structural Health Monitoring (20 Min) | Prof. Pilate Moyo  
Associate Professor, Civil Engineering Department, UCT  
Dr. Fulvio Busatta  
Concrete Materials & Structural Integrity Research Unit, UCT  
Prof. Pilate Moyo  
Associate Professor, Civil Engineering Department, UCT  
Mr Matongo Cabani  
Concrete Materials & Structural Integrity Research Unit, UCT |       |         |
<p>| 16h05-20h00 |         | COCKTAIL – keynote Address  By Mr Siyabonga Gama, Acting Group Chief Executive, Transnet |                                              |       |         |</p>
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<tr>
<td>8h30-9h00</td>
<td>Session 8</td>
<td>Updates on Heavy Haul Worldwide</td>
<td>Mr Michael Roney&lt;br&gt;Retired General Manager, Canadian Pacific, Canada&lt;br&gt;IHHA Board Member</td>
<td>Session chaired by Dr. Robert Frohling</td>
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<td>9h00-9h30</td>
<td>Session 9</td>
<td>Rail Capacity Creation Approaches for Heavy Haul Operations</td>
<td>Ms Tryphina Mathebula&lt;br&gt;Ms Kihisha Suleman&lt;br&gt;Engineers, Strategy and Long Term Planning, Transnet Freight Rail</td>
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<td>10h00-10h30</td>
<td>Session 10</td>
<td>Systems Thinking, Engineering, Approaches, Methodologies and Science (S-Teams)</td>
<td>Mr Rudolph Louw&lt;br&gt;Director, Wits Transnet Centre of Systems Engineering, University of the Witwatersrand&lt;br&gt;SAHHA Board Member</td>
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<td>10h30-11h00</td>
<td>Session 11</td>
<td>Application of Schedule Railway Principles</td>
<td>Mr Fuzile Magwa&lt;br&gt;General Manager, National Command Centre, Transnet Freight Rail&lt;br&gt;Gautrain – Bombadier</td>
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<td>11h00-12h00</td>
<td>Session 12</td>
<td>Evolution of Train Authorisation Systems/Technologies in Signalling</td>
<td>Mr Michael Nku&lt;br&gt;Principal Engineer, Technical Office, Transnet Freight Rail</td>
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<td>12h00-13h00</td>
<td>Lunch</td>
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| 13h00-13h30 | SESSION 13 | TRAIN DYNAMICS IMPLICATIONS ON MAINTENANCE, SAFETY, OPERATIONS AND RAIL CAPACITY  
- Discussion on the South African experience  
- Where are our limitations on the existing network?  
- The application of WDP/RDP technology in TFR | Mr Marthin Mulder  
Principal Engineer, Technology Management, Transnet Freight Rail  
Mr Neels van den Berg  
Senior Engineer, Technology Management, Transnet Freight Rail | Session chaired by Prof. Hannes Grabe |
| 13h30-14h00 | SESSION 14 | ECP BRAKING SYSTEM IMPLEMENTATION AND DEVELOPMENT IN TRANSNET:  
- Why is it necessary?  
- Benefits on safety, operations, maintenance  
- Case Study of practical application in South Africa | Mr Konrad van der Merwe  
Senior Engineer, Technology Management, Transnet Freight Rail  
Mr Poovendren Naidoo  
Engineer, Technology Management, Transnet Freight Rail | | |
| 14h00-14h15 | TEA | | | |
| 14h15-14h45 | SESSION 15 | DESIGN AND MAINTENANCE RELATED ISSUES FOR TUNNELS  
- Lessons learnt: Case Study of existing Overvaal tunnel design and maintenance flaws and challenges  
- Application of best practices on the design of the new Overvaal Tunnel | Mr Sguda Sibande  
Principal Engineer, Technology Management, Transnet Freight Rail  
Mr Kanak Mistry  
Principal Engineer, Technology Management, Transnet Freight Rail  
Mr Owen Phiri  
Engineer, Strategy and Long Term Planning, Transnet Freight Rail | |
| 14h45-15h15 | SESSION 16 | ADVANTAGES AND CHALLENGES OF TUBULAR TRACK  
- Lessons learnt from Ermelo 3rd Balloon project | Mr Dave Budler  
Project Director, Transnet Capital Projects | |
| 15h15-16h00 | SESSION 17 | PANEL DISCUSSION  
- What Best practices can be adopted between Freight and Passenger railways to meet customer expectations | Panel Membership (still to confirm)  
- Prasa  
- Gautrain  
- Transnet  
Canadian Pacific Railways | |
| 16h00-16h15 | SAHHA Word of Thanks | | Brian Monakali  
Executive Manager, Transnet Freight Rail | |
| 16h05-16h30 | CLOSING | | Caesar Mtetwa  
General Manager, Rail Network, Transnet Freight Rail | |