## PROGRAMME
(Please note this is subject to minor changes)

### MONDAY 11 SEPTEMBER 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 – 09.00</td>
<td>Registration and Refreshments</td>
</tr>
<tr>
<td>09.00 – 09.15</td>
<td>Introduction/Welcome&lt;br&gt;• Professor Helen Marshall, Vice Chancellor University of Salford&lt;br&gt;• Professor Hisham Elkadi, Dean School of the Built Environment, University of Salford&lt;br&gt;• Professor Les Ruddock, Associate Dean – Research and Innovation, School of the Built Environment, University of Salford</td>
</tr>
<tr>
<td>09.15 – 09.45</td>
<td>Keynote Speaker 1: Dr Ir. Wim Bakens, CIB Senior Program Advisor - Mega trends and impacts on building and construction - New challenges and opportunities</td>
</tr>
</tbody>
</table>

### NEW ADELPHI BUILDING/THEATRE

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>W102: Information and Knowledge Management in Building</strong>&lt;br&gt;Chair: Professor Charles Egbo&lt;br&gt;• 5 Scenario Manager: Innovative Concept For Process And Information Management&lt;br&gt;  M.-C. Loeffler, G. Calleja-Rodriguez, R. Guruz&lt;br&gt;• 14 Integrating Facility Management Functions In Building Information Modeling (BIM): A Review Of Key Issues And Challenges&lt;br&gt;  M. K. Dixit, V. Venkatraj&lt;br&gt;• 43 Implementation Of Smart Devices In The Dominican Republic Construction Industry: An Empirical Study&lt;br&gt;  M. Silverio, S. Renukappa, S. Suresh</td>
</tr>
<tr>
<td></td>
<td><strong>W112: Culture in Construction</strong>&lt;br&gt;Chair: Dr Wilco Tijhuis&lt;br&gt;• 56 Green Building Performance: Learning And Applying Stakeholder Engagement Practices&lt;br&gt;  K. Kashyap&lt;br&gt;• 77 Motivations, Success Factors, And Barriers To The Adoption Of Offsite Manufacturing In Nigeria&lt;br&gt;  F. Pour Rahimian, J. S. Goulding, A. Akintoye, S. J. Kolo&lt;br&gt;• 164 Developing A Systems-Change Model To Address The Paradox Of Changing Construction&lt;br&gt;  R. Garvey, P. McDermott</td>
</tr>
<tr>
<td></td>
<td><strong>W70: Facilities Management and Maintenance</strong>&lt;br&gt;Chair: Professor Antje Junghans&lt;br&gt;• 39 Facilities Management Of NHS Wales – Standardisation And Other Implications&lt;br&gt;  P. L. Evans, T. J. Francis, T. E. Butt, P. Paul&lt;br&gt;• 99 Facilities Management And Trends In Business Services Research&lt;br&gt;  J. Bröchner&lt;br&gt;• 112 Barriers To And Challenges Of Sustainable Facilities Management Practices – Experiences From The Nordic Countries&lt;br&gt;  M. Støre-Valen, M. Buser</td>
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<td>Time</td>
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<tr>
<td>10.45 – 11.00</td>
<td>Refreshments, New Adelphi Building</td>
</tr>
</tbody>
</table>
| 11.00 – 12.20 | **NEW ADELPHI THEATRE**  
W65: Organisation and Management of Construction  
Chair: Professor Hans Wamelink  
- 106 Circular Economy And Real Estate: Alternatives For Operational Lease  
  H. D. Ploeger, M. Prins, A. Straub, R. van den Brink  
- 107 Finding The Right Incentives; Circular Business Models For The Construction Industry  
  R. van den Brink, M. Prins, A. Straub, H. D. Ploeger  
- 109 Contractual And Ownership Aspects For BIM  
  P. Silius-Miettinen, K. Kähkönen  
W102: Information and Knowledge Management In Building  
Chair: Dr Subashini Suresh  
- 60 Transferring Knowledge From Building Operation To Design – A Literature Review  
  H. L. Rasmussen, P. A. Jensen, J. S. Gregg  
- 81 A Systematic Literature Review On Sustainable Management Of The Post-End-Of-Life (PEoL) Of Buildings  
  R. S Jayasinghe, R. Rameezdeen, N. Chileshe  
- 104 A Grounded Theory Approach To Mentorship  
  E. A. Lester  
- 111 Construction Industry Needs An Airbnb Of Its Own!  
  O. Alhava, E. Laine, A. Kiviniemi  
W117: Performance Measurement in Construction  
Chair: Professor Sicco Santema  
- 9 An Analytic Network Process Model To Assess The International Competitiveness Of Contracting Firms  
  B. Ozorhon, C. Kus, S. Caglayan  
- 27 Gross Margin Risk Assessment In Construction Projects: The Influence Of Indirect Costs Deviations  
  S. Domingues, N. Almeida, V. Sousa  
- 59 Life Cycle Costing In Office Buildings: Key Performance Indicators From DGNB Denmark  
  K. Haugbølle, L. Raffnsøe  
- 146 Factors Influencing The Occurrence Of Rework In Construction  
  S. Ndwandwa, E. Kwame Simpeh, J. J. Smallwood  |
|            | **CHAPMAN 3**  
12.20 – 13.20 | Lunch, New Adelphi Building  
[Lunch for CIB Co-ordinators in Room 7.15, 7th Floor, New Adelphi]                                                                 |
|            | **NEW ADELPHI THEATRE**  
13.20 – 13.50 | Keynote Speaker 2: Professor Hisham Elkadi - Neo-Ekistics: The Ecologies of Tomorrow’s Built Environment |
|            | **CHAPMAN 4**  
13.20 – 13.50 | Keynote Speaker 2: Professor Hisham Elkadi - Neo-Ekistics: The Ecologies of Tomorrow’s Built Environment |
|            | **CHAPMAN 5**  
13.20 – 13.50 | Keynote Speaker 2: Professor Hisham Elkadi - Neo-Ekistics: The Ecologies of Tomorrow’s Built Environment |

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**NEW ADELPHI THEATRE**

13.20 – 13.50  
Keynote Speaker 2: Professor Hisham Elkadi - Neo-Ekistics: The Ecologies of Tomorrow’s Built Environment
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Chair</th>
<th>Authors/Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.50 – 15.10</td>
<td><strong>W55: Construction Industry Economics</strong>&lt;br&gt;Chair: Professor Sidney Newton&lt;br&gt;• 8 Deep Renovations In Different Business Environments&lt;br&gt;T. Vainio, E. Nippala&lt;br&gt;• 29 Factors Of Property Value Of Single Family Dwellings In Texas&lt;br&gt;I. Choudhury&lt;br&gt;• 32 Corruption In The Construction Industry: Comparison Of Survey Results In Croatia And The United Kingdom&lt;br&gt;D. Glavinja, A. Cerić, M.-M. Nahod&lt;br&gt;• 47 A Design Methods Approach Towards Improved Cost Management Of Transport Infrastructure&lt;br&gt;M. Mojtabi, S. Newton, F. Tahmasebinia</td>
<td><strong>CHAPMAN 3</strong>&lt;br&gt;W102: Information and Knowledge Management in Building&lt;br&gt;Chair: Lic. Sc Pekka Huovinen&lt;br&gt;• 52 Knowledge Integration Framework For Traditional Construction Procurement System&lt;br&gt;M. Takhtravanchi, C. Pathirage&lt;br&gt;• 130 Towards A Framework For Multi-LOD 4D BIM Simulations&lt;br&gt;B. Butkovic, D. Heesom&lt;br&gt;• 183 Shaping Tomorrow’s Built Environment: Driving Innovation Through Higher Education Engagement&lt;br&gt;S. Dawson, J. S. Goulding</td>
<td><strong>CHAPMAN 4</strong>&lt;br&gt;W113: Law and Dispute Resolution&lt;br&gt;Chair: Ms Jennifer Charlson&lt;br&gt;• 12 Collaborative Business Relationships: A Means To An End Of Construction Disputes Or Fuel For The Fire?&lt;br&gt;A. Agapiou, Z. Chen&lt;br&gt;• 33 The Environmental Law Challenges To The Regeneration Of Brownfield Land&lt;br&gt;J. Charlson, J. Donovan&lt;br&gt;• 65 The Legal Formation, Governance And Regulation Of International Construction Product Sales Contracts: A Case Study Vignette&lt;br&gt;A. Agapiou</td>
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<td>15.10 – 15.30</td>
<td>Refreshments, New Adelphi Building</td>
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<td>15.30 – 16.30</td>
<td><strong>W55: Construction Industry Economics</strong>&lt;br&gt;Chair: Dr Stephen Gruneberg&lt;br&gt;• 53 The Construction Sector And The Silver Economy: Addressing The Challenges And Opportunities&lt;br&gt;L. Ruddock, S. Ruddock&lt;br&gt;• 78 Factors Causing Differentiation In Building Material Prices In South Africa: The Perspectives Of Retailers&lt;br&gt;A. Windapo&lt;br&gt;• 167 An Empirical Assessment Of The South African And United Kingdom Property Markets</td>
<td><strong>CHAPMAN 3</strong>&lt;br&gt;W120: Disasters and the Built Environment / W121: Offsite Construction&lt;br&gt;Chair: Dr Ksenia Chmutina&lt;br&gt;• 170 (W120) Understanding Delays In Construction In Conflict Zones&lt;br&gt;B. Razia&lt;br&gt;• 73 (W121) Barriers and Challenges for Offsite Construction in UK Housing Sector&lt;br&gt;M. Arif, P. Killian, J. Goulding, G. Wood, A. Kaushik&lt;br&gt;• 182 (W121) Exploring The Potential Of</td>
<td><strong>CHAPMAN 4</strong>&lt;br&gt;W113: Law and Dispute Resolution&lt;br&gt;Chair: Ms Jennifer Charlson&lt;br&gt;• 12 Collaborative Business Relationships: A Means To An End Of Construction Disputes Or Fuel For The Fire?&lt;br&gt;A. Agapiou, Z. Chen&lt;br&gt;• 33 The Environmental Law Challenges To The Regeneration Of Brownfield Land&lt;br&gt;J. Charlson, J. Donovan&lt;br&gt;• 65 The Legal Formation, Governance And Regulation Of International Construction Product Sales Contracts: A Case Study Vignette&lt;br&gt;A. Agapiou</td>
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| 16.30 – 17.30 | **CIB Commission Business Meetings**  
7th Floor, New Adelphi Building / Chapman Seminar Rooms 1/2  
W55/W65/TG81: Room 7.15  
W70: Room 7.14  
W102: Room 7.12  
W112: Room 7.11  
W118: Room 7.02  
W120: Chapman Seminar 1  
W121: Chapman Seminar 2 | **NEW ADELPHI**  
**PEEL PARK CAMPUS**  
Optional Visits to:  
• **Energy House, Cockcroft**  
The Salford Energy House provides a unique testing and development facility in which leading researchers can work collaboratively with industry to develop and test new technology and solutions to improve the energy efficiency of existing projects and processes.  
• **Think Lab, Maxwell Building**  
Leading research in advanced technology platforms for smart city applications, collaborative engineering, multi-agency collaboration environments, serious game applications, interactive learning and training environments and community spaces.  
Note: Limited numbers; please register at the conference reception desk |
| 19:00 – 19:20 | Drinks                                                                 | **THE LOWRY THEATRE, SALFORD QUAYS** |
| 19:20 – 22:00 | Conference Dinner and presentation of prizes (Speaker: Roy Cavanagh MBE) | **THE LOWRY THEATRE, SALFORD QUAYS** |
# SCHOOL OF THE BUILT ENVIRONMENT

## INTERNATIONAL RESEARCH CONFERENCE: Shaping Tomorrow’s Built Environment

### PROGRAMME

*(Please note this is subject to minor changes)*

**TUESDAY 12 SEPTEMBER 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08.30 – 09.00</td>
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</tr>
<tr>
<td>09.00 – 09.15</td>
<td>Announcements</td>
</tr>
<tr>
<td>09.15 – 09.45</td>
<td>Keynote Speaker 3: Andrew Dainty, Professor of Construction Sociology, Loughborough University – <em>Olympic Dreams, BIM Mandates And Unintended Consequences: Opening Up The ‘Sociological Imagination’ In Construction Management Research</em></td>
</tr>
<tr>
<td>09.45 – 10.45</td>
<td><strong>TG81: Global Construction Data</strong>&lt;br&gt;Chair: Professor Anita Ceric&lt;br&gt;• <em>46 Comparing The Performance Of The Construction Industries In The Countries Of The G20 As Measured By ISIC F Construction And The UK Benchmark Model</em> S. Gruneberg&lt;br&gt;• <em>76 Building Material Price Differentiation In South Africa: The Role Of Retailers And Location</em> A. Windapo, A. Moghayedi&lt;br&gt;• <em>133 Age Composition And Survival Of Public Housing Stock In Hong Kong</em> W. K. Lau, K. M. K. Ho, T. Y. M. Lam, H. C. K. Chan, T. Ma, W. K. D. Wu, C.-W. Tsang</td>
</tr>
<tr>
<td>W89: Education in the Built Environment&lt;br&gt;Chair: Professor Mel Lees&lt;br&gt;• <em>7 An Analysis Of Research Trends In Construction Project Management</em> P. I. Cakmak, B. Ilhan&lt;br&gt;• <em>37 Process Of Research And Education For A Charming ‘Euphony’ Of Signs In Built Environment Design</em> F. G. S. Giucastro&lt;br&gt;• <em>67 Creating A Viable Doctor Of Philosophy In The Built Environment: A Case Study Synopsis</em> L. Thomas</td>
<td></td>
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<tr>
<td>W92: Procurement Systems&lt;br&gt;Chair: Professor Peter McDermott&lt;br&gt;• <em>184 So Why Is UK Construction Partnering Not Working The Way It Was Intended?</em> J. Challender, C. France, H. Baban&lt;br&gt;• <em>80 The Influence Of Procurement Strategies On SME Contractor Development In The Construction Industry</em> A. Windapo, A. Adediran&lt;br&gt;• <em>83 An Evaluation Of The Factors For A Successful Alliance In The United Kingdom (UK) Construction Industry</em> M. Burton, R. Gameson</td>
<td></td>
</tr>
<tr>
<td>MAPS LED Workshop Open Session: Co-Creating The Concept&lt;br&gt;• 9:15 <em>Creating Spaces For Sustainable Urban Transformation And Systemic Innovation</em> C. Trillo, SoBE Unit Coordinator&lt;br&gt;• 9:45 <em>Regional Devolution And S3</em> P. McCann, University of Groningen.&lt;br&gt;• 10:15 <em>Sustainability and Equity In Innovation On Urban Regeneration</em> N. Calavita, SDSU Unit coordinator</td>
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<tr>
<td>10.45 – 11.00</td>
<td>Refreshment break, New Adelphi Building</td>
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<td>Time</td>
<td>Session</td>
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<td>------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 11:00 – 12:20 | W70: Facilities Management and Maintenance  
Chair: Dr Justine Cooper  
• 13 An Input-Output-Based Hybrid (IOH) Model For Computing Initial And Recurrent Embodied Energy Of Residential And Commercial Sectors  
M. K. Dixit, S. Singh  
• 20 Improving Facilities To Reduce Carbon Footprint: The Case Of A Commercial Building In Asia  
J. H. K. Lai  
• 16 Growing Talent Gap In Facilities Management: Need For Encouraging And Engaging The New Generation  
N. Gupta, M. K. Dixit  
• 28 Statistical Optimization Of Degradation Curves: Application To Painted Rendered Façades  
V. Sousa, C. O. Cruz, I. Meireles, P. Moreira  
W89: Education in the Built Environment  
Chair: Dr Niraj Thurairajah  
• 82 A New Learning Approach For Digital Construction  
S. Gangatheepan, N. Thurairajah, M. Lees, R. Curzon  
• 89 Factors Impacting Upon Student Expectations And Satisfaction With The Quality Of Experience Of Higher Education In England  
J. Cross, L. Ruddock  
• 102 Developing The Social Aspects Of Sustainable Facilities Management – A Multi-Country Summer School Project  
M. Buser, M. Støre-Valen | W121: Offsite Construction  
Chair: Professor Mohammed Arif  
• 147 Offsite Construction: An Opportunity For Improving Risk Management  
L. Zhang, F. Pour Rahimian, A. Agapiou, J. Goulding  
• 75 Offsite Manufacturing In Architecture Engineering And Construction: An Unfolding Story  
J. S. Goulding, F. Pour Rahimian, M. Arif, A. Akintoye, I. Faraj  
• 87 Main Contractor Perspectives On The Drive For Increased Offsite Manufacture  
R. Pinney, C. Boothman, A. Higham  
• 90 Exploring Opportunities Of Integrated Project Delivery In Off-Site Manufacturing Of The Australian Housing Sector  
• 11:15 Place Grounded Development And Sustainable Innovation  
R. Ortega-Argilés, University of Birmingham  
• 11:45 Civic Engagement, Social Innovation And New Styles Of ‘Urban Centers’  
B. Monardo, FOCUS Unit coordinator |
| 12.20 – 13.20 | Lunch, New Adelphi Building  
[Lunch/Workshop for CIB W121 Commission in Room 7.15, 7th Floor, New Adelphi]  
[13:00: presentation on TG90 Road Map] |  |
| 13.20 – 13.50 | Keynote Speaker 4: Professor Peter McDermott – A mission-driven industrial strategy for construction and infrastructure: social value | MAPSLED Workshop Open Session: Co-creating the concept  
• 13:20 The Urban Dimension of S3: insights from MAPS-LED  
C. Bevilacqua, MAPS LED coordinator, PAU Unit |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 13.50  | NEW ADELPHI THEATRE  
W70: Facilities Management and Maintenance  
Chair: Professor Tore Haugen  
- 36 Key Performance Indicators For Facility Performance Assessment: Measuring Core Indicators Using Building Information Modeling  
S. Lavy and M. K. Dixit  
- 58 Potential Effects Of Technological Innovations On Facilities Management Practice  
U. J. Adama, K. A. Michell  
- 97 Yet Another Trojan Horse? Is Facility Management Ready For Digitalisation?  
C. Koch, G. K. Hansen, K. Jacobsen  
- 128 Considerations Of Out-Of-Gauge Freight Transportation In Railway Infrastructure Development And Maintenance Projects  
Y. Zhang, M. An, L. Wang, D. Lei |
| 13.50  | CHAPMAN 3  
W118: Clients and Users in Construction  
Chair: Dr Kim Haugbølle  
- 3 Shaping Future Construction-Related Business Management: A Review Of 77 Concepts  
P. Huovinen  
- 34 Exploring Conflicting Views Of Time In Construction Projects  
D. Boyd, S. Madzima  
- 71 Comparative Analysis Of Public And Private Client Values For Post Disaster Reconstruction Services  
S. Aliakbarliou, S. Wilkinson, S. B. Costello, H. Jang  
- 6 Shaping Client-Driven Business Management Concepts For Modern Construction Markets  
P. Huovinen, K. Haugbølle, M. Oostra |
| 13.50  | CHAPMAN 4  
Energy  
Chair: Professor Will Swan  
- 171 Application Of Artificial Neural Network Analysis In Defining The Relationship Between Indoor Environment Quality And Occupant Productivity  
- 142 Thermal Conditions Within The Campus Of University Of Salford, UK  
M. Taleghani, R. Fitton, W. Swan  
- 168 The Recycling Of Plastic Bottles As A Composite Concrete Block To Increase The Efficiency Of Building Insulation  
T. Waroonkun, T. Paungphinyo, S. Prugsigant  
- 172 Health And Wellbeing In The Built Environment And Its Relevance In Global Sustainable Assessment System  
Y. Al Horr, M. Arif, A. Kaushik, E. Elsarrag, A. Mazroei |
| 15.10  | ThinkLAB, 7th Floor Maxwell Building  
MAPS LED Workshop Open Session: Co-Creating The Concept  
- 13:50 Towards Implementing S3. Current Dynamics And Obstacles In The Lazio Region  
A. L. Palazzo, FOCUS  
- 14:20 Place-based Innovation Ecosystem. Espoo Innovation Garden and Aalto University  
G. Rissola, S3 Platform (via Webex)  
- 14:40 Synergies Between H2020 And The European Structural And Investment Funds And Their Potential To Assist The Implementation Of The Smart Specialisation Strategies  
N. Aizpurua, European Commission, DG Research & Innovation (via Skype) |
| 15.10  | Refreshment break, New Adelphi Building |

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<table>
<thead>
<tr>
<th>Time</th>
<th>NEW ADELPHI THEATRE</th>
<th>CHAPMAN 3</th>
<th>CHAPMAN 4</th>
<th>CHAPMAN 5</th>
</tr>
</thead>
</table>
| 15.30 – 16.30 | *W65: Organisation and Management of Construction*  
Chair: CTO Otto Alhava  
- 17 Review Of Construction Practices In The Light Of The Hong Kong First-Ever Competition Ordinance  
  S. O. Cheung  
- 48 Managing Organisational Innovation Capacity For Construction Innovations  
Chair: Professor Akin Akintoye  
- 50 (W118) Critical Success Factors For Public Private Partnership Projects In Developing Countries: Case Of Turkey  
  B. Ozorhon, E. Durna, S. Caglayan  
- 96 (W118) Integrating Social Sustainability In The South African Construction Industry: Benefits And Barriers  
  B. Awuzie, T. Monyane | *Energy*  
Chair: Dr Richard Fitton  
- 176 Evaluation Of The New Design Summer Year Weather Data Using Parametrical Buildings  
  Y. Ji, I. Korolija, Y. Zhang  
- 181 Combined Imaging Technologies For Measuring The In-Situ Thermal And Acoustic Energy Efficiency Of Retrofit Building Elements  
  N. Patil, A. Marshall, R. Fitton, D. Waddington | *MAPS LED Workshop Open Session: Co-Creating The Concept*  
- 15:30 S3 -The Bilbao Approach  
  G. Espiau, Young Foundation & McGill University, Montreal  
- 16:00 Innovation Hubs - The CIC At Kendall  
  S. Mruz, Kendall CIC, Boston |
| 16.30 – 17.00 | Conference Close | | | |