Second London Workshop on
Signal Processing Theory and Methods
Non-convex Optimisation and Matrix Factorisation

13 and 14 September 2018
Day 1 Check-in: Rm 611, Talks: Rm 408, Electrical Engineering Bldg, Imperial College London

Speakers

Nigel Birch
Engineering and Physical Sciences Research Council, UK

Helmut Bölcskei
Swiss Federal Institute of Technology, ETH Zurich, Switzerland

Alex Bronstein
Technion - Israel Institute of Technology, Israel

Yuxin Chen
Princeton University, USA

Yuejie Chi
Carnegie Mellon University, USA

Cédric Févotte
Institut de recherche en informatique de Toulouse (IRIT), France

Reinhold Häb-Umbach
Paderborn University, Germany

John Hershey
Google, USA

Yue M. Lu
Harvard University, USA

Gongguo Tang
Colorado School of Mines, USA

John Wright
Columbia University, USA

Full event details:
bit.do/LondonWorkshop2018

Special thanks to...

Melanie Albright for her help in organising this event.

Event committee: Wei Dai, Pier-Luigi Dragotti, Christine Evers, Cong Ling and Patrick Naylor.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:30</td>
<td>Check-in and Welcome Coffee&lt;br&gt;Room 611, EEE Building</td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Welcome from the Organisers&lt;br&gt;Imperial College London</td>
</tr>
<tr>
<td>11:00-11:45</td>
<td>Yuejie Chi (Carnegie Mellon)&lt;br&gt;Geometry and Regularization in Nonconvex Statistical Estimation</td>
</tr>
<tr>
<td>11:45-12:30</td>
<td>Gongguo Tang (Colorado School of Mines)&lt;br&gt;Nonconvex Matrix Optimisation: Centralised and Distributed Geometry</td>
</tr>
<tr>
<td>12:30-14:00</td>
<td>Lunch Break and Poster Session&lt;br&gt;Room 611, EEE Building</td>
</tr>
<tr>
<td>14:00-14:45</td>
<td>Yue M. Lu (Harvard)&lt;br&gt;Spectral Methods for Nonconvex Estimation: A Mean-Field Analysis for Structured Sensing Ensembles</td>
</tr>
<tr>
<td>14:45-15:30</td>
<td>Reinhold Häb-Umbach (Paderborn University)&lt;br&gt;Latent Structure Discovery in Speech using Hidden Markov Model Variational Autoencoders</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Coffee Break&lt;br&gt;Room 611, EEE Building</td>
</tr>
<tr>
<td>16:00-16:45</td>
<td>John Hershey (Google, USA)&lt;br&gt;Building a Brain, Starting at the Ears: Machine Hearing in the Integrative Era</td>
</tr>
<tr>
<td>16:45-17:30</td>
<td>Yuxin Chen (Princeton)&lt;br&gt;Gradient Descent with Random Initialisation: Fast Global Convergence for Nonconvex Phase Retrieval</td>
</tr>
<tr>
<td>17:30-19:00</td>
<td>Rooms available for discussions &amp; networking&lt;br&gt;Room 611 &amp; 408, EEE Building</td>
</tr>
<tr>
<td>19:00-21:30</td>
<td>Dinner (by invitation only)&lt;br&gt;Stein’s Berlin Restaurant, see map on page 4&lt;br&gt;Dinner attendees may gather on level 2 of the EEE Building at 18:45 and we will walk to the restaurant Stein’s Berlin together.</td>
</tr>
</tbody>
</table>

*All activities will take place in EE 408 unless otherwise indicated.*
Friday 14 September 2018

09:00 – 09:30  Nigel Birch (EPSRC)
Opportunities in Signal Processing Research

09:30 - 10:15  Cédric Févotte (IRIT)
Estimation with Low-Rank Time-Frequency Synthesis Models

10:15 - 11:00  Helmut Bölcskei (ETH Zurich)
Harmonic Analysis of Deep Convolutional Neural Networks

11:00 - 11:30  Coffee Break
Room 611, EEE Building

11:30 - 12:15  John Wright (Columbia)
TBA

12:15 - 13:00  Alex Bronstein (Technion)
Tradeoffs between Speed and Accuracy in Inverse Problems

13:00 - 14:00  Lunch Break
Room 611, EEE Building

14:00 – 15:00  Closing Remarks, Discussions and Networking

All activities will take place in EE 408 unless otherwise indicated.
If you have access to “Eduroam”, you are highly recommended to use it.

Otherwise, connect to “Imperial”. In your web browser, click on “guest registration”. Enter unique ID **conf60460**. Provide your details (name, email, etc.) and then you will get a unique guest account valid during the entire workshop.

**Wi-Fi Access**

If you’d explore London, we recommend visiting [wikitravel.org/en/London](http://wikitravel.org/en/London) for relevant information.

**Tourist Information**

If you’d explore London, we recommend visiting [wikitravel.org/en/London](http://wikitravel.org/en/London) for relevant information.

**Event committee:** Wei Dai, Pier-Luigi Dragotti, Christine Evers, Cong Ling and Patrick Naylor.