AISTATS 2019
The 22nd International Conference on Artificial Intelligence and Statistics
April 16 - 18, 2019, Naha, Okinawa, Japan

Program Co-chairs
Kamalika Chaudhuri (University of California, San Diego)
Masashi Sugiyama (RIKEN and University of Tokyo)
Welcome to AISTATS2019!

Since its inception in 1985, AISTATS has been an interdisciplinary gathering of researchers at the intersection of artificial intelligence, machine learning, statistics, and related areas.
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  (Nagoya Institute of Technology and RIKEN)

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James Zou (Microsoft)
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Joan Bruna (Courant Institute of Mathematical Sciences)
John Duchi (Stanford University)
Jose Miguel Hernandez-Lobato (University of Cambridge)
Justin Solomon (MIT)
Katherine Heller (Duke University)
Kenji Fukumizu (The Institute of Statistical Mathematics)
Koby Crammer (Technion)
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Liwei Wang (Peking University)
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Matthias Hein (University of Tuebingen)
Maxim Raginsky (University of Illinois)
Michael Mahoney (University of California, Berkeley)
Miguel Carreira-Pernipan (University of California, Merced)
Mijung Park (MPI Tuebingen)
Minmin Chen (Google)
Mladen Kolar (U Chicago)
Mohammad Emtpiyaz Khan (RIKEN)
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Nathan Kallus (Cornell Tech)
Nathan Srebro (Toyota Technical Institute of Chicago)
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Xiaoquin Zhu (University of Wisconsin-Madison)
Yarin Gal (Oxford)
Yingyu Liang (University of Wisconsin Madison)
Yingzhen Li (Microsoft Research Cambridge)
Yisong Yue (Caltech)
Yutian Chen (Deepmind)
Yu-Xiang Wang (University of California, Santa Barbara)
Zico Kolter (Carnegie Mellon University)
Zoltan Szabo (Ecole Polytechnique)
Submissions/Acceptance

1,111 submissions:
- Each paper reviewed by 3 reviewers.
- Rebuttal from authors.
- Discussion by Area Chairs and reviewers.

360 accepted papers (32.4% acceptance):
- All papers have posters.
- 28 oral talks.
- 3 notable papers.
Paper-Subject Distribution

(1,111 submissions)
Subjectwise Acceptance Rate

(Overall: 32.4%)
3 Notable Paper Awards

- Ryan Giordano, William Stephenson, Runjing Liu, Michael Jordan, and Tamara Broderick: 
  *A Swiss Army Infinitesimal Jackknife.*
  (Talk on Day 1 at 15:20)

- Pashupati Hegde, Markus Heinonen, Harri Lahdesmaki, and Samuel Kaski:
  *Deep Learning with Differential Gaussian Process Flows.*
  (Talk on Day 2 at 11:30)

- Yu-Xiang Wang, Borja Balle, and Shiva Kasiviswanathan:
  *Subsampled Renyi Differential Privacy and Analytical Moments Accountant.*
  (Talk on Day 2 at 14:50)
3 Invited Talks

- **Day 1: Po-Ling Loh**  
  (University of Wisconsin-Madison, USA)  
  - *Data Science for Networked Data.*

- **Day 2: Robert Tibshirani**  
  (Stanford University, USA)  
  - *Statistical Learning and Sparsity.*

- **Day 3: Zhi-Hua Zhou**  
  (Nanjing University, China)  
  - *An Exploration to Non-NN Deep Models based on Non-Differentiable Modules.*
## Program

### Tuesday, 16 April

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30-9:00</td>
<td>Breakfast (90 min)</td>
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<tr>
<td>9:00-9:10</td>
<td>Opening (10 min)</td>
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<tr>
<td>9:10-10:10</td>
<td>Invited talk 1 (1h) Speaker: Po-Ling Loh</td>
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<tr>
<td>10:10-10:30</td>
<td>Coffee break (20 min)</td>
</tr>
<tr>
<td>10:30-11:50</td>
<td>Session 1a (20 min x 4) Learning Theory</td>
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<tr>
<td>11:50-13:20</td>
<td>Lunch (90 min)</td>
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<tr>
<td>13:20-14:20</td>
<td>Session 1b (20 min x 3) Statistics and Machine Learning 1</td>
</tr>
<tr>
<td>14:20-14:40</td>
<td>Coffee break (20 min)</td>
</tr>
<tr>
<td>14:40-15:40</td>
<td>Session 1c (20 min x 3) Statistics and Machine Learning 2</td>
</tr>
<tr>
<td>15:40-18:40</td>
<td>Poster session 1 (3 hours)</td>
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</tbody>
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### Wednesday, 17 April

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>7:30-9:00</td>
<td>Breakfast (90 min)</td>
</tr>
<tr>
<td>9:00-10:00</td>
<td>Invited talk 2 (1h) Speaker: Robert Tibshirani</td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Coffee break (30 min)</td>
</tr>
<tr>
<td>10:30-11:50</td>
<td>Session 2a (20 min x 4) Bayesian Methods</td>
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<tr>
<td>11:50-13:30</td>
<td>Lunch (100 min)</td>
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<tr>
<td>13:30-14:30</td>
<td>Session 2b (20 min x 3) Inference</td>
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<tr>
<td>14:30-15:00</td>
<td>Coffee break (20 min)</td>
</tr>
<tr>
<td>14:50-15:40</td>
<td>Session 2c (20 min x 3) Privacy and Fairness</td>
</tr>
<tr>
<td>15:40-17:40</td>
<td>Poster session 2 (3 hours)</td>
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### Thursday, 18 April

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>7:30-9:00</td>
<td>Breakfast (90 min)</td>
</tr>
<tr>
<td>9:00-10:20</td>
<td>Session 3a (20 min x 4) Optimization</td>
</tr>
<tr>
<td>10:20-10:40</td>
<td>Coffee break (20 min)</td>
</tr>
<tr>
<td>10:40-12:00</td>
<td>Session 3b (20 min x 4) Reinforcement Learning and Bandits</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch (90 min)</td>
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<tr>
<td>13:30-16:30</td>
<td>Poster session 3 (3 hours)</td>
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<tr>
<td>16:30-17:30</td>
<td>Invited talk 3 (1h) Speaker: Zhi-Hua Zhou</td>
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<tr>
<td>17:30-17:40</td>
<td>Closing (10 min)</td>
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