

# Program Schedule

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**July 3**, 12:00 hours to 18:25 hours

**Main Hall:** Registration

**Room “Salón de Actos”:** Opening Ceremony and Opening Session

**Room 15:** Session Mo-R15

**Room 16:** Session Mo-R16

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12:00 – 14:00 Registration

14:15 – 14:30 Opening Ceremony

**Opening Session** – Chair: I.J.B.F. Adan

14:30 – 15:20 Opening Lecture: **Sojourn times in queueing networks**

Author: *O.J. Boxma* (EURANDOM and Eindhoven University of Technology, The Netherlands)

15:20 – 16:10 Invited Talk: **Queues with advance reservations**

Authors: *R.J. Maillardet* and *P.G. Taylor* (University of Melbourne, Australia)

16:15 – 16:45 Coffee Break

**Session Mo-R15** – Chair: F. Machihara

16:45 – 17:10 Contributed Talk: A recursion formula for a finite discrete-time queue and a related spectral method

Author: *S. Nishimura*

17:10 – 17:35 Contributed Talk: Queueing analysis of a degenerate buffer with general inter-arrival and service times

Authors: *W. Rogiest*, *K. Laevens*, *J. Walraevens* and *H. Bruneel*

17:35 – 18:00 Contributed Talk: Performance analysis of a discrete-time queue with multiple reservations

Authors: *S. De Vuyst*, *S. Wittevrongel* and *H. Bruneel*

18:00 – 18:25 Contributed Talk: Waiting time distribution in a  $Geo/G/1$  retrial queue

Author: *S.I. Rabia*

**Session Mo-R16** – Chair: A. Burnetas

16:45 – 17:10 Contributed Talk: New results for the finite dam models of the  $M/G/1$  and the  $G/M/1$  queues

Authors: *D. Perry*, *W. Stadje* and *S. Zacks*

17:10 – 17:35 Contributed Talk: Transient and asymptotic periodic solution to the quasi-birth-death process with time-inhomogeneous transition rates

Author: *B. Margolius*

17:35 – 18:00 Contributed Talk: Bayesian analysis of a queueing system with a long-tailed arrival process

Authors: *P. Ramírez*, *R.E. Lillo* and *M.P. Wiper*

18:00 – 18:25 Contributed Talk: Priority queueing systems with switchover (orientation) time: Results and open problems

Author: *G.K. Mishkoy*

**July 4**, 9:00 hours to 17:45 hours

**Room “Salón de Actos”**: Session Tu-SA

**Room 14**: Registration

**Room 15**: Sessions Tu-R15a, Tu-R15b, Tu-R15c

**Room 16**: Sessions Tu-R16a, Tu-R16b, Tu-R16c

9:00 – 9:30 Registration

**Session Tu-SA** – Chair: T. Takine

9:30 – 10:20 Invited Talk: **Discrete-time  $BMAP/PH/1$ -type queues analyzed as QBDs**

Authors: *G. Latouche* (Université Libre de Bruxelles, Belgium), *M.A. Remiche* and *G. Renard*

**Session Tu-R15a** – Chair: R.D. van der Mei

10:30 – 10:55 Contributed Talk: Location-allocation of service units on a congested network

Authors: *R. Aboolian*, *O. Berman* and *Z. Drezner*

10:55 – 11:20 Contributed Talk: A fixed point iteration scheme for closed queueing networks with phase-type service distributions and arbitrary buffer sizes

Authors: T. Dayar and A. Meriç

11:20 – 11:45 Contributed Talk: Zero-automatic networks

Authors: T.H. Dao-Thi and J. Mairesse

11:45 – 12:10 Contributed Talk: Randomized approximation scheme and perfect sampler for closed Jackson networks

Authors: S. Kijima and T. Matsui

**Session Tu-R16a** – Chair: G. Koole

10:30 – 10:55 Contributed Talk: Performance analysis of IEEE 802.11 DCF and IEEE 802.11e EDCA in non-saturation condition

Authors: T.O. Kim, K.J. Kim and B.D. Choi

10:55 – 11:20 Contributed Talk: On performance characteristics for queueing system with heterogeneous servers

Authors: V. Rykov and D. Efrosinin

11:20 – 11:45 Contributed Talk: Dynamic thread assignment in layered networks

Authors: W. van der Weij, S. Bhulai and R.D. van der Mei

11:45 – 12:10 Contributed Talk: Optimal admission control in tandem queues with blocking

Authors: A. Burnetas and W. Millhiser

12:20 – 13:50 Lunch Time

**Session Tu-R15b** – Chair: A. Gómez-Corral

13:50 – 14:40 Invited Talk: **Multiclass Markovian fluid queues**

Authors: H. Masuyama and T. Takine (Osaka University, Japan)

14:40 – 15:05 Contributed Talk: Probability of traffic loss in a backbone network with statistical multiplexing, QoS differentiation and unicast/multicast routing

Author: G.L. Choudhury

15:05 – 15:30 Contributed Talk: Third generation mobile customer network

Author: F. Machihara

15:30 – 15:55 Contributed Talk: Delay jitter analysis

Authors: B. Oklander and M. Sidi

**Session Tu-R16b** – Chair: G. Weiss

13:50 – 14:40 Invited Talk: **Service level and monotonicity in call center queueing models**

Author: *G. Koole* (Vrije University of Amsterdam, The Netherlands)

14:40 – 15:05 Contributed Talk: Staffing to maximize profit for call centers with alternate service level agreements

Authors: *O. Baron* and *J. Milner*

15:05 – 15:30 Contributed Talk: Stability analysis of regenerative queues

Author: *E. Morozov*

15:30 – 15:55 Contributed Talk: Foster's theorem of critical branching processes: Unifying results for polling models in heavy traffic

Author: *R.D. van der Mei*

16:00 – 16:30 Coffee Break

**Session Tu-R15c** – Chair: D. Perry

16:30 – 16:55 Contributed Talk: Merging and splitting autocorrelated arrival processes and impact on queueing performance

Authors: *B. Balcioglu*, *D. Jagerman* and *T. Altiok*

16:55 – 17:20 Contributed Talk: A queueing system with discrete autoregressive arrivals of order  $p$

Authors: *B. Kim* and *K. Sohraby*

17:20 – 17:45 Contributed Talk: On the analysis of batch arrival  $GI/M/./.$  queues with state dependent service rates and a class of customer acceptance policies

Authors: *F. Ferreira* and *A. Pacheco*

**Session Tu-R16c** – Chair: O. Berman

16:30 – 16:55 Contributed Talk: SQF: A slowdown queueing fairness measure

Authors: *B. Avi-Itzhak*, *H. Levy* and *E. Brosh*

16:55 – 17:20 Contributed Talk: Job transfers between queues with unreliable servers

Authors: *S.P. Martin* and *I. Mitrani*

17:20 – 17:45 Contributed Talk: On queues with service and interarrival times depending on waiting times

Authors: *O.J. Bozma* and *M. Vlasiou*

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**July 5**, 9:00 hours to 17:45 hours  
**Room “Salón de Actos”**: Session We-SA  
**Room 14**: Registration  
**Room 15**: Sessions We-R15a, We-R15b, We-R15c  
**Room 16**: Sessions We-R16a, We-R16b, We-R16c

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9:00 – 9:30 Registration

**Session We-SA** – Chair: P.G. Taylor

9:30 – 10:20 Invited Talk: **Resource allocation in multi-site stochastic service systems**

Author: *X. Chao* (North Carolina State University, USA)

**Session We-R15a** – Chair: A. Pacheco

10:30 – 10:55 Contributed Talk: Sojourn times in a perturbed  $M/M/1/ - PS$  queue

Authors: *N. Antunes*, *C. Nunes* and *A. Pacheco*

10:55 – 11:20 Contributed Talk: The  $MAP/M/(M/G)/1$  processor-sharing queue with server breakdowns and repairs

Authors: *J. Wang* and *Q. Li*

11:20 – 11:45 Contributed Talk: Tail behaviour of conditional sojourn times in processor-sharing queues

Authors: *R. Egorova* and *B. Zwart*

11:45 – 12:10 Contributed Talk: A fluid approximation for a processor sharing queue with Markov-modulated input

Author: *B. Zwart*

**Session We-R16a** – Chair: H. Bruneel

10:30 – 10:55 Contributed Talk: A priority scheduling discipline with controlled priority jumps

Authors: *T. Maertens*, *J. Walraevens* and *H. Bruneel*

10:55 – 11:20 Contributed Talk: Discrete-time queueing systems with multiple priority classes and non-preemptive priority scheduling

Authors: *B. Vinck* and *H. Bruneel*

11:20 – 11:45 Contributed Talk: Sojourn time approximations in small homogeneous packet switches

Authors: *P. Beekhuizen*, *D. Denteneer* and *I.J.B.F. Adan*

11:45 – 12:10 Contributed Talk: A discrete-time queueing model in a random environment

Author: *R. Nobel*

12:20 – 13:50 Lunch Time

**Session We-R15b** – Chair: X. Chao

13:50 – 14:40 Invited Talk: **A simple Markovian re-entrant line with infinite supply of work under the LBFS policy**

Authors: *I.J.B.F. Adan* (Eindhoven University of Technology, The Netherlands) and *G. Weiss*

14:40 – 15:05 Contributed Talk: Product form and insensitivity in networks of symmetric queues with random permutations

Authors: *T. Bonald* and *M-A. Tran*

15:05 – 15:30 Contributed Talk: Analysis of polling systems with two-stage gated service

Authors: *R.D. van der Mei* and *J.A.C. Resing*

15:30 – 15:55 Contributed Talk: Optimal stochastic scheduling in a general tandem queue with flexible servers

Authors: *J. Weichbold* and *K. Schiefermayr*

**Session We-R16b** – Chair: B.D. Choi

13:50 – 14:40 Invited Talk: **Multi-server queueing systems with cooperation of the servers**

Authors: *A.N. Dudin* (Belarusian State University, Belarus), *M.H. Lee*, *C.S. Kim* and *V.I. Klimenok*

14:40 – 15:05 Contributed Talk: Ambulance allocation and performance

Author: *J. van der Wal*

15:05 – 15:30 Contributed Talk: The minimum cross-entropy method in rare event simulations

Authors: *A. Ridder* and *R. Rubinstein*

15:30 – 15:55 Contributed Talk: Analysis and design of a play-out buffer for VBR streaming video

Authors: *K. Laevens*, *B. Steyaert*, *D. De Vleeschauwer* and *H. Bruneel*

16:00 – 16:30 Coffee Break

**Session We-R15c** – Chair: I. Mitrani

16:30 – 16:55 Contributed Talk: Delay moments in polling systems

Authors: *E.M.M. Winands*, *I.J.B.F. Adan* and *G.J. van Houtum*

- 16:55 – 17:20 Contributed Talk: The delayed acquisition queue  
 Authors: *D. Denteneer, J.S.H. van Leeuwen* and *I.J.B.F. Adan*
- 17:20 – 17:45 Contributed Talk: Consecutive customer losses in regular and oscillating  $M^X/GI/1/n$  and  $GI^X/M/1/n$  systems  
 Authors: *A. Pacheco* and *H. Ribeiro*
- Session We-R16c** – Chair: E. Morozov
- 16:30 – 16:55 Contributed Talk: Quantitative stability in  $M/G/1//N$  queue with single server vacation: The strong stability method  
 Authors: *F. Rahmoune* and *D. Aissani*
- 16:55 – 17:20 Contributed Talk: Busy-period type of equation for the Google PageRank distribution  
 Authors: *N. Litvak, W.R.W. Scheinhardt* and *Y.V. Volkovich*
- 17:20 – 17:45 Contributed Talk: On the fluid limit of the  $M/G/\infty$  queue  
 Authors: *C. Fricker* and *R. Jaibi*
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**July 6**, 9:30 hours to 13:50 hours  
**Room “Salón de Actos”**: Session Th-SA  
**Room 15**: Session Th-R15  
**Room 16**: Session Th-R16

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**Session Th-SA** – Chair: G. Latouche

- 9:30 – 10:20 Invited Talk: **The matrix analytic approach to stochastic fluid flow models**  
 Authors: *S. Ahn* and *V. Ramaswami* (AT&T Labs Research, USA)

**Session Th-R15** – Chair: A. Krishnamoorthy

- 10:30 – 10:55 Contributed Talk: Transient analysis of a single server queue with catastrophes, failures and repairs  
 Authors: *B. Krishna Kumar, A. Krishnamoorthy, S. Pawai Madheswari* and *S. Sadiq Basha*
- 10:55 – 11:20 Contributed Talk: The  $M/G/1$  queue under the dyadic  $(N, D)$ -policy and its cost optimization  
 Authors: *H.W. Lee* and *W.J. Seo*
- 11:20 – 11:45 Contributed Talk: Geometric probability and  $M/M/\infty$  queues in random environment  
 Author: *B. D’Auria*

11:45 – 12:10 Contributed Talk: Generalized threshold policies for a push pull queueing system

Authors: *A. Kopzon* and *G. Weiss*

**Session Th-R16** – Chair: V. Ramaswami

10:30 – 10:55 Contributed Talk: Analysis of IEEE 802.11 non-saturated DCF by matrix analytic methods

Authors: *Y.H. Bae*, *K.J. Kim*, *M. Moon* and *B.D. Choi*

10:55 – 11:20 Contributed Talk: Markovian fluid queues with upward jumps – A connection to Markov chains of  $M/G/1$ -type

Authors: *H. Masuyama* and *T. Takine*

11:20 – 11:45 Contributed Talk: Matrix exponential distributions with minimal coefficient of variation

Authors: *T. Elteto*, *S. Racz* and *M. Telek*

11:45 – 12:10 Contributed Talk: Computing the exact loss rate in a two-class finite capacity priority queue

Authors: *J. van Velthoven*, *B. van Houdt* and *C. Blondia*

12:20 – 13:50 Lunch Time

14:00 – 18:15 Royal Palace Trip

21:15 – 23:00 Conference Dinner

**July 7**, 9:30 hours to 15:00 hours

**Room “Salón de Actos”**: Session Fr-SA

**Room 15**: Session Fr-R15

**Room 16**: Session Fr-R16

**Session Fr-SA** – Chair: E. Altman

9:30 – 10:20 Invited Talk: **Service systems with impatient customers when system is down**

Author: *U. Yechiali* (Tel-Aviv University, Israel)

10:30 – 11:00 Coffee Break

**Session Fr-R15** – Chair: U. Yechiali

11:00 – 11:50 Invited Talk: **Expected waiting time in polling systems with correlated vacations**

Authors: *E. Altman* and *D. Fiems*

11:50 – 12:15 Contributed Talk: Analysis of a bulk queue with multiple vacations and accessible batch service and closedown time

Author: *R. Arumuganathan*

12:15 – 12:40 Contributed Talk: Equilibrium in the  $M/G/1$  system with two types of vacation

Author: *L. Lakatos*

12:40 – 13:05 Contributed Talk: Pricing and equilibrium behavior for a Markovian queue with setup times

Authors: *A. Burnetas* and *A. Economou*

13:05 – 13:30 Contributed Talk: On the analysis of extreme values of some two-dimensional Markovian queues

Author: *J.R. Artalejo*

**Session Fr-R16** – Chair: A.N. Dudin

11:00 – 11:50 Invited Talk: **Performance analysis of IEEE 802.11 series in non-saturated condition**

Author: *B.D. Choi*

11:50 – 12:15 Contributed Talk: Performance analysis of an uplink scheduling algorithm for VoIP service in IEEE 802.16d/e system

Author: *J.W. Um, B. Kim, K.J. Kim* and *B.D. Choi*

12:15 – 12:40 Contributed Talk: Optimal control of a large dam

Author: *V.M. Abramov*

12:40 – 13:05 Contributed Talk: Priority queues with self-generation of priorities

Authors: *A. Krishnamoorthy* and *V.C. Narayanan*

13:45 – 15:00 Lunch Time