

# Program Schedule

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**June 28**, 9:00 hours to 18:00 hours

**Main Hall:** Registration

**Main Room:** Welcome and Opening Session

**Room 1:** Sessions Mo-R1a, Mo-R1b

**Room 2:** Sessions Mo-R2a, Mo-R2b

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9:00 – 10:00 Registration

**Welcome** – J.R. Artalejo

**Opening Session** – Chair: Y.Q. Zhao

10:00 – 11:00 Plenary Talk: **Light tail asymptotics in multidimensional reflected random walks and queueing networks**

Author: *M. Miyazawa* (Tokyo University of Science, Japan)

11:00 – 11:30 Coffee Break

**Opening Session**

11:30 – 12:30 Plenary Talk: **Rate of convergence to stationarity of the system  $M/M/N/N + R$**

Author: *E.A. van Doorn* (University of Twente, The Netherlands)

12:30 – 15:00 Lunch Time

**Session Mo-R1a** – Chair: U. Yechiali

15:00 – 15:25 Contributed Talk: Approximations for the waiting-time distribution in polling systems with renewal arrivals

Authors: *J.L. Dorsman*, *R.D. van der Mei* and *E.M.M. Winands*

15:25 – 15:50 Contributed Talk: A polling model with smart customers

Authors: *M.A.A. Boon*, *A.C.C. van Wijk*, *I.J.B.F. Adan* and *O.J. Boxma*

15:50 – 16:15 Contributed Talk: Two-queue systems where customers of each queue are the servers of the other queue

Authors: *E. Perel* and *U. Yechiali*

**Session Mo-R2a** – Chair: I. Atencia

15:00 – 15:25 Contributed Talk: FCFS in dual-class discrete-time queueing systems

Authors: S. De Clercq, K. Laevens, B. Steyaert and H. Bruneel

15:25 – 15:50 Contributed Talk: Boundary probabilities in the discrete-time selective-repeat ARQ queueing problem

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

15:50 – 16:15 Contributed Talk: A discrete-time queueing system with optional LCFS discipline

Authors: I. Atencia and A.V. Pechinkin

16:15 – 16:45 Coffee Break

**Session Mo-R1b** – Chair: G. Latouche

16:45 – 17:10 Contributed Talk: Asymptotic behavior for  $M\text{ArP}/PH/2$  queue with join the shortest queue discipline

Author: Y. Sakuma

17:10 – 17:35 Contributed Talk: A multi-server queue with Markovian arrivals and priority services

Authors: S.R. Chakravarthy and H. Qing

17:35 – 18:00 Contributed Talk: Queues with boundary assistance and the many effects of truncation

Authors: G. Latouche, G.T. Nguyen and P.G. Taylor

**Session Mo-R2b** – Chair: K. Laevens

16:45 – 17:10 Contributed Talk: Recursive equations for multiclass multi-server queueing systems

Author: B. Rabta

17:10 – 17:35 Contributed Talk: A multi-class  $M/PH/1$  queue with deterministic impatience times

Authors: J. Kim, B. Kim and J. Kim

17:35 – 18:00 Contributed Talk: Queues with random order of service and multiple classes of customers

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

**June 29**, 9:00 hours to 13:15 hours

**Room 1:** Sessions Tu-R1a, Tu-R1b

**Room 2:** Sessions Tu-R2a, Tu-R2b

**Session Tu-R1a** – Chair: E.A. Feinberg

9:00 – 9:50 Invited Talk: **Bandwidth allocation under delay percentiles**

Authors: *X. Mountrouidou, K. Kontovassilis, B. Anjum* and *H. Perros* (NC State University, USA)

9:50 – 10:15 Contributed Talk: Dynamic control of a single-server two-class retrial queueing system

Author: *A. Winkler*

10:15 – 10:40 Contributed Talk: Optimality of trunk reservation for an  $M/M/k/N$  queue with several types of customers and holding costs

Authors: *E.A. Feinberg* and *F. Yang*

**Session Tu-R2a** – Chair: A.N. Dudin

9:00 – 9:50 Invited Talk: **Priority queuing and tree-structured Markov chains**

Authors: *B. van Houdt* (University of Antwerp, Belgium), *Q.-M. He* and *J. van Velthoven*

9:50 – 10:15 Contributed Talk: Drift conditions for fluid queues

Authors: *M. Govorun, G. Latouche* and *M.A. Remiche*

10:15 – 10:40 Contributed Talk: Multi-server queueing systems with broadcasting service disciplines, servers breakdowns and heating

Authors: *A. Dudin, S. Bin* and *C.S. Kim*

10:40 – 11:10 Coffee Break

**Session Tu-R1b** – Chair: I. Adan

11:10 – 11:35 Contributed Talk: Queueing system with state-dependent controlled batch arrivals and server under maintenance

Authors: *B. Krishna Kumar, S. Pavai Madheswari* and *S.R. Anantha Lakshmi*

11:35 – 12:00 Contributed Talk: A continuous-time queueing system with renovation

Authors: *I. Atencia, I. Fortes* and *S. Sánchez*

12:00 – 12:25 Contributed Talk: Analysis of an  $M/M/k$  system with exponential setup times under staggered boot up

Authors: *A. Gandhi, M. Harchol-Balter* and *I. Adan*

12:25 – 12:50 Contributed Talk: Infinite server queues and their applications

Author: *M.F. Ramalhoto*

12:50 – 13:15 Contributed Talk: Aggregate modelling of multi-processing workstations

Author: *I. Adan*

**Session Tu-R2b** – Chair: I. Mitrani

11:10 – 11:35 Contributed Talk: Approximation of  $M/G/c/K$  retrial queue

Author: *Y.W. Shin*

11:35 – 12:00 Contributed Talk: Distribution of the successful and blocked events in a discrete-time retrial queue

Authors: *J. Amador* and *P. Moreno*

12:00 – 12:25 Contributed Talk: Numerical investigation of a  $Geo/PH/1$  retrial queue with non-persistent customers

Author: *S.I. Rabia*

12:25 – 12:50 Contributed Talk: Managing performance and power consumption in a server farm

Author: *I. Mitrani*

12:50 – 14:45 Lunch Time

14:45 – 18:15 Toledo Trip

**June 30**, 9:00 hours to 18:00 hours

**Room 1:** Sessions We-R1a, We-R1b, We-R1c, We-R1d

**Room 2:** Sessions We-R2a, We-R2b, We-R2c, We-R2d

**Session We-R1a** – Chair: M. Telek

9:00 – 9:50 Invited Talk: **Exact tail asymptotics for random walks in the quarter plane**

Author: *Y.Q. Zhao* (Carleton University, Canada)

9:50 – 10:15 Contributed Talk: Tail behaviour of a finite-/infinite-capacity priority queue

Authors: *T. Demoor*, *J. Walraevens*, *F. Fiems* and *H. Bruneel*

10:15 – 10:40 Contributed Talk: Performance analysis of binary exponential backoff MAC protocol for cognitive radio in the IEEE 802.16e/m network

Authors: *S. Jin*, *J.S. Park* and *B.D. Choi*

10:40 – 11:05 Contributed Talk: On minimal representation of rational arrival processes

Authors: *P. Buchholz* and *M. Telek*

**Session We-R2a** – Chair: A. Krishnamoorthy

9:00 – 9:50 Invited Talk: **Waiting time approximation in multi-class queueing systems with multiple types of class-dependent interruptions**

Authors: *Ö.S. Ulusçu* and *T. Altıok* (Rutgers University, USA)

9:50 – 10:15 Contributed Talk: Equilibrium balking behavior in an unreliable queue with complete removals at failure epochs

Authors: *O. Boudali* and *A. Economou*

10:15 – 10:40 Contributed Talk: Machine repair problem with variable servers considering balking concept

Authors: *K.-H. Wang* and *Y.-C. Liou*

10:40 – 11:05 Contributed Talk: Queues with service interruption: a survey and some new results

Author: *A. Krishnamoorthy*

11:05 – 11:30 Coffee Break

**Session We-R1b** – Chair: B. D’Auria

11:30 – 11:55 Contributed Talk: Fluid limits and maximal load in multi-wavelength optical buffer systems

Authors: *K. De Turck*, *W. Rogieł*, *D. Fiems*, *H. Bruneel* and *S. Wittevrongel*

11:55 – 12:20 Contributed Talk: A fluid model analysis of streaming video in the presence of time-varying service capacity

Authors: *J.W. Bosman*, *R. Nunez Queija* and *R.D. van der Mei*

12:20 – 12:45 Contributed Talk: Markov modulated fluid queues with server vacations

Authors: *J.W. Baek*, *H.W. Lee*, *S.W. Lee*, *S. Ahn* and *L. Feng*

12:45 – 13:10 Contributed Talk: Brownian queues with modulated buffer

Authors: *B. D’Auria* and *O. Kella*

**Session We-R2b** – Chair: A. Pacheco

11:30 – 11:55 Contributed Talk: Influence of correlation in the arrival process on batch-service queueing systems

Authors: *D. Claeys*, *B. Steyaert*, *J. Walraevens*, *K. Laevens* and *H. Bruneel*

11:55 – 12:20 Contributed Talk: Computational analysis of queue-length distribution arising in the continuous-time queue:  $GI/G/1$

Authors: *M.L. Chaudhry* and *X. Yang*

12:20 – 12:45 Contributed Talk: A simple and complete computational analysis of  $M/G_j^{(m,M)}/1/\infty$  and  $M/G_j^{(m,M)}/1/B$  queues using roots

Authors: *M.L. Chaudhry* and *J. Gai*

12:45 – 13:10 Contributed Talk: Customer loss probabilities in busy-periods of batch arrival oscillating  $M/G/1/n$  queueing systems

Authors: *F. Ferreira*, *A. Pacheco* and *H. Ribeiro*

13:10 – 15:00 Lunch Time

**Session We-R1c** – Chair: J. Hasenbein

15:00 – 15:50 Invited Talk: **Stochastic analysis and optimization of queueing networks for cloud computing**

Authors: *S. Ghosh* and *M.S. Squillante* (IBM Thomas J. Watson Research Center, USA)

15:50 – 16:15 Contributed Talk: Fair connection admission control with adaptive thresholds for wireless multimedia networks

Authors: *T.O. Kim*, *A.S. Alfa* and *B.D. Choi*

16:15 – 16:40 Contributed Talk: Scheduling in tandem flexible server queueing systems

Authors: *J. Hasenbein* and *B. Kim*

**Session We-R2c** – Chair: M. Baykal-Gursoy

15:00 – 15:50 Invited Talk: **On first passage problems for piecewise deterministic processes with phase-type jumps**

Authors: *F. Avram* (Universite de Pau, France) and *X. de Lucas Araujo*

15:50 – 16:15 Contributed Talk:  $M/D/1$ ,  $M/D/\infty$  and stick breaking

Authors: *J.S.H. van Leeuwen*, *A.H. Lopker* and *A.J.E.M. Janssen*

16:15 – 16:40 Contributed Talk: Completion time analysis for infinite server queues with two service speeds

Authors: *M. Baykal-Gursoy* and *Z. Duan*

16:40 – 17:10 Coffee Break

**Session We-R1d** – Chair: P. Brill

17:10 – 17:35 Contributed Talk: Inference statistic for retrial queues with negative arrivals

Authors: L. Berdjoudj and *D. Aissani*

17:35 – 18:00 Contributed Talk:  $M/G/c/c$  queues with workload-dependent arrival rate

Authors: P. Brill and *M.L. Huang*

**Session We-R2d** – Chair: A. Ridder

17:10 – 17:35 Contributed Talk: Universal generation of fractal statistics: data-traffic, queues, and physics

Authors: I. Eliazar and *J. Klafter*

17:35 – 18:00 Contributed Talk: Importance sampling for rare events in random walks and queueing models

Authors: A. Ridder and *T. Taimre*

20:30 – 22:30 Conference Dinner (tentative time)

**July 1**, 9:00 hours to 13:10 hours

**Room 1:** Sessions Th-R1a, Th-R1b

**Room 2:** Sessions Th-R2a, Th-R2b

**Session Th-R1a** – Chair: R. Nobel

9:00 – 9:50 Invited Talk: **The single server queue with synchronized repeated services**

Authors: A. Economou (University of Athens, Greece), *S. Kapodistria* and *J. Resing*

9:50 – 10:15 Contributed Talk: A single server queue with synchronized abandonments

Author: *S. Kapodistria*

10:15 – 10:40 Contributed Talk: Matrix continued fraction approach to level-dependent QBD process and its application to multiserver retrial queues

Authors: T. Phung-Duc, *H. Masuyama*, *S. Kasahara* and *Y. Takahashi*

10:40 – 11:05 Contributed Talk: A discrete-time retrial queueing model with abandonments

Author: *R. Nobel*

**Session Th-R2a** – Chair: M. Kobayashi9:00 – 9:50 Invited Talk: **Polling tree networks**Authors: *P. Beekhuizen*, *D. Denteneer* and *J. Resing* (Eindhoven University of Technology, The Netherlands)

9:50 – 10:15 Contributed Talk: Queueing model of the FSO/RF hybrid channel with heterogeneous links subject to failures

Authors: *D. Efrosinin* and *V. Rykov*10:15 – 10:40 Contributed Talk: Analysis of  $MAP/G^{(a,b)}/1/N$  queue with multiple vacations and closedown timesAuthors: *A. Senthil Vadivu* and *R. Arumuganathan*10:40 – 11:05 Contributed Talk: Join the shortest queue among similar  $c$  parallel service stationsAuthors: *M. Kobayashi*, *Y. Sakuma* and *M. Miyazawa*

11:05 – 11:30 Coffee Break

**Session Th-R1b** – Chair: D. Fiems

11:30 – 11:55 Contributed Talk: Limits of cyclically varying birth-death processes and applications

Authors: *M. Jonckheere*, *Y. Nazarathy* and *R. Nunez Queija*

11:55 – 12:20 Contributed Talk: Performance analysis of sleep mode operation in IEEE 802.16m advanced mobile WiMAX

Authors: *S. Baek*, *J.J. Son* and *B.D. Choi*

12:20 – 12:45 Contributed Talk: Stability analysis of a two-queue cascade network

Authors: *E. Morozov* and *B. Steyaert*

12:45 – 13:10 Contributed Talk: Light-correlation analysis of queues with autoregressive service times

Authors: *D. Fiems* and *B. Prabhu***Session Th-R2b** – Chair: R.D. van der Mei

11:30 – 11:55 Contributed Talk: Flexible server allocation and customer routing policies for two parallel queues when service rates are not additive

Authors: *H.-S. Ahn* and *M.E. Lewis*

11:55 – 12:20 Contributed Talk: Periodic and continuous review analytical models for airline check-in queues

Authors: *S. Moosa*, *M. Parlar* and *B. Rodrigues*

12:20 – 12:45 Contributed Talk: Optimal routing in parallel, non-observable queue and the price of anarchy revisited

Authors: *J. Anselmi* and *B. Gaujal*

12:45 – 13:10 Contributed Talk: Optimal resource allocation of time-reservation systems

Authors: *R. Yang*, *S. Bhulai* and *R.D. van der Mei*

13:10 – 14:15 Farewell Cocktail