Benjamin LEGROS

Professor

Academy: Digitalization

Research center: SKEMA Centre for Analytics and Operations

Campus: Paris

Email: benjamin.legros@skema.edu

Research interests

Operations Management, Operations Management

Education

2024	Habilitation à Diriger des Recherches, Operations Management, CentraleSupelec, France
2013	Doctorat, Génie industriel, CentraleSupelec, France
2006	M. Eng, Mathematics, Ecole Centrale Paris, France

Experience

Full-time academic positions

Since 2024	Professor, SKEMA Business School, France

Other academic affiliations and appointments

2017 - 2024	Professeur, EM Normandie Business School, France
2010 - 2017	Head professorship, CentraleSupelec, France

Publications

Peer-reviewed journal articles

LEGROS, B. and VAN LEEUWAARDEN, J. (2026). Waiting Time Externality Awareness in Socially Responsible Queueing. *Production and Operations Management*, 35(10), pp. 3750 - 3769.

LEGROS, B., DE VÉRICOURT, F., VAN LEEUWAARDEN, J. and FRANSOO, J. (2026). When More Capacity Creates More Congestion: The Role of Risk Aversion. *Production and Operations Management*, 35(11), pp. 4096 - 4110.

SCHMIEL, , LEGROS, B. and STOLLETZ, R. (2026). Stationary Coupled-Flow Approximation for Time-Varying Retrial Queues. *INFORMS Journal on Computing*.

LEGROS, B. (2026). Convexity of Inverse Blocking Curves in Loss Systems. *Operations Research*.

BENJAAFAR, S., JOUINI, O., LEGROS, B. and LU, B. (2025). Pooled Testing in the Presence of Congestion. *Operations Research Letters*, 58, pp. 107208.

LEGROS, B. (2025). How should rejection be used to maximize congestion while preserving idle time? *Journal of the Operational Research Society*, 76(7), pp. 1449-1465.

LEGROS, B., VAN LEEUWAARDEN, J.S. and FRANSOO, J.C. (2025). Managing Reusable Resources With Usage Time Limits. *Production and Operations Management*, 34(8), pp. 2413–2429.

ALSAMADI , S., MARTINEZ, C., PEHLIVAN , C., CELLIER , N., JOUINI, O., LEGROS, B. ... FONTANILI, F. (2025). Machine learning-based agent staffing under uncertainty: The case of a relay call center. *Expert Systems with Applications*, 281(1), pp. 127385.

DUPRÉ, A., JOUINI, O., LAMÉ, G., XIE, X., JEMAI, Z., LEGROS, B. ... BOTREL, T. (2025). Machine learning-enhanced prediction of operating room occupation time and length of stay: a retrospective cohort study on emergency surgery care pathways. *Journal of Clinical Monitoring and Computing*, 39, pp. 1215–1225.

LEGROS, B. and FRANSOO, J.C. (2024). Admission and pricing optimization of on-street parking with delivery bays. *European Journal of Operational Research*, 312(1), pp. 138-149.

LEGROS, B. (2023). Dynamic policy for idling time preservation. *Naval Research Logistics*, 70(1), pp. 53-71.

LEGROS, B. (2022). The transient blended queue. *Operations Research Letters*, 50(3), pp. 287-294.

LEGROS, B. (2022). The principal-agent problem for service rate event-dependency. *European Journal of Operational Research*, 297(3), pp. 949-963.

JOUINI, O., BENJAAFAR, S., LU, B., LI, S. and LEGROS, B. (2022). Appointment-driven queueing systems with non-punctual customers. *Queuing Systems*, 101(1-2), pp. 1-56.

LEGROS, B. (2021). Routing analyses for call centers with human and automated services. *International Journal of Production Economics*, 240, pp. 108247.

LEGROS, B. (2021). Agents' SelfRouting for Blended Operations to Balance Inbound and Outbound Services. *Production and Operations Management*, 30(10), pp. 3599-3614.

LEGROS, B. (2021). Age-based Markovian approximation of the G/M/1 queue. *Operations Research Letters*, 49(5), pp. 708-714.

ABHISHEK,, LEGROS, B. and FRANSOO, J.C. (2021). Performance Evaluation of Stochastic Systems with Dedicated Delivery Bays and General On-Street Parking. *Transportation Science*, 55(5), pp. 1070-1087.

LEGROS, B., JOUINI, O. and KOOLE, G. (2021). Should We Wait Before Outsourcing? Analysis of a Revenue-Generating Blended Contact Center. *Manufacturing and Service Operations Management*, 23(5), pp. 1118-1138.

LEGROS, B. (2021). Transient analysis of an affine Queue-Hawkes process. *Operations Research Letters*, 49(3), pp. 393-399.

LEGROS, B. (2021). Dimensioning a queue with state-dependent arrival rates. *Computers & Operations Research*, 128, pp. 105179.

KOUKI, C., LEGROS, B., ZIED BABAI, M. and JOUINI, O. (2020). Analysis of base-stock perishable inventory systems with general lifetime and lead-time. *European Journal of Operational Research*, 287(3), pp. 901-915.

LEGROS, B., JOUINI, O., AKŞIN, O.Z. and KOOLE, G. (2020). Front-office multitasking between service encounters and back-office tasks. *European Journal of Operational Research*, 287(3), pp. 946-963.

LEGROS, B. (2020). Late-rejection, a strategy to perform an overflow policy. *European Journal of Operational Research*, 281(1), pp. 66-76.

LEGROS, B. (2019). Transient analysis of a Markovian queue with deterministic rejection. *Operations Research Letters*, 47(5), pp. 391-397.

LEGROS, B., BOUCHERY, Y. and FRANSOO, J. (2019). A TimeBased Policy for Empty Container Management by Consignees. *Production and Operations Management*, 28(6), pp. 1503-1527.

LEGROS, B. and JOUINI, O. (2019). On the scheduling of operations in a chat contact center. *European Journal of Operational Research*, 274(1), pp. 303-316.

LEGROS, B. (2019). Dynamic repositioning strategy in a bike-sharing system; how to prioritize and how to rebalance a bike station. *European Journal of Operational Research*, 272(2), pp. 740-753.

LEGROS, B. (2018). M/G/1 queue with event-dependent arrival rates. *Queuing Systems*, 89(3-4), pp. 269-301.

LEGROS, B. (2018). Waiting time based routing policies to parallel queues with percentiles objectives. *Operations Research Letters*, 46(3), pp. 356-361.

LEGROS, B., JOUINI, O. and KOOLE, G. (2018). Blended call center with idling times during the call service. *IIE Transactions (Institute of Industrial Engineering)*, 50(4), pp. 279-297.

LEGROS, B. and SEZER, A.D. (2018). Stationary analysis of a single queue with remaining service time-dependent arrivals. *Queuing Systems*, 88(1-2), pp. 139-165.

LEGROS, B., JOUINI, O. and KOOLE, G. (2018). A Uniformization Approach for the Dynamic Control of Queueing Systems with Abandonments. *Operations Research*, 66(1), pp. 200-209.

LEGROS, B. (2017). Reservation, a tool to reduce the balking effect and the probability of delay. *Operations Research Letters*, 45(6), pp. 592-597.

LEGROS, B., DING, S., VAN DER MEI, R. and JOUINI, O. (2017). Call centers with a postponed callback offer. *OR Spectrum*, 39(4), pp. 1097-1125.

LEGROS, B. and JOUINI, O. (2017). Routing in a queueing system with two heterogeneous servers in speed and in quality of resolution. *Stochastic Models*, 33(3), pp. 392-410.

LEGROS, B. (2016). Unintended consequences of optimizing a queue discipline for a service level defined by a percentile of the waiting time. *Operations Research Letters*, 44(6), pp. 839-845.

LEGROS, B., JOUINI, O. and KOOLE, G. (2016). Optimal scheduling in call centers with a callback option. *International Journal of Accounting, Auditing and Performance Evaluation*, 95, pp. 1-40.

LEGROS, B. and JOUINI, O. (2015). A linear algebraic approach for the computation of sums of Erlang random variables. *Applied Mathematical Modelling*, 39(16), pp. 4971-4977.

LEGROS, B., JOUINI, O. and KOOLE, G. (2015). Adaptive threshold policies for multi-channel call centers. *IIE Transactions*, 47(4), pp. 414-430.

LEGROS, B., JOUINI, O. and DALLERY, Y. (2015). A flexible architecture for call centers with skill-based routing. *International Journal of Production Economics*, 159, pp. 192-207.

Other research activities