

Yasmín Águeda Ríos-Solís, Ph.D

<http://yalma.fime.uanl.mx/~yasmin>

Associate Professor

UANL - FIME - PISIS
Av. Universidad s/n
Office 121 CIDET
Monterrey NL 66450

☎ +52(81) 83294000, 5945

✉ yasmin.riosls@uanl.edu.mx



Research Interests

General: Operations research, optimization problems, algorithm design, combinatorics.

Research Areas: Machine scheduling, exact resolution, heuristics, relaxations.

Application areas: Just-in-time machine scheduling, transportation problems, production planning, bioinformatics, agricultural management, packing problems, finances.

Education

Postdoctoral Research Associate in bioinformatics, *Universität Bielefeld, AG Genominformatik*, Germany, January-December 2007.

supervisor [Ferdinando Cicalese](#).

support Cicalese's Sofja Kovalevskaja Award (Alexander von Humboldt Foundation and the German Federal Ministry of Research & Education).

Ph.D. in informatics, *University Pierre et Marie Curie, Paris VI, LIP6*, France, 2003–2007.

title *Scheduling with earliness-tardiness penalties and parallel machines (in french)*.

supervisors Philippe Chrétienne and [Francis Sourd](#).

committee: Marie-Claude Portmann, Alain Billionnet and Alain Quilliot

grant Mexican National Council of Science and Technology (CONACyT), 2003–2007

Master in computer science & operations research, *University Pierre et Marie Curie, Paris VI*, France, 2002–2003.

title *Preemptive just-in-time scheduling problem*.

supervisor [Francis Sourd](#).

grant Mexican National Council of Science and Technology (CONACyT), 2002–2003

Applied mathematics **Instituto Tecnológico Autónomo de México**, *Mexico*, Especial mention, 1997–2002.

title *Real options and dynamic programming.*
supervisor Hector Lomelí.

Professional Education

Short Program **Modeling and Simulation of Transportation Networks**, *Massachusetts Institute of Technology*, US, 25-31 July 2015.

Academic Appointments

Associate Professor **UANL, Graduate Program in Systems Engineering**, *Monterrey, México*, January 2011–present.

Assistant Professor **UANL, Graduate Program in Systems Engineering**, *Monterrey, México*, January 2008–June 2011.

Visiting Appointments

Visiting Professor **Université d'Avignon et des Pays de Vaucluse, Laboratoire Informatique d'Avignon**, *France*, Hosted by P. Michelon and D. Quadri, June 2009.

Short Research Stays

Visiting Professor **Université Pierre et Marie Curie, Paris VI, Laboratoire Informatique d'Informatique Paris 6, LIP6**, *France*, Hosted by S. Kedad-Sidhoum.
8 - 17 November 2014

Offices Held

Representative of SMIO **SMIO's representative for ALIO elections**, (*SMIO*), 2015–.

Vice-President **Mexican Society of Operations Research**, (*SMIO*), 2013-2015.

Honors and Awards

SNI Fellow **Level 1**, *Third highest country-wide distinction granted by the Mexican National System of Research Scientists for scientific merit*, January 2009–December 2017.

PROMEP Fellow (**Perfil Deseable**), *Distinction granted by the Secretary for Public Education (SEP) under its Faculty Improvement Program (PROMEP), 2009–2012, 2013–2016.*

Sofía Kovalévskaja Award **Mexican Mathematical Society - Sofía Kovalévskaja Foundation**, *For young women researchers in mathematics, 3 November 2010.*

As a graduate student

Fellowship for Master and Ph.D. Studies, *Granted by the Mexican National Council of Science and Technology, 2002–2007.*

Complementary fellowship for abroad graduate students, *Granted by the Mexican Public Education Ministry (SEP), 2002–2005.*

As an undergraduate student

Especial mention for Bachelor's thesis, *Granted by ITAM, 2002.*

Publications: Books

Roger Z. Ríos-Mercado and Yasmín A. Ríos-Solís, editors. *Just-in-Time Systems*, volume 60 of *Series on Optimization and Its Applications*. Springer, 1st edition, 304 p., 2012. ISBN 978-1-4614-1122-2

Publications: Articles

P. Fouilhoux, O.J. Ibarra-Rojas, S. Kedad-Sidhoum, and Y.A. Rios-Solis. Valid Inequalities for the Synchronization Bus Timetabling Problem. *European Journal of Operational Research*, 251: 442-450, 2016, ISSN: 0377-2217.

O.J. Ibarra-Rojas, F. López-Irarragorri, Y.A. Rios-Solis. Multiperiod Bus Timetabling ISSN: 0041-1655. *Transportation Science*, 50(3): 805-822, 2016.

O.J. Ibarra-Rojas, R. Giesen, Y.A. Rios-Solis. An integrated approach for timetabling and vehicle scheduling problems to analyze the trade-off between level of service and operating costs of transit networks. *Transportation Research Part B: Methodological*, 70: 35-46, 2014, ISSN: 0191-2615.

N. M. Cid-Garcia, A. G. Bravo, and Y.A. Rios-Solis. A crop planning and real-time irrigation method based on site-specific management zones and linear programming. ISSN: 0168-1699 *Computers and Electronics in Agriculture*, 107: 20-28, 2014.

I. Litvinchev, Y. A. Rios, D. Özdemir, L. G. Hernández-Landa. Multiperiod and stochastic formulations for a closed loop supply chain with incentives. ISSN: 1064-2307 *Journal of Computer and Systems Sciences International*, 53(2): 201–211, 2014.

N.M. Cid-García, V. Albornoz, Y.A. Rios-Solis, and R. Ortega. Rectangular shape management zone delineation using integer linear programming. ISSN: 0168-1699 *Computers & Electronics in Agriculture*, 93:1–9, 2013.

E. Fritzilas, M. Milanic, J. Monnot, and Y.A. Rios-Solis. Resilience and optimization of identifiable bipartite graphs. ISSN: 0166-218X *Discrete Applied Mathematics*, 161(4-5):593–603, 2013.

O.J. Ibarra-Rojas and Y.A. Rios-Solis. Synchronization of bus timetabling. ISSN: 0191-2615. *Transportation Research part B: Methodological*, 46(5):599–614, 2012.

O.J. Ibarra-Rojas, R.Z. Ríos-Mercado, Y.A. Rios-Solis, and M.A. Saucedo-Espinosa. A decomposition approach for the piece-mold-machine manufacturing problem. ISSN: 0925-5273. *International Journal of Production Economics*, 134(1):255–261, 2011.

M.-C Plateau and Y.A. Rios-Solis. Optimal solutions for unrelated parallel machines scheduling problems using convex quadratic reformulations. ISSN: 0377-2217. *European Journal of Operational Research*, 201(3):729–736, 2010.

E. Fritzilas, M. Milanic, S. Rahmann, and Y.A. Rios-Solis. Structural identifiability in low-rank matrix factorization (long version). ISSN: 0178-4617. *Algorithmica*, 56(3):313–332, 2009.

Y.A. Rios-Solis and F. Sourd. Exponential neighborhood search for a parallel machine scheduling problem. *Computers & Operations Research*, 35:1697–1712, 2008.

S. Kedad-Sidhoum, Y.A. Rios-Solis, and F. Sourd. Lower bounds for the earliness-tardiness scheduling problem on parallel machines with distinct due dates. ISSN:0377-2217 *European Journal of Operational Research*, 189(3):1305–1316, 2008.

Y.A. Rios-Solis. Scheduling with earliness–tardiness penalties and parallel machines (author’s Ph.D summary). ISSN: 1619-4500 *4OR: A Quarterly Journal of Operations Research*, 6(2):191–194, 2008.

Publications: Book Chapters

Hernández-Landa, Leonardo G., Miguel L. Morales-Marroquín, Romeo Sánchez Nigenda, and Yasmín Á. Ríos-Solís. Linear Bus Holding Model for Real-Time Traffic Network Control. In *Applied Simulation and Optimization*, pp. 303-319. Springer International Publishing, 2015.

Albornoz, V. M., Cid-García, N. M., Ortega, R., Ríos-Solís, Y. A. A Hierarchical Planning Scheme Based on Precision Agriculture. In *Handbook of Operations Research in Agriculture and the Agri-Food Industry*, pp. 129-162. Springer New York, 2015.

O.J. Ibarra-Rojas, Y.A. Rios-Solis, and O.L. Chacon. Pieces-molds-machines manufacturing planning. In Barin Nag, editor, *Intelligent Systems in Operations: Models, Methods, and Applications in the Supply Chain*, pages 105–117. IGI Global, 2010. 978-1-61520-605-6.

Publications: Magazine Articles

O.J. Ibarra-Rojas, Yasmín A. Ríos Solís. Diseño de Horarios para sincronizar líneas de buses en múltiples periodos de planificación. *Accepted in Ingeniería de transporte, Sociedad chilena de Ingeniería de transporte*, 2014. ISSN 0717-3482.

Yasmín A. Ríos Solís. El transporte urbano en México atrae a matemáticos y emprendedores del ITAM. *Laberintos e Infinitos, ITAM*, 33:42–49, 2013.

Yasmín A. Ríos Solís. Editorial: Camiones urbanos en Monterrey. *Ingenierías*, XV(55), 2012. issn: 1405-0676.

Chacón Mondragón, O.L. and Ibarra Rojas, OJ and Ríos-Solís, Y.A. and Espinosa-Saucedo, M. Programación pieza-molde-máquina en planeación de la producción. *CIENCIA-UANL*, 15(58):59–65, 2012. issn: 2007 - 1175.

F. Elizalde Ramírez, Y. I. Silva-Soto, and Y. A. Rios-Solis. Planeación justo a tiempo: Soluciones óptimas mediante reformulaciones convexas. *Ingenierías*, XIV(51), 2011. issn: 1405-0676.

Publications: Conference Proceedings Papers

Leonardo G. Hernández-Landa, Romeo Sánchez Nigenda, and Yasmín Á. Ríos-Solís. Regulación de tráfico en redes de autobuses urbanos. In *Memorias Arbitradas del VIII congreso de ingeniería Industrial y de sistemas, FIME, Monterrey*, pages 169–180, 2013. ISBN , 2013.

Luis A. Benavides Vázquez, Yasmín Á. Ríos-Solís. Detección de pérdidas en la industria petrolera. In *Memorias Arbitradas del VIII congreso de ingeniería Industrial y de sistemas, FIME, Monterrey*, pages 6-12, 2013. ISBN , 2013.

Leonardo G. Hernández-Landa, Yasmín A. Ríos-Solís, Romeo Sanchez. Administración de fallas en tiempo real para sistemas de transporte urbano: revisión, modelo general y simulación. In *Memorias del los trabajos libres del VII congreso de ingeniería Industrial y de sistemas, FIME, Monterrey*, pages 9-18, 2011. ISBN 978-607-433-791-4, 31th August, 2011.

Néstor Miguel Cid García, Yasmín Águeda Ríos Solís, Ángel Gabriel Bravo Lozano. Planeación de la producción agrícola en un sistema de riego utilizando sensores de humedad. In *Memorias del los trabajos libres del VII congreso de ingeniería Industrial y de sistemas, FIME, Monterrey*, pages 164-177, 2011. ISBN 978-607-433-791-4, 31th August 2011.

E. Fritzilas, Y.A. Rios-Solis, and S. Rahmann. Structural identifiability in low-rank matrix factorization ISSN: 0302-9743. In *Proceedings of COCOON'08*, volume 5092, pages 140–148. LNCS, 2008.

Y.A. Rios-Solis and F. Sourd. Large neighborhood for a parallel scheduling problem with earliness-tardiness penalties and a common due date. In G. Kendal, L. Lei, and

M. Pinedo, editors, *Proceedings of the second Multidisciplinary International Conference on Scheduling: Theory and Applications*, pages 169–184, 2005.

Y.A. Rios-Solis and F. Sourd. Voisinage exponentiel pour un problème d'ordonnancement avec des pénalités d'avance et de retard et une date d'échéance commune. In J. C. Billaut and C. Esswein, editors, *Actes de conférence du 6ème Congrès de la Société Française de Recherche Opérationnelle et d'Aide à la Décision*, pages 133–149, 2005. ISBN: 2-86906-196-X.

S. Kedad-Sidhoum, Y.A. Rios-Solis, and F. Sourd. Lower bounds for the earliness-tardiness scheduling problem on parallel machines. In A. Oulamara and M.C. Portmann, editors, *Proceedings of the 9th International Conference on Project Management and Scheduling*, pages 210–213, 2004.

Student Thesis Supervision

In progress

- M.Sc. **Citlali Maryuri Olvera Toscano**, *Graduate Program in Systems Engineering, UANL*.
- M.Sc. **Rodrigo San Miguel Becerra**, *Graduate Program in Systems Engineering, UANL*.
Committee: Mario Saucedo (Rochester Institute of Technology, USA), Romeo Sánchez (UANL, Mexico)
- M.Sc. **Deiby Andrés Parra Gaviria**, *Graduate Program in Systems Engineering, UANL*.
- M.Sc. **José Guadalupe Torres Chavarría**, *Graduate Program in Systems Engineering, UANL*.
Committee: Iris Abril Salazar (UANL, Mexico), Mario Saucedo (Rochester Institute of Technology, USA)

Chaired: Ph.D.

- Ph.D. **Miguel Lorenzo Morales Marroquín**, *Graduate Program in Systems Engineering, UANL*, Lot production size problem and simulation of urban transport, January 29, 2016.
Committee: Edgar Possani (ITAM, Mexico), Marta Cabo (ITAM, Mexico), Romeo Sánchez (UANL, Mexico), Igor Litvinchev (UANL, Mexico)
- Ph.D. **Néstor Miguel Cid García**, *Graduate Program in Systems Engineering, UANL*, Exact solutions for the agricultural planning and the two-dimensional packing problems, January 21, 2016.
Committee: Víctor Albornoz (Universidad Técnica Federico Santa María, Chile), Sandra Ulrich Ngueveu (LAAS-CNRS, France), Igor Litvinchev (UANL, Mexico), Vincent Boyer (UANL, Mexico)

- Ph.D. **Leonardo Gabriel Hernández Landa**, *Graduate Program in Systems Engineering, UANL, co-direction with Romeo Sánchez Nigenda*, Planeación de una cadena de logística inversa y optimización en tiempo real de una línea de transporte urbano, January 29, 2015.
Committee: Angélica Lozano (UNAM, Mexico), José Camacho (UANL, Mexico), Romeo Sánchez (UANL, Mexico), Igor Litvinchev (UANL, Mexico)
- Ph.D. **Omar Jorge Ibarra Rojas**, *Graduate Program in Systems Engineering, UANL*, Models and algorithms for transit network planning, February 12, 2013.
Committee: Pierre Fouilhoux (Paris 6, Francia), Safia Kedad-Sidhoum (Paris 6, Francia), Fernando Lopez (UANL, Mexico), Ada Álvarez (UANL, Mexico)

Chaired: M.Sc.

- M.Sc. **Omar de Jesús Castillo Gutiérrez**, *Cinvestav-Monterrey, co-direction with Moisés Santillán*, Detección de homólogos posicionales basada en su similitud de secuencia y contexto de genes, September 11, 2014.
Committee: Daniel Sánchez (CINVESTAV, Mexico), Blanca Galindo (CINVESTAV, Mexico), Moisés Santillán (CINVESTAV, Mexico)
- M.Sc. **Luis Alejandro Benavides Vázquez**, *Graduate Program in Systems Engineering, UANL*, Detección de fugas en los procesos de una refinería, March 19, 2014.
Committee: Mauricio Cabrera (University of Puerto Rico, Puerto Rico), Igor Litvinchev (UANL, Mexico)
- M.Sc. **Miguel Lorenzo Morales Marroquín**, *Graduate Program in Systems Engineering, UANL*, Optimización de la producción en máquinas en paralelo de inyección de plástico, June 13, 2012.
Committee: Edgar Possani (ITAM, Mexico), Igor Litvinchev (UANL, Mexico)
- M.Sc. **Néstor Miguel Cid García**, *Graduate Program in Systems Engineering, UANL*, "Planificación de la producción agrícola y manejo eficiente del agua en un sistema de irrigación", May 25, 2012.
Committee: Ángel Bravo (UAZ, Mexico), Igor Litvinchev (UANL, Mexico)
- M.Sc. **Yadira Isabel Silva Soto**, *Graduate Program in Systems Engineering, UANL*, "Planeación justo a tiempo: soluciones óptimas mediante reformulaciones convexas", June 30, 2010.
Committee: Óscar Chacón (UANL, Mexico), Roger Ríos (UANL, México)
- Master **Paul Rabut**, *Master Intelligence Territoriale Information Spatiale et Aménagement, Université de Franche-Comté, Besançon France*, "Système de transport urbain de l'aire de métropolitaine de Monterrey (Mexique)", June 23, 2010.
(co-chaired with Céline Clauzel UFC-ThéMA, Université de Franche-Comté)

Projects

- 01/2017-11/2017 **Research associate**, *“Diplomado en Optimización para Praxair ”*, Praxair.
- 01/2016-12/2016 **Research associate**, *“SaaS de Optimización Combinatoria para la Producción en Plantas de Moldeo: arquitectura algorítmica para la re-optimización y reducción de inventario WIP”*, Awarded by CONACYT: Innovation projects, Grant 231958 , obtained by Logykopt sa de cv and CIQA.
- 11/2015 - 11/2016 **Principal researcher**, *“Aplicaciones industriales de grafos multi-partitas”*, Awarded by UANL, Scientific and Technological Research Support Program PAICYT, Grant CE338-15, \$50,000.00 pesos.
- 01/2015-12/2015 **Research associate**, *“Portafolio de algoritmos de optimización matemática para plantas de moldeo por inyección de plástico.”*, Awarded by CONACYT: Innovation projects, Grant C003V-2015/220739, obtained by Logykopt sa de cv and CIQA.
- 5/2014 - 5/2016 **Principal researcher**, *“Planeación para la Compleja Estructura del Transporte Urbano en México a través de la Optimización para la Reducción de Costos y Consumo Energético (Urban transport planning in Mexico through optimization models to reduce costs and energetic needs)”*, Awarded by CONACYT: Problemas nacionales, Grant I0002 PDCPN2013-01/213630 , \$750,000.00 pesos.
- 01/2014-12/2014 **Research associate**, *“Validación y Desarrollo de Nuevos Módulos del Proyecto de Planeación Estratégica para Líneas de Manufactura con Máquinas de Inyección de Plástico enfocada a la Reducción de Congestión y Tiempo.”*, Awarded by CONACYT: Innovation projects, Grant C003V-2013-01/2014/215410, obtained by Logykopt sa de cv and CIQA.
- 06/2013-12/2013 **Research associate**, *“Capacitación para el transporte urbano”*, FONLIN, Obtained by Logykopt sa de cv.
- 01/2013-12/2013 **Research associate**, *“Planeación estratégica para líneas de manufactura con máquinas de inyección de plástico enfocada a la reducción de congestión y tiempo”*, Awarded by CONACYT: Innovation projects, Grant PEI-295/2013/198098, obtained by Logykopt sa de cv.
- 11/2012 - 11/2013 **Principal researcher**, *“Crop planning and irrigation optimization with sensors”*, Awarded by UANL, Scientific and Technological Research Support Program PAICYT, Grant IT732-11, \$70,000.00 pesos.
- 07/2011 - 07/2012 **Principal researcher**, *“Heuristics for the urban transportation problem”*, Awarded by UANL, Scientific and Technological Research Support Program, Grant XXX, \$70,000.00 pesos.
- 2011 **Host researcher (of Professor Romeo Sánchez Nigenda)**, *“Planificación Inteligente para Usuarios de Transporte Urbano (Intelligent planning for urban transport users)”*, Awarded by CONACYT: Complementary support program for the consolidation of research groups, Grant no. 167468.
- 11/2010 - 11/2011 **Principal researcher**, *“Assignment problem with time functions”*, Awarded by Mexican Mathematical Society - Sofía Kovalévskaja Foundation, \$24,000.00 pesos.

- 07/2009 - **Principal researcher**, *"Assignment problem with time functions"*, Awarded by UANL, Scientific and Technological Research Support Program, Grant IT196-09, \$65,000.00 pesos.
- 07/2010
- 10/2009 - **Principal researcher**, *"Landscape study for the just-in-time scheduling problem"*, Awarded by CONACYT: Basic scientific research (Physic, Mathematic and Earth sciences area), Grant 101857, \$638,000.00 pesos.
- 10/2012
- 2009 **Research associate**, *"Mathematical models and tools for the optimization of an urban transportation enterprise"*, Awarded by CONACYT: Innovation projects, Grant C0003-2009-01/113032, obtained by [Das-Sistemas](#).
- 08/2008 - **Principal Researcher**, *"Quadratic programming for exactly solving just-in-time scheduling"*, Awarded by PROMEP: Support for incorporating new full time professors, Grant PROMEP/103.05/08/3125, \$502,185.00 pesos.
- 08/2010
- 01/2008 - **Principal researcher**, *"Large scale optimization for scheduling problems" (with Igor Litvinchev)*, Awarded by CONACYT: Complementary support program for the consolidation of research groups, Grant no. 74766, \$450,000.00 pesos.
- 12/2008
- 2008 **Research associate**, *"Análisis de impacto del Sistema de Créditos propuesto en el Modelo Educativo de la UANL en los programas educativos de nivel licenciatura que ofert la UANL"*, UANL, 30 hours.
- 2007 **Research associate**, *"Quadratic programming and scheduling"*, Awarded by GDR RO (France).

Teaching

Courses Taught: Graduate

- Scheduling: UANL, México (48 hrs./semester), 1 time: fall 2016.
- Linear Optimization: UANL, México (48 hrs./semester), 4 times: 2009, 2010, spring and fall 2015.
- Seminar: UANL, México (32 hrs./semester), 4 times: 2009, 2012, spring 2014, spring and fall 2015.
- Network Flows: UANL, México (48 hrs./semester), 5 times: 2008, 2009, fall 2013, fall 2014, spring 2017.
- Selected topics in packing and scheduling: UANL, México (32 hrs./semester), spring 2014.
- Commercial Optimization Methods (Software as a service): UANL, México (32 hrs./semester), 1 time: 2013.
- Operations Research: industry resolution cases: UANL, México (32 hrs./semester), 3 times: 2011, 2012, 2013.

- Selected topics in multiobjective optimization: UANL, México (32 hrs./semester), 2010.
- Foundations of Integer Programming: UANL, México (48 hrs./semester), 2 times: 2010, 2011.
- Industrial Engineering: Specialization for the Automotive Cluster, UANL, México (11 hrs./semester), 2010.

Courses Taught: Undergraduate.

- Optimization: UANL, México (48 hrs./semester), 7 times (2012, fall 2013, spring and fall 2014, 2015, 2016, 2017).
- Operations research: UANL, México (48 hrs./semester), 3 times (2008, 2010, 2011).
- Operations research: EFREI (assistant), France.
- Internet: Université de Nanterre, France.
- New Information and communication technologies: Université de Nanterre, France.

Committees

Conference Committees

- 2016 **Program Committee Member**, *V Congreso Nacional de la Sociedad Mexicana de Investigación de Operaciones 2016 (SMIO 2016)*, Ciudad Madero, Tamaulipas, México, 26-28 October, 2016.
6 abstracts
- 2015 **Program Committee Member**, *IV Congreso Nacional de la Sociedad Mexicana de Investigación de Operaciones 2015 (SMIO 2015)*, Ciudad Juárez, Chihuahua, México, 7-9 October, 2015.
6 abstracts
- 2014 **Program Committee Member**, *CLAIO, Joint ALIO/SMIO Conference on Operations Research*, Monterrey, Mexico, Monterrey, Mexico, 6-10 October, 2014.
3 reviews, 1 subreview, 10 abstracts
- 2014 **Organizing Committee Member**, *CLAIO, Joint ALIO/SMIO Conference on Operations Research*, Monterrey, Mexico, Monterrey, Mexico, 6-10 October, 2014.
- 2014 **Program Committee Member**, *ICCL'14, 5th International Conference on Computational Logistics*, Valparaiso, Chile, September 24-26, 2014.
- 2014 **Program Committee Member**, *2014 IEEE International Conference on Services Computing*, Anchorage, Alaska, USA, June 27 - July 2, 2014.
5 reviews

- 2013 **Program Committee Member**, *SMIO 2 - TLAIO 5, Segundo Congreso de la Sociedad Mexicana de Investigación de Operaciones, Quinto Taller LatinolberoAmericano de Investigación de Operaciones*, Acapulco, Mexico.
- 2012 **Program Committee Member**, *SMIO 1, 1er Congreso Nacional de la Sociedad Mexicana de Investigación de Operaciones*, Guadalajara, Mexico, 24 - 26 October, 2012.
5 reviews
- 2012 **Program Committee Member**, *23rd edition of the Symposium on Combinatorial Pattern Matching, (CPM)*, Helsinki, Finland, July 3–5, 2012.
7 reviews

Evaluation/Reviewing Committees

In Situ Project Evaluation, *Programa de Estímulos a la Innovación*, CONACyT, 1 in situ in November 2016.

Project Evaluation Committee Member, *Programa de Estímulos a la Innovación*, CONACyT, 4 reviews in October 2016.

Project Evaluation Committee Member, *Convocatoria COAH-2015-01*, CONACyT, 1 review in December 2015.

Project Evaluation Committee Member, *Programa de Estímulos a la Innovación*, CONACyT, 3 reviews in November 2015.

Project Evaluation Committee Member, *UANL PAICyT*, Applied Sciences Area, 10 reviews in September 2015.

Project Evaluation Committee Member, *Becas al extranjero 2015*, CONACyT I2T2, July 2015.

Project Evaluation Committee Member, *Programa MATH AMSUD*, Cooperación científica regional Francia – América del Sur, 1 review in August 2015.

Project Evaluation Committee Member, *Evaluación de Informe Técnico de del Programa de Estímulos a la Innovación 2014*, CONACyT, 2 reviews in February 2015.

Project Evaluation Committee Member, *Programa de Estímulos a la Innovación*, CONACyT, 3 reviews in December 2014.

Project Evaluation Committee Member, *Convocatoria FINNOVA 2014-04 Ecosistemas de innovación del Fondo "Fondo Sectorial de Innovación"*, CONACyT, 2 reviews in August-September 2014.

Project Evaluation Committee Member, *Becas al extranjero 2014 segundo periodo*, CONACyT, 7 reviews in July 2014.

Project Evaluation Committee Member, *Evaluación de Informe Técnico de del Programa de Estímulos a la Innovación 2013*, CONACyT, 2 reviews in February 2014.

Project Evaluation Committee Member, *Programa de Estímulos a la Innovación*, CONACyT, 11 reviews in December 2013.

Reviewer, *Book: Procedimientos de Toma de Decisiones para la Distribución de Recursos Públicos*, Editors: Juan Carlos Leyva López, Laura Cruz Reyes, Fernando López Irraragorri, 2 chapter reviews in March 2013.

Project Evaluation Committee Member, *Internal Research and Technology Projects (Convocatoria de investigación humanística, científica y tecnológica)*, UAEM, 1 review in March 2013.

Project Evaluation Committee Member, *Internal Research Projects*, IBERO, 1 review in October 2012.

Project Evaluation Committee Member, *FOMIX Nuevo León*, CONACyT, 1 review in March 2012, 1 review in August 2011, 1 review in January 2013.

Project Evaluation Committee Member, *Basic Science projects*, SEP-CONACyT, 1 review in April 2012.

Project Evaluation Committee Member, *Programa de estímulo a la investigación, desarrollo tecnológico e innovación (Incentive program for research, technological development, and innovation)*, CONACyT, 5 reviews in April 2012.

Reviewer of Final Technical Report, *Programa de estímulo a la investigación, desarrollo tecnológico e innovación (Incentive program for research, technological development, and innovation)*, CONACyT, 1 review in February 2012.

Reviewer, *Best Master Thesis of the Juarez Autonomous University of Tabasco, 2011*, UANL-UJAT, Engineering Area, 1 review in September 2011.

Project Evaluation Committee Member, *UANL PAICyT*, Applied Sciences Area, 13 reviews in March 2011, 1 review in August 2012.

Project Evaluation Committee Member, *Programa de estímulo a la investigación, desarrollo tecnológico e innovación (Incentive program for research, technological development, and innovation)*, CONACyT, 12 reviews in April 2011.

Journal Refereeing

- Operational Research, Springer, 1 paper
- Discrete Applied Mathematics, Elsevier, 1 paper
- International journal of production economics, Elsevier, 1 paper
- Discrete Optimization, Elsevier, 1 paper
- Transportation Research Part C: Emerging Technologies, Elsevier, 1 paper

- Transportation Research Part E: Logistics and Transportation Review, Elsevier, 1 paper
- Computers and Electronics in Agriculture, Elsevier, 1 paper
- Transportation Science, Informs, 3 papers
- European Journal of Operational Research, Elsevier, 3 papers
- Information Systems and operational research, Taylor & Francis, 1 paper
- INFORMS Journal on Computing, Informs, 1 paper
- Journal of Discrete Algorithms, Elsevier, 1 paper
- Theoretical Computer Science, Elsevier, 1 paper
- Journal of Heuristics, Springer 1 paper
- Ingenierías, UANL, 2 papers
- Annals of Operations Research, Springer, 3 papers
- TOP: An Official Journal of the Spanish Society of Statistics and Operations Research, Springer, 1 paper
- Computers & Operations Research, Elsevier, 9 papers
- Journal of the Operational Research Society, Palgrave-journals, 7 papers
- Journal of Scheduling, Springer 2 paper
- Information Processing Letters, Elsevier, 1 paper
- Mathematical Problems in Engineering, Hindawi, 1 paper
- Remote Sensing, MDPI, 1 paper
- JOUST: The Journal of Undergraduate Research Students, WordPress, 1 paper
- Eureka, 1 paper
- Revista Ingeniería y Ciencia, 2 papers
- Ingeniare, Revista chilena de ingeniería, 1 paper
- Revista Facultad de Ingeniería, Universidad de Antioquia, 1 paper

Students Committee Member

In progress

- Ph.D. **Paulina Alejandra Avila Torres**, "*Planificación multiperiodo de las frecuencias de paso y las tablas de tiempo con incertidumbre en la demanda y tiempo de viaje*", Graduate Program in Systems Engineering, UANL.
- Ph.D. **Victoria Chávez**, "*Matrices OD*", UAM-Iztapalapa.
- Ph.D. **Rafael Muñoz**, "*Scheduling*", Graduate Program in Systems Engineering, UANL.

Chaired

- Ph.D. **Fernando Elizalde Ramírez**, "*Modelos para la generación de rutas, y técnicas de reducción del espacio de búsqueda en redes de transporte público*", Graduate Program in Systems Engineering, UANL, 1st February 2017.

- Ph.D. **Luis Infante**, *"Aproximación mediante modelos de programación entera a problemas de empaquetamiento"* , Graduate Program in Systems Engineering, UANL, 12 January, 2016.
- M.Sc. **Armando Ortega Rosales**, *"Sobre los problemas binivel lineales con coeficientes intervalos en los lados derechos de las restricciones del nivel inferior"* , Maestría en ciencias con orientación en matemáticas, UANL, Julio 14, 2015.
- Ph.D. **Leopoldo Eduardo Cárdenas Barrón**, *"Solving NP hard binary problems by a general purpose heuristic algorithm based on a reduce and optimize approach"* , School of Engineering and Science, Instituto Tecnológico y de Estudios Superiores de Monterrey, May 12, 2015.
- Ph.D. **Óliver Ávalos Rosales**, *"Secuenciación en máquinas paralelas no relacionadas con tiempos de preparación y tareas de mantenimiento preventivo"* , Graduate Program in Systems Engineering, UANL, September 12, 2014.
- M.Sc. **Ruth Lizeth Zamarrón Castro**, *"Modelos enteros para empaquetamientos de círculos en un contenedor"* , Graduate Program in Systems Engineering, UANL, May 12, 2014.
- M.Sc. **Fernando Elizalde**, *"Planificación dinámica de rutas del transporte público a partir de los requerimientos del usuario"* , Graduate Program in Systems Engineering, UANL, June 11, 2013.
- M.Sc. **Victoria Rebillas Loredo**, *"Optimización en el proceso de envió de cerdos de engorde al matadero"* , Graduate Program in Systems Engineering, UANL, May 21, 2013.
- Ph.D. **Luis Fernando Morán-Mirabal**, *"Automatic tuning of GRASP-evPR metaheuristics using a Biased Random-Key Genetic Algorithm"* , School of Engineering and Information Technologies, ITESM-Monterrey, May 6, 2013.
- B.Sc. **Andrea Rosales Sanabria**, *"Optimización de la Producción en Máquinas en Paralelo con Tiempos de Cambio Dependientes"* , B.Sc. in applied mathematics, ITAM, April 12, 2013.
- M.Sc. **Luis Enrique Sanabria Vázquez**, *"Un modelo de planeación de la producción para una planta empacadora de cárnicos"* , Graduate Program in Systems Engineering, UANL, July 2, 2012.
- M.Sc. **Paulina Alejandra Ávila Torres**, *"Un enfoque multicriterio para la planificación de las frecuencias de paso y las tablas de tiempo de una empresa de transporte urbano"* , Graduate Program in Systems Engineering, UANL, June 26, 2012.
- M.Sc. **Mary Carmen Acosta Cervantes**, *"Estudios de metamodelos en optimización vía simulación"* , Graduate Program in Systems Engineering, UANL, June 13, 2012.
- M.Sc. **Mónica G. Elizondo**, *"Un Esquema de Acotamiento Dual para un Problema de Diseño Territorial (Lower bounding schemes for territory design)"* , Graduate Program in Systems Engineering, UANL, July 15, 2010.

- Ph.D. **María Angélica Salazar Aguilar**, "*Models, Algorithms, and Heuristics for Multi-objective Commercial Territory Design*", Graduate Program in Systems Engineering, UANL, May 7, 2010.
- Ph.D. **María Gabriela García Anaya**, "*Expansión de Capacidad de Plantas Batch*", Graduate Program in Systems Engineering, UANL, January 26, 2010.
- Ph.D. **Janía Astrid Saucedo Martínez**, "*Uso de Cotas Lagrangianas Mejoradas para los Problemas de Optimización con la Estructura de Descomposición Doble*", Graduate Program in Systems Engineering, UANL, December 8, 2009.
- M.Sc. **Omar Jorge Ibarra Rojas**, "*Programación Pieza-Molde-Máquina en Planeación de Producción mediante una Búsqueda Local Iterativa*", Graduate Program in Systems Engineering, UANL, June 24, 2009.
- Ph.D. **Klaus-Bernd Schrümann**, "*Counting suffix arrays and strings*", Graduate Program, Universität Bielefeld, Germany, September, 2007.

Professional Activities

Service to UANL

- 2015- present **Academic group (Cuerpo Académico)**, *CA Optimización Metaheurística*, In consolidation group.
- September 2016 **Participation in the workshop**, *Mujeres en la Ciencia*, 30 hours.
- January 2008-2015 **Academic group (Cuerpo Académico)**, *CA Ingeniería de Sistemas*, Consolidated group.
- October 2013 **Participation in the workshop**, *Mujeres en la Ciencia*, 40 hours.

Host researcher

- July-November 2016 **Host Researcher**, 3 undergraduate students, *Prácticas profesionales*, José Alonso García Ruíz, Luis Enrique Rufino de la Cruz, Juan Bersain Vázquez Morales (Instituto tecnológico de las Chopas).
- May-July 2016 **Host Researcher**, 1 graduate student, *Beca Mixta*, Victoria Chávez (UAM-Iztapala).
- July 2015 **Host Researcher**, 2 undergraduate student supervised during the *Scientific Summer Program*, *PROVERICYT*, Alan Alexis Zavala Mendoza (FIME IEA,UANL), Raúl Alejandro Saavedra Robledo (FIME, UANL).

- September-October 2014 **Host Researcher**, 1 master student supervised, grant by CONACYT (beca mixta PNPC), Eduardo Aguirre Zúñiga. (Masters in Computational Engineering, Autonomous University of Chihuahua).
- July 2014 **Host Researcher**, 1 undergraduate student supervised during the Scientific Summer Program, PROVERICYT, Francisco Emiliano Ramos López (FIME,UANL).
- July 2012 **Host Researcher**, 3 undergraduate student supervised during the Scientific Summer Program, PROVERICYT, Rubén Arnaldo Orta Garza (Prepa 16, UANL), Ludim Anel Sánchez López (FIME, UANL), Miguel Ángel Lerma Pérez (FIME,UANL).
- January- June 2011 **Industrial Practice Supervisor**, 2 undergraduate students supervised during their practices at PROLEC, José Eduardo Rodríguez Martínez, Sergio Alberto Soto Sánchez, IAS-FIME-UANL.
- August-December 2010 **Industrial Practice Supervisor**, 1 undergraduate student supervised during his practices at PROLEC, Carlos Alberto Gómez Hernández, IAS-FIME-UANL.
- July-August 2010 **Principal Coordinator**, Scientific Summer Program at the Materials and Electrical Engineering Faculty, UANL.
- July 2010 **Host Researcher**, 1 undergraduate student supervised during the Scientific Summer Program, PROVERICYT, Eduardo González Ayala (Prepa 25, UANL).
- January- May 2010 **Industrial Practice Supervisor**, 2 undergraduate students supervised during their practices at PROLEC, Ana Carolina Robledo Pedraza and Rolando Loera Alvarez, FIME-UANL.
- August-December 2009 **Industrial Practice Supervisor**, 2 undergraduate students supervised during their practices at PROLEC, José Ovalle Medina and Jorge Alberto Escamilla Chapa, FIME-UANL.
- July 2009 **Host Researcher**, 1 undergraduate student supervised during the Scientific Summer Program, PROVERICYT, Laura N. Espriella (Prepa 7, UANL).

Service to Mexican Academy of Sciences

- June-August 2016 **Host Researcher**, 2 undergraduate students supervised during the XXVI Scientific Summer Program, Jarlín Darío Alejandro Chablé (Instituto Tecnológico Superior de Comalcalco) and José Edgar Marín Contreras (Universidad Autónoma de Nayarit).
- June-August 2010 **Host Researcher**, 2 undergraduate students supervised during the XX Scientific Summer Program, Fernando Elizalde Ramírez (IT-Cerro Azul) and Francisco Márquez Ramírez (ITESM-Cd. Juarez).
- June-August 2008 **Host Researcher**, 2 undergraduate students supervised during the XVIII Scientific Summer Program, Luis Enrique Sanabria Vázquez (IT-Culiacán) and Alicia Berenice Rodríguez Yáñez (IT-Culiacán).

Service to DELFIN (Interinstitutional program for the consolidation of research in the Pacific)

June-August 2013 **Host Researcher**, 2 undergraduate students supervised during the XVIII Scientific Summer Program, Guadalupe Robles Ortega (Centro Universitario de Ciencias Económico Administrativas, UDG), Saúl Salazar López (Instituto Tecnológico de Tlanepantla, ITTLA), and Lizeth Zuleyma Rueda Plata (Instituto Tecnológico de Tepic).

June-August 2008 **Host Researcher**, 2 undergraduate students supervised during the XVIII Scientific Summer Program, Andrea Sanaé Manríquez Vargas (IT-Morelia) and María Paulina García Champó (IT-Tuxtla Gutiérrez).

Talks and Conferences

- Invited talk at conference **Inverse problems in transportation systems**, Y.A. Ríos-Solís, International Symposium on Mathematical Modeling 2016 (ISMM2016), Cd. de México, México, invited by H. Juárez.
December 7–9, 2016
- Invited seminar **Cómo pagar tus deudas de manera óptima**, Y.A. Ríos-Solís, Mathematics Department Seminar Series, FCFM, UANL, Monterrey, México, invited by Omar J. Ibarra Rojas.
15th September 2016
- Conference **1st International Workshop on Bi-level Programming (IWOBIP'16)**, Monterrey, México.
March 7th to 11th, 2016
- Seminar **Cómo pagar tus deudas de manera óptima**, Y.A. Ríos-Solís, PISIS Seminar Series, FIME, UANL, Monterrey, México.
5th November 2015
- Invited seminar **Modelos matemáticos para un transporte urbano eficiente**, Y.A. Ríos-Solís, Mathematics Department Seminar Series, UAM-Iztapalapa, D.F., México, invited by H. Juárez Valencia.
28th May 2015
- Invited webinar **Linear bus holding model for real time traffic network control**, Y.A. Ríos-Solís, The Across Latitudes and Cultures BRT Centre of Excellence monthly webinar series, invited by O. Ibarra-Rojas.
3th October 2014
- Invited talk at conference **Matemáticas aplicadas a la planeación del transporte urbano, de la agricultura y de la la manufactura**, Y.A. Ríos-Solís, 7mo Congreso de Ciencia y Tecnología, Facultad de Ciencias Físico Matemáticas, Universidad Autónoma de Nuevo León, Monterrey, México, invited by F. Camacho.
29th September 2014

- Invited talk at conference **Matemáticas aplicadas a la planeación del transporte urbano, de la agricultura y de la la manufactura**, *Y.A. Ríos-Solís*, Congreso de la Sociedad Mexicana de Matemáticas, Universidad Autónoma del Estado de Yucatán, Mérida, México, invited by H. Madrid.
29th October 2013
- Invited seminar **Optimización y planeación para la agricultura**, *Y.A. Ríos-Solís*, Mathematics Department Seminar Series, ITAM, D.F., México, invited by E. Possani.
11th April 2013
- Talk and Conference **Digital fingerprint of a city**, *Y.A. Ríos-Solís, G.A. Caballero-Robledo, and L.G. Hernández-Landa*, I SMIO, Conference of the Operations Research Mexican Society, Guadalajara, México.
25th October 2012
- Talk and Conference **Optimización de la producción en máquinas en paralelo de inyección de plástico**, *M.L. Morales Marroquín, Y.á. Ríos Solís, E. Possani Espinosa, M. Cabo Nodar*, I SMIO, Conference of the Operations Research Mexican Society, Guadalajara, México.
25th October 2012
- Talk and Conference **Panel de discusión: ¿Qué se espera de un posgrado en Investigación de Operaciones?**, *Y.A. Ríos-Solís*, I SMIO, Conference of the Operations Research Mexican Society, Guadalajara, México.
24th October 2012
- Seminar **Software as a Service**, *Y.A. Ríos-Solís*, PISIS Seminar Series, FIME, UANL, Monterrey, México.
20th September 2012
- Conference **Planificación de la producción agrícola y manejo eficiente del agua en un sistema de irrigación**, *Victor Albornoz, Néstor Cid-García, Rodrigo Ortega, Yasmín Ríos-Solís* Escuela Nacional de Optimización y Análisis Numérico, Tabasco, Mexico.
19-23 March, 2012
- Talk and Conference **Cut and Branch Synchronization Bus Timetabling**, *Y.A. Ríos-Solís and O.J. Ibarra-Rojas*, Euro XXVI, European Conference on Operations Research, Vilnius, Lithuania.
11th July 2012
- Invited seminar **Synchronization bus timetabling and vehicle scheduling**, *Y.A. Ríos-Solís and O.J. Ibarra-Rojas*, CIMAT Mty Seminar Series, CIMAT unidad Monterrey, Monterrey, México, invited by Oscar Dalmau.
14th June 2012
- Invited seminar **Aplicaciones de la Optimización Combinatoria**, *Y.A. Ríos-Solís*, CINVESTAV Seminar Series, CINVESTAV unidad Monterrey, Monterrey, México, invited by Carlos Ruiz.
11th October 2011

- Invited speaker **Planeación del transport urbano**, *Y.A. Ríos-Solís*, XXI Semana de Matemáticas Aplicadas del ITAM, D.F., Mexico.
7th September 2011
- Invited speaker and Conference **Convex Reformulations**, *Y.A. Ríos-Solís*, NAMIAM 2010: First North American Meeting on Industrial and Applied Mathematics, Huatulco, México.
8th December 2010
- Invited seminar **Bus planning optimization**, *Y.A. Ríos-Solís and O.J. Ibarra-Rojas*, LIP6, Combinatorics group, UPMC-Paris 6, Paris, France, invited by S. Kedad-Sidhoum.
24th September 2010
- Invited seminar **Bus planning optimization**, *Y.A. Ríos-Solís and O.J. Ibarra-Rojas*, Faculty of Sciences, Information and Computer Science, University of Utrecht, Uthrecht, The Netherlands, invited by M. van den Akker.
21th September 2010
- Invited seminar **Bus planning optimization**, *Y.A. Ríos-Solís and O.J. Ibarra-Rojas*, Mathematics Institute, UNAM Morelia Unit, Morelia, México, invited by D. Pellicier.
8th September 2010
- Plenary speaker and Conference **Urban transport optimization at Monterrey**, *Y.A. Ríos-Solís and Paul Rabut*, IOCA II, Encuentro Iberoamericano de Investigación Operativa y Ciencias Administrativas, Monterrey, Mexico.
21th July 2010
- Talk and Conference **Block Hessian matrices with 0-1 quadratic convex reformulations**, *Y.A. Ríos-Solís, M.C. Plateau, and Y.I. Silva-Soto*, Euro XXIV, European Conference on Operations Research, Lisbon, Portugal.
14th July 2010
- Invited seminar **Just in time scheduling and industrial applications**, *Y.A. Ríos-Solís*, Mathematics Department Seminar Series, ITAM, D.F., México, invited by E. Possani.
25th September 2009
- Invited talk and Conference **Producción justo a tiempo**, *Y.A. Ríos-Solís*, National School on Optimization and Numerical Analysis (ENOAN 2009), BUAP, Puebla, México.
21th March 2009
- Seminar **Probando la NP-dificultad de dos problemas combinatorios**, *Y.A. Ríos-Solís*, PISIS Seminar Series, FIME, UANL, Monterrey, México.
19th February 2009
- Invited seminar **Just-in-time production**, *Y.A. Ríos-Solís*, Cátedra de Investigación en Ingeniería Industrial, ITESM, Monterrey, México, invited by José Luis González Velarde.
November 2008
- Plenary speaker and Conference **O.R., How to make money in a short time and in a secure way?**, *Y.A. Ríos-Solís*, Cultural FIME Week, FIME, UANL, Monterrey, México.
23th October 2008

- Radio Talk **Master and PhD in Systems Engineering**, *Y.A. Ríos-Solís*, XEITC Radio, Celaya, México.
October 2008
- Seminar **Mathematical games**, *Y.A. Ríos-Solís*, PISIS Summer Seminar Series, FIME, UANL, Monterrey, México.
August 2008
- Seminar **Signal-Sensor Network Design Using Structural Identifiability in Low-Rank Matrix Approximation**, *Y.A. Ríos-Solís*, PISIS Seminar Series, FIME, UANL, Monterrey, México.
April 2008
- Seminar **Homologous operator region of transcription factors**, *Y.A. Ríos-Solís*, Genome Informatics's research seminar, Bielefeld, Germany.
December 2007
- Invited seminar **Just-in-time scheduling**, *Y.A. Ríos-Solís*, Genome Informatics's research seminar, Bielefeld, Germany, invited by F. Cicalese.
January 2007
- Invited seminar **Just-in-time production**, *Y.A. Ríos-Solís*, PISIS Seminar Series, FIME, UANL, Monterrey, México, invited by R.Z. Ríos.
December 2006
- Invited seminar **Just-in-time scheduling (talk for students)**, *Y.A. Ríos-Solís*, PISIS Seminar Series, FIME, UANL, Monterrey, México, invited by R.Z. Ríos.
December 2006
- Talk and Conference **Parallel scheduling problem with irregular cost functions**, *Y.A. Rios-Solis and F. Sourd*, The Fifth ALIO/EURO conference on combinatorial optimization, Paris, France.
26-28 October 2005
- Talk and Conference **Voisinage exponentiel pour un problème d'ordonnancement avec des pénalité d'avance et de retard et une date d'échéance commune**, *Y.A. Rios-Solis and F. Sourd*, Conférence du 6ème Congrès de la Société Française de Recherche Opérationnelle et d'Aide à la Décision, Tours, France.
2005

Languages

Spanish	Native tongue.
French	100%.
English	100%.
German, Dutch	Some notions.