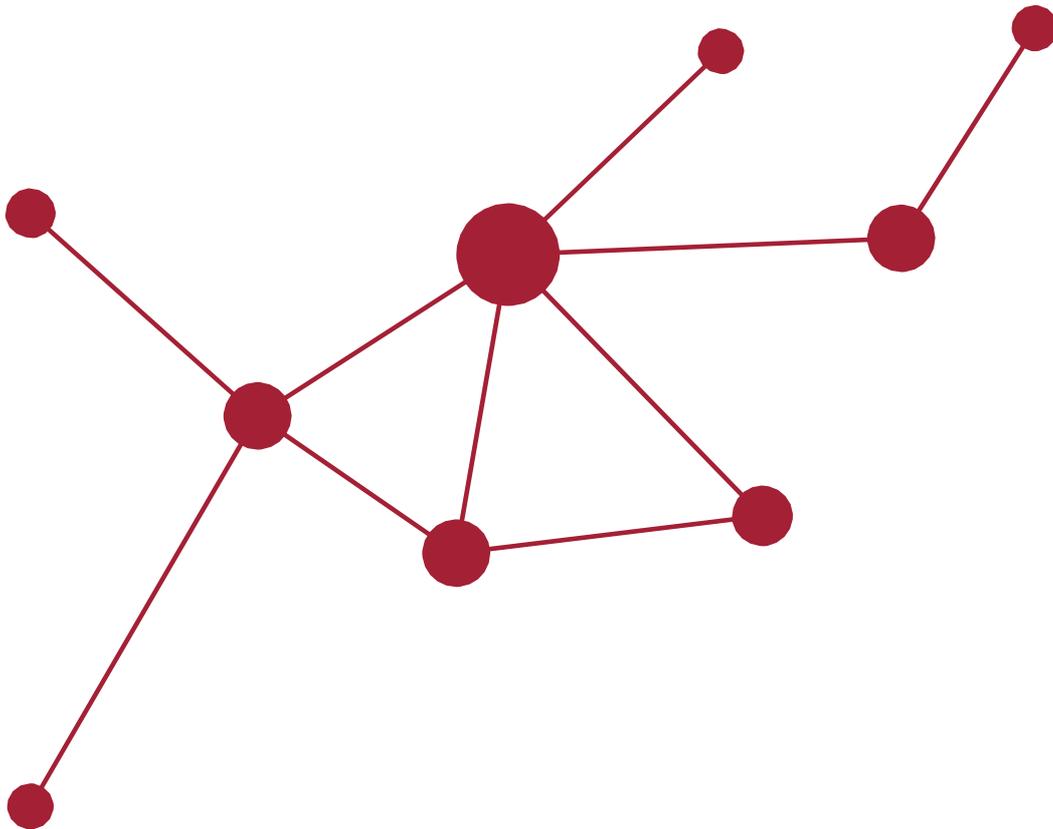




MIT GLOBAL  
SCALE NETWORK

# PhD SUMMER ACADEMY 2018



## ZLC

**TALENT HUB FOR SUPPLY CHAIN**

*Zaragoza Logistics Center*

**June, 18-27. 2018**

*ZLC (Zaragoza Logistics Center). Zaragoza, Spain*

# WELCOME TO THE PhD SUMMER ACADEMY 2018!

It is with great pleasure that we invite you to attend the PhD Summer Academy 2018 at the Zaragoza Logistics Center, for an intensive period of learning, debating, and discovering the fundamental concepts and recent trends in Supply Chain Management.

We are happy to announce that we have successfully involved a group of leading Professors from prestigious institutions. Their track record speaks for itself. In addition, you will meet future colleagues and have a great time in Zaragoza, Spain. Hundreds of PhD students have joined this Summer Academy and benefited from meeting world renowned experts as well as participated in an enriching atmosphere of mutual exchange.

Although we expect applicants to come from a variety of institutions, countries, and backgrounds, one thing you all have in common is excellence. You will be selected to be part of a discussion forum of outstanding scholars in the area of Supply Chain Management.

Apply for admission! We are looking forward to meeting and working with you, and helping you during your stay in Zaragoza. We hope that you are as excited as we are here in Spain to get this Knowledge Exchange journey started!



**Rafael Diaz, PhD**  
PhD Program Director  
Zaragoza Logistics Center



**Susana Val, PhD**  
Director  
Zaragoza Logistics Center

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- **HEALTH AND PUBLIC SECTOR APPLICATIONS OR OPERATIONS RESEARCH AND MANAGEMENT SCIENCE**

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# CALENDAR

The aim of the summer academy school is to create a strong knowledge discussion forum to boost research results and advances in supply chain management.  
Get ready for intense sessions of studies and research!

JUNE					
	Monday	Tuesday	Wednesday	Thursday	Friday
	18	19	20	21	22
08.45 09.45	Registration and Welcome Coffee				
09:45 12:45	Prof. Julien	Prof. McKinnon	Prof. Quintanilla	Prof. Quintanilla	Prof. Quintanilla
13:45 16:45	Prof. Julien	Prof. Julien	Prof. McKinnon	Prof. McKinnon	Research Seminar
19.00 20.30	Zaragoza Tour				

JUNE					
	Monday	Tuesday	Wednesday	Thursday	Friday
	25	26	27	28	29
09.15 12.15	Prof. Keskinocak	Prof. Keskinocak	Prof. Keskinocak		
13:15 16:15		Research Seminar	Certificate Ceremony		

PROFESSOR	UNIVERSITY	COURSE	HOURS
Denyse Julien	Cranfield School of Management	Sustainable Procurement Strategy and challenges for Global Supply Chains	9
Carlos Quintanilla	INCAE Business School	Survey of modern Predictive Analytics	9
Alan McKinnon	Kühne Logistics University	Climate Change Mitigation in the Logistics Sector	9
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# INSTRUCTOR'S BIOGRAPHIES

## DENYSE JULIEN



Dr. Denyse Julien is a Senior Lecturer in the Cranfield School of Management. Denyse is the Course Director for the following full time MSc programmes; Logistics and Supply Chain Management and Procurement and Supply Chain Management. These programmes appeal to a wide range of applicants from around the world with the average age being in the mid to late twenties. These courses are the largest MSc programmes in the School of Management and as such come with significant responsibility. As the Course Director - Denyse plays a crucial role in ensuring that the course is relevant and delivers impact for our students and supports them in their future careers.

Denyse was the lead academic from Cranfield on a major project to dramatically improve the food supply chain to meet the rising global demand for food and to protect the environment - Step Change in Agri-Food Logistics Eco-Systems "Project SCALE" it was a 3 year research project on which Cranfield School of Management was the lead partner working along with 4 partner organisations: the European Food and Farming Partnerships (EFFP), DHL, Wageningen University and the Universite d'Artois. Denyse continues to work closely with the Food and Beverage sector to address many of the global challenges that it faces.

Prior to joining Cranfield, Denyse worked at Nestle. Her initial position was in the Corporate Quality Management Group in the Head Office in Switzerland, and subsequently on the GLOBE team based in Australia. She worked with internal stakeholders to refresh the global approach to supplier management to guarantee the quality of the products at the time of use. Part of her mandate was also to re-visit the global approach to managing traceability across the supply chain. Denyse was the project leader for the project involved in the selection and appointment of two third party auditing companies for use with Nestle suppliers globally. As part of the GLOBE team Denyse was involved in the implementation of best practices in the area of Materials Handling, and warehouse management throughout the Nestle Asia, Africa and Oceania operations.



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## INSTRUCTOR'S BIOGRAPHIES

### ALAN MCKINNON



**Alan McKinnon** is Professor of Logistics in the Kühne Logistics University in Hamburg, where he was formerly dean of programs and head of logistics. He was founder and director of the Logistics Research Centre at Heriot-Watt University, Edinburgh until January 2012 and is now a professor emeritus of this university.

He has held visiting professorships in China, Malaysia, Sweden, South Africa and the UK. A graduate of the universities of Aberdeen, British Columbia and London, he has been researching and teaching in freight transport / logistics for almost 40 years and has published extensively in journals and books on many different aspects of the subject.

Professor McKinnon has been an adviser to several governments, parliamentary committees and international organisations, including the OECD, the World Bank and the United Nations. He was chairman of the

World Economic Forum's Logistics and Supply Chain Council and is currently a member of its Council on the Future of Mobility. He was a member of the European Commission's High Level Group on Logistics, and, until recently, was chairman of the Transport Advisory Group of the EU's Horizon 2020 research programme. In addition to his public sector work, Professor McKinnon has been a consultant to numerous companies and trade associations. Over the past decade much of his research has focused on the links between logistics and climate change. He was a lead author of the transport chapter in the Intergovernmental Panel on Climate Change's 5th Assessment report (2014) and has just written a book on 'decarbonising logistics' which will be published in the summer of 2018.



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## INSTRUCTOR'S BIOGRAPHIES

### CARLOS QUINTANILLA



He is an associate professor at INCAE Business School in the areas of Economics, Statistics and Data Mining. His areas of expertise include Macroeconomics, International Trade, Econometrics, and Statistics. He obtained his Ph.D. in Economics from the University of Michigan in 2000. He also holds Masters Degrees in Statistics and Economics from the same school. He has worked for INCAE since 1998. He worked as a visiting professor for the Rotterdam School of Management in the area of Statistics between 2006 and 2011 and has taught Macroeconomics and Microeconomics courses at the University of Michigan.

Professor Carlos Quintanilla has written multiple case studies for INCAE. Recent peer-reviewed publications include: Country Effects on Profitability: A Multilevel Approach Using a Sample of Central American Firms (JBR 2012), Are We Really Having an Impact? A

Comprehensive Approach to Assessing Critical Thinking (Informing Science 2013), Estimating Willingness-to-pay and financial feasibility in small water project (2013), Building Cross-Cultural Negotiation Prototypes in Latin America (Journal of Business Research 2016).

### PINAR KESKINOCAK



Dr. Keskinocak is the William W. George Chair and Professor in the School of Industrial and Systems Engineering and the co-founder and co-director of the Center for Health and Humanitarian Systems at Georgia Institute of Technology. She also serves as the College of Engineering ADVANCE Professor at Georgia Tech.

Her research focuses on applications of operations research and management science with societal impact (particularly health and humanitarian applications), supply chain management, pricing and revenue management, and logistics/transportation. She has worked on projects in several industries including automotive, semiconductor, paper manufacturing, printing, healthcare, hotels, and airlines.

Her research has been published in journals such as Operations Research, Management Science, Manufacturing & Service Operations Management, Production and Operations Management, IIE Transactions, Naval Research Logistics, and Interfaces. Her recent work has addressed

infectious disease modeling, evaluating intervention strategies, and resource allocation; catch-up scheduling for vaccinations; hospital operations management; disaster preparedness and response (e.g., prepositioning inventory); debris management; centralized and decentralized price and lead time decisions.

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# PROGRAM DESCRIPTION

## SUSTAINABLE PROCUREMENT STRATEGY AND CHALLENGES FOR GLOBAL SUPPLY CHAINS

**Professor:** Dr. Denyse Julien Cranfield School of Management, UK

**Dates:** 18, 19 June

### Course Description

Overview of several of the major trends impacting on global supply chains and discussion around their impact on how we manage our supply chains to make them more resilient to those challenges. Identify new approaches and technologies that could be used to drive competitive advantage in these scenarios. This would include looking at how organizations develop relationships with their suppliers and manage them to ensure that the entire SC is working effectively.

Look at the challenges around implementing sustainable strategies across the supply chain with a focus on the role of procurement in driving good practices through the Supplier base. Would involve the use of a case study to have the group discuss and contextualize the challenges businesses face in rolling out these types of initiatives.

Collaboration is often cited as a key ingredient to succeeding at implementing Sustainability initiatives. Role play session using the Collaboration for Sustainability Framework developed by Cranfield to encourage the participants to reflect on some of the key criteria to setting up a collaborative initiative. Application of the framework and approaches to a final case study to pull together the learnings from the sessions.



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# PROGRAM DESCRIPTION

## CLIMATE CHANGE MITIGATION IN THE LOGISTICS SECTOR

**Professor:** Alan McKinnon, Kühne Logistics University, Germany

**Dates:** 19, 20, 21 June

### Course Description

Global warming is likely to be one of the main drivers of business change over the next few decades. The latest scientific evidence suggests that we have limited time to achieve the deep reductions in greenhouse gas emissions necessary to avert major ecological disasters. What does this mean for logistics? It accounts for around 9-10% of CO2 emissions and is regarded as one of the hardest sectors to decarbonise because of its high predicted growth and heavy dependence on fossil fuel.

The course will outline the nature and scale of climate change challenge facing logistics managers and policy-makers. It will explain how companies can develop a decarbonisation strategy for logistics and then focus on specific aspects of this strategy, including the measurement of CO2 emissions, target setting, the choice of carbon reduction initiatives and methods used to assess their relative cost-effectiveness. Reference will be made to all the main freight transport modes and to warehousing operations. The course will take a global perspective on the subject and include examples and case studies from several countries.



*Pilar Basilic and Ebro river photo by Daniel Marcos*

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## **PROGRAM DESCRIPTION**

### **SURVEY OF MODERN PREDICTIVE ANALYTICS**

**Professor:** Carlos Quintanilla, INCAE Business School, Costa Rica

**Dates:** 20, 21, 22 June

#### **Course Description**

This course will provide a gentle introduction to modern predictive analytics. We will cover the main foundations, the most important algorithms and selected applications of these tools. Emphasis will be placed on understanding the ideas underlying these tools, rather than on a detailed derivation of technical results.

We will provide examples of both: supervised learning (when there exists a dependent variable in the problem) and unsupervised learning (when there is no dependent variable). Supervised learning includes both regression problems (where we are trying to predict a numerical variable) and classification problems (where we are trying to predict membership to a class). We will spend some time understanding how to evaluate the success of these models.

We will also draw comparisons between the techniques covered in the course (Trees, KNN, Ensembles) and more traditional techniques taught in standard introductory Ph. D. courses of statistics and econometrics (such as linear regression and logistic regression).

We will use in the course the program RapidMiner to illustrate more effectively the applications of predictive analytics. A Community version of the program is available free of charge from the webpage of program.

## **HEALTH AND PUBLIC SECTOR APPLICATIONS OR OPERATIONS RESEARCH AND MANAGEMENT SCIENCE**

**Professor:** Pinar Keskinocak, Georgia Institute of Technology, US

**Dates:** 25, 26, 27 June

#### **Course Description**

Operations Research/Management Science (OR/MS) methods have been applied in many industries, such as manufacturing and transportation, for many decades. In recent years, OR/MS tools have been used increasingly and successfully in healthcare and other public sector applications as well. In this course, we will discuss some recent advances of OR/MS in health and public sector applications, covering a variety of topics such as process improvement in hospitals and clinics; mathematical modeling of disease dynamics and transmission, and evaluation of intervention strategies; and medical decision making for organ transplants. If time permits, we will also include some hands-on games and case studies.

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## CERTIFICATE

The PhD Summer Academy 2018 program is administered under the MIT-Zaragoza International Logistics Program, one of the select [MIT educational and research partnerships](#) . Upon completion of all courses to which you have enrolled, you will be awarded a certificate stating that you have completed a PhD summer course under the MIT- Zaragoza Program.





### **PhD Summer Academy 2017**

*“The MIT-ZLC PhD Summer Academy program gave me the tools and skills to tackle down better my PhD studies. This program has given me the opportunity to enrich my academic and work experience with the interaction of peers in the Supply Chain Management from different parts of the world, the lecturers from respectful professors in the matter, and the opportunity of living in Zaragoza the MIT experience has been a dream that certainly exceeded my expectations. I do recommend this program to supply chain Ph.D. candidates, as it will allow them to improve their expertise in research and expand their networking”.*

**Lineth Rodríguez, Panama**  
*PhD Candidate at Ecole Centrale Nantes  
Nantes (France)*

*I had a pleasure of teaching in MIT ZLC Ph.D. Academy twice and I would highly recommend it to both faculty and students. Students in the Academy come from many countries and several continents. Some of them are at the beginning of their Ph.D. programs, while others already hold post-doc and faculty jobs. Despite their diverse backgrounds, students are united in their motivation, their passion for learning, and their desire to grow as researchers. They work very hard and they have a great time, learning as well as socializing, enjoying Spanish cuisine and culture. The Academy provides them with a unique opportunity to form lasting bonds with their fellow students and to network with the world-class faculty that teaches at the Academy. Although I have interacted with the ZLC Ph.D. Academy students for a relatively short time, I enjoy meeting them at professional conferences and observing how their careers develop, just as I do with my Ph.D. students....In one word, ZLC Ph.D. Academy is great!*

**Volodymyr Babich, PhD**  
*Associate professor of Operations and Information Management  
McDonough School of Business, Georgetown University, US*

**PhD Summer Academy 2018**

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**Carlos Velle**

IT Department: IT support, access cards to the ZLC building and facilities  
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