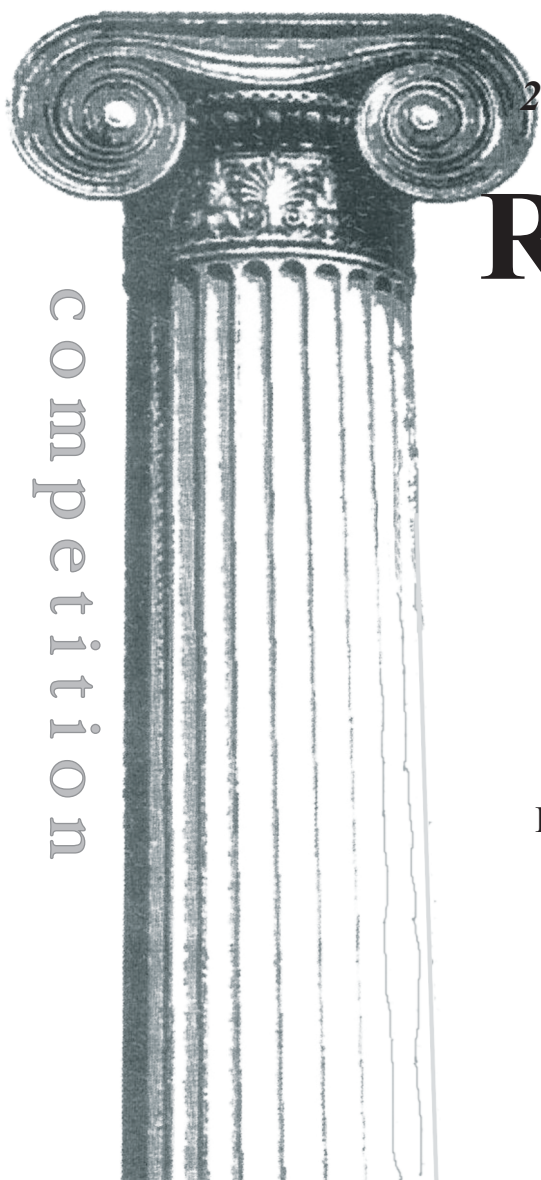


expand  
*valuing*  
flexibility

risk management strategy

competition



*21<sup>st</sup> Annual International Conference*

# Real Options

*Theory Meets Practice*

*Organized by*  
Real Options Group  
Suffolk University

*In cooperation with*  
King's College London  
Northwestern University and  
University of California at Los Angeles

***Main Sponsor***  
Bank of Cyprus Chair/University of Cyprus

**June 29 - July 1, 2017**  
**Boston, USA**

## Program Sessions Summary Guide

### DAY 1 – THURSDAY JUNE 29

	TRACK I (MANAGERIAL)	TRACK II
8:15 – 8:55	Registration/Coffee & President's Welcome	
9:00 – 10:15	Managing Ventures	Resources & Infrastructure
10:45 – 12:00	Infrastructure Investing & Public Policy	Acquisition & Collaboration
12:00 – 2:00	Luncheon	
2:00 – 3:15	Resources & the Environment	Empirical Evidence
3:45 – 4:30	Keynote Address by Carliss Baldwin (Harvard U.)	
4:30 – 5:20	Panel Discussion: Innovation & Real Options	
6:00 – 7:30	Networking Reception	

### DAY 2 – FRIDAY JUNE 30

	TRACK I	TRACK II
9:00 – 10:15	VC, M&A and Market Entry Strategies	Natural Resources
10:45 – 12:00	Hedging, Diversification & Partnering Strategies	Upgrade & Switching
12:00 – 2:00	Luncheon	
2:00 – 3:15	Innovation, Patenting & Investment Timing	International Investing: Tax & Location Incentives
3:45 – 5:00	Innovation & Games	Public Policy Issues

### DAY 3 – SATURDAY JULY 1

	TRACK I	TRACK II
9:00 – 10:15	Financing & Capital Structure	Theoretical Issues
10:45 – 12:00	Financing Infrastructure & Special Payoff Structures	Best Student Papers Session
12:00 – 1:00	Panel Discussion: Current State, Challenges & Future Prospects	

## Program Sessions

### Day 1 – Thursday June 29

**8:15 – 8:45 REGISTRATION/COFFEE**

**8:45 – 8:55 PRESIDENT’S WELCOME**

**9:00 – 10:15 TRACK I (MANAGERIAL)**

**MANAGING VENTURES**

***Chairperson: Carlos Bastian-Pinto (IBMEC, Brazil)***

*Flexible Equity for Service Contracts in Venture Capital Deals:  
Bringing Together Early Stage Companies and Investors*  
I. Monteiro and L. Brandyo (PUC-Rio, Brazil)

*Startup Valuation: An Application in Brazil*  
M. Lewin (UFRJ/COPPEAD) and C. Bastian-Pinto (IBMEC Business School, Brazil)

*Artificial Intelligence, Machine Learning and Market-based Econometrics for Flexible Decision Making*  
G. Eapen (Stout, USA)

**9:00 – 10:15 TRACK II (ACADEMIC & MANAGERIAL)**

**RESOURCES & INFRASTRUCTURE**

***Chairperson: Marco A.G. Dias (PUC-Rio, Brazil)***

*The Choice of Stochastic Process in Oil Prices*  
A.F. Tavares do Poço, L.M. Ozorio and C. Bastian-Pinto (IBMEC Business School, Brazil)

*Portfolios of Correlated Oil Exploration Prospects with Learning, Sequential and Defer Options*  
M.A.G. Dias (PUC-Rio, Brazil) and L. de Magalhães Detomi Calvette (Petrobras, Brazil)

*Highway Pavement Residual Risks in Public-Private Partnerships*  
Y. Li and X. Yuan (Ryerson U., Canada)

**10:15 – 10:45 MORNING COFFEE BREAK**

**10:45 – 12:00 TRACK I (MANAGERIAL)**

**INFRASTRUCTURE INVESTING & PUBLIC POLICY**

***Chairperson: Luiz Brandao (PUC-Rio, Brazil)***

*Investing in Electricity, Gas and District-Heating Infrastructure:*

*An Application for a Multi-Utility in Switzerland*

W. Korosec (St. Galler Stadtwerke) and K. Frauendorfer (U. of St. Gallen, Switzerland)

*Valuing a Private-Public Partnership (PPP) in Public Lighting*

R. Secca, C. Bastian-Pinto, L.M. Ozorio (IBMEC Business School, Brazil) and L.E. Brandao (PUC-Rio, Brazil)

*The Effectiveness of Migration Policy Decisions: A Study on Forced Migration in 2015 European Crisis*

L. Peters (U. of Belgium, Belgium)

**10:45 – 12:00 TRACK II (ACADEMIC & MANAGERIAL)**

**ACQUISITION & COLLABORATION**

***Chairperson: John Kensinger (U. N. Texas)***

*Valuing the Acquisition of a New Business under Ambiguity: A Case Study in Japan*

Y. Fukui and J. Imai (Keio U., Japan)

*Dynamic Hybrid Patent Strategies: Fight or Cooperate?*

F. Baldi (LUISS U., Italy) and L. Trigeorgis (U. Cyprus, King's College London and MIT)

*Analyzing the Collaboration Network of Real Options Authors*

H. Fagundes and R. Nogueira (UENF, Brazil)

**12:00 – 2:00 LUNCHEON**

**2:00 – 3:15 TRACK I (MANAGERIAL)**

**RESOURCES & THE ENVIRONMENT**

***Chairperson: Gordon Sick (U. of Calgary, Canada)***

*Smart Well Technology: Information Acquisition and Flexible Management under Uncertainty*

A.C. Abreu, M.A.G. Dias, M.A.C. Pacheco, F. Coelho (PUC-Rio, Brazil) and A. Emerick (Petrobras, Brazil)

*Innovation Framework for Real Options Adoption in the Mineral Industry*

K. Ampofo (U. of Queensland, Australia)

# Real Options

*Theory Meets Practice*

*Application of Real Option Methods for Emission Abatement Investments*

C. Mayer and F. Schultmann (Karlsruhe Institute of Technology, Germany)

## **2:00 – 3:15 TRACK II (ACADEMIC & MANAGERIAL)**

### **EMPIRICAL EVIDENCE**

***Chairperson: Lenos Trigeorgis (U. of Cyprus, King's College London & MIT)***

*Buy-and-Build Serial Acquisitions: Theory and Evidence*

H.T.J. Smit and D. Bansraj (Erasmus U. Rotterdam, Netherlands)

*Entry Timing and Uncertainty in Transition Economies: Location and Firm Contingencies Revisited*

E. Pennings, B. Karreman and T. Nacken (Erasmus U. Rotterdam, Netherlands)

*Optimal Timing for Wind Farm Maintenance: An Application and Empirical Evidence*

J. Pelajo, L.E. Brandao, L. Gomes and M. Klotzle (PUC-Rio, Brazil)

## **3:15 – 3:45 AFTERNOON COFFEE BREAK**

## **3:45 – 4:30 KEYNOTE ADDRESS BY CARLISS Y. BALDWIN (HARVARD U.)**

***From Step Processes to Platforms: A Real Options View of Organizational Design***

## **4:30 – 5:20 PANEL DISCUSSION: INNOVATION & REAL OPTIONS**

***Moderators: Dean Paxson (U. of Manchester, UK) and  
Sarah Von Helfenstein (Value Analytics & Design, USA)***

### **Panelists Include:**

*Carliss Baldwin (Harvard U.)*

*Luiz Brandao (PUC-Rio, Brazil)*

*Gill Eapen (Stout, USA)*

*Kuno Huisman (ASML & Tilburg U, Netherlands)*

*John Kensinger (U. N. Texas)*

*Arkadiy Sakbartov (Wharton School, U. of Pennsylvania)*

## **6:00 – 7:30 NETWORKING RECEPTION**

**Sponsored by ROG and Suffolk University**

## Day 2 – Friday June 30

**9:00 – 10:15 TRACK I**

**VC, M&A AND MARKET ENTRY STRATEGIES**

***Chairperson: Kuno Huisman (Tilburg U., Netherlands)***

*M&A Strategies: Small Steps or a Big Leap?*

E. Lukas (Otto-von-Guericke-U., Magdeburg, Germany), P. Pereira (U. of Porto, Portugal) and A. Rodrigues (U. of Minho, Portugal)

*VC Portfolio Selection under Different Model Risks*

J. Kinnunen (Abo Akademi U., Finland) and I. Georgescu (AES, Romania)

*Investment in a Market with Network Effects for Consumers*

N. Huberts (Tilburg U./De Montfort U., UK) and J. Thijssen (U. of York, UK)

**9:00 – 10:15 TRACK II**

**NATURAL RESOURCES**

***Chairperson: Stein-Erik Fleten (NTNU, Norway)***

*A Stochastic Supply/Demand Two-factor Model for Storable Commodity Prices*

A. Bashiri and Y. Lawryshyn (U. of Toronto, Canada)

*Switching from Oil to Gas Production in a Depleting Field: Decisions in a Field's Tail Production Phase*

K. Store (Nord U.), S.-E. Fleten, V. Hagspiel (NTNU, Norway) and C. Nunes (U. of Lisbon, Portugal)

*Evaluation and Optimal Cutting of Forestry Investment*

R. Ramos de Oliveira Figueiredo, F. Fischberg Blank and M.A.G. Dias (PUC-Rio, Brazil)

**10:15 – 10:45 MORNING COFFEE BREAK**

**10:45 – 12:00 TRACK I**

**HEDGING, DIVERSIFICATION & PARTNERING STRATEGIES**

***Chairperson: Arkadiy Sakhartov (Wharton School, U. of Pennsylvania)***

*Feeder Cattle Livestock Options: Where's the Beef?*

G. Fernandes, L.E. Brandao and C. Bastian-Pinto (PUC-Rio, Brazil)

# Real Options

Theory Meets Practice

*Economies of Scope, Resource Relatedness and the Dynamics of Corporate Diversification*  
A. Sakhartov (Wharton School, U. of Pennsylvania)

*Acquiring vs. Partnering with a Small Technology Firm under Competition*  
L. Salahaldin (Telecom Ecole de Management, France)

## 10:45 – 12:00 TRACK II

### UPGRADE & SWITCHING

**Chairperson: Peter Kort (Tilburg U., Netherlands)**

*Optimal Upgrade of a Depleted Resource to a More Appropriate Technology:  
An Application to Offshore Oil Rigs*  
R. Adkins (U. of Bradford, UK) and D. Paxson (U. of Manchester, UK)

*Product Upgrade Timing in Durable Goods with Significant Malfunction Risk*  
M. Lavrutich, V. Hagspiel, S. Ingebrigtsen and S. Bækkedal (NTNU, Norway)

*Enhancing Flexibility and Innovativeness: Options to Choose the Best Among Several Alternatives from the  
Physical or Information Realm*  
J. Kensinger, J. Conover (U. of North Texas) and A. Chen (Southern Methodist U.)

## 12:00 – 2:00 LUNCHEON

## 2:00 – 3:15 TRACK I

### INNOVATION, PATENTING & INVESTMENT TIMING

**Chairperson: Artur Rodrigues (U. of Minho, Portugal)**

*Innovation Effort, Spillovers and Patent Licensing Strategy*  
B. Chevalier-Roignant (King's College London, UK), T. Chi (U. of Kansas) and  
L. Trigeorgis (U. of Cyprus, King's College London & MIT)

*The Innovator's Dilemma Revisited: Investment Timing, Capacity Choice and Product Life Cycle*  
E. Lukas and S. Kupfer (Otto-von-Guericke-U. Magdeburg, Germany)

*Tax and Subsidy Incentives and their Effect on Investment Timing and Scale*  
A. Azevedo (Aston U., UK), P.J. Pereira (U. of Porto) and A. Rodrigues (U. of Minho,  
Portugal)

## 2:00 – 3:15 TRACK II

### INTERNATIONAL INVESTING: TAX & LOCATION INCENTIVES

**Chairperson: Yuri Lawryshyn (U. of Toronto, Canada)**



*Foreign Direct Investment with Tax Benefits under Uncertainty*

A. Azevedo (Aston U., UK), P.J. Pereira (U. of Porto) and A. Rodrigues (U. of Minho, Portugal)

*Optimal Dual Sourcing in Offshore Production*

M. Davison (U. of W. Ontario), Y. Lawryshyn and V. Miklyukh (U. of Toronto, Canada)

*Multicountry Patenting under Uncertainty*

B. Chevalier-Roignant and J.A. Tardios (King's College London, UK)

**3:15 – 3:45 AFTERNOON COFFEE BREAK**

**3:45 – 5:00 TRACK I**

**INNOVATION & GAMES**

***Chairperson: Richard Ruble (EMLYON Business School, France)***

*Disruptive Innovation in a Declining Market*

V. Hagspiel (NTNU, Norway), K. Huisman, P. Kort (Tilburg U., Netherlands), C. Nunes and R. Pimentel (Instituto Superior Tecnico Lisbon, Portugal)

*Option Value and the Innovation Incentives of Small and Large Firms*

R. Ruble (EMLYON Business School, France)

*Capacity Optimization for Innovating Firms: When to Replace the Existing Production Process?*

V. Hagspiel (NTNU, Norway), K. Huisman, P. Kort (Tilburg U., Netherlands), C. Nunes and R. Pimentel (Instituto Superior Tecnico Lisbon, Portugal)

**3:45 – 5:00 TRACK II**

**PUBLIC POLICY ISSUES**

***Chairperson: Elizabeth Whalley (U. of Warwick, UK)***

*Bouncing Back: Assessing the Resilience of Infrastructure Projects and the Use of Average Outage Factors*

A. Siddiqui (U. College London, UK) and R. Takashima (Tokyo U. of Science, Japan)

*Adaptation to Catastrophic Risk under Climate Change Uncertainty: A Bayesian Real Options Approach*

C. Truong, S. Trueck and T.K. Siu (Macquarie U., Australia)

*Optimal Time to Adopt Control Measures Given Uncertainty in Disease Spread*

C. Dangerfield (U. of Cambridge), E. Whalley (U. of Warwick), N. Hanley (U. of St Andrews), J. Healey (U. of Bangor) and C. Gilligan (U. of Cambridge, UK)



## Day 3 - Saturday July 1

**9:00 – 10:15 TRACK I**

### FINANCING & CAPITAL STRUCTURE

***Chairperson: Gordon Sick (U. of Calgary, Canada)***

*The Role of Equity Financing in Debt Renegotiation*

F. Silaghi (Universitat Autònoma de Barcelona, Spain)

*Start-up Financing with Convertible Notes, Second-Round Equity and the Trustworthiness of the Entrepreneur's Fund Raising Ability Under Asymmetric Information*

Y. Imai (U. of Caen Normandy, France)

*Illiquidity and Indebtedness: Optimal Capital Structure under Realistic Default Triggers*

T. Kutzker (U. of Cologne), M. Schreiter and A. Lahmann (HHL Leipzig, Germany)

**9:00 – 10:15 TRACK II**

### THEORETICAL ISSUES

***Chairperson: Motoh Tsujimura (Doshisha U., Japan)***

*American Perpetual Options with Random Start*

F. Armerin (KTH, Sweden)

*Financing Uncertain Growth Options*

N. Georgiopoulos (Bermuda Monetary Authority, Bermuda)

*Optimal Investment Strategy under (Levy) Ambiguity*

J. Imai (Keio U.) and M. Tsujimura (Doshisha U., Japan)

**10:15 – 10:45 – MORNING COFFEE BREAK**

**10:45 – 12:00 TRACK I**

### FINANCING INFRASTRUCTURE & SPECIAL PAYOFF STRUCTURES

***Chairperson: Dean Paxson (U. Manchester, UK)***

*Guarantees on Toll Road Projects: An Application in Colombia*

C.A. Andrés Zapata and C.A. Mejía (U. Externado of Colombia, Colombia)

*Risk-shared Financing of Infrastructure Investment with Revenue Floors and Ceilings*  
D. Paxson (Manchester U.) and R. Adkins (Bradford U., UK)

*Endogenizing Investment Cost under Uncertainty: Irreversibility Revisited*  
Y. Maoz (Open U. of Israel, Israel) and D. Lavee (Tel Hai Academic College, Israel)

**10:45 – 12:00 TRACK II**

**OVERCONFIDENCE, OUTSOURCING & OPTION PORTFOLIOS  
(BEST STUDENT PAPERS SESSION)**

***Chairperson: Afzal Siddiqui (University College London, UK)***

*Do Overconfident CEOs Ignore Minority Stake Acquisitions (Toehold Strategies)?*  
H.T.J. Smit and N. Matawlie (Erasmus U. Rotterdam, Netherlands)

*Outsourcing and External Funding: Effect on Innovation Investment Efficiency and Timing*  
D. Zormpas (U. of Padova, Italy)

*Valuing Portfolios of Interdependent Options under Exogenous and Endogenous Uncertainties*  
S. Maier (Imperial College London, UK)

**12:00 – 1:00 PANEL DISCUSSION: CURRENT STATE, CHALLENGES & FUTURE PROSPECTS**

***Moderator: Gordon Sick (U. of Calgary, Canada)***

**Panelists Include:**

*Stein-Erik Fleten (NTNU, Norway)*

*Peter Kort (Tilburg U., Netherlands)*

*Yuri Lavryshyn (U. of Toronto, Canada)*

*Artur Rodrigues (U. of Minho, Portugal)*

*Afzal Siddiqui (University College London, UK)*

*Elizabeth Whalley (U. of Warwick, UK)*

**1:00 BEST STUDENT PAPER AWARD & CLOSING REMARKS**

**CONFERENCE CONCLUDES**

## Conference Venue and Logistics

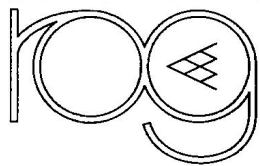
**Venue** The conference venue is at Suffolk University's Sargent Hall building at 120 Tremont St. in Boston (MA 02108). The venue is right across from the Park Street MBTA Train (T) station located in the Boston Common (a green park). Located right in the heart of downtown Boston and near the historic district, the venue is ideally positioned in proximity to the city's downtown and its best tourist attractions. Being steps from dozens of historic sites (like the Park Street Church and the Old Granary Burial Ground just across), you can stroll to nearby Beacon Hill and Old State House or the famous Orpheum Theatre or take a walk down the Freedom Trail and stop in Faneuil Hall or Quincy Market. Boston is rich with history, from the Boston Tea Party to the ride of Paul Revere. A tour through the city's fabled streets is like a walk through time. MIT and Harvard in Cambridge are just 2 and 4 stops on the red line from Park Street T.

**Fees & Registration** Fees are €470 (equivalent to US\$500) if register by April 18. Registration fees go up by 20% to €565 afterwards. Registration should be made online via the conference website [www.realoptions.org](http://www.realoptions.org)

**Important Administrative Information** Registration fees include the conference programs, coffee breaks, lunches and a reception. Cancellations made in writing by May 15 can be refunded, except for a 15% service charge. Only registrations paid by April 18 are guaranteed and included on the list of participants. For registration and other general-type conference-related inquiries contact Eugenia at e-mail [conference.registration@realoptions.org](mailto:conference.registration@realoptions.org), tel +357 22893605. For information on local logistics regarding Suffolk University or Boston contact Prof. Shahriar Khaksari at [SKhaksari@Suffolk.edu](mailto:SKhaksari@Suffolk.edu) or his assistant Stephen Caruso at [scaruso6@suffolk.edu](mailto:scaruso6@suffolk.edu), tel. 617-573-8396.

**Hotels, Airport and Transport** For information about hotels/accommodation, transport from the airport and other logistics see the conference website [www.realoptions.org](http://www.realoptions.org) under Venue, Hotels and Transport. For affiliated area hotels see the following link (use the preferred rate link or ask for Suffolk University preferred rates): <http://www.suffolk.edu/explore/5246.php> (not all links may be active). Reservations should be made directly with affiliated area hotels. We are also trying to arrange a block of rooms with Suffolk University summer housing (dormitories) at nearby 10 West Street for those who need a less expensive alternative (details will be added to the website when confirmed). The venue is 2.5 miles from Logan International Airport. It normally takes 15-20 min by taxi (fare averages \$20-28). Uber is around half price. Public transport from Logan airport Boston's MBTA train (T) is very convenient and goes to nearby Park Street T Station. Take the Silver Line bus from the airport (free) to the end at South Station and then take the red line on the T downstairs to Park Station. Tremont Street and the venue is just outside. The train fare to downtown is \$2.65. Please make advance provisions to obtain a timely visa to the USA.

**Organizers** Lenos Trigeorgis (U. of Cyprus, King's College London & ROG) and Shahriar Khaksari (Suffolk University); VP Program: G. Sick (U. Calgary, Canada).



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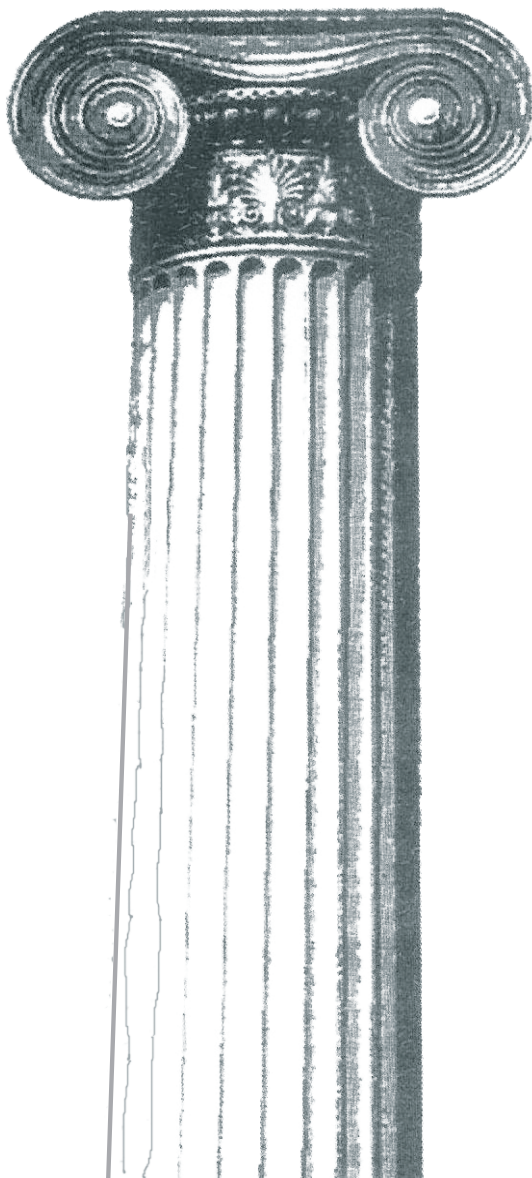
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risk management first day