

Nicolas van Zeebroeck – Curriculum Vitae

I. PERSONAL INFORMATION

Names VAN ZEEBROECK, Nicolas

Mailing address ULB CP114/04
50, Av. F.D. Roosevelt
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Languages French : native
English : fluent
Dutch : basic
Spanish: notions

II. EDUCATION

2.1. PhD in economics and management (Doctorat en sciences économiques et de gestion)

- ULB, Solvay Business School, March 13, 2008
- PhD Thesis: « Essays on the empirical analysis of patent systems »
- PhD Committee: Bruno van Pottelsberghe (Advisor, ULB), Hugues Bersini (Advisor, ULB), Michele Cincera (ULB), Catherine Dehon (ULB), Christine Greenhalgh (Oxford), Carine Peeters (ULB), Reinhilde Veugelers (KUL).

2.2. DEA in Management Sciences (DEA en Sciences de Gestion)

- ULB, Solvay Business School, June 2005
- Final paper: « US Contamination or a trend toward complexity: what is behind the surge in EPO applications voluminosity »

2.3. Master of Science in Management (Ingénieur de Gestion)

- ULB, Solvay Business School and Darden Graduate School of Business (MBA), June 2001
- 1st year : Satisfactory; 2nd year : Satisfactory; 3rd year: Honours (Distinction)
- Final thesis: « Java/XML : Plateforme universelle pour les applications e-business »
- Exchange programme; 2nd Year MBA at Darden (Virginia, USA) – Fall Semester 2000.

2.4. Bachelor in Management Sciences (Candidat Ingénieur de Gestion)

- ULB, Solvay Business School, June 1998
- 1ère candidature : Honours (Distinction) | 2ème candidature : Satisfactory

2.5. Professional trainings / Executive education:

- Forum Institute for Management, “Understanding US and EU Patent Litigation”, 2006
- ULB and UCL, “Understanding Intellectual Property Law”, 2005
- Solvay Business School (ULB), “Leadership in Action”, 2004
- Capgemini, “Basic Consulting Skills”, “Information Analysis”, 2001

2.6. Participation in teaching workshops:

- IT Teaching Workshop, University of Michigan, Ann Arbor, May 2011.
- Multiple choices exams, ULB-Practice, Brussels, March 2011.
- Managing student relationships, ULB-Practice, Brussels, March 2011.
- IT Teaching Workshop, GeorgiaTech, Atlanta, May 2010.
- Teaching to small audiences, ULB-Practice, Brussels, October 2009.

III. ACADEMIC POSITIONS

3.1. Current academic position

- Professor (ULB)
Since 01/10/2014
Contract type: Permanent contract (100%)

3.2. Previous teaching and research positions

- Assistant Professor (ULB)
Period: 01/10/2011 – 30/09/2014
Contract type: Permanent contract (100%)
- FNRS Post-Doctoral Researcher (Chargé de recherches FNRS)
Period: 01/10/09 – 30/09/11
Contract type: Term contract (100%)
- Teaching Assistant (AEX, SOCO Faculty) and contracted research scholar (SOCO Faculty, MBASolvay)
Period: 01/10/02 – 30/09/09
Contract type: Term contract (100%)
Related teachings: Computer science for management (H. Bersini, INFO-D-201)

IV. TEACHING EXPERIENCE

4.1. Academic teachings at ULB (Solvay Brussels School of Economics and Management):

4.1.1. Current teaching as professor

- 2015-present: GEST-S3002 – Séminaire pluridisciplinaire de sciences et technologie et techniques de communication
BA in Business Engineering – Ingénieur de gestion
Shared with Michel Allé and Philippe Emplit
- 2014-present: GEST-S482 – Operations and Digital Business
MA in Business Engineering – Ingénieur de gestion
Shared with Alassane Ballé Ndiaye
- 2013-present: Digital Innovation
Advanced Master in Innovation and Strategic Management
- 2010-present: GEST-S711 – Management Information Systems
Specialised Master in Management - MCC en Gestion
- 2010-present: INFO-S202/INFO-S302 – Introduction à l'informatique
BA in Economics - Sciences économiques

4.1.2. Past teachings as professor

- 2013-2014: GEST-S490 – Managing business processes and the digital organization
MA in Business Engineering – Ingénieur de gestion
- 2012-2015: GEST-S314 – Séminaire pluridisciplinaire de sciences et technologies
BA in Business Engineering – Ingénieur de gestion (Shared with Michel Allé)
- 2011-2013: GEST-S201 – Management: from theory to practice
BA in Business Engineering – Ingénieur de gestion (Shared with Bruno van Pottelsberghe)
- 2010-2011: INFO-S201 – Informatique pour la gestion II
BA in Management Sciences - Ingénieur de Gestion (Replacement of H. Bersini)
- 2009-2010 STAT-S305 – Séminaire d'analyse économique et de gestion
BA in Management Sciences - Ingénieur de Gestion (Replacement of B. van Pottelsberghe)
- 2008-2009: GEST-S614 - Microeconomics for management
Specialised Master in Management - MCC en Gestion (Replacement of A. Drumaux)

4.1.3. Past teachings as teaching assistant (Bachelor in Business Engineering)

- 2005-2009: GEST-S307 - Innovation & Entrepreneurship (B. van Pottelsberghe)
- 2003-2004: INFO-S101 - Introduction to computer science (H. Bersini)
- 2003-2009: INFO-S201 - Computer science for management (H. Bersini)

4.1.4. Project supervision

- 2002-2003: Management Information Systems (T. Jelassi – MBA Solvay)
- 2004-2006: MBA Business Field Project (J. Sadis, G. Wanet, P. Weill – MBA Solvay)

4.1.5. As lecturer

- 2018-2019: Executive Programme in Digital Transformation:
 - Session on digital strategy (8/11/2018)
- 2017-2019: Executive Programme in Business Analytics:
 - Session on digital and analytics strategy (17/05/2017, 29/03/2019)
- 2017-2018: Executive Programme on Innovation Strategy for Securex:
 - Session on digital strategy (18/10/2017)
- 2007-2011: Introduction to Management (B. van Pottelsberghe – BA in Management):
 - Session on the strategic management of IT
- 2009-2010: Questions Actuelles d'Informatique (G. Bontempi – MA in Engineering):
 - Session on IP intelligence and Patent Mining
- 2008-2009: Introduction to Artificial Intelligence (H. Bersini – MSc in Engineering ULB-VUB):
 - Session on Text Mining Technologies

4.2. Individual student guidance:

4.2.1. PhD Theses Supervision

- Nicolas Ameye, "Essays on the adoption of analytics within firms" (started in 2014).
- Samira Bakkali, "Innovation and Patent Litigation in the new ICT Ecosystem" (started in 2014).
- Charles Hoffreumont, "Toward an economic theory of Blockchain governance" (started in 2016).
- Eleonora Zoboli, "Digital transformation and the reconfiguration of value chains" (started in 2016).

4.2.2. Undergraduate Master Theses Supervision

- Laura Bouquiaux, "La transformation digitale et l'impact de l'intelligence artificielle sur l'avenir du travail dans notre société, facteurs d'influence et pistes de solution", 2017-2018
- Charles Hoffreumon, "Smart Contracts Transaction Fees", 2017-2018 – **De Barys Prize 2018**
- Anass Fellali, "The impact of a digital transformation on Colruyt Group's internal processes: A case study", 2017-2018
- Clémentine Dumortier, "Designing a flexible digital governance for a multinational chemical company: A case study", 2017-2018
- David Pietraniuk, "An empirical study on the relationship between the self-service technologies and the customer satisfaction in the retail industry", 2017-2018
- Karl Karam, "Platform Development Study: Turning Pet Life into Digital", 2017-2018
- Thi Tran Nguyen, "On the pricing of information goods under different paradigm: a comparative study of access-based prices on Spotify and download-based prices on iTunes", 2016-2017
- Charles Flament, "Blockchain technology: A general purpose technology for the decentralization of governance?", 2016-2017
- Chloé Amiel, "Gamification in marketing: How can gamification influence consumer behavior?", 2016-2017
- Louis Masset, "Private Banks: digital disruption in a changing industry", 2016-2017
- Carl Rosseel, "Do ICT foster inequalities? An empirical look.", 2016-2017
- Thomas Huberland, "Essai sur l'adoption et l'impact de technologies numériques dans le diagnostic médical", 2016-2017
- Liza Van Daele, "Evolution and trends in the telecommunications industry in Europe", 2016-2017
- Heidi Van Dyck, "Manufacturing analytics: how to leverage data analytics in manufacturing industries?", 2016-2017
- Alexis Depiesse, "The Potential of the Internet of Things in the Healthcare sector: Further integration, applications & markets.", 2016-2017
- Nikita Meer, "What does the introduction of the Internet of Things implies within an organization?", 2016-2017
- Maxime Allard, "Contextual advertising: a trade-off between privacy and marketing efficiency?", 2015-2016
- Léopold Charlier, "The impact of US high-tech start-ups globalisation on performance", 2015-2016
- Alexandra Gschwind, "Case study: Accelerating banking innovation during times of fintech co-opetition at ING Belgium", 2015-2016
- Maaïke Pieters, "Exchange programmes at Solvay Brussels School: an empirical look at issues and challenges", 2015-2016
- Marine Luyckx, "Etude expérimentale de l'impact de l'utilisation personnelle des technologies durant un cours sur la performance", 2015-2016
- Nicolas Portnoy-Kischinevzky, "Disruption dans la chaîne de valeur de l'audiovisuel : comment une chaîne de télévision peut-elle encore créer et capturer de la valeur ?", 2015-2016
- Eveline Jaspers, "The digital divide in perspective: how ICT affects welfare distribution?", 2015-2016
- Mathilde Dubois, "Assessing the impact of ICT on education: discussing methods and skills resulting from the implementation of technology in teaching processes", 2015-2016
- Charles Flament, "When SME's turn digital: on the timing and impact of business process digitization within SMEs", 2015-2016
- Valentine Weinand, "Analyse stratégique d'une expansion géographique : le cas de la société Mercura dans le segment hôtelier", 2014-2015

- Maxime Godfroid, Sustaining family governance: issues and challenges, 2014-2015
- Antoine Faucon, Case Study on an ERP Implementation at BIA Group: Strategic Benefits and Success Measurement, 2014-2015
- Jehan Coppé, Technology-Driven Paradigm Shift in the Local Transport Industry: the Case of Djump, the Social Ride-Sharing App, 2014-2015
- Maïté Roederer, Shift from Mass Marketing to One-to-One Customer Journey Management: Implementation of a Digital Loyalty Program at Lunch Garden, 2014-2015
- Karolina Sienczewska, Case study on data analytics software choices in a large financial institution: Credit Risk Intelligence Engineering at ING Belgium, 2014-2015
- Marine Laterre, Digital curse or failure to seize new opportunities: lessons from the failure of an entertainment retail chain in the digital age, 2014-2015
- James De Wasseige, Analyse du développement de la carte d'identité électronique en Europe - stratégie d'internationalisation d'un business modèle belge (Freedelity), 2014-2015
- Romain Fonsny, Value Added Services (VAS) in a Changing Telecom Market, 2014-2015
- Mihnea Hanganu, Patent litigation in the chemical industry, 2014-2015
- Arsène Sefu Kalokola, Innovation and technology diffusion : The case of online gaming services in the video game industry, 2014-2015
- Nicolas Bernier, "Comparison between a competitive and a redistributive market economy using computer simulation", 2013-2014
- Vasily Kutuzov, "Patterns & strategies in patent litigation in the ICT industry in Europe", 2013-2014
- Marius Odor, "Value for IT: How to compute the return on an IT investment?", 2012-2013.
- Kelo Azanga, "Case study on the role of ERP System in shared services centres", 2012-2013.
- Nora Jouary, "How to tap into the scientific knowledge of Alumni", 2012-2013.
- Elias Lassouli, "A case study on the impact of cloud computing on I.T. Departments", 2012-2013.
- Gauthier Gosselin, "Offline v. Online business models: Distribution and pricing in the video game industry", 2012-2013.
- Raphaël Jehotte, "Zero-intelligence v. Rational traders: who generates inequalities in competitive and random markets?", 2011-2012.
- Bruno Colagiovanni, "Cloud computing: analyse des opportunités, stratégies et tendances - Supply side", 2011-2012.
- Vincent Debast, "Cloud computing: analyse des opportunités, stratégies et tendances en Europe - Client side", 2011-2012.
- Cyrielle Chantry, "Stratégies de gestion de la connaissance: étude de cas", 2011-2012.
- Amandine Périchon, "Games on Demand: How Cloud Gaming could impact the Video Game Industry", 2009-2010
- Nils Fagerburg, "Agent-based Artificial Market Models", 2009-2010

4.2.3. Postgraduate Master Theses Supervision

- Cindy Strycharek, "Impacts de la digitalisation des soins de santé sur le métier de pharmacien hospitalier", 2017-2018
- Morena Vulpi, "Analyse du flux programmé de la gestion des lits aigus au sein d'un établissement hospitalier", 2017-2018
- Marlène Foltzer, "Le futur des EMR est-il dans la blockchain ?", 2017-2018
- John-Patrick Larock, "Rethinking the Order-To-Cash (O2C) Process", 2017-2018
- Amandine Caprasse, Appui à la mise en œuvre d'une stratégie opérationnelle de gestion des connaissances dans un PME - le cas de Citius Engineering, 2015-2016
- Gatien Hocepied, De la donnée au tableau de bord, comment des outils de Business Intelligence modernes peuvent-ils aider à la gestion d'un hôpital ?, 2015-2016
- Jean-Benoît Houtman, Le modèle économique bancaire à l'ère digitale : Le cas de Belfius Banque & Assurances, 2014-2015
- Cédric Haemers, Implémentation d'un système SRM chez GSK Vaccines comme outil de création de valeur, 2014-2015

- Fanny Tissier, L'adaptation de l'administration publique aux enjeux d'aujourd'hui et de demain : l'exemple du Service public sécurité sociale, 2014-2015
- Sophie Lancereau, "Système de gestion des ressources: Etude de faisabilité dans le secteur aéronautique", 2013-2014
- Mathias Heyse, "The impact of 'Digital Insurance' in the insurance sector", 2013-2014
- Marine Anciaux, "Les plateformes collaboratives: un nouvel intermédiaire en Open Innovation?", 2013-2014
- Quentin Englebert, "Etude des besoins d'applications informatiques mobiles dans le notariat", 2012-2013
- Stéphanie Deblon, "La réingénierie des processus dans un contexte de transformation organisationnelle: étude de cas, la DG RDT", 2012-2013
- Ludovic Ricker, "Business Process Redesign, rebondir après une réussite partielle est-il possible ? Analyse d'un cas pratique", 2012-2013
- Philippe Ribue, "Case Study of an ERP implementation", 2011-2012
- Tanguy Herriau, "Strategic marketing and balanced scorecard in a data mining spinoff", 2010-2011
- Mathieu Quintyn, "L'apport des TIC dans le management des clusters", 2010-2011
- Frédéric Anciaux, "Allergies alimentaires et restauration de masse: incompatibilité ou faisabilité", 2010-2011
- Alain-Gilles Villevoysse: "Le financement et la diffusion du cinéma face à l'émergence de la Vidéo à la Demande", 2009-2010
- Geoffroy Drappier: "Des 'First Party Logistics' aux 'Fourth Party Logistics'. Quelles opportunités pour les prestataires logistiques en Belgique? Le cas du Groupe Mozer", 2009-2010

4.3. Professional teachings (non-university):

- 2002-2009: - Introduction to Java Programming (Technofutur) : 3 four-day sessions a year
- 2004-2005: - Introduction to C# Programming (Technofutur): 1 four-day session
- 2004-2005: - Introduction to OO and UML (Technofutur): 2 one-day seminars

V. SCHOLARLY ACCOMPLISHMENTS

5.1. Research projects and grants

5.1.1. As (co-)contractor and researcher

- Innoviris (4 years “Anticipate” grant) – Project with François Lambotte & Damien Renard (UCL)
Period: September 2016 – September 2020
Topic: *Collaborative practices and collective intelligence in the Brussels Region entrepreneurial ecosystem*
- Innoviris (3 years grant) – Security in the Cloud
Period: September 2015 – September 2018
Topic: *Processes and organisational challenges relating with security in cloud computing systems*
- National Bank of Belgium Research Grant (1 year) – Project with Marco Ceccagnoli (GeorgiaTech)
Period: September 2011 – August 2012
Topic: *Knowledge management, appropriation and firm performance*
- ZEW SEEK Project (2 years) – Project in consortium with ZEW, LSE, CBS, LMU
Period: November 2010 – May 2012
Topic: *Patent litigation in Europe*
- Project for the Belgian Ministry of Economic Affairs (1 year) – Partnership with KUL
Period: March 2010 – March 2011
Topic: *Patenting activity in Belgium*
- FNRS (Belgian National Science Foundation) Post-Doctoral Scholarship (2 years)
Period: October 2009 – September 2011
Topic: *Post-doctoral research on the economics and management of knowledge*
- FNRS (Belgian National Science Foundation) Visiting Scholarship (6 months)
Period: February – July 2009
Topic: *Grant for visiting researcher position at GeorgiaTech*
- ULB International Exposure Grant (6 months)
Period: February – July 2009
Topic: *Grant for visiting researcher position at GeorgiaTech*

5.1.2. As researcher

- Contract research for IRIS S.A. under Walloon Region Funding (3 years)
Period: September 2007 – September 2010
Topic: *Algorithms for automatic document classification and semi-automatic thesaurus construction*
- Contract research for the European Patent Office (1.5 years)
Period: January 2006 – June 2007
Topic: *Creation of new patent quality and value indicators and analysis of their determinants*
- Contract research for the European Patent Office (1 year)
Period: September 2004 – June 2005
Topic: *Statistical analysis of the patterns and determinants of the evolution of patenting strategies*

5.2. Publications¹

5.2.1. Books

- Bersini, H., M.-P. Spinette, R. Spinette and N. van Zeebroeck (2014), *Les fondements de l'informatique: du bit au cloud*, Paris, Vuibert, 402p.

5.2.2. Book chapters

- Guellec, D., B. van Pottelsberghe de la Potterie and N. van Zeebroeck (2007), Patent as a market instrument, in Guellec D. and B. van Pottelsberghe de la Potterie, *The Economics of the European Patent System*, Oxford University Press, Chapter 4, 85-113. Cites: 30.

5.2.3. Articles in international refereed journals

- Forman, C. and N. van Zeebroeck (2018), Digital technology adoption and knowledge flows within firms: Can the Internet overcome geographic and technological distance?, *Research Policy* (articles in advance). Cites: 2.
- Venturini, R., M. Ceccagnoli and N. van Zeebroeck (2018), Knowledge Integration in the Shadow of Tacit Spillovers: Empirical Evidence from U.S. R&D Labs, *Research Policy* (articles in advance). Cites: 0.
- Bughin, J. and N. van Zeebroeck (2017), The best response to digital disruption, *MIT Sloan Management Review*, 58(4) (Summer 2017), Reprint #58479, available at <http://sloanreview.mit.edu/article/the-right-response-to-digital-disruption/>. Cites: 17.
- Cremers, K., M. Ernicke, F. Gaessler, D. Harhoff, C. Helmers, L. McDonagh, P. Schliessler and N. van Zeebroeck (2017), Patent Litigation in Europe, *European Journal of Law and Economics*, 44(1), 1-44. Cites: 44.
- Graham, S. and N. van Zeebroeck (2014), Comparing Patent Litigation Across Europe: A First Look, *Stanford Technology Law Review*, 17, 655-708. Cites: 37.
- Bersini, H. and N. van Zeebroeck (2012), Why should an economy be competitive? *Complex Systems*, 21(1), 21-36. I.F.: N.A. Cites: 4.
- Forman, C. and N. van Zeebroeck (2012), From wires to partners: how the Internet has fostered R&D collaborations within firms. *Management Science*, 58(8), 1549-1568. I.F.: 2.354. Cites: 78.
- van Zeebroeck, N. (2011), Long live patents: the increasing life expectancy of patents and its determinants, *Review of Economics and Institutions*, 2(3), Article 5. I.F.: n.a.. Cites: 20.
- van Zeebroeck, N. and B. van Pottelsberghe de la Potterie (2011), Filing strategies and patent value, *Economics of Innovation and New Technology*, 20(6), 539-562. I.F.: 0.410. Cites: 97.
- Mantrach, A., N. van Zeebroeck, P. Francq, M. Shimbo, H. Bersini and M. Saerens (2011), Semi-supervised Classification and Betweenness: Centrality Computation on Large, Sparse, Graphs, *Pattern Recognition*, 44(6), 1212-1224. I.F.: 2.554. Cites: 38.
- van Zeebroeck, N. and B. van Pottelsberghe de la Potterie (2011), The vulnerability of patent value determinants, *Economics of Innovation and New Technology*, 20(3), 283-308. I.F.: 0.410. Cites: 53.
- van Zeebroeck, N. (2011), The puzzle of patent value indicators, *Economics of Innovation and New Technology*, 20(1), 33-62. IF: 0.410. Cites: 187.
- van Zeebroeck, N., B. van Pottelsberghe de la Potterie and D. Guellec (2009), Claiming more: the increased voluminosity of patent applications and its determinants, *Research Policy*, 38(6), 1006-1020. IF: 2.211. Cites: 150.
- van Zeebroeck, N., B. van Pottelsberghe de la Potterie, N. Stevnsborg, D. Guellec and E. Archontopoulos (2008), Patent Inflation in Europe, *World Patent Information*, 30(2), 43-52. IF: n.a.. Cites: 40.
- van Pottelsberghe de la Potterie, B. and N. van Zeebroeck (2008), A Brief History of Space and Time: the Scope-Year Index as a Patent Value Indicator Based on Families and Renewals, *Scientometrics*, 75(2), 319-338. IF: 1.740. Cites: 67.
- van Zeebroeck, N., B. van Pottelsberghe de la Potterie and D. Guellec (2008), Patents and Academic Research: A State of the Art, *Journal of Intellectual Capital*, 9(2), 246-263. IF: 0.709. Cites: 64.

¹ Citations from cleaned Google Scholar profile: As on 20/11/2018. H-Index: 17. Total Google Scholar Cites: 1165.

- Archontopoulos, E., D. Guellec, N. Stevnsborg, B. van Pottelsberghe de la Potterie and N. van Zeebroeck (2007), When small is beautiful: measuring the evolution and consequences of the voluminosity of patent applications at the EPO, *Information Economics and Policy*, 19(2), 103-132. IF: 0.579. Cites: 83.
- van Zeebroeck, N., B. van Pottelsberghe de la Potterie, W. Han (2006), Issues in Measuring the Degree of Technological Specialization with Patent Data, *Scientometrics*, 66(3), 481-492. IF: 1.740. Cites: 62.

5.2.4. Articles in national refereed journals

- van Zeebroeck, N. (2008), Développement et impact des stratégies de dépôt de brevets, *Reflets & Perspectives de la Vie Economique*, 2008(3), 87-100. IF: n.a. Cites: 4.

5.2.5. Refereed proceedings of international conferences

- Bersini, H. and N. van Zeebroeck (2013), A Stylised Software Model to Explore the Free Market Equality/Efficiency Tradeoff, *Advances in Intelligent Systems and Computing: 11th International Conference on Practical Applications of Agents and Multi-Agent Systems*, 221(2013), 1-8. Cites: 0.

5.2.6. Articles in business journals or blogs of academic journals

- Bughin, J. and N. van Zeebroeck (2018), The promise and pitfalls of AI, *Project Syndicate*, Sept 2018, available at <https://www.project-syndicate.org/commentary/artificial-intelligence-digital-divide-widens-inequality-by-jacques-bughin-and-nicolas-van-zeebroeck-2018-09>. Cites: 0.²
- Bughin, J. and N. van Zeebroeck (2018), Why a digital base is critical, *McKinsey Quarterly*, July 2018, available at <https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/artificial-intelligence-why-a-digital-base-is-critical>. Cites: 0.
- Bughin, J., T., Catlin, B. Hall, and N. van Zeebroeck (2017), Improving Your Digital Intelligence, *MIT Sloan Management Review*, October 2017, available at <http://sloanreview.mit.edu/article/improving-your-digital-intelligence/>. Cites: 2.
- Bughin, J. and N. van Zeebroeck (2017), When to shift your digital strategy into a higher gear, *McKinsey Quarterly*, August 2017, available at <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/when-to-shift-your-digital-strategy-into-a-higher-gear>. Cites: 0.
- Bughin, J. and N. van Zeebroeck (2017), New evidence for the power of digital platforms, *McKinsey Quarterly*, August 2017, available at <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/new-evidence-for-the-power-of-digital-platforms>. Cites: 0.
- Bughin, J. and N. van Zeebroeck (2017), 6 Digital Strategies, and Why Some Work Better than Others, *Harvard Business Review*, July 2017, available at <https://hbr.org/2017/07/6-digital-strategies-and-why-some-work-better-than-others>. Cites: 0.

5.2.7. Working papers

- Hoffreumon, C. and N. van Zeebroeck (2018), Forecasting short-term transaction fees on a smart contracts, *ULB iCite Working Paper No. WP028-2018*, available at <https://ideas.repec.org/p/ict/wpaper/2013-276709.html>. Cites: 0.
- van Zeebroeck, N. and J. Bughin (2017), Platform play among incumbent firms: the wrong focus?, *ULB iCite Working Paper No. WP023-2017*, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2957554. Cites: 0.
- Ceccagnoli, M., N. van Zeebroeck and R. Venturini (2013), Cross-functional knowledge integration, patenting and firm's performance, *SSRN working paper #2286693*, available at <http://ssrn.com/abstract=2286693>. Cites: 0.
- Kapoor, R. and N. van Zeebroeck (2016), The laws of action and reaction: on determinants of patent disputes in European chemical and drug industries, *iCite Working Paper #2016-019*, available at <https://ideas.repec.org/p/ict/wpaper/2013-235144.html>. Cites: 0.
- van Zeebroeck, N. (2009), From patent renewals to applications survival: do portfolio management strategies play a role in patent length?, *CEB Working Paper 09-028*. Cites: 2.

² Also available in Portuguese at <https://www.jornaldenegocios.pt/opiniao/economistas/detalhe/a-promessa-e-as-armadilhas-da-inteligencia-artificial>.

- van Zeebroeck, N. (2009), Filing strategies and the increasing duration of patent applications, CEB Working Paper 09-005. Cites: 17.
- van Zeebroeck, N. (2007), Patents only live twice: a patent survival analysis in Europe, CEB Working Paper 07-028. Cites: 60.

5.2.8. Ongoing works

- The case for offensive strategies in response to digital disruption, with J. Bughin (*under review*).
- Patently Informative: Strategy and Information in Patent Litigation across Countries, with S. Graham and A. Marco (*under review*).
- Digital technology adoption and strategic renewal, with J. Bughin and T. Kretschmer.
- Getting digital “bucks”: Incumbent returns to digitization and the Solow paradox, with J. Bughin.
- Digital transformation: a framework, with J. Bughin.
- AI technology adoption under uncertainty, with J. Bughin and N. Ameye.
- Strategy in the digital age, with J. Bughin.

5.3. **Scientific activities**

5.3.1. Communications in international conferences

- VAN ZEEBROECK N., B. VAN POTTELSBERGHE and D. GUELLEC, “Claiming more: the increased voluminosity of applications at EPO and its determinants”:
 - AEA Conference, Paris, October 2005
 - IAMOT Conference, Miami, May 2007
 - 4th CEPR Applied IO School, Tarragona, May 2007
 - EEA/ESEM Annual Congress, Budapest, August 2007
- VAN POTTELSBERGHE B. and N. VAN ZEEBROECK, “A Brief History of Space and Time: the Scope-Year Index as a Patent Value Indicator Based on Families and Renewals”:
 - AEA Conference, Strasbourg, June 2007
- VAN ZEEBROECK N. and B. VAN POTTELSBERGHE, “Filing Strategies and Patent Value”
 - IAMOT Conference, Miami, May 2007
 - EPIP Conference, Lund, September 2007
 - 3rd ZEW Conference on the Economics of Innovation, Mannheim, June 2008
 - Annual Meeting of the Association of Management, Anaheim, August 2008
- VAN ZEEBROECK N., “The Puzzle of Patent Value Indicators”:
 - PATSTAT Conference, Venice, October 2007
 - 12th International Schumpeter Society Conference, Rio de Janeiro, July 2008
- VAN ZEEBROECK N., “Long live patents: the increasing life expectancy of patent applications and its determinants”:
 - PATSTAT Conference, Vienna, September 2008
 - AEA Conference, Tokyo, December 2008 (Virtual Session)
- VAN ZEEBROECK N., “Patents only live twice: a patent survival analysis in Europe”:
 - 3rd EPIP Conference, Bern, October 2008
 - 5th ICIM Conference, Maastricht, December 2008
 - AEA Conference, Tokyo, December 2008 (Virtual Session)
- VAN ZEEBROECK, N. and S. GRAHAM, “A comparative look at patent litigation in Europe”:
 - EPIP Conference, Maastricht, September 2010
 - 1st ZEW-SEEK Conference, Mannheim, March 2011
 - EPIP Conference, Brussels, September 2011
- FORMAN, C. and N. VAN ZEEBROECK, “From wires to partners: how the Internet has fostered R&D collaborations within firms”:
 - ZEW Workshop on Social Software, Mannheim, November 2009
 - Conference Knowledge in Organizations, Monte Verita, June 2010
 - ZEW Conference on the Economics of ICT, Mannheim, June 2010
 - Conference on ICT and Economics Growth, Munich, November 2010
 - ZEW Conference on the Economics of Innovation, Mannheim, May 2011
- BERSINI, H. and N. VAN ZEEBROECK, “Why should the economy be competitive?”:
 - Artificial Economics Conference, The Hague, September 2011
- GRAHAM, S., A. MARCO and N. VAN ZEEBROECK, “Patently Informative: Strategy and Information in Patent Litigation across Countries”:

- Keynote Address, EPIP Conference, Brussels, September 2011
- 2nd ZEW-SEEK Conference, Mannheim, March 2012
- CECCAGNOLI, M., N. VAN ZEEBROECK and R. VENTURINI, “Knowledge Integration, Appropriability and Firm Performance”:
 - EPIP Conference, Leuven, September 2012
 - Strategic Management Society Conference, Prague, October 2012
- FORMAN, C. and N. VAN ZEEBROECK, “Internet Adoption and Knowledge Flows”:
 - EPIP Conference, Brussels, September 2014
 - ECIS Conference, Munster, May 2015
 - AoM Annual Meeting, Vancouver, August 2015
- WEN, W., C. FORMAN and N. VAN ZEEBROECK, “Intellectual Property Rights, Uncertainty, and Standard-Setting at the 3GPP”:
 - Fourth Annual Searle Centre Roundtable on Standards and Innovation, Chicago, May 2016.
- BUGHIN, J. and N. VAN ZEEBROECK, “The case for offensive strategies in response to digital disruption”:
 - Munich Summer Institute, Munich, May 2017.
 - ZEW Conference on the Economics of ICT, Mannheim, June 2017.
- N. VAN ZEEBROECK, “Technologies digitales et productivité : le point sur une arme à double tranchant”:
 - Congrès des économistes, Bruxelles, Novembre 2017.
- BUGHIN, J., T. KRETSCHMER and N. VAN ZEEBROECK, “Digital technology adoption and organizational adaptiveness”:
 - Academy of Management Specialized Conference on Big Data and Managing in the Digital Economy, Surrey, April 2018.
- N. VAN ZEEBROECK, “Robots and the Workforce in a superaging society”:
 - EU-Japan Conference on Robots in a Superaging Society, Bruxelles, October 2018.

5.3.2. Invited talks in research seminars

- Seminar of the Information Systems Group (KUL), Leuven, May 2017
- Economics of ICT Seminar (ZEW), Mannheim, Apr. 2017
- Innovation & Strategy Seminar (EPFL), Lausanne, Jan. 2017.
- Workshop on Patent Valuation (ESDES), Lyon, Jan. 2011.
- Doctoral Consortium on Regional Economic Integration (GeorgiaTech), Atlanta, May 2010.
- European Patent Office, Economic Advisory Group, Munich, Nov. 2008.
- Faculty of Business & Economics (KUL University), Leuven, Oct. 2008.
- European Patent Office, Economic Advisory Group, Munich, Nov. 2007.
- Steunpunt O&O Statistieken (KUL University), Leuven, Nov. 2006.
- Centre for Advanced Studies in Law & Economics (Ghent University), Brussels, Oct. 2006.

5.3.3. Communications in seminars at ULB

- VAN ZEEBROECK, N. and P. FRANCO, Integrating WordNet to extract a semantic representation of textual documents
 - SIC Seminar, 19/3/2008
- VAN ZEEBROECK, N., A state of the art on document clustering
 - IRIDIA, Presentation to the STRATEGO project, 5/9/2008
- VAN ZEEBROECK, N., A state of the art on automatic thesaurus construction
 - IRIDIA, Presentation for the STRATEGO project, 5/12/2008
- MANTRACH, A., M. SAERENS, and N. VAN ZEEBROECK, Overview and preliminary results of applying link analysis algorithms to US patent data
 - IRIDIA Seminar, Brussels, 12/12/2008
- VAN ZEEBROECK, N., From patent renewals to applications survival: do portfolio management strategies play a role in patent length?
 - CEB Brown-Bag Seminar, Brussels, 11/02/2010

- VAN ZEEBROECK N. and C. FORMAN, “From wires to partners: how the Internet has fostered R&D collaborations within firms”:
 - ECARES Internal Seminar, Brussels, April 2010
- VAN ZEEBROECK N. and S. GRAHAM, “A comparative look at patent litigation in Europe”:
 - ECARES Internal Seminar, Brussels, February 2011
- GRAHAM, S., A. MARCO and N. VAN ZEEBROECK, “Patently Informative: Strategy and Information in Patent Litigation across Countries”:
 - ECARES Internal Seminar, Brussels, September 2012
- FORMAN, C. and N. VAN ZEEBROECK, “Internet Adoption and Patent Citations”:
 - International Workshop on Innovation, Brussels, October 2014

5.3.4. Research stays abroad

- ISTO, LMU, Munich (Germany): June 2017 (Visiting Tobias Kretschmer)
- ZEW, Mannheim (Germany): April 2017 (Visiting Irene Bertschek)
- Dyson School of Applied Economics and Management, Cornell University, Ithaca, NY (USA): October 2016 (Visiting Chris Forman)
- USPTO, Washington DC: July 2011 (Visiting Stuart Graham)
- Georgia Institute of Technology – Scheller College of Business, Atlanta, GA (USA): May 2011 (Visiting Chris Forman and Marco Ceccagnoli)
- Georgia Institute of Technology – Scheller College of Business, Atlanta, GA (USA): May 2010 (Visiting Chris Forman and Marco Ceccagnoli)
- UC Berkeley, California: May 2009 (Visiting Stuart Graham)
- Georgia Institute of Technology – Scheller College of Business, Atlanta, GA (USA): Visiting Scholar in the Strategic Management Group: February to July 2009.
- EPO, Munich: Jan-Jul-Aug, Nov 2006, Jan-Feb-Mar-Apr 2007 (Visiting Bruno van Pottelsberghe)

5.3.5. Technical reports, conference notes, blog posts and press articles

- “The digital village”, published on LinkedIn, 22/08/2017, at <https://www.linkedin.com/pulse/digital-village-nicolas-van-zeebroeck/>.
- “How different is digital technology from earlier industrial revolutions?”, published on LinkedIn, 27/04/2017, at <https://www.linkedin.com/pulse/how-different-digital-technology-from-earlier-nicolas-van-zeebroeck>.
- « Le Décret Paysage et le Mirage Informatique » in Le Soir, 20/02/2017
- « Des souris et des hommes » in La Libre Entreprise, 09/07/2016
- « Sans partage » in La Libre Entreprise, 14/02/2015
- « Ruée vers l’or gris » in La Libre Entreprise, 14/02/2009
- van Pottelsberghe de la Potterie, B. and N. van Zeebroeck (2008), Patenting strategies and the value of European patents, VOX-EU Column, <http://www.voxeu.org/index.php?q=node/2365>.
- van Zeebroeck, N. (2008), Brevets : quelles nouvelles stratégies ?, Problèmes Economiques, N°2960, La Documentation Française, 10/12/2008.
- Report to the Conference “Patents: Realising and securing value” organised by the OECD, the EPO and the UK Patent Office, London, 2006.
- Report to the Conference “Research use of patented inventions” organised by the OECD, the EPO and the CSIC, Madrid, 2006.
- Report to the Conference “Quality in the patent system” organised by the EPO, The Hague, 2005.
- Report to the Conference “IP as an economic asset” organised by the OECD, the EPO and the German Ministry of Economy, Berlin, 2005.

5.4. Scientific honours and distinctions

- Ranked among the 100 top young economists (5 years or less) on RePEc (2009) (see e.g. <http://ideas.repec.org/top/old/0907/top.young.html>)
- Best Student Paper Award – IAMOT Conference (2007) (see <http://www.iamot.org/IAMOT2007/IAMOT2007StudentPaperAwardsMay212007.html>)
- De Bary Prize for best M.Sc. Final Thesis (Solvay Business School, 2001)

VI. SCHOLARLY SERVICE

6.1. *Occasional reviews for international journals, conferences, scholarly books and research projects*

- Economics Letters (1)
- Information Economics & Policy (1)
- Economics of Innovation & New Technology (3)
- Technology Analysis & Strategic Management (1)
- Academy of Management Annual Meeting (TIM Divisions) (16)
- Intellectual Capital and Technological Innovation: Knowledge-Based Theory and Practice (IGI) (2)
- Cahiers Economiques de Bruxelles (1)
- International Journal of Business and Systems Research (1)
- Research Policy (4)
- Journal of Economics and Management Strategy (2)
- The B.E. Journal of Economic Analysis & Policy (1)
- Academy of Finland (1)
- La Revue Economique (1)
- Oxford Economic Papers (1)
- Scientometrics (1)
- Technovation (1)
- Management Science (1)

6.2. *Scientific societies memberships*

- Association for Information Systems (since 2016)
- Strategic Management Society (since 2009)
- Academy of Management (since 2008)
- European Policy for Intellectual Property (EPIP) (since 2005)

6.3. *Involvement in the management of the university (ULB)*

- Deputy Dean for Research and Management, SBS-EM (Since 2018)
- Member of the Steering Committee of the IT Audit at ULB (2018)
- Member of the Strategic Working Group (Groupe de Travail Thématique) on ULB's Digital Strategy as part of the CAP2030 initiative at ULB (2017-2018)
- Director of the Advanced Master in Innovation & Strategic Management at SBS-EM (2014-2016)
- Director of the Master in Business Engineering at SBS-EM (2011-2016)
- Head of EQUIS Accreditation at SBS-EM (2012-2013, 2015-2016)
- Member of the Computing Centre Board and Users Board (since 2012)
- Member of the IT Board of the University (delegate of the researchers in 2006 to 2011)
- Member of the SOCO Faculty Board (delegate of the researchers in 2007 and 2008)
- Member of the SBS-EM Board, the SBS-EM Bureau, and the SBS-EM Advisory Board (delegate of the researchers in 2006-2008)
- IT and e-Business Manager of the SBS-EM (2003-2008, 2011-)
- Corporate Relations Manager of the MBA Solvay (2005-2006)

6.4. *PhD Committees*

- Pietro Moncada, "Evolution of EU corporate R&D in the global economy: intensity gap, sectors' dynamics, specialisation and growth", Phd Advisory: Michele Cincera, ULB, 2017
- Lauriane Dewulf, "Essays on competition between fixed and mobile networks in the broadband industry and on scientific publications issued by innovative companies", Phd Advisory: Michele Cincera, ULB, 2017
- Xia Liu, "Essays on patent litigation", Phd Advisory: Bruno van Pottelsberghe, ULB, 2016.
- Roberto Venturini, "Essays on the law and economics of the firm", Phd Advisory: Paola Conconi, ULB, 2016.
- Jérôme Danguy, "Essays on the globalization of innovation using patent-based indicators", PhD Advisor: Bruno van Pottelsberghe, ULB, 2013.

- Malwina Mejer, “Essays on Patent Systems and Academic Patenting”, PhD Advisor: Bruno van Pottelsberghe, ULB, 2012.
- Julien Ravet, “Corporate R&D Activities, Financing Constraints, Performance and Diversification”, PhD Advisor: Michele Cincera, ULB, 2012
- Luigi Aldieri, “Three essays on knowledge diffusion and firms’ economic performance”, PhD Advisor: Michele Cincera, ULB, 2011

VII. SERVICE TO INDUSTRY, POLICY AND MEDIA

7.1. *Management consultant at Capgemini Belgium (01/08/01 – 30/09/02)*

- Business cases for the implementation of information portals, content management systems (CMS), document management systems (DMS) and knowledge management solutions (KMS) in different multinationals (in Belgium and France) and for the DG IS of the European Commission.
- Development of a cost allocation model on a monthly basis for the European headquarters of an automobile manufacturer.
- Management of the EURO-Migration at Capgemini Belgium.
- Development of an “Enterprise Information Portals” service offering and pre-sales support.

7.2. *External consultancy projects – As project coach for the MBASolvay Business Field Project*

- Supervision and coaching of MBA students in numerous strategic studies for various organization, including Bank of NY, Delhaize, EuropaBio, La Poste, Owens Corning, Altadis, CSC, Eurogentec, FEB, GMT, SAP, Sonaca.

7.3. *External consultancy projects – As principal consultant*

- Sodexo Belgium: Analysis and redesign of accounting, IT and commercial processes and systems for public vouchers (2004-2005)
- BEFIMMO: Advice on Business Intelligence (2008)

7.4. *Advisory positions*

- Member of the Scientific Advisory Board of D-Ratings (www.d-ratings.com) (since 2018)
- Member of the Academic Advisory Board of Inno.com (www.inno.com) (since 2011)

7.5. *Consultation as expert*

- McKinsey project for the EU Commission on building the new digital agenda for Europe (November-December 2018)
- Accenture’s Report on Delivering Digital Dividends (October 2018)
- Harvard Business Review Analytics’ Whitepaper on Closing the gap from Digitization to Digital transformation (December 2017), available at <https://hbr.org/sponsored/2017/12/closing-the-gap>
- SAP’s Digitalist Mag’s report on the changing role of CIOs (February 2018), available at <http://www.digitalistmag.com/executive-research/hack-the-cio>
- Federal Minister for Digital Agenda (Cabinet de Croo): Advice on the future of work and education in the digital age (Brussels, September 2017)
- Procter & Gamble: Seminar on the impact of digitization on the industry (Brussels, January 2017)
- Ministry of the Brussels Government and Impulse.Brussels: Participation to expert group on Digital Entrepreneurship in the Brussels Region (2016)
- Solvac: Advice on e-business and Web 2.0 projects (2008-2013)
- Expert opinion for the report on e-book and the future of book publishing for the Walloon-Brussels Community Government (2011)

7.6. *Keynote addresses and talks in professional or policy conferences, expert groups and industry*

- NRC Live, De Roboteconomie, Rotterdam (Netherlands), October 12, 2018.
- Accenture, Internal Kickoff Meeting of the Workforce of the Future Initiative, Brussels (Belgium), September 24
- Cercle de Lorraine, Panel Digital, Brussels (Belgium), June 5, 2018
- BNP Paribas Fortis, Solvay alumni @ BNP Paribas, Brussels (Belgium), May 17, 2018
- Financial Media, CFO Meeting, Affligem (Belgium), May 15, 2018

- ING, Entrepreneurs' Week, Brussels and Mons (Belgium), April 23 and 25, 2018
- The Conference Board, Digital Transformation Council Europe, Brussels (Belgium), March 22-23, 2018
- National Bank of Belgium, Lunch Debate, Brussels (Belgium), March 2, 2018
- The Innovation Roundtable, Workshop on Digital Value Creation, Services and Strategies, Wolfsburg (Germany), February 28, 2018
- The Conference Board, Innovation Council Europe, Brno (Czech Republic), October 26, 2017 (webcast)
- The Conference Board, Webcast on the Digital Transformation, September 2017.
- ING Entrepreneurs' Week, Digital Technology: Threat or Opportunity, Brussels, April 26, 2017
- The Conference Board, Digital Transformation and Innovation unconference, Keynote address, Brussels, October 6, 2016
- EuroCommerce, Retail Economics Meeting, Talk on the Digital Transformation in Retail, Brussels, October 18, 2016
- EU Panel Discussion, A Digital Single Market in Europe: share your insights, Brussels, October 20, 2016

7.7. Media interviews

- RTBF – Vivacité – L'arrivée d'Alibaba à Liège – 13/11/2018
- RTBF – La Première – L'arrivée des smartphones pliables – 07/11/2018
- RTBF – La Première – Les défis d'Apple – 12/09/2018
- RTL – Journal de 13h – De l'école à l'université – 29/08/2018
- RTBF – La Première – Débat Première – Faut-il avoir peur des GAFAs – 06/04/2018
- RTBF – La Une – JT – Le phénomène Spotify et son entrée en bourse – 04/04/2018
- Trends – Comment les géants du Net nous rendent accros à notre téléphone – 18/01/2018
- Canal Z – Fin de la neutralité du Net aux USA – 15/12/2017
- Canal Z – Apple resegmente le haut de gamme – 13/09/2017
- RTBF – La Une – JT – Les 10 ans d'iPhone et la sortie du petit dernier l'iPhone X – 12/09/2017
- Le Soir – L'iPhone, à la fois force et faiblesse d'Apple – 12/09/2017
- Canal Z – Lancement du Galaxy Note 8 par Samsung – 24/08/2017
- RTBF – La Une – JT – Plateformes de partage de voitures – 05/07/2017
- Le Soir – Pourquoi l'Europe n'arrive pas à faire émerger des concurrents à Google ? – 29/06/2017
- Canal Z – Facebook se lance dans la production de séries – 26/06/2017
- Bel RTL – Robotisation et emploi – 02/05/2017
- ING Outline Magazine – Les entreprises doivent réaliser un saut quantique – Avril 2017
- RTBF – La Une – JT – Snapchat entre en bourse – 02/03/2017
- Radio Contact – Le gouvernement fédéral taxe l'économie collaborative – 24/01/2017
- Canal Z – Les 10 ans de l'iPhone – 09/01/2017
- RTBF Radio – La Première – UberEats se lance dans la livraison de bière – 05/01/2017
- RTBF – La Une – JT – Confiance et plateformes numériques de partage – 23/12/2016
- Canal Z – Samsung arrête la commercialisation du Galaxy Note 7 – 11/10/2016
- Le Soir – L'expert: le marché attend du génie, pas des innovations – 07/09/2016
- Radio Campus – Histoire de Savoir : La 4^{ème} révolution industrielle – 05/05/2016
- RTL-TV1 – JT – La 4^{ème} révolution industrielle – 21/01/2016
- RTBF Radio – La Première – Le Forum de Midi: La 4^{ème} révolution industrielle – 20/01/2016
- Le Soir – Les clés de l'actualité – La 4^{ème} révolution industrielle – 18/01/2016
- Trends – Les valeurs technologiques au sommet – 05/11/2015
- RTBF – La Une – JT – La stratégie d'Uber – 29/09/2015
- M-Belgique – La Santé Connectée – Juillet 2015
- ING Entreprises – Les objets connectés – Avril 2014
- Inside Internet – Outils et plateformes Internet – Mai 2003

VIII. RESEARCH AREAS

- Digitalization:
 - Economics of digital technology
 - Digital business strategy and digital business models
 - Digital transformation
- Innovation:
 - Innovation and Intellectual Property (IP) Management
 - Knowledge appropriation and diffusion
 - Patent systems, patenting strategies, patent value
- Agent-Based Computational Economics:
 - Artificial Economics
 - UML Modelling