

Dr Anne ter Wal

ASSOCIATE PROFESSOR OF TECHNOLOGY & INNOVATION MANAGEMENT
IMPERIAL COLLEGE BUSINESS SCHOOL, LONDON (UK)

PERSONAL DETAILS

First name Leendert Johannes (alias Anne)
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Websites: Personal webpage: <https://www.imperial.ac.uk/people/a.terwal>
Research programme page: [Networking for Innovation](https://www.imperial.ac.uk/people/a.terwal)
Google Scholar profile: <http://scholar.google.co.uk/citations?user=63Sq3e0AAAAJ&hl=en>

EMPLOYMENT

Since 2009 **Imperial College Business School, London (UK)**
Department of Management & Entrepreneurship
- Associate Professor: Since September 2017
- Assistant Professor: April 2013 – July 2017
- Research Fellow: March 2011 – March 2013
- Research Associate: April 2009 – March 2011
Visiting period: Rotman School of Management, Toronto
on invitation of Bill McEvily (Feb – May 2014)

2016-2019 **ETH Zürich (Switzerland)**
Department of Management, Technology & Economics (MTEC)
- 20% appointment as Senior Researcher

QUALIFICATIONS

2005 – 2009 **PhD in Economic Geography (Utrecht University)**
Title: “The structure and dynamics of knowledge networks:
a proximity approach”
Supervisors: Prof. Ron A. Boschma (Utrecht University)
Prof. Koen Frenken (Eindhoven University of Technology)
Date of PhD submission / defence: March 1, 2009 – November 19, 2009
Visiting period: OFCE-DRIC, Sophia-Antipolis (France), 2006

2001 – 2005 **MSc in Economic Geography (Utrecht University)**
Cum laude (highest distinction in the Netherlands)
Erasmus exchange: University of Bari (Italy), 2005

RESEARCH

REFEREED FULL PAPERS

1. **Ter Wal, A.L.J.**, P. Criscuolo & A. Salter (2023), Inside-out, outside-in, or all-in-one? The role of network sequencing in the elaboration of ideas. Accepted for publication in the *Academy of Management Journal*, 66 (2): 432-461 ([doi](#)) ([video](#)).
Citations in Google Scholar: 2
2. Gerges-Yammine, R. & **A.L.J. Ter Wal** (2023), Firm exit from open multi-party alliances: The role of social influence, uncertainty, and interfirm imitation in collective technology development. *Research Policy*, 52 (4): 104705 ([doi](#)).
Citations in Google Scholar: 1
3. Hofer, M.P., P. Criscuolo, N. Shah, **A.L.J. Ter Wal** & J. Barlow (2022), Regulatory policy and pharmaceutical innovation in the United Kingdom after Brexit: Initial insights. *Frontiers in Medicine, Regulatory Science* 9: 1011082 ([doi](#)).
4. **Ter Wal, A.L.J.**, P. Criscuolo, B. McEvily & A. Salter (2020), Dual networking: how collaborators network in their quest for innovation. *Administrative Science Quarterly*, 65 (4): 887-930 ([doi](#)) ([video](#)).
Citations in Google Scholar: 39 – Citations in Scopus: 22
5. **Ter Wal, A.L.J.**, P. Criscuolo & A. Salter (2017), Making a marriage of materials: the role of gatekeepers and shepherds in the absorption of external knowledge and innovative performance. *Research Policy* 46 (5): 1039-1054 ([doi](#)).
Citations in Google Scholar: 115 – Citations in Scopus: 70
6. Bogers, M., A.-K. Zobel, A. Afuah, A. Almirall, S. Brunswicker, L. Dahlander, L. Frederiksen, A. Gawer, M. Gruber, S. Haefliger, J. Hagedoorn, D. Hilgers, K. Laursen, M. Magnusson, A. Majchrzak, I.P. McCarthy, K.M. Moeslein, S. Nambisan, F.T. Piller, A. Radziwon, C. Rossi-Lamastra, J. Sims & **A.L.J. Ter Wal** (2017), The open innovation research landscape: established perspectives and emerging themes across different levels of analysis. *Industry & Innovation* 24 (1): 8-40 ([doi](#)).
Citations in Google Scholar: 964 – Citations in Scopus: 557
7. **Ter Wal, A.L.J.**, O. Alexy, J. Block & P. Sandner (2016), The best of both worlds: the benefits of open-specialized and closed-diverse syndication networks for ventures' success. *Administrative Science Quarterly*, 61 (3): 393-432 ([doi](#)).
Citations in Google Scholar: 231 - Citations in Scopus: 119
8. Salter, A., **A.L.J. Ter Wal**, P. Criscuolo & O. Alexy (2015). Open for ideation: individual-level openness and idea generation in R&D. *Journal of Product Innovation Management*, 32 (4): 488-504 ([doi](#)).
Citations in Google Scholar: 231 - Citations in Scopus: 132
9. Hardeman, S., K. Frenken, Ö. Nomaler, **A.L.J. Ter Wal**, Characterizing and comparing innovation systems by different “modes” of knowledge production: A proximity approach. *Science & Public Policy*, 42 (4): 530-548 ([doi](#)).
Citations in Google Scholar: 66 - Citations in Scopus: 29

10. Criscuolo, P., A. Salter, **A.L.J. Ter Wal** (2014). Going underground: bootlegging and individual innovative performance. *Organization Science*, 25 (5): 1287-1305 ([doi](#)) ¹.
Citations in Google Scholar: 254 - Citations in Scopus: 125
11. **Ter Wal A.L.J.** (2014). The dynamics of the inventor network in German biotechnology: geographical proximity versus triadic closure. *Journal of Economic Geography*, 14 (3): 589-620 ([doi](#)).
Paper selected for the Best Papers Proceedings, 2010 Academy of Management.
Citations in Google Scholar: 367 - Citations in Scopus: 142
12. Salter, A., P. Criscuolo & **A.L.J. Ter Wal** (2014), Coping with open innovation: individual responses and organizational practices to the challenges of external engagement in R&D. *California Management Review* 54 (2), 77-94 ([doi](#)) ¹.
Citations in Google Scholar: 282 - Citations in Scopus: 147
13. **Ter Wal, A.L.J.** (2013), Cluster emergence and network evolution: a longitudinal analysis of the inventor network in Sophia-Antipolis. *Regional Studies*, 47 (5): 651-668 ([doi](#)).
Citations in Google Scholar: 191 - Citations in Scopus: 77
14. Alexy, O., J. Block, P.G. Sandner, **A.L.J. Ter Wal** (2012), The social capital of venture capitalists and start-up funding. *Small Business Economics*, 39 (4): 835-851 ([doi](#)) ¹.
Paper selected for the Best Papers series "Frontiers of Entrepreneurship Research" of the 2010 Babson College Entrepreneurship Research Conference.
Citations in Google Scholar: 227 - Citations in Scopus: 81
15. Cassi, L., A. Morrison & **A.L.J. Ter Wal** (2012), The evolution of trade and scientific collaboration networks in the global wine sector. *Economic Geography*, 88 (3): 331-334 ([doi](#)) ¹.
Citations in Google Scholar: 117 - Citations in Scopus: 64
16. **Ter Wal, A.L.J.** & R.A. Boschma (2011), Co-evolution of firms, industries and networks in space. *Regional Studies* 45 (7): 919-933 ([doi](#)).
Citations in Google Scholar: 659 - Citations in Scopus: 286
17. Cantner, U., A. Meder & **A.L.J. Ter Wal** (2010), Innovator networks and regional knowledge base. *Technovation* 30 (9-10): 496-507 ([doi](#)).
Citations in Google Scholar: 187 - Citations in Scopus: 80
18. **Ter Wal, A.L.J.** & R.A. Boschma (2009), Applying social network analysis in economic geography: framing some key analytic issues. *Annals of Regional Science* 43 (3): 739-756 ([doi](#)).
Citations in Google Scholar: 844 - Citations in Scopus: 418
19. Boschma, R.A. & **A.L.J. Ter Wal** (2007), Knowledge networks and innovative performance in an industrial district: the case of a footwear district in the South of Italy. *Industry and Innovation* 14 (2): 177-199 ([doi](#)).
Citations in Google Scholar: 1110 - Citations in Scopus: 455

¹ The authors have contributed equally to this paper.

BOOK CHAPTERS

1. Salter, A., **A.L.J. Ter Wal** & P. Criscuolo. The graft and craft of open innovation. In: Oxford Handbook of Open Innovation, A. Radziwon, H. Chesbrough, J. West & W Vanhaverbeke (eds.), forthcoming.

INDUSTRIAL COLLABORATIONS

- [“Enabling Breakthroughs through Innovation Leadership”](#), with Paola Criscuolo (Imperial College Business School) and Ammon Salter (Warwick Business School). In collaboration with a large multinational, pseudonym Neptune (since 2010).
Formed basis for **REF 2021 Impact Case Study**, submitted by Imperial College Business School
- “Bridging the gap”, with Valentina Tartari (Copenhagen Business School). In collaboration with two large pharmaceutical companies.

OVERALL CITATIONS

Scopus: total number of citations received: 2,832 – citations received over 2022: 440

Google Scholar: total number of citations: 5,911 – citations received over 2022: 680

RESEARCH RECOGNITION AND AWARDS

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|---------|--|
| 2022/08 | Best Paper Proceedings 2022, Academy of Management, Technology & Innovation Management (TIM) Division. Paper: Morando, D.M, S. Breschi & A.L.J. Ter Wal.
“Showcasing strategies in entrepreneurs’ quest for venture capital funding: Evidence from Twitter”. |
| 2020/08 | Best Paper Proceedings 2020, Academy of Management, Organization & Management Theory (OMT) Division. Paper: Dioszegi, B., A.L.J. Ter Wal, V. Tartari, D. Laureiro-Martinez & S. Brusoni. “Strategic and serendipitous networking behaviors in social information search: An interactive experiment”. |
| 2018/08 | Recognition for Outstanding Performance as Member of the Editorial Review Board of the <i>Academy of Management Journal</i>. August 2018. |
| 2018/06 | European Academy of Management (EURAM) Best Conference Paper (Strategic Interest Group Innovation). – Paper: Criscuolo, P., M. Haas, A. Salter & A.L.J. Ter Wal.
“Managing innovation in a multi-divisional firm: how mobility across divisions affects managers’ performance.” June 2018. |
| 2018/04 | Best Paper Proceedings 2018, Academy of Management, Technology & Innovation Management (TIM) Division. Paper: Ter Wal, A.L.J, B. McEvily, P. Criscuolo & A. Salter.
“The relative value of the division versus duplication of networks for innovation performance.” Now published in the <i>Administrative Science Quarterly</i> . |

2016/08	Recognition for Outstanding Performance as Member of the Editorial Review Board of the <i>Academy of Management Journal</i>. August 2016.
2013/06	Runner-up for DRUID Best Paper award , DRUID Summer Conference 2013, Barcelona. Paper: Ter Wal, A.L.J., O. Alexy, J. Block & P. Sandner: “The best of both worlds: the benefits of specialized-brokered and diverse-closed syndication <i>networks</i> for venture success”. Now published in the <i>Administrative Science Quarterly</i> .
2012/09	The Regional Studies Association (RSA) Best Paper Award for Regional Studies 2012 “ <i>The co-evolution of firms, industries and networks in space</i> ”, with R.A. Boschma
2012/08	Best Reviewer Award , Academy of Management, Technology and Innovation Management
2010/08	Best Paper Proceedings 2010, Academy of Management, Organization & Management Theory (OMT) Division. Paper: Ter Wal, A.L.J., “The dynamics of the inventor network in German biotechnology: geographical proximity versus triadic closure”. Now published in: <i>Journal of Economic Geography</i> .
2010/05	Paper selected for the Best Papers series “Frontiers of Entrepreneurship Research” 2010 Babson College Entrepreneurship Research Conference, “The social capital of venture capitalists and start-up”, with O. Alexy, J. Block & P. Sandner. Now published in: <i>Small Business Economics</i> .

SUPERVISION OF PhD STUDENTS AND RESEARCH STAFF

Since 2022	Samira Haghbin, PhD student at ETH Zurich joint supervision with Bart Clarysse
Since 2021	Madina Nurguzhina (MRES student), joint supervision with Michelle Rogan
Since 2018	Damiano Morando (PhD student), joint supervision with Paola Criscuolo
2017-2022	Lisa Makarova, “Entrepreneurial resource acquisition in startup accelerators”, joint supervision with Ileana Stigliani PhD viva passed without corrections in November 2022 now designing accelerator programme at the London School of Economics
2017-2022	Rand Gerges Yammine (post-doctoral researcher), now Assistant Professor at ESCP Paris
2017-2022	Bálint Diószegi (post-doctoral researcher) now Assistant Professor at Greenwich University Business School
2013-2018	Sophia Lu, “Academic celebrity: attention of academics in the media” Joint supervision with Markus Perkmann PhD viva passed with minor revisions in June 2018 now Assistant Professor, NCKU, Taiwan

FUND RAISING

2020/12	Philanthropic Funding, Lord Sainsbury, Gatsby Foundation £370,000 January 2021 – June 2022 with James Barlow, Nilay Shah, and Paola Criscuolo Sectoral study: Productivity in the British pharmaceutical sector
2016/09	ERC Starting Grant European Research Council - € 1,334,616 March 2017 – February 2023 Title: Networking for innovation: how entrepreneurs' network behaviours help clusters to innovate
2012/05	ESRC Future Leaders grant Economic and Social Research Council (ESRC) - £161,514 October 2012 – March 2015 Title: Strategic networking: how highly skilled professionals can best use their networks to drive innovation

TEACHING

MSC AND UNDERGRADUATE TEACHING:

2023	Innovation Management, MSc Innovation, Entrepreneurship & Management 20 hours plus additional coaching, 85 students Teaching scores: not yet released
2022	Leadership in Action: Consulting Projects and Excursion to Estonia MSc International Management.
2017-2019	Innovation Management, Discovering Management (ETH Zurich) 3-hour sessions, twice a year
2013-2017	Innovation Management, MSc Management (ICBS) 2-3 parallel streams of 20 hours and 80-90 students each stream
2015	Innovation Management, Business for Professional Engineers and Scientists (ICBS, undergraduates) 20 hours and 120 students
Since 2011	Supervision of Joint Honours and Intercalated BSc Final Projects

MRES/PHD TEACHING:

Since 2023	Readings in Social Networks and Social Capital, MRes programme (ICBS)
Since 2016	Readings in Innovation Management, MRes programme (ICBS) 10 hours and 6 students (2016) – 20 hours and 3 students (2017 and 2018)
2013, Sep & 2012, Nov	UK-IRC Networks & Innovation Training Programme For international PhDs, post-docs and early-career faculty
2013-2015	Techniques in Quantitative Research Methods”, Doctoral Programme. Guest contribution, 2 hours. 12 Students.

MBA TEACHING:

June 2022	Business Insights in Europe (FTMBA excursion to Rotterdam)
Since 2017	Elective “Strategic networking for innovation and change”,
Since 2011	Supervision of several MBA students per year

EXECUTIVE EDUCATION:

January 2023	NHS Digital Health Leadership progress, 2-hour session
June 2020	Session “Strategic Networks”. Imperial Virtual Programme.
June 2019	Session “Strategic Networks”. Imperial Virtual Programme.
January 2018 & 19	Session “Networking for innovation”, NEOMA Business School, programme hosted at Imperial College Business School
2017, November	Session “Strategic networking”, Royal Society
2016, February	Open programme, “Strategic Innovation” Session, “People Networks & Innovation, 15 participants
2015, September	Executive Education, Session: “Leveraging social networks for driving organizational change”, 27 participants from technology-based multinational.
2013, January	Executive Education, Session: “Leveraging social networks” EITF Young Leaders group.

TEACHING RECOGNITION AND AWARDS

2022	Nominated for Dean’s Award for PhD supervision
2021	Selected for Best 40 Under 40 MBA Professors, Poets&Quants
2014-2015	Dean’s Teaching Excellence Award for MSc Core Module Teaching an award based on a polling of students across Imperial College Business School’s MSc Programmes

EXTERNAL TEACHING

2017 & 2019, May	“The Innovative Firm”, PhD course, NORSI BI Business School, Oslo.
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2018, February	“Strategic Networking”, workshop for ESADE alumni in Munich (2 hours)
2017, November	Novo Nordisk Career Day, Network training session for scientists
2014, July	Teaching session “Entrepreneurial initiative in large organizations”, European Entrepreneurship Consortium.

ORGANIZED CONFERENCES, INVITED SEMINARS, AND OTHER ACTIVITIES

RECENT ORGANIZED EVENTS:

- 5th Innovation & Entrepreneurship Conversation, Imperial College Business School, theme “Entrepreneurship and innovation in the corporation”, co-organized with Markus Perkmann, Anu Wadhwa & Bart Clarysse. September 2019.
- Organization of Publication Bootcamp, an intensive paper development workshop where Tiziana Casciaro (Rotman School of Management, Toronto) gave editor-style feedback to papers nearing submission. October 2016.
- 2nd Innovation & Entrepreneurship Conversation, Imperial College Business School, theme “Organizing for innovation”, co-organized with Paola Criscuolo and Ileana Stigliani. June 2016.
- Organized international academic Paper Development Workshop “Networks and Formal Organization”, co-organized with Bill McEvily (Rotman, Toronto). 20 participants from Europe and North America. January 2015.
- Organization of Professional Development Workshop “Networks and Innovation: Avenues of Future Research”, Academy of Management, Philadelphia. August 2014.
- Organization of Professional Development Workshop “Autonomy, creativity, and innovation”, DRUID Society Conference 2014, Copenhagen. June 2014.

INTERNAL SERVICE ROLES

- Interim Academic Director for the Master’s in International Health Management. Jan-Aug 2022.
- Interim Academic Director for the Master’s in International Management and the Master’s in Management. October 2021-January 2022
- Member of the Diversity & Inclusion committee, 2019-2022
- Member of the Teaching and Learning Forum, 2016-2022
- Member of the Departmental Steering Committee, M&E Department. 2020-21
- Chair of the Hiring Committees for two Teaching Fellow positions. 2021.
- Member of the Hiring Committee for Teaching Fellow, Autumn 2020.
- Member of the task force on the departmental reorganization, 2018.
- Member of the Research Workstream of the Dean’s Strategy Task Force, 2017/18.
- Chair of Search Committee for new Assistant, Associate and Full Professors for Department of Innovation & Entrepreneurship. Academic year 2017-2018.
- Member of Search Committee for new Assistant, Associate and Full Professors for Department of Innovation & Entrepreneurship. Academic year 2016-2017.

RECENT INTERNAL SERVICE ACTIVITIES

- Panellist “Provost Awards for Teaching Excellence”, May 2023.
- Panellist “Provost Awards for Health and Safety”, April 2023.
- Presentation overview of Management & Entrepreneurship department to EMBA students, April 2023.
- Career Session on Networks for FT MBA students, October 2022
- Student presentation at Imperial College Welcome Day, September 2022

EXTERNAL SERVICE

Editorial roles

- Associate Editor at the *Academy of Management Journal*, from July 2022 (3-year term)
 - Assigning reviewers and taking manuscript decisions
 - Attending AMJ Professional Development Workshops, Seoul (South Korea, April 2023) and Kyoto (Japan, April 2023), Rome (October 2022).

Editorial board positions:

- Advisory Editor at *Research Policy*. Since January 2022.
- Member of the *Administrative Science Quarterly* Editorial Review Board. Since January 2022.
- Member of the *Academy of Management Journal* Editorial Review Board. Since June 2014.
- Member of the ESRC (Economics and Social Science Research Council) Peer Review Panel. Since 2013.

Elected positions in the academic community

- Member of the Executive Committee of the Strategy, Entrepreneurship & Innovation consortium (SEI). Since 2017. Organization of annual doctoral and junior faculty conference.
- Representative-at-large, TIM Division (Technology & Innovation Management) at the Academy of Management. Responsible for organizing the TIM Junior Faculty Consortium.
 - Academy of Management 2018. Chicago, August 2018. With Gino Cattani (NYU).
 - Academy of Management 2017. Atlanta, August 2017. With Jeff Furman (BU).

Doctoral examination

- Internal examiner, for Gokce Tuna, for the award of PhD at Imperial College. May 2022.
- External examiner, for Alessio Delperio, for the award of PhD at Bocconi University. January 2020.
- External examiner, for Sandor Juhasz, for the award of PhD at Utrecht University. December 2019.
- External examiner, for Agnieszka Nowinska, for the award of PhD at Copenhagen Business School. September 2018.

RECENT INVITED SEMINARS:

- Invited seminar, INSEAD Singapore. April 2023.
- Invited seminar, NHH Bergen. November 2022.

- Invited seminar, UC Berkeley Open Innovation seminar. October 2022.
- Invited seminar (online), ESMT Berlin. March 2022.
- Invited seminar (online), Aalborg University, Denmark. October 2021.
- Ghoshal conference, London Business School. May 2021.
- Invited seminar (online), Warwick Business School. December 2020.
- Invited seminar, Global Seminar Series in Strategy, Innovation and Entrepreneurship (SIE). October 2020 ([link](#)).
- Invited seminar (online). Strategy, Entrepreneurship and Innovation (SEI) Faculty Workshop. November 2020.
- Invited seminar (online). Strategy, Innovation and Entrepreneurship Workshop (SIE). October 2020.
- Invited seminar (online), Edinburgh Business School. October 2020.
- Invited seminar. Budapest, Centre for Economic- and Regional Studies. February 2020.
- Invited seminar. Essex University. October 2019.

RECENT CONSULTANCY:

- The Future of R&D, for Pepsi Co. March 2023.
- White City White Paper, for Stanmore/dnco property developers “White City – London’s new Innovation District: Creating opportunities in a world-class ecosystem”. August-September 2016.
- Consultancy study for Imperial College: “Imperial West as a world-leading Innovation District: A guide to best practice and feasibility”. On the basis of a review of the academic literature and a field study of national and international examples of technology clusters. April 2013-April 2014.

RECENT OUTREACH AND MEDIA ATTENTION:

- Taught session “Networking and leadership” on online event “Women in leadership”, a joint initiative of Cranfield Business School, ESMT Berlin, Rotterdam School of Management, and Imperial College Business School, attended by over 600 female leaders and aspiring leaders. February 2022 ([link](#)).
- Quoted in an article by Forbes, “Five management myths busted”. February 2022 ([link](#)).
- Quoted in a report by Business Reporter on The Future of Work (page 5). The report was also included in The Guardian. November 2021 ([link](#)).
- Imperial Future Matters webinar, “Is coronavirus destroying our network”, with Michelle Rogan. January 2021 ([link](#)).
- Panellist at “Imperial Lates” online outreach event, “The Future of Work. 1 September 2020.
- Media articles,
 - [3 Ways To Boost Your Network In A Hybrid World](#), with Michelle Rogan. Forbes (September 2021).
 - [Buiding your post-pandemic network](#), with Michelle Rogan, Catalyst (July 2021).
 - [The importance of being a slacker](#), with Michelle Rogan. The European (April 2021).
 - [How to find the time to get your \(net\)work done](#), with Michelle Rogan. We Are The City

(March 2021).

- [Just something I've been working on... Why the best product discoveries are made by lone wolves](#), with Paola Criscuolo. Forbes (April 2018).
- Blogs:
 - [Anne ter Wal](#)
Imperial People (20-09-2021)
 - [Profile: Dr Anne ter Wal on why interpersonal networks are vital for creativity and innovation](#)
Profile Anne ter Wal (01-09-2021)
 - [Behind the scenes of the Administrative Science Quarterly](#)
ASQ Blog (26/06/2021)
 - [How to prepare your network for life after the pandemic](#) (with Michelle Rogan)
IB Knowledge Blog (17/05/2021)
 - [Boosting innovation in a FTSE 500 organisation](#) (with Paola Criscuolo)
IB Knowledge Blog (24/02/2021)
 - [“Three lessons the coronavirus crisis can teach about virtual networking](#)
IB Knowledge Blog (14/05/2020)
 - [Dual networking: the secret to effective partnerships in innovation](#)
IB Knowledge Blog (27/02/2020)
 - [Don't cramp my style! Why people are more creative on their own time](#)
IB Knowledge Blog (30/10/2017).
 - [Why every company needs its shepherds – steering external ideas to become internal innovations](#)
IB Knowledge Blog (04/07/2017)
 - [Where are we going wrong with our networking?](#)
IB Knowledge Blog (29/03/2017)

SELECTION OF FOUR KEY PAPERS: ABSTRACTS

Ter Wal, A.L.J., P. Criscuolo & A. Salter (2023), Inside-out, outside-in, or all-in-one? The role of network sequencing in the elaboration of ideas. Accepted for publication in the *Academy of Management Journal*, 66 (1): 432-461 ([doi](#)) ([video](#)).

The structure of advice and support networks within organizations has a profound impact on the elaboration of novel ideas. We explore how the sequence in which individuals expose ideas to their network contacts affects their innovation performance. We argue that, during idea elaboration, inside-out network sequencing – that is, mobilizing input and support from inner-circle ties before outer-circle ones – yields an innovation performance advantage over outside-in network sequencing and all-in-one mobilization of network contacts. Inside-out network sequencing generates valuable early feedback and support from inner-circle ties that actively engage with ill-defined, ill-structured and uncertain ideas, and delays exposure to outer-circle ties until ideas can better withstand criticism from beyond the social circle where they emerged. We further contend that the benefits of inside-out network sequencing are amplified in environments that lack support for innovation. Using an analysis of survey data and archival innovation performance records for 301 R&D scientists and engineers in a large multinational firm, we find support for our predictions.

Ter Wal, A.L.J., P. Criscuolo, B. McEvily & A. Salter (2020), Dual networking: how collaborators network in their quest for innovation. *Administrative Science Quarterly*, 65 (4): 887-930 ([doi](#)) ([video](#)).

Organizations typically employ a division of labor between specialist creator roles and generalist business roles in a bid to orchestrate innovation. This paper seeks to determine the extent to which individuals dividing the work across roles can also benefit from dividing their *network*. We argue that collaborating individuals benefit from connecting to the same groups but different individuals—an approach we label dual networking—rather than from a pure divide-and-conquer approach. To test this argument, we exploit a unique feature of a dual career-ladder setting in a large multinational where R&D managers and technologists partner up in their quest for innovation. We propose—and find—that collaborators who engage in dual networking attain an innovation performance advantage over those who connect to distinct groups. This advantage stems from the opportunity to engage in dual interpretation and dual influencing, leading to more effective elaboration and championing of innovative ideas. In demonstrating these effects, the paper advances understanding of how collaborators organize their networking activities to best achieve innovative outcomes.

Ter Wal, A.L.J., P. Criscuolo & A. Salter (2017), Making a marriage of materials: the role of gatekeepers and shepherds in the absorption of external knowledge and innovative performance. ([doi](#)).

Through interviews and a large-scale survey of R&D scientists and engineers, this paper explores individuals' attempts to absorb external knowledge, focusing on their efforts to identify and assimilate external knowledge and promote its utilization. Extant research does not explicitly address whether individuals should better specialize in certain absorption efforts or rather work as generalists dedicated to a range of efforts. We suggest that assimilation efforts increase the value of individuals' efforts at

external search and at promoting the utilization of external knowledge, which culminates in two main individual absorption roles that help individuals achieve greater innovation performance. We argue that *gatekeepers* who combine external search with assimilation effort help to achieve innovation by contributing to building potential absorptive capacity, while *shepherds* who combine assimilation with utilization effort aid innovation by building realized absorptive capacity. We find support for these predictions and discuss the implications for research and managerial practice in open innovation.

Ter Wal, A.L.J., O. Alexy, J. Block, P. Sandner (2016). The best of both worlds: the benefits of open-specialized-brokered and closed-diverse syndication networks for venture success. *Administrative Science Quarterly*, 61 (3): 393-432 ([doi](#)).

Open networks give actors non-redundant information that is diverse, while closed networks offer redundant information that is easier to interpret. Integrating arguments about network structure and the similarity of actors' knowledge, we propose two types of network configurations that combine diversity and ease of interpretation. Closed-diverse networks offer diversity in actors' knowledge domains and shared third-party ties to help in interpreting that knowledge. In open-specialized networks, structural holes offer diversity, while shared interpretive schema and overlap between received information and actors' prior knowledge help in interpreting new information without the help of third parties. In contrast, actors in open-diverse networks suffer from information overload due to the lack of shared schema or overlapping prior knowledge for the interpretation of diverse information, and actors in closed-specialized networks suffer from overembeddedness because they cannot access diverse information. Using CrunchBase data on early-stage venture capital investments in the U.S. information technology sector, we test the effect of investors' social capital on the success of their portfolio ventures. We find that ventures have the highest chances of success if their syndicating investors have either open-specialized or closed-diverse networks. These effects are manifested beyond the direct effects of ventures' or investors' quality and are robust to controlling for the possibility that certain investors could have chosen more promising ventures at the time of first funding.