Full list of publications

Articles, book chapters, reports, workshops and invited talks

(see Google Scholar : D. K. R. Robinson for the latest publications)

H factor = 13 / i10 index = 14

Edited special issues = 1	1
Published Peer-reviewed articles = 23	1
PhD Thesis	3
Book Chapters = 11	3
Reports = 11	4
Workshops organised = 15	5
Invited talks = 12	6
Conference paper presentations in $2016 = 8$	7

$Edited\ special\ issues=1$

• Robinson, D. K. R., Le Masson, P., & Weil, B. (2012). **Waiting games**. Technology Analysis & Strategic Management, Volume 24, 2012, Issue 6.

Peer-reviewed articles = 23

- 1) Robinson, D. K. R., Antoine Schoen, Philippe Laredo, Jordi Molas Gallart, Philine Warnke, Stefan Kuhlmann, Gonzalo Ordonez Matamoros (Forthcoming) **Policy lensing of futures intelligence**. Accepted article for Technological Forecasting and Social Change to be published in 2017
- 2) Mazzucato, M. and Robinson, D. K. R. (accepted) Co-creating and directing Innovation Ecosystems? NASAs changing approach to public-private partnerships in low-earth orbit. Accepted with revisions for Technological Forecasting and Social Change
- 3) Huang, Y., Zhu, D., Qi, L., Porter, A.L., Robinson, D.K.R. and Wang, X. (2017) Early insights on the Emerging Sources Citation Index (ESCI): An Overlay Mapbased Bibliometric Study. Scientometrics (2017). doi:10.1007/s11192-017-2349-3
- 4) Potstada, M., Parandian, A., Robinson, D. K. R., & Zybura, J. (2016). **An alignment approach for an industry in the making: DIGINOVA and the case of digital fabrication**. Technological Forecasting and Social Change, 102, 182-192.
- 5) Moretto, S., Robinson, D. K. R., Schippl, J., & Moniz, A. (2016). **Beyond Visions: Survey to the High-speed Train Industry**. Transportation Research Procedia, 14, 1839-1846.

- 6) Zhang, Y., Robinson, D. K. R., Porter, A. L., Zhu, D., Zhang, G., & Lu, J. (2016). **Technology roadmapping for competitive technical intelligence.** Technological Forecasting and Social Change. Volume 110, September 2016, Pages 175–186
- 7) Huggins, J. H., Christoph Guger, Mounia Ziat, Thorsten O. Zander, Denise Taylor, Michael Tangermann, Aureli Soria-Frisch, John Simeral, Reinhold Scherer, Rüdiger Rupp, Giulio Ruffini, Douglas K.R. Robinson, Nick F. Ramsey, Anton Nijholt, Gernot Müller-Putz, Dennis J. McFarland, Brent J. Lance, Pieter-Jan Kindermans, Iñaki Iturrate, Christian Herff, Disha Gupta, An H. Do, Jennifer L. Collinger, Ricardo Chavarriaga, Steven M. Chase, Martin G. Bleichner, Aaron Batista, Charles W. Anderson, Erik J. Aarnoutse (2016) Workshops of the Sixth International Brain-Computer Interface Meeting. Brain-Computer Interfaces Journal. Accepted for publication. Taylor and Francis
- 8) Guo, Y., Zhou, X., Porter, A. L., & Robinson, D. K. R. (2015). **Tech mining to generate indicators of future national technological competitiveness**: Nano-Enhanced Drug Delivery (NEDD) in the US and China. Technological Forecasting and Social Change, 97, 168-180.
- 9) Zhou, X., Porter, A. L., Robinson, D. K. R., Shim, M. S., & Guo, Y. (2014). Nano-enabled drug delivery: A research profile. Nanomedicine: Nanotechnology, Biology and Medicine, 10(5), e889-e896.
- 10) Robinson, D. K. R., Huang, L., Guo, Y., & Porter, A. L. (2013). Forecasting Innovation Pathways (FIP) for new and emerging science and technologies. Technological Forecasting and Social Change, 80(2), 267-285.
- 11) Elwyn, G., Hardisty, A. R., Peirce, S. C., May, C., Evans, R., Robinson, D. K. R.... & Gray, W. A. (2012). **Detecting deterioration in patients with chronic disease using telemonitoring: navigating the 'trough of disillusionment'**. Journal of evaluation in clinical practice, 18(4), 896-903.
- 12) Robinson, D. K. R., Le Masson, P., & Weil, B. (2012). **Editorial: Waiting games:** innovation impasses in situations of high uncertainty. Technology Analysis & Strategic Management, 24(6), 543-547.
- 13) D'Silva, J., Robinson, D. K. R., & Shelley-Egan, C. (2012). A game with rules in the making—how the high probability of waiting games in nanomedicine is being mitigated through distributed regulation and responsible innovation. Technology Analysis & Strategic Management, 24(6), 583-602.
- 14) Agogué, M., Le Masson, P., & Robinson, D. K. R. (2012). **Orphan innovation, or when path-creation goes stale: a design framework to characterise path-dependence in real time**. Technology Analysis & Strategic Management, 24(6), 603-616.
- 15) Huang, L., Guo, Y., Porter, A. L., Youtie, J., & Robinson, D. K. R. (2012). Visualising potential innovation pathways in a workshop setting: the case of nano-enabled biosensors. Technology Analysis & Strategic Management, 24(5), 527-542.
- 16) Robinson, D. K. R. (2011). **Value chains as a linking-pin framework for exploring governance and innovation in nano-involved sectors**: illustrated for nanotechnologies and the food packaging sector. European Journal of Law and Technology, 2(3).
- 17) Robinson, D. K. R. (2009). **Co-evolutionary scenarios: An application to prospecting futures of the responsible development of nanotechnology**. Technological Forecasting and Social Change, 76(9), 1222-1239.

- 18) Robinson, D. K. R., and T. Propp (2008). **Multi-path mapping for alignment strategies in emerging science and technologies**. Technological Forecasting and Social Change 75(4): 517–538.
- 19) Robinson, D. K., Sterenborg, G., Häuplik, S., & Aguzzi, M. (2008). **Exploring the challenges of habitation design for extended human presence beyond low-earth orbit**: Are new requirements and processes needed?. Acta Astronautica, 62(12), 721-732.
- 20) Robinson, D. K. R., Rip, A., & Mangematin, V. (2007). **Technological agglomeration and the emergence of clusters and networks in nanotechnology**. Research policy, 36(6), 871-879.
- 21) Robinson, D. K. R., Ruivenkamp, M., & Rip, A. (2007). **Tracking the evolution of new and emerging S&T via statement-linkages: Vision assessment in molecular machines**. Scientometrics, 70(3), 831-858.
- 22) Van Merkerk, R. O., & Robinson, D. K. R. (2006). Characterizing the emergence of a technological field: Expectations, agendas and networks in Lab-on-a-chip technologies. Technology Analysis & Strategic Management, 18(3-4), 411-428.
- 23) Peter, N., Barton, A., Robinson, D. K. R., & Salotti, J. M. (2004). **Charting response options for threatening near-Earth objects**. Acta Astronautica, 55(3), 325-334.

PhD Thesis

 Robinson, D. K. R. (2010). Constructive technology assessment of emerging nanotechnologies: Experiments in interactions. PhD Thesis. University of Twente. November 2010.

$Book\ Chapters = 11$

- Mazzucato, M. and Robinson D. K. R. (2016) Directing vs. Facilitating the Economic Development of Low Earth Orbit. Chapter 5 in NASA book Besha P. and MacDonald, A. eds (2016) Economic Development of Low-Earth Orbit. NASA National Aeronautics and Space Administration Office of Communications, Washington, DC 20546 Available online: https://www.nasa.gov/sites/default/files/atoms/files/economic-development-of-low-earth-orbit_tagged_v2.pdf
- Schulze Greiving, V. C., Konrad, K. E., Robinson, D. K. R. and Le Gac, S. (2016) "CTA-lite" for exploring possible innovation pathways of a nanomedicine-related platform embedded Responsible Research and Innovation in practice. In Proceedings of the S.NET 2015 conference.
- 3) Robinson, D. K. R., Rip, A. and Delemarle, A. (2016) **Nanodistricts: between global nanotechnology promises and local cluster dynamics**. Chapter 7 in Merz M., Sormani P., Biniok P. eds. The Local Configuration of New Research Fields. On Regional and National Diversity. Sociology of the Sciences Yearbook series. Dordrecht: Springer.
- 4) Robinson, D. K. R. (2015). **Distinguishing the umbrella promise of Converging Technology from the dynamics of Technology Convergence**. In Wienroth, M. and Rodrigues, E. (eds.) Knowing New Biotechnologies: Social Aspects of Technological Convergence, 12. Routledge.
- 5) Shelley-Egan, C. and Robinson, D. K. R. (2014) **Seeking out paths of responsible development: Exploring the wicked problem facing industrial actors**. In Nazrul Islam

- (editor) Nanotechnology: Recent Trends, Emerging Issues and Future Directions. Nova Science Publishers, Inc. New York. ISBN: 978-1-63117-567-1
- 6) Moretto, S., Robinson, D. K. R., Moniz, A. B. and Chen, S. (2014) **Mind The Gap In High-Speed Trains Futures: A Methodological Contribution**. Proceedings of the Second International Conference on Railway Technology: Research, Development and Maintenance, J. Pombo, (Editor), Civil-Comp Press, Stirlingshire, Scotland.
- 7) Robinson, D. K. R., & Rip, A. (2013). Indications of Socio-Economic Impacts of Nanotechnologies: The Approach of Impact Pathways. In: K. Konrad & H. Van Lente & C. Coenen & A. Dijkstra & C. Milburn (Eds.), Shaping Emerging Technologies: Governance, Innovation, Discourse. IOS Press, pp153 - 166. ISBN 9781614993001.
- 8) Rip, A., & Robinson, D. K. R. (2013). **Constructive technology assessment and the methodology of insertion**. In Early engagement and new technologies: Opening up the laboratory (pp. 37-53). Springer Netherlands.
- 9) Robinson, D. K. R. (2012). Controlled Speculation about Potential Combinations of Nanotechnology and Governance Arrangements: Structured Social Science Informed Scenarios. Proceed With Caution?: Concept and Application of the Precautionary Principle in Nanobiotechnology, 57-88. Lit Verlag, pp.57-88, 2012, Munsteraner BioethikStudien, 978-3643900913
- 10) Robinson, D. K. R., & Morrison, M. (2011). Nanotechnologies for improving food quality, safety and security. Nanotechnology in the agri-food sector: implications for the future. Wiley-VCH, Weinheim.
- 11) Bittner, A. and Robinson, D. K. R. (2009) **Plant Viruses as Templates Self Assembly, applications and possible impact in society**. Chapter in "Nanotechnology: Development and Influence on the Society" ISBN: 837587003X Alexander von Humboldt Foundation

Reports = 11

- European Space Agency (2016) Market creation as a core ESA mission in a changing global space sector. Mariana Mazzucato and Douglas K. R. Robinson. Available at: http://www.esa.int/About_Us/Business_with_ESA/Space_economy/Triggers_for_an_active_ind_ustrial_space_policy
- 2) NASA (2015) NASA's changing innovation policy: challenges and opportunities of 'directing' and 'facilitating' a new public-private innovation system in Low Earth Orbit Prepared by Mariana Mazzucato and Douglas K. R. Robinson. September 2015
- 3) ANR (2015) Mapping and characterising the dynamics of emerging technologies to inform policy Final Report v1.0 . Prepared by Philippe Larédo, Douglas K. R. Robinson, Aurélie Delemarle, Axel Lagnau, Michel Revollo and Lionel Villard. Project number: ANR-10-ORA-007. July 2015
- 4) European Commission (2015) ERA Critical Issues Report: Report of the Forward Visions on the European Research Area (VERA) project. Prepared by Laredo, P., Molas Gallart, J., Robinson, D. K. R., Ordonez Matamoros, H. G., Daimer, S., Schoen, A., & Kuhlmann, S. (2015).
- 5) European Commission (2014) ERA Scenario Report. VERA Deliverable D3.1. Project Number 290705. 7th Framework programme. SSH.2011.7.1-1 (http://eravisions.eu/) Prepared by Teufel, B., Lorenz, E., Schirrmeister, E., Daimer, S., Laredo, P., Schoen, A., Robinson, D. K. R. and Loikkanen, T.

- 6) OECD (2014) Challenges and Opportunities for Innovation through Technology: The convergence of Technologies. Report for the Committee of Science and Technology Policy. Party of Nanotechnology. Prepared by Douglas K. R. Robinson and Christien Enzing DSTI/STP(2013)15/FINAL. Declassified September 2014.
- 7) OECD (2014) Nanotechnology in the context of technology governance. Report for the Working Party of Nanotechnology. Prepared by Douglas K. R. Robinson and Christien Enzing DSTI/STP/NANO(2013)10/FINAL Declassified September 2014.
- 8) European Commission (2012) Performance Indicators in NMP Research Activities between the EU and Third Countries Comparative. Prepared by Augusto Medina, Douglas Thompson, Rachel Newton, Mette Christensen and Cláudia Drumond, Mark Morrison, Sergey Gordeyev, Keith Dingwall, Eleanor O'Rourke, and Douglas Robinson, Ad Notten and Lili Wang
- 9) INRA (2012) A singular trajectory in context. Report of an evaluative study, commissioned by INRA Directorate, of the Colmar GM field test trajectory and the dialogue between science and society. Prepared by Rip A & Robinson DKR (2012). January 2012
- 10) MESR (2011) "Biologie de synthèse : conditions d'un dialogue avec la société". Report for the Science and Society section of the French Ministry of Higher Education and Research, Prepared by Joly, P.-J., Laurent, B. Marris, C. and Robinson, D. (2011). November 2011
- 11) European Commission (2009) Nanotechnology in Agrifood. Report for the ObservatoryNANO project. EC FP7. Douglas K. R. Robinson and Mark Morrison. Version: 26.05.2009

$Workshops\ organised = 15$

A large part of my activities has been to create multi-stakeholder workshops. Whilst not being publications or projects per se, they are a fundamental element of my work over the past 13 years as a researcher in management of technology and innovation. For the list below I was main organiser for all except 3,4, 5 and 8. where I was co-organiser.

- 1. Does BCI mean business? A Constructive Technology Assessment of Brain Computer Interfaces, Asilomar, California (USA). A workshop which brought together medical device manufacturers, small companies, surgeons, clinicians, patients and neuroscientists to explore the bottlenecks, challenges and opportunities for getting BCI into use. International Brain-Computer Interface (BCI) Meeting, June 2016
- 2. Making explicit the assumed industry scenarios for the assessment of business cases for 3D bioprinting, Utrecht (NL). A Constructive Technology Assessment workshop exploring the next 10 years of technology transfer and product development in 3D bioprinting. Research directions, manufacutring, market and regulatory challenges where discussed. November 2014.
- 3. Visions of a European Research Area Scenario Assessment Workshop, European Commission, Brussels (BE). (co-organiser) As leader of the workpackage 4 on scenario assessment, the LATTS (now LISIS) team organised a multi-stakeholder event in Brussels with breakout groups to assess the four scenarios of the European Research Area in 2030. The outcome of this workshop led to a paper (see policy lensing article above). March 2014.
- 4. **Visions of a European Research Area Scenario Fleshing-out Workshop, Karlsruhe, (D).** (coorganiser) As part of the scenario development team (WP3 of the VERA project, see project list) I assisted in the organisation and animation of a scenario fleshing out workshop with stakeholders from international organisations, research and industry associations, innovation policy scholars and policy shapers. The outcome led to a number of scenarios to be found here: http://eravisions.eu/page/22/attach/WP3_ERA_Scenario_report_final_28052015.pdf March 2014...
- 5. Technology assessment and societal embedding Exploring innovation journeys for a microfluidic bilayer platform, MESA+, Enschede (NL). (co-organiser) I developed this Constructive Technology Assessment workshop with a microtechnology PhD student so she could

- have a technology assessment chapter in her thesis. The workshop brought together developers, investors, firms and potential users of lab-on-a-chip devices for screening with artificial membranes. It resulted in a chapter in her thesis and a book chapter (see Schulze Greiving et al. 2016 above).
- 6. **Designs on the Future in Asynchronous Circuits and Systems, Copenhagen (DK).** A workshop, in collaboration with Aurélie Delemarle and Bernard Kahane, which involved researchers in the asynchronous computer community where we collectively explored the variety visions of use of this technology and identification of bottlenecks. A workshop integrated into the 18th IEEE International Symposium on Asynchronous Circuits and Systems May 7-9, 2012
- 7. Nanotechnology and Agriculture, Glasgow, (UK). Involved researchers, regulators and companies involved in agrochemicals (including SYNGENTA, BASF and BAYERCROPSCIENCE). Exploring the emerging value chains in nanotechnology and the role they will play in future agricultural production systems. August 2010. With preliminary results presented at the XXVIII International Horticultural Congress IHC2010 during the same week.
- 8. Challenges for Nanotechnology in Health Applications, ObservatoryNano symposium, Düsseldorf (DE). Multi-stakeholder workshop describing the state of the art in nanomedicine and challenges for the next 5 years. March 2009.
- 9. Detecting deterioration in patients with chronic disease using telemonitoring, Cardiff, (UK). (co-organiser) Involved ICT researchers, medical doctors, nurses, policy makers, NHS administrators and social scientists. See publication (Elwyn et al 2011). May 2009
- 10. Novel implantable technologies for Neurodegenerative Disease: Technology Promises, Clinical Challenges, IMEC, Leuven (BE). (7th April 2008). Exploring the complexities and non-linearities of potential innovation journeys for Deep-Brain Stimulation for Psychiatric and Movement Disorders. Included large medical device manufacturers, small companies, innovation consultants, researchers and neurosurgeons. Written up in a publication (Robinson et al. 2013). April 2008
- 11. Nano-enabled siRNA delivery: from lab to clinic, iNano, Aarhus (DK). Exploring the broader healthcare regime shifts and the consequences for R&D and innovation in drug delivery. Workshop comprised researchers, medics and small firms. May 2007
- 12. **Responsible Research and Innovation: Towards a Best Nano-Practice, MESA+, Twente (NL)**. Exploring governance mechanisms in face of current development of soft law and codes of conduct. Participants included ministries, industry associations, researchers, Trade Unions, Occupational Health orgs & large firms. Led to a publication (Robinson 2009). December 2007
- 13. Vision Analysis for the emerging field of Molecular Machines, CEMES-CNRS, Toulouse (FR). Workshop on exploring the role of visions of molecular machines in shaping societal perceptions as well as development directions of fundamental science. May 2007.
- 14. **Cell-on-a-chip: bridging gaps in the innovation chain, de Rode Hoed, Amsterdam (NL).** Workshop comprised of start-up companies and research group leaders in lab-on-a-chip for cell analysis. Led to a publication (Robinson and Propp 2008). June 2006
- 15. **Habitat Design Workshop, European Space Agency, ESTEC, Noordwijk (NL)**. As Project Coordinator of the Habitat Design Workshop 2005 I successfully obtained a budget from the European Space Agency to run an 8-day workshop with 30 space and habitation design experts for 30 young professionals and postgraduates for a multi-disciplinary programme of lectures and design exercises translating into an interdisciplinary exercise of orbital and planetary space habitation complexes. April 2nd April 9th 2005

$Invited\ talks = 12$

1) French Ministry of Higher Education and Research. Inscription territorial d'une infrastructure. Douglas K. R. Robinson & Antoine Schoen. For a workshop organised by the Direction Générale de la Recherche et de l'Innovation. Paris, France. 22nd May 2017.

- 2) University Nova of Lisbon. Constructive Technology Assessment for managing the directions of development and impacts of breakthrough technologies. Invited talk for the department of Technology Assessment. Douglas K. R. Robinson. Portugal. 27th March 2017.
- 3) European Parliament Assessing the territorial embedding of marine biotechnology public research organisations. Presented at the meeting: Marine Knowledge: Supporting Marine Research Knowledge Exchange for Blue Growth, was held on 13th of October 2016, European Parliament, Brussels, Belgium.
- 4) Kings College London. Innovation pathways in 3D Bioprinting. Invited to present at focus group for the UK's Engineering Physical Sciences Research Council (EPSRC) project on mass customization governance of Redistributed Manufacturing (RDM) in 3D printing. Somerset House, London, UK. 4th November 2016.
- 5) University of Bergen. **Socio-economic impact assessment in marine biotechnology.** Invited speaker at the EMBRIC workshop on technology transfer and socio-economic impacts. Bergen, Norway. 5th October 2016.
- 6) Stazione Zoologica Anton Dohrn Evaluating socio-economic impacts of marine biotechnology: The case of Brown Algae and Brittany. Presented at the general assembly of the European Marine Biotechnology Research Infrastructure Cluster (EMBRIC), Napoli, Italy. 13th September 2016.
- 7) Brain Computer Interface Society. Constructive Technology Assessment and Brain Computer Interface. Invited speaker at a workshop conducted in parallel to the BCI 2016 Congress, Asilomar, California, US. May 2016
- 8) Arizona State University. **Invited scholar representing and presenting UMR-LISIS.** School for the Future of Innovation in Society. Tempe, Arizona, May 20th 27th 2016.
- 9) NASA HQ. The Shifting Mission and Associated Tensions of NASA in the Creation of a Low-Earth Orbit Economy. Invited to NASA to present on mine and Prof. Mazzucato's work on space innovation policy. NASA HQ, Washington, US. March 30th 2015
- 10) NASA HQ. Active or Passive Innovation Policy and how to define Public Value. Invited talk comprising myself and Prof. Mariana Mazzucato for the economics working group on the future low-earth orbit economic zone. NASA HQ, Washington, US. January 31st 2015
- 11) OECD/NNI. **Indicators of socioeconomic impacts in Nanotechnology.** International Symposium on Assessing the Economic Impact of Nanotechnology. OECD and US National Nanotechnology Iniatiative. Washington, DC on March 27-28, 2012. IoN Nanomedicine
- 12) Cardiff University. **Multipath Mapping.** Presented at the workshop Multipath mapping of telemonitoring technologies. Cardiff University, May 2009. I was invited to present my technique, which they then used in the workshop, hiring me as animator for a day. Details are published here: doi:10.1016/j.ijmedinf.2011.07.002

Conference paper presentations in 2016 = 8

- 1. **European Science Policy Research (EU-SPRI) Annual Meeting 2016.** The embedding of emerging technology fields in research and markets. Robinson, D. K. R., Laredo, P., Delemarle, A. and Lagnau, A. Early draft presented at EU-SPRI conference, Lund, June 2016.
- 2. Additive Manufacturing in Transition: Mobilising framing and overflowing to understand the creation and normalisation of protected spaces. Paper to be presented at the

- SPRU 50th Anniversary conference (9th/10th September) Robinson, D. K. R., Laredo, P. and Lagnau.
- 3. The Ecosystem Implications of Commercialization Objectives in Mission-Oriented Public Agencies. Paper to be presented at the SPRU 50th Anniversary conference (9th/10th September). Mazzucato, M. and Robinson D. K. R.
- 4. Mapping 'devices of responsibility' over a decade of responsible research and innovation initiatives for nanoscience and nanotechnology. Shelley-Egan, C., Bowman, D.M. and Robinson, D. K. R. (S.NET), Bergen, Norway. 12th 14th October 2016. Robinson, D. K. R., Laredo, P. and Lagnau.
- 5. Dominant designs and the formation of niches: an evolutionary look at the emergence and branching of 3D printing. Paper presented at the 8th meeting of the Society for the Study of New and Emerging Technologies (S.NET), Bergen, Norway. 12th 14th October 2016. Robinson, D. K. R., Laredo, P. and Lagnau.
- 6. **Institutionalising promises: The key role of promise champions in mediating and embedding visions of the future into institutions**. Presented at the 4S/EASST meeting August 31st September 3rd 2016, Barcelona. Robinson, D. K. R., Delemarle, A., & Laredo, P.
- 7. Assessing marine biotechnology research centres in peripheral regions: developing global and local STI indicators. To be presented and published at the 21st International Conference on Science and Technology Indicators | València (Spain) | September 14-16, 2016. Robinson, D. K. R., Schoen, A. and Laurens, P., Horellou, S., Colas, P. and Larédo, P.
- 8. Characterizing the Variety of Developments Under the Umbrella of 3D Printing and the Future and Present Governance Challenges. Fourth Annual Conference on Governance of Emerging Technologies: Law, Policy, and Ethics. May 24-26, 2016 / Tempe, Arizona. Douglas K. R. Robinson