

Professor. Melinda Hodkiewicz

Mechanical Engineering

UWA Data Institute

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Biography

Professor Melinda Hodkiewicz BA Hons (Oxon), PhD, CEng, FTSE is engineering academic working to improve maintenance, asset management and safety practices in industry. Data and the management and use of data is key to her work. She is active in development of the field of Technical Language Processing (TLP). TLP covers the adaption of natural language processing, knowledge graphs, ontologies and large language models to unstructured technical engineering texts.

In 2018 she was a visiting fellow at the Alan Turing Institute, the national centre for data science in the UK with their Data-centric Engineering group and in 2019 with the US Government's NIST Laboratory in Maryland. In 2021 she joined the Standards Australia EL069 committee focussing on Australia's input into the ISO TC184 SC4 committee on Industrial Data.

Melinda was the BHP Fellow for Engineering for Remote Operations 2015-2022. She was on the leadership team for the \$8.8M Australian Government and industry co-funded Training Centre for Transforming Maintenance through Data Science. She leads the Maintenance Working Group for Industrial Ontology Foundry and is active in ISO 23726 standard Automation systems and integration -- Ontology based interoperability and development of the Industrial Data Ontology.

In 2016 Melinda was awarded the MESA Medal – The Lifetime Achievement Award for services to the asset management community in Australia and in 2019 was made a Fellow of the Australian Academy of Technology and Engineering. In 2022 she was a finalist in the Australian/ NZ Women in AI awards for the manufacturing sector.

Melinda was a member of the Advisory Board of NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) for 6 years until 2022 and the Board of MRIWA (WA Government's Mineral Research Institute) 2021/22. She sat on the Advisory committee for METS Ignited and acted as a reviewer for the Federal Government's MMI funding program.

From 2012-2015 Melinda chaired Australia's MB19 committee and led Australia's involvement in the development of the ISO 55000/1/2 International Standards for Asset Management and the issuing of Australian AS/NZ edition.

Qualifications

Metallurgy, BA(Hons), Metallurgy and Science of Materials, University of Oxford

1981 → 1985

Award Date: 19 Jan 2029

Engineering, PhD, The effect of partial-flow operation on the axial vibration of double-suction pumps, The University of Western Australia

... → 2014

Award Date: 20 Apr 2022

2019 → ... Member of IEEE, IEEE

2019 → ... Member of the Australian Academy of Technology and Engineering, ATSE

1992 → ... Member of Institute of Materials, Minerals and Mining, IOM3

Employment

Professor

Mechanical Engineering

School of Engineering

1 Mar 2004 → present

UWA Data Institute

The University of Western Australia

21 Apr 2022 → present

Committee Member

Standards Australia Technical Committee EL-069 'Automation Systems and Integration'

1 Mar 2022 → present

Board member

Minerals Research Institute of Western Australia

East Perth, Australia

1 Feb 2022 → present

Visiting Researcher

National Institute of Standards and Technology

United States

1 Nov 2019 → 1 Dec 2019

Visiting Fellow

Alan Turing Institute

London, United Kingdom

1 Jan 2018 → 1 Feb 2019

Board Member

National Offshore Petroleum Safety and Environmental Management Authority

Australia

1 Mar 2017 → present

Comittee Member

Member of the RIAC (Research and Innovation Council) committee

1 Jul 2016 → 1 Dec 2021

Chair

Standards Australia MB19 Committee for ISO 55000 Standard

Australia

1 Jan 2010 → 1 Jan 2014

Research outputs

OpenBoltRF: An open-source workflow to analyse load transfer for geometrically imperfect bolted ring-flanges in offshore wind turbines.

Jorgensen, J. H., Hodkiewicz, M., Cripps, E. & Hassan, G. M., 31 Jan 2024

Industrial Ontology Foundry (IOF) Maintenance Reference Ontology

Hodkiewicz, M., Woods, C., Selway, M. & Stumptner, M., 2024

Embedding data science innovations in organizations: a new workflow approach

Li, K., Griffin, M. A., Barker, T., Prickett, Z., Hodkiewicz, M. R., Kozman, J. & Chirgwin, P., 3 Nov 2023, In: Data-Centric Engineering. 4, 4, 300022.

An ontology for maintenance procedure documentation

Woods, C., French, T., Hodkiewicz, M. & Bikaun, T., 10 Aug 2023, In: Applied Ontology. 18, 2, p. 169-206 38 p.

Requirements for the application of the Digital Twin Paradigm to offshore wind turbine structures for uncertain fatigue analysis

Jorgensen, J., Hodkiewicz, M., Cripps, E. & Hassan, G. M., Feb 2023, In: Computers in Industry. 145, 103806.

RelOps – A Whole-of-Organisation Approach for Reliability Analytics

Hodkiewicz, M., Bikaun, T. & Stewart, M., 2023, *16th WCEAM Proceedings, 2022*. Crespo Márquez, A., Gómez Fernández, J. F., González-Prida Díaz, V. & Amadi-Echendu, J. (eds.). Springer Science + Business Media, p. 45-55 11 p. (Lecture Notes in Mechanical Engineering).

MWO2KG and Echidna: Constructing and exploring knowledge graphs from maintenance data

Stewart, M., Hodkiewicz, M., Liu, W. & French, T., 5 Nov 2022, (E-pub ahead of print) In: *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*. 13 p.

Probabilistic assessment of the effect of bolt pre-load loss over time in offshore wind turbine bolted ring-flanges using a gaussian process surrogate model

Jorgensen, J., Hodkiewicz, M., Cripps, E. & Hassan, G. M., Oct 2022, *Ocean Renewable Energy*. ASME International, Code 183473. (Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering - OMAE; vol. 8).

Probabilistic Assessment of the Effect of Bolt Pre-Load Loss Over Time in Offshore Wind Turbine Bolted Ring-Flanges Using a Gaussian Process Surrogate Model

Hodkiewicz, M., Cripps, E. & Hassan, G. M., 5 Jun 2022.

Automatic semantic knowledge extraction from electronic forms

Wu, H., French, T., Liu, W. & Hodkiewicz, M., 23 May 2022, In: *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*.

Managing streamed sensor data for mobile equipment prognostics

Griffiths, T., Corrêa, D., Hodkiewicz, M. & Polpo, A., 6 Apr 2022, In: *Data-Centric Engineering*. 3, 1, e11.

Data-driven approach for labelling process plant event data

Corrêa, D., Polpo, A., Small, M., Srikanth, S., Hollins, K. & Hodkiewicz, M., 2022, In: *International Journal of Prognostics and Health Management*. 13, 1

Natural Language Query for Technical Knowledge Graph Navigation

Zhao, Z., Stewart, M., Liu, W., French, T. & Hodkiewicz, M., 2022, *Data Mining - 20th Australasian Conference, AusDM 2022, Proceedings*. Park, L. A. F., Simoff, S., Gomes, H. M., Doborjeh, M., Boo, Y. L., Koh, Y. S., Zhao, Y. & Williams, G. (eds.). Singapore: Springer, p. 176-191 16 p. (Communications in Computer and Information Science; vol. 1741 CCIS).

Using Context-Free Grammar to Generate Synthetic Technical Short Texts

Bikaun, T., Stewart, M. & Hodkiewicz, M., 2022, *AI 2022: Advances in Artificial Intelligence - 35th Australasian Joint Conference, AI 2022, Proceedings*. Aziz, H., Corrêa, D. & French, T. (eds.). Springer Science + Business Media, Vol. 13728. p. 325-338 14 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 13728 LNAI).

Informative Bayesian Survival Analysis to Handle Heavy Censoring in Lifetime Data

Leadbetter, R., Phatak, A., Polpo, A. & Hodkiewicz, M., 12 Dec 2021, p. 1-6.

Beamforming using Digital Piezoelectric MEMS Microphone Array

Leman, R., Travaglione, B. & Hodkiewicz, M., 19 Nov 2021, arXiv.

LexiClean: An annotation tool for rapid multi-task lexical normalisation

Bikaun, T., French, T., Hodkiewicz, M., Stewart, M. & Liu, W., Nov 2021, *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing: System Demonstrations*. USA: Association for Computational Linguistics, p. 212-219

An ontology for reasoning over engineering textual data stored in FMEA spreadsheet tables

Hodkiewicz, M., Klüwer, J. W., Woods, C., Smoker, T. & Low, E., Oct 2021, In: *Computers in Industry*. 131, 103496.

Predicting Bolt Stress Under Uncertainty in Offshore Wind Turbine Structural Connections Using a Gaussian Process Surrogate Model

Jorgensen, J., Hodkiewicz, M., Cripps, E. & Hassan, G. M., 20 Jun 2021, *Proceedings of the Thirty-First International Ocean and Polar Engineering Conference*. International Society of Offshore and Polar Engineers, p. 477-484 8 p.

Using job characteristics to inform interface design for industrial maintenance procedures

Woods, C., Griffin, M. A., French, T. & Hodkiewicz, M., 6 May 2021, *CHI 2021 - Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems: Making Waves, Combining Strengths*. Association for Computing Machinery (ACM), (Conference on Human Factors in Computing Systems - Proceedings).

Rethinking maintenance terminology for an industry 4.0 future

Hodkiewicz, M., Lukens, S., Brundage, M. P. & Sexton, T., 21 Mar 2021, In: *International Journal of Prognostics and Health Management*. 12, p. 1-14 14 p.

Parameter extraction with reservoir computing: Nonlinear time series analysis and application to industrial maintenance

Thorne, B., Jüngling, T., Small, M. & Hodkiewicz, M., 1 Mar 2021, In: *Chaos*. 31, 3, 033122.

Editorial: Data-Driven Cognitive Manufacturing—Applications in Predictive Maintenance and Zero Defect Manufacturing

Kiritsis, D., Lazaro, O., Hodkiewicz, M., Lee, J. & Ni, J., 8 Feb 2021, In: *Frontiers in Computer Science*. 2, 633850.

Variable selection for conveyor-belt mean wear rate prediction

Khan, N., Sikorska, J., Webb, C. & Hodkiewicz, M., 4 Feb 2021, In: *Insights in Mining Science & Technology*. 2, 4, p. 151-172 23 p.

Technical language processing: Unlocking maintenance knowledge

Brundage, M. P., Sexton, T., Hodkiewicz, M., Dima, A. & Lukens, S., Jan 2021, In: *Manufacturing Letters*. 27, p. 42-46 5 p.

Detecting Asset Cascading Failures Using Complex Network Analysis

Moffatt, J., Zaitouny, A., Hodkiewicz, M. R. & Small, M., 2021, In: *IEEE Access*. 9, p. 120624-120637 14 p., 9524642.

On the notion of maintenance state for industrial assets

Woods, C., Selway, M., Hodkiewicz, M., Ameri, F., Stumptner, M. & Sobel, W., 2021, In: *CEUR Workshop Proceedings*. 2969, 14 p.

Framework for Validation of Permanently Installed MEMS-Based Acquisition Devices Using Soft Sensor Models

Bartels, A., Cripps, E., Keating, A., Milne, I., Travaglione, B. & Hodkiewicz, M., Sept 2020, In: *CivilEng*. 1, 2, p. 93-105 13 p., 7.

Data-driven reliability analysis of Boeing 787 Dreamliner

Pandian, G., Pecht, M., Zio, E. & HODKIEWICZ, M., Jul 2020, In: *Chinese Journal of Aeronautics*. 33, 7, p. 1969-1979 11 p.

Developing and evaluating predictive conveyor belt wear models

Webb, C., Sikorska, J., Khan, R. N. & Hodkiewicz, M., 18 Jun 2020, In: *Data-Centric Engineering*. 1, 1-2, 17 p., e13.

Digitalization and reasoning over engineering textual data stored in spreadsheet tables

Hodkiewicz, M., Kluwer, J. W., Woods, C., Smoker, T. & French, T., 2020, In: *IFAC-PapersOnLine*. 53, 3, p. 239-244 6 p.

Interpretable Survival Models for Predictive Maintenance

Castle, P., Ham, J., Hodkiewicz, M. & Polpo, A., 2020, *Proceedings of the 30th European Safety and Reliability Conference and 15th Probabilistic Safety Assessment and Management Conference (ESREL2020 PSAM15)*. Baraldi, P., Di Maio, F. & Zio, E. (eds.). Research Publishing, p. 3392-3399 8 p.

Sensing system for low cost condition monitoring of remote assets

Ziegelaar, A. J., Travaglion, B. C. & Hodkiewicz, M. R., 2020, In: IFAC-PapersOnLine. 53, 3, p. 60-65 6 p.

Template libraries for industrial asset maintenance: A methodology for scalable and maintainable ontologies

Lupp, D. P., Hodkiewicz, M. & Skjæveland, M. G., 2020, In: CEUR Workshop Proceedings. 2757, p. 49-64 16 p.

Requirements for adaptive user interfaces for industrial maintenance procedures: A discussion of context, requirements and research opportunities

Woods, C., Hodkiewicz, M. & French, T., Dec 2019, *Proceedings of the 31st Australian Conference on Human-Computer-Interaction, OzCHI 2019*. USA: Association for Computing Machinery (ACM), p. 322-326 5 p. (ACM International Conference Proceeding Series).

IEEE Access Special Section Editorial: Intelligent Systems for the Internet of Things

Qiu, T., Tsai, C. W., Cecati, C., Rodrigues, J. J. P. C., Rawat, P., Song, H., Piccialli, F. & Hodkiewicz, M., 18 Oct 2019, In: IEEE Access. 7, p. 146342-146347 6 p., 8877491.

Where do we start? guidance for technology implementation in maintenance management for manufacturing

Brundage, M. P., Sexton, T., Hodkiewicz, M., Morris, K. C., Arinez, J., Ameri, F., Ni, J. & Xiao, G., 1 Sept 2019, *Additive Manufacturing; Manufacturing Equipment and Systems; Bio and Sustainable Manufacturing*. USA: ASME International, (ASME 2019 14th International Manufacturing Science and Engineering Conference, MSEC 2019; vol. 1).

Where Do We Start? Guidance for Technology Implementation in Maintenance Management for Manufacturing

Brundage, M. P., Sexton, T., Hodkiewicz, M., Morris, K. C., Arinez, J., Ameri, F., Ni, J. & Xiao, G., Sept 2019, In: Journal of Manufacturing Science and Engineering. 141, 9, 16 p., 091005.

Uncertainty Quantification of Density and Stratification Estimates with Implications for Predicting Ocean Dynamics

Manderson, A., Rayson, M. D., Cripps, E., Girolami, M., Gosling, J. P., Hodkiewicz, M., Ivey, G. N. & Jones, N. L., Jul 2019, In: Journal of Atmospheric and Oceanic Technology. 36, 8, p. 1313-1330 18 p.

A Bayesian approach to the quantification of extremal responses in simulated dynamic structures

Astfalck, L. C., Cripps, E. J., Hodkiewicz, M. R. & Milne, I. A., 15 Jun 2019, In: Ocean Engineering. 182, p. 594-607 14 p.

Risk prioritisation for cultural and arts infrastructure

Pham, A., Foster, D., Soo, C. & Hodkiewicz, M., 2019, *Asset Intelligence through Integration and Interoperability and Contemporary Vibration Engineering Technologies: Proceedings of the 12th World Congress on Engineering Asset Management and the 13th International Conference on Vibration Engineering and Technology of Machinery*. Springer, p. 483-490 8 p. (Lecture Notes in Mechanical Engineering).

ROMAIN: Towards a BFO compliant reference ontology for industrial maintenance

Karray, M. H., Ameri, F., Hodkiewicz, M. & Louge, T., 2019, In: Applied Ontology. 14, 2, p. 155-177 23 p.

Expert elicitation of directional metocean parameters

Astfalck, L. C., Cripps, E. J., Gosling, J. P., Hodkiewicz, M. R. & Milne, I. A., 1 Aug 2018, In: Ocean Engineering. 161, p. 268-276 9 p.

A new look at compliance with work procedures: An engagement perspective

Hu, X., Griffin, M. A., Yeo, G., Kanse, L., Hodkiewicz, M. & Parkes, K., 1 Jun 2018, In: Safety Science. 105, p. 46-54 9 p.

Fault prediction and modelling in transport networks

Ballantyne, A., Lawrance, N., Small, M., Hodkiewicz, M. & Burton, D., 26 Apr 2018, *2018 IEEE International Symposium on Circuits and Systems, ISCAS 2018 - Proceedings*. New York: IEEE, Institute of Electrical and Electronics Engineers, Vol. 2018-May. 8351658

Methods for displaying and calibration of Cox proportional hazards models

Bharat, C. I., Murray, K., Cripps, E. & Hodkiewicz, M. R., 1 Feb 2018, In: Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability. 232, 1, p. 105-115 11 p.

Are you sure you want me to follow this? A study of procedure management, user perceptions and compliance behaviour

Kanse, L., Parkes, K., Hodkiewicz, M., Hu, X. & Griffin, M., 1 Jan 2018, In: Safety Science. 101, p. 19-32 14 p.

Cox Proportional Hazards modelling of blockage risk in vitrified clay pipes

Xie, W., Bharat, C. I., Khan, N. N., Best, A. & Hodkiewicz, M. J., 9 Aug 2017, In: Urban Water Journal. 14, 7, p. 669-675 7 p.

Characterizing the Performance of LED Reflective Distance Sensors

Khubchandani, S., Hodkiewicz, M. R. & Keating, A., 25 Jul 2017, In: IEEE Access. 5, p. 14289-14297 9 p., 7990492.

Applying cognitive computing to maintainer-collected data

Smoker, T. M., French, T., Liu, W. & Hodkiewicz, M. R., 2 Jul 2017, *2017 2nd International Conference on System Reliability and Safety, ICSRS 2017*. USA: IEEE, Institute of Electrical and Electronics Engineers, Vol. 2018-January. p. 543-551 9 p.

Why autonomous assets are good for reliability – the impact of ‘operator-related component’ failures on heavy mobile equipment reliability

Hodkiewicz, M. R., Batsioudis, Z., Radomiljac, T. & Ho, M. T-W., 2017, *Proceedings of the Annual Conference of the Prognostics and Health Management Society 2017*. Daigle, M. J. & Bregon, A. (eds.). PHM Society, Vol. 8. p. 552-558 7 p. (Proceedings of the Annual Conference of the Prognostics and Health Management Society, PHM).

Long-term reliability of lead-free electronic systems

Pandian, G. P., Ramaswami, G. K., Hodkiewicz, M., Cripps, E. & Pecht, M., 9 Sept 2016, *Proceedings of the 2016 IEEE International Symposium on the Physical and Failure Analysis of Integrated Circuits*. Narang, V. (ed.). USA: IEEE, Institute of Electrical and Electronics Engineers, p. 305-311 7 p. 7564306

A fusion prognostics-based qualification test methodology for microelectronic products

Pecht, M., Shibutani, T., Kang, M., Hodkiewicz, M. & Cripps, E., 1 Aug 2016, In: Microelectronics Reliability. 63, p. 320-324 5 p.

IoT-Based Prognostics and Systems Health Management for Industrial Applications

Kwon, D., Hodkiewicz, M., Fan, J., Shibutani, T. & Pecht, M. G., 25 Jul 2016, In: IEEE Access. 4, p. 3659-3670 12 p., 7520653.

Cleaning historical maintenance work order data for reliability analysis

Hodkiewicz, M. & Ho, M. T. W., 9 May 2016, In: Journal of Quality in Maintenance Engineering. 22, 2, p. 146-163 18 p.

A collaborative data library for testing prognostic models

Sikorska, J. Z. Z., Hodkiewicz, M. J., D'Cruz, A. D., Astfalck, L. C. & Keating, A., 2016, *EUROPEAN CONFERENCE OF THE PROGNOSTICS AND HEALTH MANAGEMENT SOCIETY 2016*. Lung, B. & Zhang, B. (eds.). Prognostics and Health Management Society, 11 p.

A Modelling Ecosystem for Prognostics

Astfalck, L. C., Hodkiewicz, M. J., Keating, A., Cripps, E. J. & Pecht, M., 2016, *Proceedings of the Annual Conference of the Prognostics and Health Management Society 2016*. Daigle, M. J. & Bregon, A. (eds.). United States: Prognostics and Health Management Society, p. 273-281 9 p.

A sequential k-nearest neighbor classification approach for data-driven fault diagnosis using distance- and density-based affinity measures

Pecht, M., Kang, M., Ramaswami, G. K., Hodkiewicz, M., Cripps, E. & Kim, J. M., 2016, In: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). 9714, p. 253-261

Asset Planning Performance Measurement

Arthur, D., Schoenmaker, R., Hodkiewicz, M. & Sugandree, M., 2016, *Proceedings of the 10th World Congress on Engineering Asset Management (WCEAM 2015)*. Koskinen, K. T., Kortelainen, H., Aaltonen, J., Uusitalo, T., Komonen, K., Mathew, J. & Laitinen, J. (eds.). Springer, p. 79-95 17 p. (Lecture Notes in Mechanical Engineering).

Asset management - quo vadis (where are you going)?

Hodkiewicz, M., 2015, In: *International Journal of Strategic Engineering Asset Management*. 2, 4, p. 313-327

A vibration cavitation sensitivity parameter based on spectral and statistical methods

Mckee, K. K., Forbes, G. L., Mazhar, I., Entwistle, R. D., Hodkiewicz, M. & Howard, I. M., 2015, In: *Expert Systems with Applications*. 42, 1, p. 67-78

Cavitation Sensitivity Parameter Analysis for Centrifugal Pumps Based on Spectral Methods

Mckee, K. K., Forbes, G., Mazhar, I., Entwistle, R., Hodkiewicz, M. & Howard, I., 2015, *Cavitation Sensitivity Parameter Analysis for Centrifugal Pumps Based on Spectral Methods*. Tse, P. W. T., Mathew, J., Wong, K., Lam, R. & Ko, C. N. (eds.). Switzerland: Springer International Publishing, Vol. 19. p. 75-85

Classifying machinery condition using oil samples and binary logistic regression

Phillips, J., Cripps, E., Lau, J. & Hodkiewicz, M., 2015, In: *Mechanical Systems and Signal Processing*. 60-61, 1, p. 316-325

Designing SNAKES AND LADDERS: An Analogy for Asset Management Strategy Development

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The development of ISO 55000 series standards

Hodkiewicz, M., 2015, *Engineering Asset Management - Systems, Professional Practices and Certification*. Hong Kong: Springer, Vol. N/A. p. 427-438

A conceptual framework and practical guide for assessing fitness-to-operate in the offshore oil and gas industry

Griffin, M., Hodkiewicz, M., Dunster, J., Kanse, L., Parkes, K., Finnerty, D. S., Cordery, J. & Unsworth, K., 2014, In: *Accident Analysis and Prevention*. 68, p. 156-171

A cost-benefit analysis of electric loaders to reduce diesel emissions in underground hard rock mines

Jacobs, W., Hodkiewicz, M. & Braunl, T., 2014, *Industry Applications Society Annual Meeting 2014*. United States: IEEE, Institute of Electrical and Electronics Engineers, Vol. 2. p. 10

A general articulation angle stability model for non-slewing articulated mobile cranes on slopes

Wu, J., Guzzomi, A. & Hodkiewicz, M., 2014, In: *Australian Journal of Mechanical Engineering*. 12, 1, p. 131-138

A single cavitation indicator based on statistical parameters for a centrifugal pump

Mckee, K. K., Forbes, G., Mazhar, I., Entwistle, R., Hodkiewicz, M. & Howard, I., 2014, *Proceedings of the 7th World Congress on Engineering Asset Management (Wceam 2012)*. Switzerland: Springer, Vol. 8. p. 6pp

Asset data quality - A case study on mobile mining assets

Ho, M. T., Hodkiewicz, M., Pun, C., Petchey, J. & Li, Z., 2014, *World Congress on Engineering Asset Management*. Hong Kong: Springer, Vol. 1. p. 335-349

Insights Gained from Analysis of Performance and Participation in a Flipped Classroom

Hodkiewicz, M., 2014, In: *Education Research and Perspectives*. 41, p. 254-284

Rail Wagon Bearings Health Management based on Imperfect Acoustic Information

Ghasemi, A. & Hodkiewicz, M., 2014, *World Congress on Engineering Asset Management*. London: Springer, Vol. 6. p. 179-190

Static stability analysis of non-slewing articulated mobile cranes

Wu, J., Guzzomi, A. & Hodkiewicz, M., 2014, In: Australian Journal of Mechanical Engineering. 12, 1, p. 60-76

The diesel-electric debate for underground mines — health and economic perspectives.

Williams, J., Brauni, T. & Hodkiewicz, M., 2014, In: Australian Resources and Investment Magazine. 8, 1, p. 2

Are managerial pressure, technological control and intrinsic motivation effective in improving data quality?

Molina, R., Unsworth, K., Hodkiewicz, M. & Adriasola, E., 2013, In: Reliability Engineering and System Safety. 119, n/a, p. 26-34

Estimation, management and extension of the life of ultra-supercritical power plants

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Factors that influence failure behaviour and remaining useful life of mining equipment components

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Is there a relationship between failure behaviour of mining equipment components and orebody geology

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Optimised asset replacement strategy in the presence of lead time uncertainty

Richardson, S., Kefford, A. & Hodkiewicz, M., 2013, In: International Journal of Production Economics. 141, 2, p. 659–667

Relevant asset health information for executives

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Case study: Rio Tinto

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Estimating mean residual life for a case study of rail wagon bearings

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Interventions aimed at improving data quality

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Seeing RED – Asset Health Information for Executives

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Snakes and Ladders – identifying risks to asset management strategy

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The Role of Organizational Factors in Achieving Reliability in the Design and Manufacture of Subsea Equipment

Parkes, K., Hodkiewicz, M. & Morrison, D., 2012, In: Human Factors and Ergonomics in Manufacturing. 2011, p. 1-19

Availability simulation modelling of a roasting process system

Kuruppu, Y. & Hodkiewicz, M., 2011, *Proceedings of the Sixth World Congress on Engineering Asset Management*. United States: Springer, Vol. 6. p. 7pp

Case study: Level of service criteria for critical rotating assets

Haines, S. & Hodkiewicz, M., 2011, *Proceedings of the Sixth World Congress on Engineering Asset Management*. United States: Springer, Vol. 6. 8 p.

Goal hierarchy: Improving asset data quality by improving motivation

Unsworth, K., Adriasola, E., Johnston-Billings, A., Dmitrieva, A. & Hodkiewicz, M., 2011, In: *RELIABILITY ENGINEERING & SYSTEM SAFETY*. 96, 11, p. 1474-1481

Integrated model for optimizing strategic overhaul planning of distributed pump stations

Pascual, R., Rey, P. A., Hodkiewicz, M. & Cruz, C., 2011, In: *Journal of Computing in Civil Engineering*. 25, p. 275-282

Modeling Tool to Support Budgeting and Planning Decisions for Pump Overhauls

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Prognostic modelling options for remaining useful life estimation by industry

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Challenges and Opportunities for Simulation Modelling Integrating Mine Haulage and Truck Shop Operations

Hodkiewicz, M., Richardson, S. & Durham, R., 2010, *Proceedings of the 2010 Australian Mining Technology Conference "Technology changing the mining business footprint"*. Queensland, Australia, Vol. 2010. p. 163-172

The Role of Data in Operational Decision Making for the Mining Industry

Ho, M. T., Hodkiewicz, M. & Shen, K., 2010, *Proceedings of the 2010 Australian Mining Technology Conference*. Queensland, Australia: CRC Mining, Vol. NA. p. 145-162

Asset Management - A game of snakes and ladders?

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Performance indicators for process plant

Hastings, N. A. & Hodkiewicz, M., 2009, *Proceedings of the ICOMS Asset Management Conference*. Sikarska, J. (ed.). Sydney, NSW, Australia ed. Australia: Asset Management Council, Vol. CD ROM. p. CD ROM

Rapid availability model development using delay accounting data

Veron, B. & Hodkiewicz, M., 2009, *Proceedings of the ICOMS Asset Management Conference*. Sikarska, J. (ed.). Sydney, NSW, Australia ed. Australia: Asset Management Council, Vol. CD ROM. p. CD ROM

Expressing tacit knowledge: Bayesian networks for maintenance applications

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Engagement/activities

Member of Standards Australia Committee EL-069 on 'Automated Systems and Integration'

Melinda Hodkiewicz (Consultant)

17 Mar 2022 → ...

Board Member MRIWA (Minerals Research Institute of Western Australia)

Melinda Hodkiewicz (Consultant)

1 Feb 2022

Engineering for Change: Renewable and Future Energy

Tara Broadhurst (Speaker), Christophe Gaudin (Speaker), Britta Bienen (Speaker), Zach Aman (Speaker) & Melinda Hodkiewicz (Speaker)

30 Sept 2020

Board Member of NOPSEMA - National Offshore Petroleum Safety and Environmental Management Authority

Melinda Hodkiewicz (Consultant)

1 Mar 2017

Prizes/awards**ATSE**

Hodkiewicz, Melinda (Recipient), Oct 2020

Fellowship of ATSE (Academy of Technological Sciences and Engineering)

Hodkiewicz, Melinda (Recipient), 1 Nov 2020

Finalist in the Australia/ NZ Women in AI awards 2022 for Manufacturing category

Hodkiewicz, Melinda (Recipient), 31 Mar 2022

MESA Medal

Hodkiewicz, Melinda (Recipient), 1 Dec 2016

UWA Faculty of Engineering Award for Individual Teaching Excellence

Hodkiewicz, Melinda (Recipient), 1 Sept 2013

Visiting Fellow

Hodkiewicz, Melinda (Recipient), 1 Feb 2018