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Human Factors
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Research profile

John Clarkson returned to the Department of Engineering at the University of Cambridge in 1995 following a seven-year spell with PA Consulting Group's Technology Division. He was appointed director of the Engineering Design Centre in 1997 and a Full Professor in 2004. He has been directly involved in the teaching of design at all levels of the undergraduate course.

At PA John was Manager of the Advanced Process Group where he gained wide experience of product development with a particular focus on the design of medical equipment and high-integrity systems, where clients required a risk-based systems approach to design to ensure timely delivery of safe systems.

His research interests are in the general area of engineering design, particularly the development of design methodologies to address specific design issues, for example, healthcare design, inclusive design, process management, change management and automotive design. As well as publishing over 800 papers, he has written and edited a number of books on medical equipment design, inclusive design and process management.

John is leading a team with the Royal Academy of Engineering, the Royal College of Physicians, the Royal College of Anaesthetists and the Academy of Medical Sciences to develop Engineering Better Care, a systems approach to health and care redesign and improvement, and an accompanying toolkit for Improving Improvement. He has also recently been appointed Professor of Healthcare Systems in the Faculty of Industrial Design Engineering at TU Delft.

Qualifications

Doctorate, Engineering design, University of Cambridge
Award Date: 28 Jan 2017

Doctorate, Electrical Engineering, University of Cambridge
Award Date: 14 May 1988

Master's degree, Engineering / Electrical Sciences, University of Cambridge
Award Date: 19 Mar 1988

Bachelor's degree, Engineering / Electrical Sciences, University of Cambridge
Award Date: 29 Jun 1984

Employment

Full Professor

Human Factors
Delft University of Technology
15 May 2020 → 10 Feb 2029

Full Professor

University of Cambridge
Cambridge, United Kingdom
1 Apr 1995 → present

Research outputs

Exploring indicators of system-of-systems resilience: outcomes of a health systems design workshop at an international conference

Pannunzio, V., Komashie, A., Milne, R., Walsh, S., Kipouros, T., Lame, G., Maier, A., Brayne, C. & Clarkson, P. J., 2024, In: Proceedings of the Design Society. 4, p. 2675-2684 10 p.

Applying a participatory systems and value approach in a transdisciplinary exercise: on assessing the impact of training and education initiatives

Akinluyi, E. A., Greenough, A., Ison, K. & Clarkson, P. J., 2023, (Accepted/In press) In: Health Systems . 12, 4, p. 446-460 15 p.

A study to depict challenges and opportunities building industry professionals face when designing inclusive and accessible buildings

Zallio, M. & Clarkson, P. J., 2023, In: *Architectural Science Review*. 67, 3, p. 268-279 12 p.

Effectiveness of the Inclusive Design Wheel in Practice: Lessons from Five Pilot Projects

Goodman-Deane, J. A., Bradley, M. D., Lazzarini, B., Roca, E., Waller, S. D. & Clarkson, P. J., 2023, *Design for Sustainable Inclusion: CWUAAT 2023*. Goodman-Deane, J. (ed.). p. 191-200 10 p.

Experimental Measurement of the Size of Gaps Required to Compromise Fit of an N95 Respirator

O'Kelly, E., Arora, A., Pirog, S., Ward, J. & Clarkson, P. J., 2023, In: *Disaster Medicine and Public Health Preparedness*. 17, 1, e118.

Function driven assessment of manufacturing risks in concept generation stages

Brahma, A., Panarotto, M., Kipouros, T., Isaksson, O., Andersson, P. & Clarkson, P. J., 2023, In: *Proceedings of the Design Society*. 3, p. 1995-2004 10 p.

The Ethics of the Metaverse and Digital, Virtual and Immersive Environments: Metavethics

Zallio, M. & Clarkson, P. J., 2023, *The Future of Metaverse in the Virtual Era and Physical World*. Hassanien, A. E. (ed.). Springer, p. 93-103 11 p. (Studies in Big Data; vol. 123).

Towards a better understanding of mental health care delivery systems: From stories to system components

Komashie, A., Rae, S. & Clarkson, P. J., 2023, In: *Health Systems*. 12, 4, p. 362-374 13 p.

Trust and knowledge sharing among hospitals during COVID-19: the compound effect of four barriers to organisational trust for knowledge sharing

von Behr, C. M., Cleaver, I., Minshall, T. & Clarkson, P. J., 2023, In: *VINE Journal of Information and Knowledge Management Systems*. 53, 2, p. 315-334 20 p.

Understanding Real People: Going Beyond Single Severe Capability Loss

Waller, S. D., Goodman-Deane, J. A., Bradley, M. D., Hosking, I. M. & Clarkson, P. J., 2023, *Design for Sustainable Inclusion: CWUAAT 2023*. Goodman-Deane, J. (ed.). p. 3-12 10 p.

Designing the metaverse: A study on inclusion, diversity, equity, accessibility and safety for digital immersive environments

Zallio, M. & Clarkson, P. J., 2022, In: *Telematics and Informatics*. 75, 101909.

Face mask fit hacks: Improving the fit of KN95 masks and surgical masks with fit alteration techniques

O'Kelly, E., Arora, A., Pirog, S., Pearson, C., Ward, J. & Clarkson, P. J., 2022, In: *PLoS ONE*. 17, 2 February, e0262830.

How can communication to GPs at hospital discharge be improved? A systems approach

Boddy, N., Barclay, S., Bashford, T. & Clarkson, P. J., 2022, In: *BJGP Open*. 6, 1, p. 1-15 15 p.

Inclusive spatial learning experience: An exploratory framework to deliver human-environment interactions

Zallio, M., Chivăran, C., Capece, S., Clarkson, P. J. & Buono, M., 2022, In: *Strategic Design Research Journal*. 15, 3, p. 262-276 15 p.

Performing Qualitative Mask Fit Testing Without a Commercial Kit: Fit Testing Which Can Be Performed at Home and at Work

O'Kelly, E., Arora, A., Pearson, C., Ward, J. R. & Clarkson, P. J., 2022, In: *Disaster Medicine and Public Health Preparedness*. 16, 1, p. 60-64 5 p.

The Inclusion, Diversity, Equity and Accessibility audit. A post-occupancy evaluation method to help design the buildings of tomorrow

Zallio, M. & Clarkson, P. J., 2022, In: Building and Environment. 217, 109058.

The Inclusive Design Canvas. A Strategic Design Template for Architectural Design Professionals
Zallio, M. & Clarkson, P. J., 2022, p. 81-90. 10 p.

The Role of Systems Approaches in Health and Care
Komashie, A. & Clarkson, P. J., 2022, In: Proceedings of the Design Society. 2, p. 1283-1292 10 p.

The Value of Information in Clustering Dense Matrices: When and How to Make Use of Information
Endress, F., Kipouros, T., Buker, T., Wartzack, S. & Clarkson, P. J., 2022, p. 703-712. 10 p.

Towards a Contemporary Design Framework for Systems-of-Systems Resilience
Dreesbeimdiek, K. M., Von Behr, C.-M., Brayne, C. & Clarkson, P. J., 2022, p. 1835-1844. 10 p.

Characteristics of changeable systems across value chains
Masood, T., Kern, M. & John Clarkson, P., 2021, In: International Journal of Production Research. 59, 6, p. 1626-1648 23 p.

Comparing the fit of N95, KN95, surgical, and cloth face masks and assessing the accuracy of fit checking
O'Kelly, E., Arora, A., Pirog, S., Ward, J. & Clarkson, P. J., 2021, In: PLoS ONE. 16, 1 January, 14 p., e0245688.

Developing personas to help designers to understand digital exclusion
Goodman-Deane, J.-L., Bradley, M., Waller, S. & Clarkson, P. J., 2021, p. 1203-1212. 10 p.

Digital mobility services: A population perspective
Goodman-Deane, J., Kluge, J., Bosch, E. R., Nesterova, N., Bradley, M. & Clarkson, P. J., 2021, p. 144-154. 11 p.

Evaluation of the formal risk assessment practice in hospitals in England
Kaya, G. K., Ward, J., Pearman, A. & Clarkson, J., 2021, In: Journal of Risk Research. 24, 6, p. 771-779 9 p.

Factors influencing communication in collaborative design
Maier, A. M., Eckert, C. M. & Clarkson, P. J., 2021, In: Journal of Engineering Design. 32, 12, p. 671-702 32 p.

Improving the engineering design process by simulating iteration impact with ASM2.0
Wynn, D. C. & Clarkson, P. J., 2021, In: Research in Engineering Design. 32, 2, p. 127-156 30 p.

Inclusion, diversity, equity and accessibility in the built environment: A study of architectural design practice
Zallio, M. & Clarkson, P. J., 2021, In: Building and Environment. 206, 108352.

Mapping a systems approach to existing healthcare design, delivery and improvement methods
Günay, A., Ward, J. & Clarkson, P. J., 2021, p. 1997-2006. 10 p.

Multi-domain design assessment for aerospace components including weld accessibility
Isaksson, O., Kipouros, T., Martinsson, J., Panarotto, M., Kressin, J., Andersson, P. & Clarkson, J. P., 2021, p. 2217-2225 . 9 p.

On inclusion, diversity, equity, and accessibility in civil engineering and architectural design. A review of assessment tools.
Zallio, M. & Clarkson, P. J., 2021, p. 2297-2305. 9 p.

Predicting population exclusion for services dependent on mobile digital interfaces
Bradley, M., Goodman-Deane, J. A., Kluge, J. & Clarkson, P. J., 2021. 5 p.

Relating age, digital interface competence, and exclusion

Goodman-Deane, J., Bradley, M. & Clarkson, P. J., 2021, In: *Gerontechnology*. 20, 2, p. 1-14 14 p.

Systems approaches to healthcare systems design and care delivery: An overview of the literature

Komashie, A., Hinrichs-Krapels, S. & Clarkson, P. J., 2021, In: *Proceedings of the Design Society*. 1, p. 2941-2950 10 p.

Systems approach to health service design, delivery and improvement: A systematic review and meta-analysis

Komashie, A., Ward, J., Bashford, T., Dickerson, T., Kaya, G. K., Liu, Y., Kuhn, I., Günay, A., Kohler, K. & Clarkson, P. J., 2021, In: *BMJ Open*. 11, 1, e037667.

Toward Inclusive Digital Mobility Services: A Population Perspective

Goodman-Deane, J., Kluge, J., Roca Bosch, E., Nesterova, N., Bradley, M., Waller, S., Hoeke, L. & Clarkson, P. J., 2021, In: *Interacting with Computers*. 33, 4, p. 426-441 16 p.

Understanding the influences of copd patient's capability on the uptake of pulmonary rehabilitation in the uk through an inclusive design approach

Liu, Y., Dickerson, T., Early, F., Fuld, J., Jiang, C. & Clarkson, P. J., 2021, In: *International Journal of COPD*. 16, p. 1717-1740 24 p.

Ability of fabric face mask materials to filter ultrafine particles at coughing velocity

O'Kelly, E., Pirog, S., Ward, J. & Clarkson, P. J., 2020, In: *BMJ Open*. 10, 9, p. e039424 e039424.

An Inclusive, Fully Autonomous Vehicle Simulator for the Introduction of Human-Robot Interaction Technologies

Amanatidis, T., Langdon, P. & Clarkson, P. J., 2020, *Advances in Human Factors of Transportation - Proceedings of the AHFE 2019 International Conference on Human Factors in Transportation: Proceedings of the AHFE 2019 International Conference on Human Factors in Transportation, July 24-28, 2019, Washington D.C., USA*. Stanton, N. (ed.). Springer, Vol. 964. p. 157-165 9 p. (Advances in Intelligent Systems and Computing; vol. 964).

Designing Adaptation in Cars: An Exploratory Survey on Drivers' Usage of ADAS and Car Adaptations

Caber, N., Langdon, P. & Clarkson, P. J., 2020, *Advances in Human Factors of Transportation - Proceedings of the AHFE 2019 International Conference on Human Factors in Transportation: Proceedings of the AHFE 2019 International Conference on Human Factors in Transportation, July 24-28, 2019, Washington D.C., USA*. Stanton, N. (ed.). Springer, Vol. 964. p. 95-106 12 p. (Advances in Intelligent Systems and Computing; vol. 964).

DESIGN MEETINGS: Towards AN UNDERSTANDING of the STAGES and ACTIVITIES THAT INFLUENCE SUCCESS

Bedingfield, C. S. & Clarkson, P. J., 2020, p. 501-510. 10 p.

HEALTHCARE SYSTEMS DESIGN: A SANDBOX of CURRENT RESEARCH THEMES PRESENTED at AN INTERNATIONAL MEETING

Ciccone, N., Patou, F., Komashie, A., Lame, G., Clarkson, P. J. & Maier, A. M., 2020, p. 1873-1882. 10 p.

REQUIREMENTS for DIAGRAMING in the DESIGN of MENTAL HEALTH DELIVERY SERVICES

Komashie, A. & Clarkson, P. J., 2020, p. 1959-1968. 10 p.

Supporting designers: moving from method menagerie to method ecosystem

Gericke, K., Eckert, C., Campean, F., Clarkson, P. J., Flening, E., Isaksson, O., Kipouros, T., Kokkolaras, M., Köhler, C., Panarotto, M. & Wilmsen, M., 2020, In: *Design Science*. 6, e21.

Unconstrained design: improving multitasking with in-vehicle information systems through enhanced situation awareness

Skrypchuk, L., Langdon, P., Sawyer, B. D. & Clarkson, P. J., 2020, In: *Theoretical Issues in Ergonomics Science*. 21, 2, p. 183-219 37 p.

A framework to support risk assessment in hospitals

Kaya, G. K., Ward, J. R. & John Clarkson, P., 1 Jun 2019, In: International Journal for Quality in Health Care. 31, 5, p. 393-401 9 p., mzz194.

Evaluating inputs of failure modes and effects analysis in identifying patient safety risks

Simsekler, M. C. E., Kaya, G. K., Ward, J. R. & Clarkson, P. J., 11 Feb 2019, In: International Journal of Health Care Quality Assurance. 32, 1, p. 191-207 17 p.

Addressing cognitive challenges in design - A review on existing approaches

Ning, W., Goodman-Deane, J. & Clarkson, P. J., 2019, In: Proceedings of the International Conference on Engineering Design, ICED. 2019-August, p. 2775-2784 10 p.

A Review of Risk Matrices Used in Acute Hospitals in England

Kaya, G. K., Ward, J. & Clarkson, J., 2019, In: Risk Analysis. 39, 5, p. 1060-1070 11 p.

Connectivity as the capacity to improve an organization's decision-making

Hassannezhad, M., Cassidy, S. & Clarkson, P. J., 2019, In: Procedia CIRP. 84, p. 231-238 8 p.

Enabling multitasking by designing for situation awareness within the vehicle environment

Skrypchuk, L., Langdon, P., Sawyer, B. D., Mouzakitis, A. & Clarkson, P. J., 2019, In: Theoretical Issues in Ergonomics Science. 20, 2, p. 105-128 24 p.

Enhanced interactive parallel coordinates using machine learning and uncertainty propagation for engineering design

Piotrowski, W., Kipouros, T. & Clarkson, P. J., 2019, p. 339-348. 10 p.

Experimental Investigation of the Implications of Model Granularity for Design Process Simulation

Maier, J. F., Eckert, C. & John Clarkson, P., 2019, In: Journal of Mechanical Design, Transactions of the ASME. 141, 7, 071101.

Exploring healthcare systems design research and practice: Outcomes of an international meeting

Komashie, A., Lame, G., Patou, F., Ciccone, N., Maier, A. & Clarkson, P. J., 2019, In: Proceedings of the Design Society: International Conference on Engineering Design. 2019-August, p. 947-956 10 p.

Improving people's access to community-based back pain treatment through an inclusive design approach

Liu, Y., Dickerson, T., Waddingham, P. & Clarkson, P. J., 2019, In: Applied Ergonomics. 81, 102876.

Interaction Patterns: The Key to Unlocking Digital Exclusion Assessment?

Bradley, M., Kristensson, P. O., Langdon, P. & John Clarkson, P., 2019, *Advances in Human Aspects of Transportation - Proceedings of the AHFE 2018 International Conference on Human Factors in Transportation, 2018*. Stanton, N. (ed.). Springer, p. 564-572 9 p. (Advances in Intelligent Systems and Computing; vol. 786).

Managing Sociotechnical Complexity in Engineering Design Projects

Hassannezhad, M., Cantamessa, M., Montagna, F. & John Clarkson, P., 2019, In: Journal of Mechanical Design, Transactions of the ASME. 141, 8, 081101.

Mapping outcomes in quality improvement and system design activities: The outcome identification loop and system impact model

Akinluyi, E. A., Ison, K. & John Clarkson, P., 2019, In: BMJ Open Quality. 8, 3, e000439.

Modelling the planning system in design and development

De Lessio, M. P., Wynn, D. C. & Clarkson, P. J., 2019, In: Research in Engineering Design. 30, 2, p. 227-249 23 p.

Research into the design and development process: some themes and an overview of the special issue

Wynn, D. C., Eckert, C. M. & Clarkson, P. J., 2019, In: Research in Engineering Design. 30, 2, p. 157-160 4 p.

vis-UI-lise: Developing a tool for assessing user interface visibility

Hosking, I. & Clarkson, P. J., 2019, *Advances in Usability, User Experience and Assistive Technology - Proceedings of the AHFE 2018 International Conferences on Usability and User Experience and Human Factors and Assistive Technology, 2018*. Falcao, C. & Ahram, T. Z. (eds.). Springer, p. 212-221 10 p. (Advances in Intelligent Systems and Computing; vol. 794).

Design for patient safety: a systems-based risk identification framework

Simsekler, M. C. E., Ward, J. R. & Clarkson, P. J., 3 Aug 2018, In: *Ergonomics*. 61, 8, p. 1046-1064 19 p.

A Comparison of the Bow-Tie and STAMP Approaches to Reduce the Risk of Surgical Instrument Retention

Chatzimichailidou, M. M., Ward, J., Horberry, T. & Clarkson, P. J., May 2018, In: *Risk Analysis*. 38, 5, p. 978-990 13 p.

Evaluation of system mapping approaches in identifying patient safety risks

Simsekler, M. C. E., Ward, J. R. & Clarkson, P. J., 1 Apr 2018, In: *International Journal for Quality in Health Care*. 30, 3, p. 227-233 7 p.

Process models in design and development

Wynn, D. C. & Clarkson, P. J., 1 Apr 2018, In: *Research in Engineering Design*. 29, 2, p. 161-202 42 p.

Understanding influences on the uptake of pulmonary rehabilitation in the East of England: An inclusive design/mixed-methods study protocol

Liu, Y., Dickerson, T., Early, F., Fuld, J. & Clarkson, P. J., 1 Apr 2018, In: *BMJ Open*. 8, 4, e020750.

An evaluation of inclusive dialogue-based interfaces for the takeover of control in autonomous cars

Politis, I., Langdon, P., Adebayo, D., Bradley, M., Clarkson, P. J., Skrypchuk, L., Mouzakitis, A., Eriksson, A., Brown, J. W. H., Revell, K. & Stanton, N., 5 Mar 2018, *IUI 2018 - Proceedings of the 23rd International Conference on Intelligent User Interfaces*. Association for Computing Machinery (ACM), p. 601-606 6 p.

Needs and Expectations for Fully Autonomous Vehicle Interfaces

Amanatidis, T., Langdon, P. & Clarkson, P. J., 1 Mar 2018, *HRI 2018 - Companion of the 2018 ACM/IEEE International Conference on Human-Robot Interaction*. IEEE, p. 51-52 2 p. (ACM/IEEE International Conference on Human-Robot Interaction).

Commentary Unpicking the Gordian knot: A systems approach to traumatic brain injury care in low-income and middle-income countries

Bashford, T., John Clarkson, P., Menon, D. K. & Hutchinson, P. J. A., Mar 2018, In: *BMJ Global Health*. 3, 2, e000768.

What do emergency physicians in charge do? A qualitative observational study

Hosking, I., Boyle, A., Ahmed, V. & Clarkson, J., Mar 2018, In: *Emergency Medicine Journal*. 35, 3, p. 186-188 3 p.

Exploring user capability data with topological data analysis

Persad, U., Goodman-Deane, J., Langdon, P. M. & Clarkson, P. J., 19 Feb 2018, *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Springer, p. 41-50 10 p.

Inclusivity considerations for fully autonomous vehicle user interfaces

Amanatidis, T., Langdon, P. M. & Clarkson, P. J., 19 Feb 2018, *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Springer, p. 207-214 8 p.

The effect of age and gender on task performance in the automobile

Skrypchuk, L., Mouzakitis, A., Langdon, P. M. & Clarkson, P. J., 19 Feb 2018, *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Springer, p. 17-27 11 p.

Gradually including potential users: A tool to counter design exclusions

Zitkus, E., Langdon, P. & Clarkson, P. J., Jan 2018, In: *Applied Ergonomics*. 66, p. 105-120 16 p.

A normative approach for identifying decision propagation paths in complex systems

Hassannezhad, M. & Clarkson, P. J., 2018, *15th International Design Conference, DESIGN 2018*. Marjanovic, D., Storga, M., Bojcetic, N., Pavkovic, N. & Skec, S. (eds.). p. 1559-1570 12 p. (Proceedings of International Design Conference, DESIGN; vol. 4).

Defining system boundaries in change propagation analysis: A diesel engine case study

Koh, E. C. Y., Caldwell, N. H. M. & Clarkson, P. J., 2018, *Proceedings of the 20th International Dependency and Structure Modeling Conference, DSM 2018*. Becerril, L., Leardi, C., Browning, T. R. & Eppinger, S. D. (eds.). p. 81-91 11 p.

Designing autonomy in cars: A survey and two focus groups on driving habits of an inclusive user group, and group attitudes towards autonomous cars

Politis, I., Langdon, P., Bradley, M., Skrypchuk, L., Mouzakitis, A. & Clarkson, P. J., 2018, *Advances in Design for Inclusion - Proceedings of the AHFE 2017 International Conference on Design for Inclusion*. Di Bucchianico, G. & Kercher, P. F. (eds.). Springer, p. 161-173 13 p. (Advances in Intelligent Systems and Computing; vol. 587).

Designing mental health delivery systems: Describing the relationship between system components

Komashie, A. & Clarkson, P. J., 2018, *15th International Design Conference, DESIGN 2018*. Bojcetic, N., Storga, M., Marjanovic, D., Skec, S. & Pavkovic, N. (eds.). p. 2669-2680 12 p. (Proceedings of International Design Conference, DESIGN; vol. 6).

How does awareness affect performance in an automotive dual task condition?

Skrypchuk, L., Langdon, P., Mouzakitis, A. & Clarkson, P. J., 2018, *Advances in Human Aspects of Transportation - Proceedings of the AHFE 2017 International Conference on Human Factors in Transportation, 2017*. Stanton, N. A. (ed.). Springer, p. 395-406 12 p. (Advances in Intelligent Systems and Computing; vol. 597).

Intelligent driver profiling system for cars – a basic concept

Caber, N., Langdon, P. M. & Clarkson, P. J., 2018, *Universal Access in Human-Computer Interaction. Virtual, Augmented, and Intelligent Environments - 12th International Conference, UAHCI 2018, Held as Part of HCI International 2018, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 201-213 13 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 10908 LNCS).

It still matters: Preference in visual appearance of stimuli among people in the late stages of dementia

Chou, W. Y., Clarkson, P. J. & Waszynski, C., 2018, *Human Aspects of IT for the Aged Population. Acceptance, Communication and Participation - 4th International Conference, ITAP 2018, Held as Part of HCI International 2018, Proceedings*. Salvendy, G., Salvendy, G., Zhou, J. & Salvendy, G. (eds.). Springer, p. 223-234 12 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 10926 LNCS).

Modelling change with an integrated approach to manufacturing system design

Olmez, H., Hassannezhad, M., Ball, N. & Clarkson, P. J., 2018, *15th International Design Conference, DESIGN 2018*. Marjanovic, D., Pavkovic, N., Storga, M., Skec, S. & Bojcetic, N. (eds.). p. 611-622 12 p. (Proceedings of International Design Conference, DESIGN; vol. 2).

Obtaining design requirements from the public understanding of driverless technology

Langdon, P., Politis, I., Bradley, M., Skrypchuk, L., Mouzakitis, A. & Clarkson, J., 2018, *Advances in Human Aspects of Transportation - Proceedings of the AHFE 2017 International Conference on Human Factors in Transportation, 2017*. Stanton, N. A. (ed.). Springer, p. 749-759 11 p. (Advances in Intelligent Systems and Computing; vol. 597).

Personas for policy-making and healthcare design

Gonzalez De Heredia, A., Goodman-Deane, J., Waller, S., Clarkson, P. J., Justel, D., Iriarte, I. & Hernández, J., 2018, *15th International Design Conference, DESIGN 2018*. Bojcetic, N., Storga, M., Marjanovic, D., Skec, S. & Pavkovic, N. (eds.). Faculty of mechanical engineering and naval architecture, p. 2645-2656 12 p. (Proceedings of International Design Conference, DESIGN; vol. 6).

The role of inclusive design in improving people's access to treatment for back pain

Liu, Y., Dickerson, T., Waller, S. D., Waddingham, P. & Clarkson, P. J., 2018, *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Springer, p. 195-206 12 p.

Toward an "Equal-footing" human-robot interaction for fully autonomous vehicles

Amanatidis, T., Langdon, P. & Clarkson, P. J., 2018, *Advances in Human Factors in Robots and Unmanned Systems - Proceedings of the AHFE 2017 International Conference on Human Factors in Robots and Unmanned Systems, 2017*. Chen, J. (ed.). Springer, p. 313-319 7 p. (Advances in Intelligent Systems and Computing; vol. 595).

Towards the design of resilient waste-to-energy systems using Bayesian networks

Jonathan Mak, W. H., Cardin, M. A., Ziqi, L. & John Clarkson, P., 2018, *44th Design Automation Conference*. American Society of Mechanical Engineers (ASME), (Proceedings of the ASME Design Engineering Technical Conference; vol. 2A-2018).

Using inclusive design to drive usability improvements through to implementation

Goodman-Deane, J., Waller, S. D., Bradley, M., Clarkson, P. J. & Bradley, O., 2018, *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Springer, p. 65-75 11 p.

What has engineering design to say about healthcare improvement?

John Clarkson, P., 2018, In: *Design Science*. 4, e17.

Change propagation analysis with multilayer network models within manufacturing systems

Olmez, H. & Clarkson, P. J., 2017, *Understand, Innovate, and Manage your Complex System! - Proceedings of the 19th International DSM Conference*. Browning, T. R., Eppinger, S. D., Becerril, L. & Holtta-Otto, K. (eds.). The Design Society, p. 59-69 11 p.

Designing mental health delivery systems: Where do we start?

Komashie, A., Ray, S., Kar Ray, M. & Clarkson, P. J., 2017, In: *Proceedings of the International Conference on Engineering Design, ICED. 3, DS87-3*, p. 399-408 10 p.

Dynamic modelling of relationships in complex service design systems

Hassannezhad, M., Cassidy, S. & Clarkson, P. J., 2017, In: *Proceedings of the International Conference on Engineering Design, ICED. 2, DS87-2*, p. 219-228 10 p.

Exploring summative depictions of older user experiences learning and adopting new technologies

Bradley, M., Hosking, I. M., Langdon, P. M. & John Clarkson, P., 2017, *Universal Access in Human-Computer Interaction: Design and Development Approaches and Methods - 11th International Conference, UAHCI 2017 Held as Part of HCI International 2017, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 21-30 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 10277 LNCS).

Internal and External Involvements in Integrated Product Development: A Two-Step Clustering Approach

Hassannezhad, M. & John Clarkson, P., 2017, In: *Procedia CIRP*. 60, p. 253-260 8 p.

Model granularity in engineering design - Concepts and framework

Maier, J. F., Eckert, C. M. & John Clarkson, P., 2017, In: *Design Science*. 3, e1.

Now you see it, now you don't: Understanding user interface visibility

Hosking, I. M. & Clarkson, P. J., 2017, *Universal Access in Human-Computer Interaction: Human and Technological Environments - 11th International Conference, UAHCI 2017 Held as Part of HCI International 2017, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 436-445 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 10279 LNCS).

On the integration of product and process models in engineering design

Eckert, C. M., Wynn, D. C., Maier, J. F., Albers, A., Bursac, N., Xin Chen, H. L., Clarkson, P. J., Gericke, K., Gladysz, B. & Shapiro, D., 2017, In: Design Science. 3, e3.

Towards an assessment of resilience in telecom infrastructure projects using real options

Mak, J., Cassidy, S. & Clarkson, P. J., 2017, In: Proceedings of the International Conference on Engineering Design, ICED. 2, DS87-2, p. 487-496 10 p.

Towards the Design of Resilient Large-scale Engineering Systems

Jonathan Mak, W. H. & John Clarkson, P., 2017, In: Procedia CIRP. 60, p. 536-541 6 p.

Visual capabilities: What do graphic designers want to see?

Cornish, K., Goodman-Deane, J. & John Clarkson, P., 2017, *Universal Access in Human-Computer Interaction: Design and Development Approaches and Methods - 11th International Conference, UAHCI 2017 Held as Part of HCI International 2017, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 56-66 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 10277 LNCS).

DPCM: a method for modelling and analysing design process changes based on the Applied Signposting Model

Shapiro, D., Curren, M. D. & Clarkson, P. J., 1 Nov 2016, In: Journal of Engineering Design. 27, 11, p. 785-816 32 p.

Differences in vision performance in different scenarios and implications for design

Goodman-Deane, J., Waller, S., Latham, K., Price, H., Tenneti, R. & Clarkson, P. J., 1 Jul 2016, In: Applied Ergonomics. 55, p. 149-155 7 p.

The impact of communication technologies on life and relationship satisfaction

Goodman-Deane, J., Mieczkowski, A., Johnson, D., Goldhaber, T. & Clarkson, P. J., 1 Apr 2016, In: Computers in Human Behavior. 57, p. 219-229 11 p.

A concept for modelling and analysing design process changes

Shapiro, D. & Clarkson, P. J., 2016, In: Proceedings of International Design Conference, DESIGN. DS 84, p. 1573-1583 11 p.

A method to improve design process resource management

Xin Chen, H. L., Moullec, M. L. & Clarkson, P. J., 2016, In: Proceedings of International Design Conference, DESIGN. DS 84, p. 1977-1986 10 p.

An inclusive design perspective on automotive HMI trends

Bradley, M., Langdon, P. M. & John Clarkson, P., 2016, *Universal Access in Human-Computer Interaction: Users and Context Diversity - 10th International Conference, UAHCI 2016 and Held as Part of HCI International 2016, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 548-555 8 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9739).

Can diagrams help improve healthcare systems design and care delivery?

Komashie, A. & Clarkson, P. J., 2016, In: Proceedings of International Design Conference, DESIGN. DS 84, p. 1885-1894 10 p.

Creating inclusive automotive interfaces using situation awareness as a design philosophy

Skrypchuk, L., Langdon, P. M., John Clarkson, P. & Mouzakitis, A., 2016, *Universal Access in Human-Computer Interaction: Users and Context Diversity - 10th International Conference, UAHCI 2016 and Held as Part of HCI International 2016, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 639-649 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9739).

Designing Inclusive Packaging

Goodman-Deane, J., Waller, S., Bradley, M., Yoxall, A., Wiggins, D. & Clarkson, P. J., 2016, *Integrating the Packaging and Product Experience in Food and Beverages: A Road-Map to Consumer Satisfaction*. Elsevier, p. 37-57 21 p.

Improving design resource management using Bayesian network embedded in task network method

Chen, H. L. X., Ball, N., Moullec, M. L. & John Clarkson, P., 2016, *28th International Conference on Design Theory and Methodology*. American Society of Mechanical Engineers (ASME), Vol. 7.

Model granularity and related concepts

Maier, J. F., Eckert, C. M. & Clarkson, P. J., 2016, In: *Proceedings of International Design Conference, DESIGN*. DS 84, p. 1327-1336 10 p.

Navigating the workplace environment as a visually impaired person

Gomez, J., Langdon, P. M. & John Clarkson, P., 2016, *Universal Access in Human-Computer Interaction: Users and Context Diversity - 10th International Conference, UAHCI 2016 and Held as Part of HCI International 2016, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 566-576 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9739).

Using positive images to manage resistance-to-care and combative behaviors in nursing home residents with dementia: A pilot study

Chou, W. Y., Waszynski, C., Kessler, J., Chiang, Y. C. & Clarkson, P. J., 2016, In: *Geriatric Nursing*. 37, 3, p. 215-220 6 p.

Empathic engineering: Helping deliver dignity through design

Hosking, I., Cornish, K., Bradley, M. & Clarkson, P. J., 3 Oct 2015, In: *Journal of Medical Engineering and Technology*. 39, 7, p. 388-394 7 p.

Investigating the impact of changes in iteration-likelihoods on design process performance

Shapiro, D., Hamraz, B., Sommer, A. F. & Clarkson, P. J., 1 Sept 2015, In: *Concurrent Engineering Research and Applications*. 23, 3, p. 250-264 15 p.

Visual accessibility in graphic design: A client-designer communication failure

Cornish, K., Goodman-Deane, J., Ruggeri, K. & John Clarkson, P., 1 Sept 2015, In: *Design Studies*. 40, p. 176-195 20 p.

Trust-level risk identification guidance in the NHS East of England

Simsekler, M. C. E., Card, A. J., Ward, J. R. & Clarkson, P. J., 5 Jun 2015, In: *International Journal of Risk and Safety in Medicine*. 27, 2, p. 67-76 10 p.

A comparison of the methods used to support risk identification for patient safety in one UK NHS foundation trust

Simsekler, M. C. E., Card, A. J., Ruggeri, K., Ward, J. R. & Clarkson, P. J., 11 Mar 2015, In: *Clinical Risk*. 21, 2-3, p. 37-46 10 p.

Industrial evaluation of FBS Linkage – a method to support engineering change management

Hamraz, B. & Clarkson, P. J., 4 Mar 2015, In: *Journal of Engineering Design*. 26, 1-3, p. 24-47 24 p.

Review of value and lean in complex product development

Siyam, G. I., Wynn, D. C. & Clarkson, P. J., 1 Mar 2015, In: *Systems Engineering*. 18, 2, p. 192-207 16 p.

A framework for collecting inclusive design data for the UK population

Langdon, P., Johnson, D., Huppert, F. & Clarkson, P. J., 1 Jan 2015, In: *Applied Ergonomics*. 46, PB, p. 318-324 7 p.

Designing for our future selves

Clarkson, P. J. & Coleman, R., 1 Jan 2015, In: *Applied Ergonomics*. 46, PB, p. 233-234 2 p.

History of inclusive design in the UK

John Clarkson, P. & Coleman, R., 1 Jan 2015, In: *Applied Ergonomics*. 46, PB, p. 235-247 13 p.

Making the case for inclusive design

Waller, S., Bradley, M., Hosking, I. & Clarkson, P. J., 1 Jan 2015, In: *Applied Ergonomics*. 46, PB, p. 297-303 7 p.

Rebalancing risk management--Part 2: The Active Risk Control (ARC) Toolkit

Card, A. J., Ward, J. R. & Clarkson, P. J., Jan 2015, In: *Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management*. 34, 3, p. 4-17 14 p.

An Integrated Model of Patient and Staff Satisfaction Using Queuing Theory

Komashie, A., Mousavi, A., Clarkson, P. J. & Young, T., 2015, In: *IEEE Journal of Translational Engineering in Health and Medicine*. 3, 7035023.

An investigation of design process changes

Shapiro, D., Sommer, A. F. & Clarkson, P. J., 2015, In: *Proceedings of the International Conference on Engineering Design, ICED*. 2, DS 80-02, p. 451-460 10 p.

Assessing the inclusivity of digital interfaces - A proposed method

Bradley, M., Langdon, P. & Clarkson, P. J., 2015, *Universal Access in Human-Computer Interaction: Access to Today's Technologies - 9th International Conference, UAHCI 2015 Held as Part of HCI International 2015, Proceedings*. Antona, M., Stephanidis, C. & Stephanidis, C. (eds.). Springer, p. 25-33 9 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9175).

A study to identify engineering design resources in complex product development projects

Xin Chen, H. L., Clarkson, P. J. & Sommer, A. F., 2015, In: *Proceedings of the International Conference on Engineering Design, ICED*. 3, DS 80-03, p. 43-52 10 p.

Creating inclusive HMI concepts for future cars using visual scenario storyboards through design ethnography

Kunur, M., Langdon, P., Bradley, M., Bichard, J. A., Glazer, E., Doran, F., John Clarkson, P. & Loeillet, J. J., 2015, *Universal Access in Human-Computer Interaction: Access to the Human Environment and Culture - 9th International Conference, UAHCI 2015 Held as Part of HCI International 2015, Proceedings*. Antona, M., Stephanidis, C. & Stephanidis, C. (eds.). Springer, p. 139-149 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9178).

Different levels of product model granularity in design process simulation

Maier, J. F., Eckert, C. M. & Clarkson, P. J., 2015, In: *Proceedings of the International Conference on Engineering Design, ICED*. 3, DS 80-03, p. 11-20 10 p.

Exploring the Feasibility of Using Affective Pictures to Elicit Positive Emotion with Nursing home Residents with Dementia

Chou, W. Y., Waszynski, C., Kessler, J. & Clarkson, P. J., 2015, In: *Procedia Manufacturing*. 3, p. 2219-2222 4 p.

Formal computer-aided product family architecture design for mass customization

Bonev, M., Hvam, L., Clarkson, J. & Maier, A., 2015, In: *Computers in Industry*. 74, p. 58-70 13 p.

Integrated product and process models: Towards an integrated framework and review

Eckert, C., Albers, A., Bursac, N., Chen, H. X., Clarkson, P. J., Gericke, K., Gladysz, B., Maier, J. F., Rachenkova, G., Shapiro, D. & Wynn, D., 2015, In: *Proceedings of the International Conference on Engineering Design, ICED*. 2, DS 80-02, p. 389-398 10 p.

Integrating a cognitive modelling framework into the design process of touchscreen user interfaces

Wollner, P. K. A., Langdon, P. M. & Clarkson, P. J., 2015, *Design, User Experience, and Usability: Users and Interactions - 4th International Conference, DUXU 2015 Held as Part of HCI International 2015, Proceedings*. Marcus, A. (ed.). Springer, p. 473-484 12 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9187).

Modelling practices over time: A comparison of two surveys taken 20 years apart

Moullec, M. L., Maier, J., Cassidy, S., Sommer, A. F. & Clarkson, P. J., 2015, In: Proceedings of the International Conference on Engineering Design, ICED. 2, DS 80-02, p. 409-420 12 p.

Process types and value configuration in modelling practice - an empirical study of modelling in design and service

Sommer, A. F., Maier, J., Mak, J., Moullec, M. L., Cassidy, S. & Clarkson, P. J., 2015, In: Proceedings of the International Conference on Engineering Design, ICED. 2, DS 80-02, p. 431-440 10 p.

Retained surgical instruments: Using technology for prevention and detection

Teng, Y. C., Ward, J., Horberry, T., Clarkson, P. J. & Patil, V., 2015, *Bridging Research and Good Practices towards Patient Welfare - Proceedings of the 4th International Conference on HealthCare Systems Ergonomics and Patient Safety, HEPS 2014*. Shih, Y.-C. & Liang, S.-F. M. (eds.). CRC Press / Balkema - Taylor & Francis Group, p. 289-298 10 p.

Visual accessibility misconceptions held by graphic designers and their clients

Cornish, K., Goodman-Deane, J. & Clarkson, P. J., 2015, *Contemporary Ergonomics and Human Factors 2015*. Waterson, P., Sharples, S. & Shorrock, S. (eds.). CRC Press / Balkema - Taylor & Francis Group, p. 72-79 8 p.

Generating Options for Active Risk Control (GO-ARC): introducing a novel technique

Card, A. J., Ward, J. R. & Clarkson, P. J., 1 Sept 2014, In: Journal for healthcare quality : official publication of the National Association for Healthcare Quality. 36, 5, p. 32-41 10 p.

Rebalancing risk management--part 1: The Process for Active Risk Control (PARC)

Card, A. J., Ward, J. R. & Clarkson, P. J., Sept 2014, In: Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management. 34, 2, p. 21-30 10 p.

Trust-level risk evaluation and risk control guidance in the NHS East of England

Card, A. J., Ward, J. R. & Clarkson, P. J., 1 Aug 2014, In: Risk analysis : an official publication of the Society for Risk Analysis. 34, 8, p. 1469-1481 13 p.

Predicting change propagation in complex design workflows

Wynn, D. C., Caldwell, N. H. M. & Clarkson, P. J., Aug 2014, In: Journal of Mechanical Design, Transactions of the ASME. 136, 8, 081009.

Simulating progressive iteration, rework and change propagation to prioritise design tasks

Maier, J. F., Wynn, D. C., Biedermann, W., Lindemann, U. & Clarkson, P. J., 1 Jun 2014, In: Research in Engineering Design. 25, 4, p. 283-307 25 p.

Core information categories for engineering design - contrasting empirical studies with a review of integrated models

Heisig, P., Caldwell, N. H. M. & Clarkson, P. J., Mar 2014, In: Journal of Engineering Design. 25, 1-3, p. 88-124 37 p.

Articulating current service development practices: A qualitative analysis of eleven mental health projects

Jun, G. T., Morrison, C. & Clarkson, P. J., 17 Jan 2014, In: BMC Health Services Research. 14, 20.

FBS Linkage ontology and technique to support engineering change management

Hamraz, B., Caldwell, N. H. M., Ridgman, T. W. & Clarkson, P. J., Jan 2014, In: Research in Engineering Design. 26, 1, p. 3-35 33 p.

A combinatorial approach to assessing user performance of digital interfaces

Wollner, P. K. A., Langdon, P. M. & Clarkson, P. J., 2014, *Inclusive Designing: Joining Usability, Accessibility, and Inclusion*. Langdon, P. M., Lazar, J., Lazar, J., Heylighen, A. & Dong, H. (eds.). Springer, p. 39-48 10 p.

A comparison of methods currently used in inclusive design

Goodman-Deane, J., Ward, J., Hosking, I. & Clarkson, P. J., 2014, In: Applied Ergonomics. 45, 4, p. 886-894 9 p.

A scheme for numerical representation of graph structures in engineering design

Wyatt, D. F., Wynn, D. C. & John Clarkson, P., 2014, In: Journal of Mechanical Design, Transactions of the ASME. 136, 1, 011010.

A simple procedure for using vision impairment simulators to assess the visual clarity of product features

Goodman-Deane, J., Waller, S., Cornish, K. & Clarkson, P. J., 2014, *Universal Access in Human-Computer Interaction: Design and Development Methods for Universal Access: 8th International Conference, UAHCI 2014, Held as Part of HCI International 2014, Heraklion, Crete, Greece, June 22-27, 2014*. PART 1 ed. Vol. 8513 LNCS. p. 43-53 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)).

Designer requirements for visual capability loss simulator tools: Differences between design disciplines

Cornish, K., Goodman-Deane, J. & Clarkson, P. J., 2014, *Universal Access in Human-Computer Interaction: Design and Development Methods for Universal Access: 8th International Conference, UAHCI 2014, Held as Part of HCI International 2014, Heraklion, Crete, Greece, June 22-27, 2014, Proceedings, Part I*. PART 1 ed. Vol. 8513 LNCS. p. 19-30 12 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)).

Designing accessible workplaces for visually impaired people

Gomez, J. L., Langdon, P. M., Bichard, J. A. & Clarkson, P. J., 2014, *Inclusive Designing: Joining Usability, Accessibility, and Inclusion*. Langdon, P. M., Lazar, J., Lazar, J., Heylighen, A. & Dong, H. (eds.). Springer, p. 269-279 11 p.

Designing for value, using analytics of medical device field data

Akinluyi, E. A., Ison, K. & Clarkson, P. J., 2014, In: Proceedings of International Design Conference, DESIGN. 2014-January, p. 71-80 10 p.

Gender issues in ICT adoption: A literature review

Goldhaber, T. S., Langdon, P. M. & Clarkson, P. J., 2014, *Inclusive Designing: Joining Usability, Accessibility, and Inclusion*. Langdon, P. M., Lazar, J., Lazar, J., Heylighen, A. & Dong, H. (eds.). Springer, p. 59-67 9 p.

Guidewire retention following central venous catheterisation: A human factors and safe design investigation

Horberry, T., Teng, Y. C., Ward, J., Patil, V. & Clarkson, P. J., 2014, In: International Journal of Risk and Safety in Medicine. 26, 1, p. 23-37 15 p.

Retained guidewires in central venous catheterisation: An analysis of omission errors

Teng, Y. C., Ward, J., Horberry, T., Patil, V. & Clarkson, J., 2014, p. 211-214. 4 p.

Use of the Generating Options for Active Risk Control (GO-ARC) Technique can lead to more robust risk control options

Card, A. J., Simsekler, M. C. E., Clark, M., Ward, J. R. & Clarkson, P. J., 2014, In: International Journal of Risk and Safety in Medicine. 26, 4, p. 199-211 13 p.

A holistic categorization framework for literature on engineering change management

Hamraz, B., Caldwell, N. H. M. & John Clarkson, P., Dec 2013, In: Systems Engineering. 16, 4, p. 473-505 33 p.

Joining up the DOTs: Authentic teaching and learning in Design and Technology education

Nicholl, B., Flutter, J., Hosking, I. & Clarkson, P. J., Dec 2013, In: Cambridge Journal of Education. 43, 4, p. 435-450 16 p.

Inclusive design in the Key Stage 3 classroom: An investigation of teachers' understanding and implementation of user-centred design principles in design and technology

Nicholl, B., Hosking, I. M., Elton, E. M., Lee, Y., Bell, J. & Clarkson, P. J., Nov 2013, In: International Journal of Technology and Design Education. 23, 4, p. 921-938 18 p.

Designing inclusive interactions

Langdon, P., Clarkson, J. & Robinson, P., Aug 2013, In: Universal Access in the Information Society. 12, 3, p. 233-235 3 p.

Facets of prior experience and the effectiveness of inclusive design

Hurtienne, J., Horn, A. M., Langdon, P. M. & Clarkson, P. J., Aug 2013, In: Universal Access in the Information Society. 12, 3, p. 297-308 12 p.

Investigating designers' and users' cognitive representations of products to assist inclusive interaction design

Mieczakowski, A., Langdon, P. & Clarkson, P. J., Aug 2013, In: Universal Access in the Information Society. 12, 3, p. 279-296 18 p.

Visualising the number of people who cannot perform tasks related to product interactions

Waller, S. D., Bradley, M. D., Langdon, P. M. & Clarkson, P. J., Aug 2013, In: Universal Access in the Information Society. 12, 3, p. 263-278 16 p.

Change impact on a product and its redesign process: A tool for knowledge capture and reuse

Ahmad, N., Wynn, D. C. & Clarkson, P. J., Jul 2013, In: Research in Engineering Design. 24, 3, p. 219-244 26 p.

Change prediction using interface data

Hamraz, B., Hisarcikilar, O., Rahmani, K., Wynn, D. C., Thomson, V. & Clarkson, P. J., Jun 2013, In: Concurrent Engineering Research and Applications. 21, 2, p. 141-154 14 p.

A technique to assess the changeability of complex engineering systems

Koh, E. C. Y., Caldwell, N. H. M. & Clarkson, P. J., 4 Mar 2013, In: Journal of Engineering Design. 24, 7, p. 477-498 22 p.

Transforming practice in Design and Technology: Evidence from a classroom-based research study of students' responses to an intervention on inclusive design

Nicholl, B., Flutter, J. A. E., Hosking, I. M. & Clarkson, P. J., Mar 2013, In: Curriculum Journal. 24, 1, p. 86-102 17 p.

A conceptual client-designer framework: Inspiring the development of inclusive design interactive techniques

Zitkus, E., Langdon, P. M. & Clarkson, J., 2013, *Universal Access in Human-Computer Interaction: Design Methods, Tools, and Interaction Techniques for eInclusion - 7th Int. Conf., UAHCI 2013, Held as Part of HCI Int. 2013, Proceedings*. PART 1 ed. Springer, p. 143-152 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 8009 LNCS, no. PART 1).

Age, technology prior experience and ease of use: Who's doing what?

Bradley, M., Goodman-Deane, J., Waller, S., Tenneti, R., Langdon, P. & Clarkson, P. J., 2013, *Contemporary Ergonomics and Human Factors 2013*. p. 363-369 7 p.

A matrix-calculation-based algorithm for numerical change propagation analysis

Hamraz, B., Caldwell, N. H. & Clarkson, P. J., 2013, In: IEEE Transactions on Engineering Management. 60, 1, p. 186-198 13 p., 6238319.

Comparison of utilities for protection against uncertainty in system design

Chalupnik, M. J., Wynn, D. C. & Clarkson, P. J., 2013, In: Journal of Engineering Design. 24, 12, p. 814-829 16 p.

Designing intrinsically motivating user interfaces for the ageing population

Goldhaber, T. S., Langdon, P. M. & Clarkson, P. J., 2013, *Universal Access in Human-Computer Interaction: User and Context Diversity - 7th International Conference, UAHCI 2013, Held as Part of HCI International 2013, Proceedings*. PART 2 ed. p. 68-77 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 8010 LNCS, no. PART 2).

Exploring prior experience and the effects of age on product interaction and Learning

Wilkinson, C. R., Langdon, P. & Clarkson, P. J., 2013, *Design, User Experience, and Usability: Web, Mobile, and Product Design - Second International Conference, DUXU 2013, Held as Part of HCI International 2013, Proceedings*. PART 4 ed. p. 457-466 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 8015 LNCS, no. PART 4).

Healthcare human reliability analysis - By heart

Ward, J., Teng, Y. C., Horberry, T. & Clarkson, P. J., 2013, *Contemporary Ergonomics and Human Factors 2013*. CRC Press / Balkema - Taylor & Francis Group, p. 287-288 2 p.

Improvements in interface design through implicit modeling

Wollner, P. K. A., Hosking, I., Langdon, P. M. & Clarkson, P. J., 2013, *Universal Access in Human-Computer Interaction: Design Methods, Tools, and Interaction Techniques for eInclusion - 7th Int. Conf., UAHCI 2013, Held as Part of HCI Int. 2013, Proceedings*. PART 1 ed. Springer, p. 127-136 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 8009 LNCS, no. PART 1).

Inclusive design and the bottom line: How can its value be proven to decision makers?

Mieczakowski, A., Hessey, S. & Clarkson, P. J., 2013, *Universal Access in Human-Computer Interaction: Design Methods, Tools, and Interaction Techniques for eInclusion - 7th Int. Conf., UAHCI 2013, Held as Part of HCI Int. 2013, Proceedings*. PART 1 ed. Springer, p. 67-76 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 8009 LNCS, no. PART 1).

Inclusive design within a large organisation

Mieczakowski, A., Hessey, S. & Clarkson, P. J., 2013, *Contemporary Ergonomics and Human Factors 2013*. CRC Press / Balkema - Taylor & Francis Group, p. 105-108 4 p.

Lean product development in practice: Insights from 4 companies

Siyam, G. I., Kirner, K., Wynn, D. C., Lindemann, U. & Clarkson, P. J., 2013, *Proceedings of the 19th International Conference on Engineering Design: Design for Harmonies, ICED 2013*. Vol. 1 DS75-01. p. 439-448 10 p.

Reasoning before testing the hypothesis: How to preserve the reality of the industrial context

Zitkus, E., Langdon, P. & Clarkson, J., 2013, *Proceedings of the 19th International Conference on Engineering Design: Design for Harmonies, ICED 2013*. Vol. 5 DS75-05. p. 211-220 10 p.

Requirements-based development of an improved engineering change management method

Hamraz, B., Caldwell, N. H. M., Wynn, D. C. & Clarkson, P. J., 2013, In: *Journal of Engineering Design*. 24, 11, p. 765-793 29 p.

Safe design of medical equipment: Employing usability heuristics to examine the issue of guidewire retention after surgery

Horberry, T., Teng, Y. C., Ward, J. & Clarkson, P. J., 2013.

Simulating vision loss: What levels of impairment are actually represented?

Goodman-Deane, J., Waller, S., Collins, A. C. & Clarkson, P. J., 2013, *Contemporary Ergonomics and Human Factors 2013*. p. 347-354 8 p.

Stakeholder Challenges in Purchasing Medical Devices for Patient Safety

Hinrichs, S., Dickerson, T. & Clarkson, J., 2013, In: *Journal of Patient Safety*. 9, 1

The limits of inclusive design in the current design practice

Zitkus, E., Langdon, P. & Clarkson, P. J., 2013, *Green Design, Materials and Manufacturing Processes - Proceedings of the 2nd International Conference on Sustainable Intelligent Manufacturing, SIM 2013*. CRC Press / Balkema - Taylor & Francis Group, p. 539-544 6 p.

Dependency modelling in complex system design

Wynn, D. C., Kreimeyer, M., Clarkson, P. J. & Lindemann, U., Nov 2012, In: *Journal of Engineering Design*. 23, 10-11, p. 718-721 4 p.

Emergency department crowding: Prioritising quantified crowding measures using a Delphi study

Beniuk, K., Boyle, A. A. & Clarkson, P. J., Nov 2012, In: *Emergency Medicine Journal*. 29, 11, p. 868-871 4 p.

A method to assess the effects of engineering change propagation

Koh, E. C. Y., Caldwell, N. H. M. & Clarkson, P. J., Oct 2012, In: Research in Engineering Design. 23, 4, p. 329-351 23 p.

Impacts of concurrency, iteration, design review, and problem complexity on design project lead time and error generation

Le, H. N., Wynn, D. C. & Clarkson, P. J., 1 Mar 2012, In: Concurrent Engineering Research and Applications. 20, 1, p. 55-67 13 p.

Assessing organizational capabilities: Reviewing and guiding the development of maturity grids

Maier, A. M., Moultrie, J. & Clarkson, P. J., Feb 2012, In: IEEE Transactions on Engineering Management. 59, 1, p. 138-159 22 p., 5951751.

Simulation in user-centred design: Helping designers to empathise with atypical users

Cardoso, C. & Clarkson, P. J., Jan 2012, In: Journal of Engineering Design. 23, 1, p. 1-22 22 p.

Supporting product architecture design using computational design synthesis with network structure constraints

Wyatt, D. F., Wynn, D. C., Jarrett, J. P. & Clarkson, P. J., Jan 2012, In: Research in Engineering Design. 23, 1, p. 17-52 36 p.

A cybernetic perspective on methods and process models in collaborative designing

Maier, A. M., Wynn, D. C., Andreasen, M. M. & Clarkson, P. J., 2012, *Proceedings of the 12th International Design Conference, DESIGN 2012*. p. 233-240 8 p. (Proceedings of International Design Conference, DESIGN; vol. DS 70).

A framework for studying cognitive impairment to inform inclusive design

Jokisuu, E., Langdon, P. M. & Clarkson, P. J., 2012, *Designing Inclusive Systems: Designing Inclusion for Real-World Applications*. Springer, p. 115-124 10 p.

A multidomain engineering change propagation model to support uncertainty reduction and risk management in design

Hamraz, B., Caldwell, N. H. M. & John Clarkson, P., 2012, In: Journal of Mechanical Design, Transactions of the ASME. 134, 10, 100905.

A population perspective on mobile phone related tasks

Bradley, M., Waller, S. D., Goodman-Deane, J., Hosking, I., Tenneti, R., Langdon, P. M. & Clarkson, P. J., 2012, *Designing Inclusive Systems: Designing Inclusion for Real-World Applications*. Springer, p. 55-64 10 p. (Designing Inclusive Systems: Designing Inclusion for Real-World Applications).

Beyond FMEA: the structured what-if technique (SWIFT).

Card, A. J., Ward, J. R. & Clarkson, P. J., 2012, In: Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management. 31, 4, p. 23-29 7 p.

Can computer graphic system be used to inform designers about inclusivity?

Zitkus, E., Langdon, P. & Clarkson, P. J., 2012, *Proceedings of the 12th International Design Conference, DESIGN 2012*. p. 599-606 8 p. (Proceedings of International Design Conference, DESIGN; vol. DS 70).

Design advisor: How to supply designers with knowledge about inclusion?

Zitkus, E., Langdon, P. M. & Clarkson, P. J., 2012, *Designing Inclusive Systems: Designing Inclusion for Real-World Applications*. Springer, p. 145-154 10 p.

Designing for the ageing experience: Framework of influences on adoption and use of technology products by users in different life stages

Medeiros, A. C. B., Mieczkowski, A. & Clarkson, P. J., 2012, *Proceedings of the 12th International Design Conference, DESIGN 2012*. p. 2015-2024 10 p. (Proceedings of International Design Conference, DESIGN; vol. DS 70).

Design of robust service operations using cybernetic principles and simulation

Wynn, D. C., Cassidy, S. & Clarkson, P. J., 2012, *Proceedings of the 12th International Design Conference, DESIGN 2012*. p. 331-342 12 p. (Proceedings of International Design Conference, DESIGN; vol. DS 70).

Evaluation of setup procedures on mobile devices based on users' initial experience

Wollner, P. K. A., Langdon, P. M., Goldhaber, T., Hosking, I. M., Mieczakowski, A. & Clarkson, P. J., 2012, *NordDesign 2012 - Proceedings of the 9th NordDesign Conference*. Hansen, P. K., Rasmussen, J., Jorgensen, K. A. & Tollestrup, C. (eds.). Center for Industrial Production, Aalborg University and Design Society, University of Strathclyde

FBS linkage model - Towards an integrated engineering change prediction and analysis method

Hamraz, B., Caldwell, N. H. M. & Clarkson, P. J., 2012, *Proceedings of the 12th International Design Conference, DESIGN 2012*. p. 901-910 10 p. (Proceedings of International Design Conference, DESIGN; vol. DS 70).

Getting to zero: evidence-based healthcare risk management is key.

Card, A. J., Ward, J. R. & Clarkson, P. J., 2012, In: *Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management*. 32, 2, p. 20-27 8 p.

Intrinsic motivation and design of ICT for the ageing population

Goldhaber, T. S., Langdon, P. M. & Clarkson, P. J., 2012, *Designing Inclusive Systems: Designing Inclusion for Real-World Applications*. Springer, p. 105-114 10 p.

Relating value methods to waste types in lean product development

Siyam, G. I., Kirner, K., Wynn, D. C., Lindemann, U. & Clarkson, P. J., 2012, *Proceedings of the 12th International Design Conference, DESIGN 2012*. p. 93-102 10 p. (Proceedings of International Design Conference, DESIGN; vol. DS 70).

Successful risk assessment may not always lead to successful risk control: A systematic literature review of risk control after root cause analysis.

Card, A. J., Ward, J. & Clarkson, P. J., 2012, In: *Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management*. 31, 3, p. 6-12 7 p.

Understandable by design: How can products be designed to align with user experience?

Mieczakowski, A., Langdon, P. M., Bracewell, R. H., Patmore, J. J. & Clarkson, P. J., 2012, *Designing Inclusive Systems: Designing Inclusion for Real-World Applications*. Springer, p. 133-142 10 p.

Using prospective hazard analysis to assess an active shooter emergency operations plan.

Card, A. J., Harrison, H., Ward, J. & Clarkson, P. J., 2012, In: *Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management*. 31, 3, p. 34-40 7 p.

Value and waste dependencies and guidelines

Siyam, G. I., Kirner, K. G. M., Wynn, D. C., Lindemann, U. & Clarkson, P. J., 2012, *Gain Competitive Advantage by Managing Complexity - Proceedings of the 14th International Dependency and Structure Modelling Conference, DSM 2012*. Institution of Engineering Designers, p. 65-78 14 p.

Which diagrams and when? Health workers' choice and usage of different diagram types for service improvement

Jun, G. T., Morrison, C., O'Loughlin, C. & Clarkson, P. J., 2012, *Diagrammatic Representation and Inference: 7th International Conference*. Springer, Vol. 7352 LNAI. p. 340-342 3 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)).

Simulating intertwined design processes that have similar structures: A case study of a small company that creates made-to-order fashion products

Wynn, D. C., Eckert, C. M. & Clarkson, P. J., Sept 2011, In: *International Journal of Product Development*. 14, 1-4, p. 118-143 26 p.

Change prediction in innovative products to avoid emergency innovation

Eckert, C. M., Keller, R. & Clarkson, P. J., Aug 2011, In: *International Journal of Technology Management*. 55, 3-4, p. 226-237 12 p.

Modelling the evolution of uncertainty levels during design

Wynn, D. C., Grebici, K. & Clarkson, P. J., Aug 2011, In: International Journal on Interactive Design and Manufacturing. 5, 3, p. 187-202 16 p.

Redesigning the design process through interactive simulation: A case study of life-cycle engineering in jet engine conceptual design

Kerley, W., Wynn, D. C., Eckert, C. & Clarkson, P. J., Aug 2011, In: International Journal of Services and Operations Management. 10, 1, p. 30-51 22 p.

Measurement of stressful postures during daily activities: An observational study with older people

Seidel, D., Hjalmarson, J., Freitag, S., Larsson, T. J., Brayne, C. & Clarkson, P. J., Jul 2011, In: Gait and Posture. 34, 3, p. 397-401 5 p.

Engineering change: An overview and perspective on the literature

Jarratt, T. A. W., Eckert, C. M., Caldwell, N. H. M. & Clarkson, P. J., Apr 2011, In: Research in Engineering Design. 22, 2, p. 103-124 22 p.

An approach towards considering users' understanding in product design

Mieczakowski, A., Langdon, P. & Clarkson, P. J., 2011, *Universal Access in Human-Computer Interaction: Design for All and eInclusion - 6th International Conference, UAHCI 2011, Held as Part of HCI International 2011, Proceedings*. PART 1 ed. p. 90-99 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 6765 LNCS, no. PART 1).

An integrated system for the aerodynamic design of compression systems-part I: Development

Ghisu, T., Parks, G. T., Jarrett, J. P. & Clarkson, P. J., 2011, In: Journal of Turbomachinery. 133, 1, 011011.

An integrated system for the aerodynamic design of compression systems-part II: Application

Ghisu, T., Parks, G. T., Jarrett, J. P. & Clarkson, P. J., 2011, In: Journal of Turbomachinery. 133, 1, 011012.

Collaborative trust networks in engineering design adaptation

Atkinson, S. R., Maier, A. M., Caldwell, N. & Clarkson, P. J., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 152-161 10 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 7).

Designing for resilience: Using a Delphi study to identify resilience issues for hospital designs in a changing climate

Masko, M. L., Eckert, C. M., Caldwell, N. H. M. & Clarkson, P. J., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 60-69 10 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 5).

Development of modelling method selection tool for health services management: From problem structuring methods to modelling and simulation methods

Jun, G. T., Morris, Z., Eldabi, T., Harper, P., Naseer, A., Patel, B. & Clarkson, J. P., 2011, In: BMC Health Services Research. 11, 108.

Evaluating the design, use and learnability of household products for older individuals

Wilkinson, C., Langdon, P. & Clarkson, P. J., 2011, *Universal Access in Human-Computer Interaction: Users Diversity - 6th International Conference, UAHCI 2011, Held as Part of HCI International 2011, Proceedings*. PART 2 ed. p. 250-259 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 6766 LNCS, no. PART 2).

Improving communication in design: Recommendations from the literature

Maier, A. M., Dönmez, D., Hepperle, C., Kreimeyer, M., Lindemann, U. & Clarkson, P. J., 2011, *Human Behaviour in Design*. The Design Society, p. 1-11 11 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 7).

Improving data quality in DSM modelling: A structural comparison approach

F-Schmitz, S., Wynn, D. C., Biedermann, W., Clarkson, P. J. & Lindemann, U., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 369-380 12 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 4).

Information models used to manage engineering change: A review of the literature 2005-2010

Ahmad, N., Wynn, D. C. & Clarkson, P. J., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 538-549 12 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 1).

Investigating the relationships between user capabilities and product demands for older and disabled users

Persad, U., Langdon, P. & Clarkson, P. J., 2011, *Universal Access in Human-Computer Interaction: Design for All and eInclusion - 6th International Conference, UAHCI 2011, Held as Part of HCI International 2011, Proceedings*. PART 1 ed. p. 110-118 9 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 6765 LNCS, no. PART 1).

Modelling cognitive impairment to improve universal access

Jokisuu, E., Langdon, P. & Clarkson, P. J., 2011, *Universal Access in Human-Computer Interaction: Users Diversity - 6th International Conference, UAHCI 2011, Held as Part of HCI International 2011, Proceedings*. PART 2 ed. p. 42-50 9 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 6766 LNCS, no. PART 2).

Older user errors in handheld touchscreen devices: To what extent is prediction possible?

Bradley, M., Langdon, P. & Clarkson, P. J., 2011, *Universal Access in Human-Computer Interaction: Users Diversity - 6th International Conference, UAHCI 2011, Held as Part of HCI International 2011, Proceedings*. PART 2 ed. p. 131-139 9 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 6766 LNCS, no. PART 2).

Re-conceptualising value in the engineering design process: The value cycle map

Siyam, G. I., Wynn, D. C. & Clarkson, P. J., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 475-486 12 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 1).

Robust design optimization of gas turbine compression systems

Ghisu, T., Parks, G. T., Jarrett, J. P. & Clarkson, P. J., 2011, In: *Journal of Propulsion and Power*. 27, 2, p. 282-295 14 p.

Sick systems: Towards a generic conceptual representation of healthcare systems

Komashie, A., Jun, T., Dodds, S., Rayner, H., Thane, S., Mitchell-Baker, A. & Clarkson, J., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 430-440 11 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 4).

System architecture modeling in a software tool based on the contact and channel approach (CC-A)

Albers, A., Braun, A., Sadowski, E., Wynn, D. C., Wyatt, D. F. & John Clarkson, P., 2011, In: *Journal of Mechanical Design, Transactions of the ASME*. 133, 10, 101006.

The evolution of information while building cross-domain models of a design: A video experiment

Ahmad, N., Wynn, D. C. & John Clarkson, P., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 500-511 12 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 6).

Using simulation to support process integration and automation of the early stages of aerospace design

Kerley, W., Armstrong, G., Pepe, C., Moss, M. & Clarkson, P. J., 2011, *ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*. p. 134-146 13 p. (ICED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design; vol. 1).

Thinking with simple diagrams in healthcare systems design

Jun, T. G., Hinrichs, S., Jafri, T. & Clarkson, P. J., 1 Dec 2010, *11th International Design Conference, DESIGN 2010*. p. 1787-1794 8 p. (11th International Design Conference, DESIGN 2010).

Developing a model of cognitive interaction for analytical inclusive design evaluation

Langdon, P., Persad, U. & John Clarkson, P., Nov 2010, In: *Interacting with Computers*. 22, 6, p. 510-529 20 p.

It is normal to be different: Applying inclusive design in industry

Hosking, I., Waller, S. & Clarkson, P. J., Nov 2010, In: *Interacting with Computers*. 22, 6, p. 496-501 6 p.

Physical gestures for abstract concepts: Inclusive design with primary metaphors

Hurtienne, J., Stöbel, C., Sturm, C., Maus, A., Rötting, M., Langdon, P. & Clarkson, J., Nov 2010, In: *Interacting with Computers*. 22, 6, p. 475-484 10 p.

Design for independent living: Activity demands and capabilities of older people

Seidel, D., Richardson, K., Crilly, N., Matthews, F. E., Clarkson, P. J. & Brayne, C., Oct 2010, In: *Ageing and Society*. 30, 7, p. 1239-1255 17 p.

The benefits of adaptive parametrization in multi-objective Tabu Search optimization

Ghisu, T., Parks, G. T., Jaeggi, D. M., Jarrett, J. P. & Clarkson, P. J., Oct 2010, In: *Engineering Optimization*. 42, 10, p. 959-981 23 p.

A case study of design methods applied to researching medical device purchasing processes

Hinrichs, S., Dickerson, T. & Clarkson, P. J., 14 Sept 2010, In: *Australasian Medical Journal*. 3, 8, p. 471-487 17 p.

Designing packaging to support the safe use of medicines at home

Ward, J., Buckle, P. & John Clarkson, P., Sept 2010, In: *Applied Ergonomics*. 41, 5, p. 682-694 13 p.

Exploring knowledge and information needs in engineering from the past and for the future - Results from a survey

Heisig, P., Caldwell, N. H. M., Grebici, K. & Clarkson, P. J., Sept 2010, In: *Design Studies*. 31, 5, p. 499-532 34 p.

Systems mapping workshops and their role in understanding medication errors in healthcare

Buckle, P., Clarkson, P. J., Coleman, R., Bound, J., Ward, J. & Brown, J., Sept 2010, In: *Applied Ergonomics*. 41, 5, p. 645-656 12 p.

Designing a more inclusive world

Waller, S., Langdon, P. & Clarkson, J., Aug 2010, In: *Journal of Integrated Care*. 18, 4, p. 19-25 7 p.

Planning development processes for complex products

Eckert, C. M. & Clarkson, P. J., Jul 2010, In: *Research in Engineering Design*. 21, 3, p. 153-171 19 p.

Systems modelling approaches to the design of safe healthcare delivery: Ease of use and usefulness perceived by healthcare workers

Jun, G. T., Ward, J. & Clarkson, P. J., Jul 2010, In: *Ergonomics*. 53, 7, p. 829-847 19 p.

Adaptive polynomial chaos for gas turbine compression systems performance analysis

Ghisu, T., Parks, G. T., Jarrett, J. P. & Clarkson, P. J., Jun 2010, In: *AIAA Journal*. 48, 6, p. 1156-1170 15 p.

Capability measurement for Inclusive Design

Johnson, D., Clarkson, J. & Huppert, F., Apr 2010, In: *Journal of Engineering Design*. 21, 2-3, p. 275-288 14 p.

Inclusive design

Clarkson, J. & Coleman, R., Apr 2010, In: *Journal of Engineering Design*. 21, 2-3, p. 127-129 3 p.

Key influences on the user-centred design process

Goodman-Deane, J., Langdon, P. & Clarkson, J., Apr 2010, In: *Journal of Engineering Design*. 21, 2-3, p. 345-373 29 p.

A computational method to support product architecture design

Wyatt, D. F., Wynn, D. C. & Clarkson, P. J., 2010, *Proceedings of the ASME International Mechanical Engineering Congress and Exposition 2009, IMECE 2009*. American Society of Mechanical Engineers (ASME), p. 195-208 14 p. (ASME International Mechanical Engineering Congress and Exposition, Proceedings; vol. 4).

A framework for estimating difficulty and exclusion from tasks during inclusive design

Nery, D., Langdon, P. & Clarkson, J., 2010, *Contemporary Ergonomics and Human Factors 2010*. p. 223-231 9 p.

Analysing plan content using a matrix-based approach

De Lessio, M. P., Caldwell, N. H. M., Wynn, D. C. & Clarkson, P. J., 2010, *Managing Complexity by Modelling Dependencies - Proceedings of the 12th International DSM Conference*. p. 57-70 14 p.

Barriers to design in healthcare

Ticehurst, A., Ward, J. & Clarkson, J., 2010, In: *Australasian Medical Journal*. 3, 9, p. 570-579 10 p.

Can change prediction help prioritise redesign work in future engineering systems?

Wynn, D. C., Caldwell, N. H. M. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 1691-1702 12 p.

Characterising the impact of legacy architectures on complex products

Wyatt, D. F., Wynn, D. C. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 499-510 12 p.

Concept diagramming software for engineering design support: A review and synthesis of studies

Eng, N. L., Bracewell, R. H. & Clarkson, P. J., 2010, *Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009*. PART B ed. p. 1221-1234 14 p. (Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009; vol. 8, no. PART B).

Contact and channel modelling using part and function libraries in a function-based design approach

Albers, A., Braun, A., Sadowski, E., Wyatt, D. F., Wynn, D. C. & Clarkson, P. J., 2010, *ASME 2010 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE2010*. p. 393-404 12 p. (Proceedings of the ASME Design Engineering Technical Conference; vol. 5).

Design customisation in multi-project environments: Using process simulation to explore the issues

Eckert, C., Wynn, D. & Clarkson, J., 2010, *Proceedings of the 8th International Symposium on Tools and Methods of Competitive Engineering, TMCE 2010*. Vol. 2. p. 975-988 14 p.

Designing inclusive futures

Langdon, P., Clarkson, J. & Robinson, P., 2010, In: *Universal Access in the Information Society*. 9, 3, p. 191-193 3 p.

Development and evaluation of a tool to estimate the impact of design change

Ahmad, N., Wynn, D. C. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 105-116 12 p.

Early detection of diseases in tomato crops: An electronic nose and intelligent systems approach

Ghaffari, R., Zhang, F., Iliescu, D., Hines, E., Leeson, M., Napier, R. & Clarkson, J., 2010, *2010 IEEE World Congress on Computational Intelligence, WCCI 2010 - 2010 International Joint Conference on Neural Networks, IJCNN 2010*. 5596535

Evaluating the impacts of iteration on PD processes by transforming task network models into System Dynamics models
Le, H. N., Wynn, D. C. & Clarkson, P. J., 2010, *ASME 2010 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE2010*. p. 461-472 12 p. (Proceedings of the ASME Design Engineering Technical Conference; vol. 5).

Framework for design research in health and care services

Hempe, E. M., Dickerson, T., Holland, A. & Clarkson, P. J., 2010, *Exploring Services Science - First International Conference, IESS 2010, Revised Papers*. Springer, p. 125-135 11 p. (Lecture Notes in Business Information Processing; vol. 53 LNBI).

How can PD process modelling be made more useful? An exploration of factors which influence modelling utility

Wynn, D. C., Maier, A. M. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 511-522 12 p.

Investigating designers' cognitive representations for inclusive interaction between products and users

Mieczakowski, A., Langdon, P. M. & Clarkson, P. J., 2010, *Designing Inclusive Interactions: Inclusive Interactions Between People and Products in Their Contexts of Use*. Springer, p. 133-143 11 p.

Model driven healthcare: Disconnected practices

Eldabi, T., Jun, G. T., Clarkson, J., Connell, C. & Klein, J. H., 2010, *Proceedings of the 2010 Winter Simulation Conference, WSC'10*. p. 2271-2282 12 p. 5678925. (Proceedings - Winter Simulation Conference).

Modelling the design process planning system

De Lessio, M. P., Wynn, D. C. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 183-194 12 p.

Modelling the influence of uncertainty, process architecture and feedback dynamics on PD projects

Le, H. N., Wynn, D. C. & Clarkson, P. J., 2010, *Managing Complexity by Modelling Dependencies - Proceedings of the 12th International DSM Conference*. p. 113-124 12 p.

Observing learning and conceptual development through novel product interaction

Wilkinson, C., Langdon, P. & Clarkson, J., 2010, p. 328-336. 9 p.

Prior experience and learning: Generational effects upon interaction

Wilkinson, C., Langdon, P. M. & Clarkson, P. J., 2010, *Designing Inclusive Interactions: Inclusive Interactions Between People and Products in Their Contexts of Use*. Springer, p. 145-154 10 p.

Prior experience in the use of domestic product interfaces

Langdon, P. M., Lewis, T. & Clarkson, P. J., 2010, In: *Universal Access in the Information Society*. 9, 3, p. 209-225 17 p.

Profiling PD processes by combining structural analysis and simulation

Kreimeyer, M., Wynn, D. C., Clarkson, P. J. & Lindemann, U., 2010, *11th International Design Conference, DESIGN 2010*. p. 1131-1142 12 p.

Quantifying exclusion for tasks related to product interaction

Waller, S. D., Williams, E. Y., Langdon, P. M. & Clarkson, P. J., 2010, *Designing Inclusive Interactions: Inclusive Interactions Between People and Products in Their Contexts of Use*. Springer, p. 57-68 12 p. (Designing Inclusive Interactions: Inclusive Interactions Between People and Products in Their Contexts of Use).

Re-designing PD process architecture by transforming task network models into system dynamics models

Le, H. N., Wynn, D. C. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 319-330 12 p.

The impact of packaging interdependent change requests on project lead time

Ahmad, N., Wynn, D. C. & Clarkson, J., 2010, *Managing Complexity by Modelling Dependencies - Proceedings of the 12th International DSM Conference*. p. 293-306 14 p.

The influence of ageing on user experience

Medeiros, A. C., Crilly, N. & Clarkson, P. J., 2010, *Handbook of Research on Trends in Product Design and Development: Technological and Organizational Perspectives*. IGI Global, p. 348-364 17 p.

Toward a model of product-user interaction: A new data modelling approach for designers

Mieczakowski, A., Langdon, P., Bracewell, R. & Clarkson, P. J., 2010, *11th International Design Conference, DESIGN 2010*. p. 875-884 10 p.

Towards a decentralised approach to modelling connectivity in complex products

Ariyo, O., Eckert, C. M. & Clarkson, P. J., 2010, *ASME 2010 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE2010*. p. 35-45 11 p. (Proceedings of the ASME Design Engineering Technical Conference; vol. 5).

Understanding the co-occurrence of ability loss

Waller, S. D., Williams, E. Y., Langdon, P. M. & Clarkson, P. J., 2010, *Designing Inclusive Interactions: Inclusive Interactions Between People and Products in Their Contexts of Use*. Springer, p. 35-44 10 p. (Designing Inclusive Interactions: Inclusive Interactions Between People and Products in Their Contexts of Use).

Using connectivity models to support design reviews

Ariyo, O., Heisig, P., Wilson, P. A., Harnden, M. & Clarkson, J., 2010, *Managing Complexity by Modelling Dependencies - Proceedings of the 12th International DSM Conference*. p. 263-277 15 p.

Using disability data to estimate design exclusion

Waller, S. D., Langdon, P. M. & Clarkson, P. J., 2010, In: *Universal Access in the Information Society*. 9, 3, p. 195-207 13 p.

Using an engineering change methodology to support conceptual design

Keller, R., Eckert, C. M. & Clarkson, P. J., Dec 2009, In: *Journal of Engineering Design*. 20, 6, p. 571-587 17 p.

The elusive act of synthesis: Creativity in the conceptual design of complex engineering products

Eckert, C., Wyatt, D. & Clarkson, P. J., 26 Oct 2009, *C and C 2009 - Proceedings of the 2009 ACM SIGCHI Conference on Creativity and Cognition*. Association for Computing Machinery (ACM), p. 265-274 10 p.

Patterns of functional loss among older people: A prospective analysis

Seidel, D., Crilly, N., Matthews, F. E., Jagger, C., Clarkson, P. J. & Brayne, C., Oct 2009, In: *Human Factors*. 51, 5, p. 669-680 12 p.

Change propagation analysis in complex technical systems

Giffin, M., De Weck, O., Bounova, G., Keller, R., Eckert, C. & Clarkson, P. J., Aug 2009, In: *Journal of Mechanical Design, Transactions of the ASME*. 131, 8, p. 810011-8100114 7290104 p.

Applying engineering information management principles to microscopy

Caldwell, N. H. M., McMahon, C. A., Darlington, M. J., Heisig, P., Holburn, D. M. & Clarkson, P. J., Jul 2009, In: *Microscopy and Microanalysis*. 15, SUPPL. 2, p. 806-807 2 p.

Does social marketing provide a framework for changing healthcare practice?

Morris, Z. S. & Clarkson, P. J., Jul 2009, In: *Health Policy*. 91, 2, p. 135-141 7 p.

Reflecting communication: A key factor for successful collaboration between embodiment design and simulation

Maier, A. M., Kreimeyer, M., Lindemann, U. & Clarkson, P. J., Jun 2009, In: *Journal of Engineering Design*. 20, 3, p. 265-287 23 p.

Shaping things: intended consumer response and the other determinants of product form
Crilly, N., Moultrie, J. & Clarkson, P. J., May 2009, In: *Design Studies*. 30, 3, p. 224-254 31 p.

Change prediction for mass customized products: A product model view
Keller, R., Eckert, C. M. & Clarkson, P. J., 1 Jan 2009, *Handbook of Research in Mass Customization and Personalization*. World Scientific Publishing, p. 376-399 24 p.

Complexity in engineering design
Eckert, C., Keller, R. & Clarkson, J., 1 Jan 2009, *Embracing Complexity in Design*. Taylor & Francis, p. 37-59 23 p.

Tools for inclusive design
Waller, S. & John Clarkson, P., 1 Jan 2009, *The Universal Access Handbook*. CRC Press, p. 19-1-19-14

A modelling method to manage change propagation
Koh, E. C. Y. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 253-264 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

An MDM-based approach to manage engineering change processes across domains of the design process
Ahmad, N., Wynn, D. C. & Clarkson, J., 2009, *Proceedings of the 11th International DSM Conference*. p. 299-312 14 p.

Approaches to mitigate the impact of uncertainty in development processes
Chalupnik, M. J., Wynn, D. C. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 459-470 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Assessing impact analysis practice to improve change management capability
Kilpinen, M., Eckert, C. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 205-216 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Communicating planning change activity using a matrix-based approach
De Lessio, M. P., Koh, E. C. Y., Wynn, D. C. & John Clarkson, P., 2009, *Proceedings of the 11th International DSM Conference*. p. 285-298 14 p.

Communication and design process planning: Initial insights from literature and industry interviews
De Lessio, M. P., Wynn, D. C. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 583-594 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Contact and channel modelling to support early design of technical systems
Albers, A., Braun, A., Clarkson, P. J., Enkler, H. G. & Wynn, D., 2009, *DS 58-5: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 61-72 12 p. (DS 58-5: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 5).

Describing information use in engineering design processes using a diagrammatic model
Grebici, K., Wynn, D. C. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 571-582 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Designers, users and a shared understanding of the product: A case study with product designers
Mieczakowski, A., Langdon, P. & Clarkson, P. J., 2009, *ECCE 2009 - European Conference on Cognitive Ergonomics: Designing beyond the Product - Understanding Activity and User Experience in Ubiquitous Environments*. 258 ed. p. 370-373 4 p.

Designing better medicines delivery in the UK National Health Services (NHS)

Jafri, T. & John Clarkson, P., 2009, In: *Australasian Medical Journal*. 2, 11, p. 121-128 8 p.

Design of product architectures in incrementally developed complex products

Wyatt, D. F., Eckert, C. M. & Clarkson, P. J., 2009, *DS 58-4: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 167-178 12 p. (DS 58-4: Proceedings of ICED 09, the 17th International Conference on Engineering Design).

Design project planning, monitoring and re-planning through process simulation

Wynn, D. C. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 25-36 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Determining component freeze order: A redesign cost perspective using simulated annealing

Keller, R., Eckert, C. M. & Clarkson, P. J., 2009, *2008 Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, DETC 2008*. p. 333-342 10 p. (2008 Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, DETC 2008; vol. 4).

Developing a method for assessing product inclusivity

Waller, S., Goodman-Deane, J., Langdon, P., Johnson, D. & Clarkson, P. J., 2009, *DS 58-5: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 335-346 12 p. (DS 58-5: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 5).

Development of a framework for assessing sustainability in new product development

Sutcliffe, L. F. R., Maier, A. M., Moultrie, J. & Clarkson, P. J., 2009, *DS 58-7: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 289-300 12 p. (DS 58-7: Proceedings of ICED 09, the 17th International Conference on Engineering Design).

Dimensions of decision situations in complex product development

Jupp, J. R., Eckert, C. & Clarkson, P. J., 2009, *DS 58-3: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 239-250 12 p. (DS 58-3: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 3).

DRED 2.0: A method and tool for capture and communication of design knowledge deliberated in the creation of technical products

Bracewell, R., Gourtovaia, M., Moss, M., Knott, D., Wallace, K. & Clarkson, P. J., 2009, *DS 58-6: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. PART 2 ed. p. 223-234 12 p. (DS 58-6: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 6, no. PART 2).

Eliciting mental models of user methods for product and communications design

Goodman-Deane, J., Langdon, P., Clarkson, P. J. & Clarke, S., 2009, *Universal Access in Human-Computer Interaction: Addressing Diversity - 5th International Conference, UAHCI 2009, Held as Part of HCI International 2009, Proceedings*. PART 1 ed. p. 499-505 7 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 5614 LNCS, no. PART 1).

Engineering change: Drivers, sources, and approaches in industry

Eckert, C., De Week, O., Keller, R. & Clarkson, P. J., 2009, *DS 58-4: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 47-58 12 p. (DS 58-4: Proceedings of ICED 09, the 17th International Conference on Engineering Design).

Ergonomics for engineers

Clarkson, P. J., 2009, *Contemporary Ergonomics 2009*. CRC Press, p. 483-490 8 p.

Exploring spaces of system architectures using constraint-based classification and euler diagrams

Wyatt, D., Wynn, D. & Clarkson, J., 2009, *Proceedings of the 11th International DSM Conference*. p. 141-153 13 p.

Health care process modelling: Which method when?

Jun, G. T., Ward, J., Morris, Z. & Clarkson, J., 2009, In: *International Journal for Quality in Health Care*. 21, 3, p. 214-224 11 p.

Investigating prior experience and product learning through novel interface interaction: A pilot study

Wilkinson, C., Langdon, P. & Clarkson, P. J., 2009, *Universal Access in Human-Computer Interaction: Addressing Diversity - 5th International Conference, UAHCI 2009, Held as Part of HCI International 2009, Proceedings*. PART 1 ed. p. 654-664 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 5614 LNCS, no. PART 1).

Modelling product-user interaction for inclusive design

Mieczakowski, A., Langdon, P. & Clarkson, P. J., 2009, *Universal Access in Human-Computer Interaction: Addressing Diversity - 5th International Conference, UAHCI 2009, Held as Part of HCI International 2009, Proceedings*. PART 1 ed. p. 559-567 9 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 5614 LNCS, no. PART 1).

Specifying an inclusive model of product-user interaction

Mieczakowski, A., Langdon, P. & Clarkson, P. J., 2009, *DS 58-4: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 143-154 12 p. (DS 58-4: Proceedings of ICED 09, the 17th International Conference on Engineering Design).

The P3 platform: An approach and software system for developing diagrammatic model-based methods in design research

Wynn, D. C., Nair, S. M. T. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 559-570 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Towards an account of sensorimotor knowledge in inclusive product design

Hurtienne, J., Langdon, P. & Clarkson, P. J., 2009, *Universal Access in Human-Computer Interaction: Addressing Diversity - 5th International Conference, UAHCI 2009, Held as Part of HCI International 2009, Proceedings*. PART 1 ed. p. 251-260 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 5614 LNCS, no. PART 1).

Towards empirically-derived guidelines for process modelling interventions in engineering design

Kerley, W., Wynn, D. C., Moss, M., Coventry, G. & Clarkson, P. J., 2009, *DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 217-228 12 p. (DS 58-1: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 1).

Towards managing team interfaces: An elicitation of factors influencing communication

Maier, A. M., Eckert, C. M. & Clarkson, P. J., 2009, *DS 58-3: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 275-286 12 p. (DS 58-3: Proceedings of ICED 09, the 17th International Conference on Engineering Design; vol. 3).

Understanding patterns of capability loss among elderly users

Seidel, D., Crilly, N., Langdon, P. M., Matthews, F. E., Jagger, C., Brayne, C. & Clarkson, P. J., 2009, *DS 58-8: Proceedings of ICED 09, the 17th International Conference on Engineering Design*. p. 207-214 8 p. (DS 58-8: Proceedings of ICED 09, the 17th International Conference on Engineering Design).

Using a matrix-based approach to model change propagation

Koh, E. C. Y., Caldwell, N. H. M. & Clarkson, P. J., 2009, *Proceedings of the 11th International DSM Conference*. p. 271-284 14 p.

Visualizing design exclusion predicted by disability data: A mobile phone case study

Waller, S., Langdon, P. & Clarkson, P. J., 2009, *Universal Access in Human-Computer Interaction: Addressing Diversity - 5th International Conference, UAHCI 2009, Held as Part of HCI International 2009, Proceedings*. PART 1 ed. p. 644-653 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 5614 LNCS, no. PART 1).

Representing artefacts as media: Modelling the relationship between designer intent and consumer experience

Crilly, N., Maier, A. & Clarkson, P. J., Dec 2008, In: *International Journal of Design*. 2, 3, p. 15-27 13 p.

Design as communication: exploring the validity and utility of relating intention to interpretation

Crilly, N., Good, D., Matravers, D. & Clarkson, P. J., Sept 2008, In: *Design Studies*. 29, 5, p. 425-457 33 p.

One for all

Clarkson, J., Goodman-Deane, J. & Waller, S., 30 Jun 2008, In: *Engineer*. 293, 7751, p. 42 1 p.

The development of a multi-objective Tabu Search algorithm for continuous optimisation problems

Jaeggi, D. M., Parks, G. T., Kipouros, T. & Clarkson, P. J., 16 Mar 2008, In: *European Journal of Operational Research*. 185, 3, p. 1192-1212 21 p.

Biobjective design optimization for axial compressors using tabu search

Kipouros, T., Jaeggi, D. M., Dawes, W. N., Parks, G. T., Savill, A. M. & Clarkson, P. J., Mar 2008, In: *AIAA Journal*. 46, 3, p. 701-711 11 p.

Exploration of correlations between factors influencing communication in complex product development

Maier, A. M., Kreimeyer, M., Hepperle, C., Eckert, C. M., Lindemann, U. & Clarkson, J. P., Mar 2008, In: *Concurrent Engineering Research and Applications*. 16, 1, p. 37-59 23 p.

Accelerating design optimisation via principal components' analysis

Ghisu, T., Parks, G. T., Jarrett, J. P. & Clarkson, P. J., 2008, *12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, MAO*. 2008-5855

Aerodynamic topology optimisation using an implicit representation and a multiobjective genetic algorithm

Hutabarat, W., Parks, G. T., Jarrett, J. P., Dawes, W. N. & Clarkson, P. J., 2008, *Artificial Evolution - 8th International Conference Evolution Artificielle, EA 2007, Revised Selected Papers*. p. 148-159 12 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4926 LNCS).

A framework for estimating exclusion from worktasks during inclusive design

Nery, D., Langdon, P. & Clarkson, J., 2008, *Contemporary Ergonomics 2008*. p. 267-272 6 p.

Analysing the relationship between design process composition and robustness to task delays

Chalupnik, M. J., Wynn, D. C., Eckert, C. M. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 131-142 12 p.

Assessing design strategies from a change propagation perspective

Koh, E. C. Y., Keller, R., Eckert, C. M. & Clarkson, P. J., 2008, *Proceedings of the 10th International DSM Conference*. p. 261-272 12 p.

Categorising design methods: How designers view the roles of user methods in design

Goodman-Deane, J., Langdon, P., Clarke, S. & Clarkson, P. J., 2008, *Contemporary Ergonomics 2008*. p. 273-278 6 p.

Comparing and integrating methods of design activity documentation across synchronous and asynchronous modes of collaborative work

Eng, N. L., Bracewell, R. H., Clarkson, P. J., Giess, M. D., McMahon, C. A., Conway, A. P. & Ion, W. J., 2008, *Proceedings of NordDesign 2008 Conference*. p. 243-252 10 p.

Converting disability data into a format suitable for estimating design exclusion

Waller, S. D., Langdon, P. M. & Clarkson, P. J., 2008, *Designing Inclusive Futures*. Langdon, P. M., Clarkson, P. J. & Robinson, P. (eds.). Springer, p. 3-13 11 p. (Designing Inclusive Futures).

Exploring the effects of removing process-intrinsic constraints on gas turbine design

Bell, T. A., Jarrett, J. P. & Clarkson, P. J., 2008, In: *Journal of Propulsion and Power*. 24, 4, p. 751-762 12 p.

Hierarchical decompositions for complex product representation

Ariyo, O. O., Eckert, C. M. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 737-744 8 p.

Human capability and product design

Clarkson, J., 2008, *Product Experience*. Elsevier, p. 165-198 34 p.

Improving the turbine cooling conceptual design process

Bell, C., Clarkson, J. P. & Dawes, W. N., 2008, *2008 Proceedings of the ASME Turbo Expo: Power for Land, Sea, and Air. PART C* ed. p. 2631-2640 10 p. (Proceedings of the ASME Turbo Expo; vol. 6, no. PART C).

Indirect connections in a supply chain: Visualisation and analysis

Eckert, C. M., Zolghadri, M., Keller, R. & Clarkson, P. J., 2008, *Proceedings of the 10th International DSM Conference*. p. 95-104 10 p.

Influence of feature change propagation on product attributes in concept selection

Koh, E. C. Y., Keller, R., Eckert, C. M. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 157-166 10 p.

Insight into high-quality aerodynamic design spaces through multi-objective optimization

Kipourous, T., Jaeggi, D. M., Dawes, W. N., Parks, G. T., Savill, A. M. & Clarkson, P. J., 2008, In: *CMES - Computer Modeling in Engineering and Sciences*. 37, 1, p. 1-44 44 p.

Measuring prior experience in learned product interactions

Langdon, P., Lewis, T. & Clarkson, J., 2008, *Contemporary Ergonomics 2008*. Taylor & Francis, p. 297-302 6 p.

Network enabled capability as a challenge for design: A change management view

Keller, R., Atkinson, S. R. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 943-950 8 p.

Operationalising analytical inclusive design evaluation

Langdon, P., Persad, U. & Clarkson, J., 2008, *Contemporary Ergonomics 2008*. p. 279-284 6 p.

Prior experience of domestic microwave cooker interfaces: A user study

Lewis, T., Langdon, P. M. & Clarkson, P. J., 2008, *Designing Inclusive Futures*. Langdon, P. M., Clarkson, P. J. & Robinson, P. (eds.). Springer, p. 95-106 12 p.

Robust design optimisation of gas turbine compression systems

Ghisu, T., Parks, G. T., Jarrett, J. P. & Clarkson, P. J., 2008, *12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, MAO*. American Institute of Aeronautics and Astronautics Inc. (AIAA), 2008-5828

Robust multi-fidelity aerodynamic design optimization using surrogate models

Jaeggi, D. M., Parks, G. T., Dawes, W. N. & Clarkson, P. J., 2008, *12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, MAO*. American Institute of Aeronautics and Astronautics Inc. (AIAA), 2008-6052

Studying the role of narrative across aerospace knowledge management systems

Eng, N., Bracewell, R. & Clarkson, J., 2008, *International Astronautical Federation - 59th International Astronautical Congress 2008, IAC 2008*. p. 8253-8262 10 p.

Synthesis of product architectures using a DSM/DMM-based approach

Wyatt, D., Wynn, D. & Clarkson, J., 2008, *Proceedings of the 10th International DSM Conference*. p. 349-361 13 p.

The influence of ageing on product experience

Medeiros, A. C. B., Crilly, N. & Clarkson, P. J., 2008, *Proceedings from the 6th Conference on Design and Emotion 2008*.

The relationship between functions and requirements for an improved detection of component linkages

Boersting, P., Keller, R., Alink, T., Eckert, C. M., Albers, A. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 309-316 8 p.

The role of narrative in evolving engineering design documentation

Eng, N. L., Bracewell, R. H. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 769-776 8 p.

User involvement and user data: A framework to help designers to select appropriate methods

Goodman-Deane, J., Langdon, P. M., Clarke, S. & Clarkson, P. J., 2008, *Designing Inclusive Futures*. Langdon, P. M., Clarkson, P. J. & Robinson, P. (eds.). Springer, p. 23-34 12 p.

Using simulation to support integration of life-cycle engineering activities into an existing design process: A case study

Kerley, W. P., Wynn, D. C., Moss, M. A., Eckert, C. M. & Clarkson, P. J., 2008, *Proceedings DESIGN 2008, the 10th International Design Conference*. p. 1033-1042 10 p.

Characterising user capabilities to support inclusive design evaluation

Persad, U., Langdon, P. & Clarkson, J., Sept 2007, In: *Universal Access in the Information Society*. 6, 2, p. 119-135 17 p.

Designing accessible technology

Langdon, P., Clarkson, J. & Robinson, P., Sept 2007, In: *Universal Access in the Information Society*. 6, 2, p. 117-118 2 p.

The effects of prior experience on the use of consumer products

Langdon, P., Lewis, T. & Clarkson, J., Sept 2007, In: *Universal Access in the Information Society*. 6, 2, p. 179-191 13 p.

An approach to integrated multi-disciplinary turbomachinery design

Jarrett, J. P., Dawes, W. N. & Clarkson, P. J., Jul 2007, In: *Journal of Turbomachinery*. 129, 3, p. 488-494 7 p.

Development of a design audit tool for SMEs

Moultrie, J., Clarkson, P. J. & Probert, D., Jul 2007, In: *Journal of Product Innovation Management*. 24, 4, p. 335-368 34 p.

Externalizing tacit overview knowledge: A model-based approach to supporting design teams

Flanagan, T., Eckert, C. & Clarkson, P. J., Jun 2007, In: *Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM*. 21, 3, p. 227-242 16 p.

A classification of uncertainty for early product and system design

De Weck, O., Eckert, C. & Clarkson, J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

A framework for analytical inclusive design evaluation

Persad, U., Langdon, P. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Analyzing communication dependencies in product development using the design structure matrix

Hepperle, C., Maier, A. M., Kreimeyer, M., Lindemann, U. & Clarkson, P. J., 2007, *Proceedings of the 9th International DSM Conference*. p. 73-85 13 p.

Associations between factors influencing engineering design communication

Maier, A. M., Hepperle, C., Kreimeyer, M., Eckert, C., Lindemann, U. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Axial compressor intermediate duct design and optimization

Ghisu, T., Molinari, M., Parks, G. T., Dawes, W. N., Jarrett, J. P. & Clarkson, P. J., 2007, *Collection of Technical Papers - 48th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*. p. 2012-2025 14 p.
(Collection of Technical Papers - AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference; vol. 2).

Change propagation at the interface of system and embedded software design: Characterising impact analysis tasks and techniques

Kilpinen, M. S., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Cognitive aspects of ageing and product interfaces: Interface type

Lewis, T., Langdon, P. & Clarkson, P. J., 2007, *Universal Access in Human-Computer Interaction: Coping with Diversity - 4th International Conference on Universal Access in Human-Computer Interaction, UAHCI 2007. Held as Part of HCI Int. 2007 Proc.*. PART 1 ed. Springer, p. 731-740 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4554 LNCS, no. PART 1).

Cognitive scales and mental models for inclusive design

Persad, U., Langdon, P., Brown, D. & Clarkson, P. J., 2007, *Universal Access in Human-Computer Interaction: Coping with Diversity - 4th International Conference on Universal Access in Human-Computer Interaction, UAHCI 2007. Held as Part of HCI Int. 2007 Proc.*. PART 1 ed. Springer, p. 776-785 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4554 LNCS, no. PART 1).

Component classification: A change perspective

Koh, E. C. Y., Keller, R., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of the 9th International DSM Conference*. p. 337-348 12 p.

Designers' perceptions of methods of involving and understanding users

Goodman, J., Clarke, S., Langdon, P. & Clarkson, P. J., 2007, *Universal Access in Human-Computer Interaction: Coping with Diversity - 4th International Conference on Universal Access in Human-Computer Interaction, UAHCI 2007. Held as Part of HCI Int. 2007 Proc.*. PART 1 ed. Springer, p. 127-136 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4554 LNCS, no. PART 1).

Detailed effects of experience in inclusive design

Lewis, T., Langdon, P. M. & Clarkson, P. J., 2007, *Contemporary Ergonomics 2007*. p. 357-362 6 p.

Engineering change analysis during ongoing product development

Eger, T., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Equipping designers by simulating the effects of visual and hearing impairments

Goodman-Deane, J., Langdon, P. M., John Clarkson, P., Caldwell, N. H. M. & Sarhan, A. M., 2007, *ASSETS'07: Proceedings of the Ninth International ACM SIGACCESS Conference on Computers and Accessibility*. p. 241-242 2 p.
(ASSETS'07: Proceedings of the Ninth International ACM SIGACCESS Conference on Computers and Accessibility).

Extending design rationale to capture an integrated design information space

Bracewell, R., Gourtovaia, M., Wallace, K. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Formats for user data in inclusive design

Goodman, J., Langdon, P. & Clarkson, P. J., 2007, *Universal Access in Human-Computer Interaction: Coping with Diversity - 4th International Conference on Universal Access in Human-Computer Interaction, UAHCI 2007. Held as Part of HCI Int. 2007 Proc.* PART 1 ed. Springer, p. 117-126 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4554 LNCS, no. PART 1).

Industry response to inclusive design: A survey

Goodman, J., Langdon, P., Clarkson, P. J. & Dong, H., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Modelling iteration in engineering design

Wynn, D. C., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Multi-objective optimisation of a hybrid electric vehicle: Drive train and driving strategy

Cook, R., Molina-Cristobal, A., Parks, G., Correa, C. O. & Clarkson, P. J., 2007, *Evolutionary Multi-Criterion Optimization - 4th International Conference, EMO 2007, Proceedings*. Springer, p. 330-345 16 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4403 LNCS).

Predicting change propagation on different levels of granularity: An algorithmic view

Ariyo, O. O., Keller, R., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Prioritising engineering change propagation risk estimates

Ariyo, O. O., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Product models in design: A combined use of two models to assess change risks

Keller, R., Alink, T., Pfeifer, C., Eckert, C. M., Clarkson, P. J. & Albers, A., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Project structure: An important factor in design planning?

Flanagan, T., Eckert, C. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

The development of a multi-threaded multi-objective tabu search algorithm

Dawson, P., Parks, G., Jaeggi, D., Molina-Cristobal, A. & Clarkson, P. J., 2007, *Evolutionary Multi-Criterion Optimization - 4th International Conference, EMO 2007, Proceedings*. Springer, p. 242-256 15 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4403 LNCS).

Understanding design process robustness: A modelling approach

Chalupnik, M. J., Wynn, D. C., Eckert, C. M. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Using meta-data to enhance process simulation and identify improvements

Bell, C., Wynn, D. C., Dawes, W. N. & Clarkson, P. J., 2007, *Proceedings of ICED 2007, the 16th International Conference on Engineering Design*. (Proceedings of ICED 2007, the 16th International Conference on Engineering Design; vol. DS 42).

Supporting change processes in design: Complexity, prediction and reliability

Eckert, C. M., Keller, R., Earl, C. & Clarkson, P. J., Dec 2006, In: Reliability Engineering and System Safety. 91, 12, p. 1521-1534 14 p.

Identifying requirements for communication support: A maturity grid-inspired approach

Maier, A. M., Eckert, C. M. & John Clarkson, P., Nov 2006, In: Expert Systems with Applications. 31, 4, p. 663-672 10 p.

Development of a product audit tool

Moultrie, J., Clarkson, P. J. & Probert, D. R., 1 Oct 2006, In: Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture. 220, 7, p. 1157-1174 18 p.

Graphic elicitation: Using research diagrams as interview stimuli

Crilly, N., Blackwell, A. F. & Clarkson, P. J., Aug 2006, In: Qualitative Research. 6, 3, p. 341-366 26 p.

Patient safety, systems design and ergonomics

Buckle, P., Clarkson, P. J., Coleman, R., Ward, J. & Anderson, J., Jul 2006, In: Applied Ergonomics. 37, 4 SPEC. ISS., p. 491-500 10 p.

A tool to evaluate design performance in SMEs

Moultrie, J., Clarkson, P. J. & Probert, D., 1 Apr 2006, In: International Journal of Productivity and Performance Management. 55, 3-4, p. 184-216 33 p.

Matrices or node-link diagrams: Which visual representation is better for visualising connectivity models?

Keller, R., Eckert, C. M. & Clarkson, P. J., Mar 2006, In: Information Visualization. 5, 1, p. 62-76 15 p.

Multi-criteria material selection of monolithic and multi-materials in engineering design

Sirisalee, P., Ashby, M. F., Parks, G. T. & Clarkson, P. J., Feb 2006, In: Advanced Engineering Materials. 8, 1-2, p. 48-56 9 p.

An optimal design process for an adequate product?

Clarkson, P. J., 2006, *Design Methods for Practice - 5th International Seminar and Workshop of Engineering Design Integrated Product Development, EDIPrOD 2006*. p. 21-26 6 p. (Design Methods for Practice - 5th International Seminar and Workshop of Engineering Design Integrated Product Development, EDIPrOD 2006; vol. DS 37).

Applied signposting: A modeling framework to support design process improvement

Wynn, D. C., Eckert, C. M. & Clarkson, P. J., 2006, *Proceedings of 2006 ASME International Design Engineering Technical Conferences and Computers and Information In Engineering Conference, DETC2006*. American Society of Mechanical Engineers, (Proceedings of the ASME Design Engineering Technical Conference; vol. 2006).

Building connectivity models in design: Representations and tools to support cognitive preferences

Keller, R., Eckert, C. M. & Clarkson, P. J., 2006, *Design Computing and Cognition '06*. p. 41-60 20 p.

Change impact analysis at the interface of system and embedded software design

Kilpinen, M. S., Clarkson, P. J. & Eckert, C. M., 2006, p. 881-888. 8 p.

Characterizing the design space in multiobjective axial compressor blade optimization

Molinari, M., Jarrett, J. P., John Clarkson, P. & Dawes, W. N., 2006, *Collection of Technical Papers - 47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference: 14th AIAA/ASME/AHS Adaptive Structures Conference, 8th AIAA Non-deterministic App.* p. 3843-3856 14 p. (Collection of Technical Papers - AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference; vol. 6).

Exploring multidisciplinary trade-offs in turbomachinery design

Bell, T. A., Jarrett, J. P. & Clarkson, P. J., 2006, *Proceedings of the ASME Turbo Expo 2006 - Power for Land, Sea, and Air*. p. 1445-1454 10 p. (Proceedings of the ASME Turbo Expo; vol. 6 PART B).

Exploring user capabilities and health: A population perspective

Persad, U., Langdon, P. M. & Clarkson, P. J., 2006, *Contemporary Ergonomics 2006*. p. 373-377 5 p.

Factors involved in industry's response to inclusive design

Goodman, J., Dong, H., Langdon, P. M. & Clarkson, P. J., 2006, *Designing Accessible Technology*. Clarkson, P. J., Langdon, P. M. & Robinson, P. (eds.). Springer, p. 31-39 9 p.

Heuristics for change prediction

Keller, R., Eckert, C. M. & Clarkson, P. J., 2006, p. 873-880. 8 p.

Inclusive design evaluation and the capability-demand relationship

Persad, U., Langdon, P. M. & Clarkson, P. J., 2006, *Designing Accessible Technology*. Clarkson, P. J., Langdon, P. M. & Robinson, P. (eds.). Springer, p. 177-188 12 p.

Inclusive product design: Industrial case studies from the UK and Sweden

Dong, H., Bobjer, O., McBride, P. & Clarkson, P. J., 2006, *Contemporary Ergonomics 2006*. p. 338-342 5 p.

Industry's response to inclusive design: A survey of current awareness and perceptions

Goodman, J., Dong, H., Langdon, P. M. & Clarkson, P. J., 2006, *Contemporary Ergonomics 2006*. p. 368-372 5 p.

Investigating the role of experience in the use of consumer products

Lewis, T., Langdon, P. M. & Clarkson, P. J., 2006, *Designing Accessible Technology*. Clarkson, P. J., Langdon, P. M. & Robinson, P. (eds.). Springer, p. 189-198 10 p.

Modelling design processes to improve robustness

Chalupnik, M. J., Eckert, C. M. & Clarkson, P. J., 2006.

Multidisciplinary constraint visualization and trade-off exploration in aero engine preliminary design

Bell, T. A., Jarrett, J. P. & John Clarkson, P., 2006, *Collection of Technical Papers - 47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference: 14th AIAA/ASME/AHS Adaptive Structures Conference, 8th AIAA Non-deterministic App.* p. 3857-3867 11 p. (Collection of Technical Papers - AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference; vol. 6).

On the use of functions, behaviour and structural relations as cues for engineering change prediction

Ariyo, O. O., Eckert, C. M. & Clarkson, P. J., 2006, p. 773-781. 9 p.

Providing strategic user information for designers: Methods and initial findings

Goodman, J., Langdon, P. M. & Clarkson, P. J., 2006, *Designing Accessible Technology*. Clarkson, P. J., Langdon, P. M. & Robinson, P. (eds.). Springer, p. 41-51 11 p.

The influence of consumer research on product aesthetics

Crilly, N. & Clarkson, P. J., 2006, p. 689-696. 8 p.

The subjective aspects of design structure matrices - Analysis of comprehension and application and means to overcome differences

Maurer, M., Pulm, U., Ballestrem, F., Clarkson, J. & Lindemann, U., 2006, *Proceedings of 8th Biennial ASME Conference on Engineering Systems Design and Analysis, ESDA 2006*. American Society of Mechanical Engineers, (Proceedings of 8th Biennial ASME Conference on Engineering Systems Design and Analysis, ESDA2006; vol. 2006).

Towards orthogonal turbomachinery design

Jarrett, J. P., Bell, T. A. & Clarkson, P. J., 2006, *Proceedings of the ASME Turbo Expo 2006 - Power for Land, Sea, and Air*. p. 1269-1277 9 p. (Proceedings of the ASME Turbo Expo; vol. 6 PART B).

Two sides of the story: Visualising products and processes in engineering design

Keller, R., Flanagan, T. L., Eckert, C. M. & Clarkson, P. J., 2006, *Information Visualization 2006, IV06*. p. 362-367 6 p. 1648286. (Proceedings of the International Conference on Information Visualisation).

Unpleasant surprises in the design of complex products: Why do changes propagate?

Ariyo, O., Eckert, C. M. & Clarkson, P. J., 2006, *Proceedings of 2006 ASME International Design Engineering Technical Conferences and Computers and Information In Engineering Conference, DETC2006*. American Society of Mechanical Engineers, (Proceedings of the ASME Design Engineering Technical Conference; vol. 2006).

User responses to the learning demands of consumer products

Lewis, T., Langdon, P. M. & Clarkson, P. J., 2006, *Contemporary Ergonomics 2006*. p. 258-262 5 p.

Using research diagrams for member validation in qualitative research

Crilly, N., Clarkson, P. J. & Blackwell, A. F., 2006, *Diagrammatic Representation and Inference - 4th International Conference, Diagrams 2006, Proceedings*. Springer, p. 258-262 5 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 4045 LNAI).

Movement time for motion-impaired users assisted by force-feedback: Effects of movement amplitude, target width, and gravity well width

Hwang, F., Keates, S., Langdon, P. & Clarkson, P. J., Dec 2005, In: *Universal Access in the Information Society*. 4, 2, p. 85-95 11 p.

Special issue on design for a more inclusive world

Keates, S., Clarkson, J., Langdon, P. & Robinson, P., Dec 2005, In: *Universal Access in the Information Society*. 4, 2, p. 83-84 2 p.

A method for assessing the robustness of mechanical designs

Smith, J. & Clarkson, P. J., Oct 2005, In: *Journal of Engineering Design*. 16, 5, p. 493-509 17 p.

Design concept modelling to improve reliability

Smith, J. & Clarkson, P. J., Oct 2005, In: *Journal of Engineering Design*. 16, 5, p. 473-492 20 p.

A submovement analysis of cursor trajectories

Hwang, F., Keates, S., Langdon, P. & Clarkson, J., May 2005, In: *Behaviour and Information Technology*. 24, 3, p. 205-217 13 p.

22 Using design structure matrices in visualising design processes

August, E., Eckert, C. & John Clarkson, P., 2005, In: *Studies in Multidisciplinarity*. 2, C, p. 305-317 13 p.

A model-based approach to improve planning practice in collaborative aerospace design

Wynn, D., Clarkson, P. J. & Eckert, C., 2005, *Proc. of the ASME Int. Des. Eng. Techn. Conf. and Comput. and Inf. in Eng. Conf. - DETC2005: 17th International Conference on Design Theory and Methodology. Power Transmission and Gearing Conference..* American Society of Mechanical Engineers, Vol. 5. p. 537-548 12 p.

A multi-objective tabu search algorithm for constrained optimisation problems

Jaeggi, D., Parks, G., Kipouros, T. & Clarkson, J., 2005, *Evolutionary Multi-Criterion Optimization: Third International Conference, EMO 2005, Guanajuato, Mexico, March 9-11, 2005, Proceedings*. Vol. 3410. p. 490-504 15 p. (Lecture Notes in Computer Science).

Are users necessary for inclusive design?

Cardoso, C., Keates, S. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Auditing communication in design: A maturity grid-inspired approach

Maier, A. M., Eckert, C. M. & Clarkson, P. J., 2005, *Proceedings of the 9th International Conference on Computer Supported Cooperative Work in Design 2005*. IEEE, Vol. 1. p. 62-68 7 p.

Combating barriers to inclusive design: Evaluation of an inclusive design toolkit

Dong, H. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Comparative study of design with application to engineering design

Earl, C., Eckert, C., Bucciarelli, L., Whitney, D., Knight, T., Stacey, M., Blackwell, A., MacMillan, S. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Critical user forums - An effective user research method for inclusive DESIGN

Dong, H., Clarkson, P. J., Cassim, J. & Keates, S., 2005, In: *Design Journal*. 8, 2, p. 49-59 11 p.

Design planning and modelling

O'Donovan, B., Eckert, C., Clarkson, J. & Browning, T. R., 2005, *Design Process Improvement: A Review of Current Practice*. Springer, p. 60-87 28 p.

Design process improvement: A review of current practice

Clarkson, J. (Editor) & Eckert, C. (Editor), 2005, Springer. 560 p.

Engineering change

Jarratt, T., Clarkson, J. & Eckert, C., 2005, *Design Process Improvement: A Review of Current Practice*. Springer, p. 262-285 24 p.

Engineering design centre, University of Cambridge

Clarkson, J., 2005, *Design Process Improvement: A Review of Current Practice*. Springer, p. 470-473 4 p.

Improving the conceptual design of turbine rotor blade cooling systems

Bell, C., Dawes, W. N., Jarrett, J. P. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Mapping the healthcare process in order to design for patient safety

Jun, G. C. T., Ward, J. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Modelling and simulating iterative development processes

Wynn, D. C., Eckert, C. M. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Models of designing

Wynn, D. & Clarkson, J., 2005, *Design Process Improvement: A Review of Current Practice*. Springer, p. 34-59 26 p.

Multiple views to support engineering change management for complex products

Keller, R., Eckert, C. M. & Clarkson, P. J., 2005, *Proceedings - Third International Conference on Coordinated and Multiple Views in Exploratory Visualization, CMV 2005*. p. 33-41 9 p. 1508219. (Proceedings - Third International Conference on Coordinated and Multiple Views in Exploratory Visualization, CMV 2005; vol. 2005).

Predictability of change in engineering: A complexity view

Eckert, C., Clarkson, J. & Earl, C., 2005, *Proc. of the ASME Int. Des. Eng. Techn. Conf. and Comput. and Inf. in Eng. Conf. - DETC2005: 17th International Conference on Design Theory and Methodology. Power Transmission and Gearing Conference..* p. 341-350 10 p. (Proceedings of the ASME International Design Engineering Technical Conferences and

Computers and Information in Engineering Conference - DETC2005; vol. 5).

Rework revisited: The criticality of iteration due to task failure in NPD planning

Flanagan, T. L., Eckert, C. M., Keller, R. & Clarkson, P. J., 2005, *IEMC 2005: 2005 IEEE International Engineering Management Conference, Proceedings*. p. 621-625 5 p. 1559222. (IEEE International Engineering Management Conference; vol. II).

Risk across design domains

Eckert, C., Earl, C., Stacey, M., Bucciarelli, L. L. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Robust planning of design tasks using simulation

Flanagan, T. L., Eckert, C. M., Keller, R. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Systems design and Patient Safety

Buckle, P., Clarkson, P. J., Coleman, R., Kennedy-Martin, M., Stubbs, D. & Ward, J., 2005, *Healthcare Systems Ergonomics and Patient Safety: Human Factor, a Bridge Between Care and Cure - Proceedings of the International Conference HEPS 2005*. p. 253-255 3 p. (Healthcare Systems Ergonomics and Patient Safety: Human Factor, a Bridge Between Care and Cure - Proceedings of the International Conference HEPS 2005).

Systems engineering

Buckle, P. & Clarkson, J., 2005, *Design Process Improvement: A Review of Current Practice*. Springer, p. 89-113 25 p.

The meaning and coherence of process, organisation and product in engineering design

Pulm, U. & Clarkson, J., 2005, In: *Journal of Integrated Design and Process Science*. 9, 1, p. 55-66 12 p.

The reality of design

Eckert, C. & Clarkson, J., 2005, *Design Process Improvement: A Review of Current Practice*. Springer, p. 1-29 29 p.

The role of design freeze in product development

Eger, T., Eckert, C. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Topology/shape optimisation of axisymmetric continuum structures - A metamorphic development approach

Liu, J. S., Parks, G. T. & Clarkson, P. J., 2005, In: *Structural and Multidisciplinary Optimization*. 29, 1, p. 73-83 11 p.

Visualising change propagation

Keller, R., Eger, T., Eckert, C. M. & Clarkson, P. J., 2005, *Proceedings ICED 05, the 15th International Conference on Engineering Design*. (Proceedings ICED 05, the 15th International Conference on Engineering Design; vol. DS 35).

Seeing things: Consumer response to the visual domain in product design

Crilly, N., Moultrie, J. & Clarkson, P. J., Nov 2004, In: *Design Studies*. 25, 6, p. 547-577 31 p.

Conceptual design of bicycle frames by multiobjective shape annealing

Suppaitarn, A., Parks, G. T., Shea, K. & Clarkson, P. J., Apr 2004, In: *Engineering Optimization*. 36, 2, p. 165-188 24 p.

Design for patient safety: A review of the effectiveness of design in the UK health service

Clarkson, P. J., Buckle, P., Coleman, R., Stubbs, D., Ward, J., Jarrett, J., Lane, R. & Bound, J., Apr 2004, In: *Journal of Engineering Design*. 15, 2, p. 123-140 18 p.

Change and customisation in complex engineering domains

Eckert, C., Clarkson, P. J. & Zanker, W., Mar 2004, In: *Research in Engineering Design*. 15, 1, p. 1-21 21 p.

Multi-criteria material selection in engineering design

Sirisalee, P., Ashby, M. F., Parks, G. T. & Clarkson, P. J., Feb 2004, In: *Advanced Engineering Materials*. 6, 1-2, p. 84-92 9 p.

An analysis of medical device-related errors: Prevalence and possible solutions

Ward, J. R. & Clarkson, P. J., Jan 2004, In: *Journal of Medical Engineering and Technology*. 28, 1, p. 2-21 20 p.

Designing for patient safety: A review of the effectiveness of design in the UK health service

Clarkson, P. J., Ward, J., Buckle, P., Stubbs, D. & Coleman, R., 2004, *Proceedings of the 7th Biennial Conference on Engineering Systems Design and Analysis, ESDA 2004*. Vol. 3. p. 443-452 10 p.

Inclusive design in industry: Barriers, drivers and the business case

Dong, H., Keates, S. & John Clarkson, P., 2004, *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. Stary, C. & Stephanidis, C. (eds.). Springer, p. 305-319 15 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 3196).

Industry perceptions to inclusive design - A comparative study

Dong, H., Clarkson, P. J. & Keates, S., 2004, p. 553-562. 10 p.

Mouse movements of motion-impaired users: A submovement analysis

Hwang, F., Keates, S., Langdon, P. & Clarkson, J. P., 2004, *ASSETS 2004 - The Sixth International ACM SIGACCESS Conference on Computers and Accessibility*. Association for Computing Machinery (ACM), p. 102-109 8 p.

Multi-material selection: Material selection for sandwich beams

Sirisalee, P., Parks, G. T., Ashby, M. F. & Clarkson, P. J., 2004, p. 31-40. 10 p.

Multi-objective parallel tabu search

Jaeggi, D., Asselin-Miller, C., Parks, G., Kipouros, T., Bell, T. & Clarkson, J., 2004, *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. Yao, X., Bullinaria, J. A., Rowe, J., Tino, P., Kaban, A., Burke, E., Lozano, J. A., Smith, J., Merelo-Guervos, J. J. & Schwefel, H.-P. (eds.). Springer, p. 732-741 10 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 3242).

Requirements capture for inclusive design resources and tools

Dong, H., Clarkson, P. J. & Keates, S., 2004, *Proceedings of the 7th Biennial Conference on Engineering Systems Design and Analysis, ESDA 2004*. American Society of Mechanical Engineers, Vol. 3. p. 27-36 10 p.

Simulating design processes to assist design process planning

O'Donovan, B., Eckert, C. & Clarkson, P. J., 2004, p. 503-512. 10 p.

The packaging and labelling of solid oral medicine using oral methotrexate as an example

Ward, J., Clarkson, P. J., Buckle, P. & Harris, W., 2004, *Proceedings of the 7th Biennial Conference on Engineering Systems Design and Analysis, ESDA 2004*. American Society of Mechanical Engineers, Vol. 3. p. 459-468 10 p.

Visualization techniques for product change and product modelling in complex design

Jarratt, T., Keller, R., Nair, S., Eckert, C. & Clarkson, P. J., 2004, *Diagrammatic Representation and Inference*. Springer, Vol. 2980. p. 388-391 4 p. (Lecture Notes in Artificial Intelligence (Subseries of Lecture Notes in Computer Science)).

Erratum: A species conserving genetic algorithm for multimodal function optimization (Evolutionary Computation)

Li, J. P., Balazs, M. E., Parks, G. T. & Clarkson, P. J., Mar 2003, In: *Evolutionary computation*. 11, 1, p. 107-109 3 p.

Perimeter control in the bidirectional evolutionary optimization method

Yang, X. Y., Xie, Y. M., Liu, J. S., Parks, G. T. & Clarkson, P. J., Feb 2003, In: Structural and Multidisciplinary Optimization. 24, 6, p. 430-440 11 p.

Adaptation of a disability severity scale for product assessment

Clarkson, P. J., Dong, H. & Keates, S., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

A functional analysis of change propagation

Flanagan, T. L., Eckert, C. M., Smith, J., Eger, T. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

A new approach to multi-criteria material selection in engineering design

Sirisalee, P., Parks, G. T., Clarkson, P. J. & Ashby, M. F., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

An integrated ethnographic and empirical methodology in a study of knowledge searches in aerospace design

Langdon, P., Aurisicchio, M., Clarkson, P. J. & Wallace, K., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Assessing inclusivity throughout the design process

Cardoso, C., Keates, S. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Countering design exclusion through inclusive design

Keates, S. & Clarkson, P. J., 2003, *Proceedings of the 2003 Conference on Universal Usability, CCU 2003*. Association for Computing Machinery (ACM), p. 69-76 8 p.

Designers and manufacturers' perspectives on inclusive/universal design

Dong, H., Keates, S. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Developing cognitive capability scales for inclusive product design

Langdon, P., Keates, S. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Environmental legislation as a driver of design

Jarratt, T. A. W., Eckert, C., Weeks, R. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Gravity well Visibility in Haptic Interfaces for Motion-Impaired Users

Hwang, F., Keates, S., Langdon, P. & Clarkson, J., 2003, In: Annual International Conference of the IEEE Engineering in Medicine and Biology Society. 2, p. 1670-1673 4 p.

Implementing inclusive design: The discrepancy between theory and practice

Dong, H., Keates, S., Clarkson, P. J. & Cassim, J., 2003, *Universal Access. Theoretical Perspectives, Practice, and Experience: 7th ERCIM International Workshop on User Interfaces for All, Paris, France, October 24-25, 2002, Revised Papers*. Vol. 2615. p. 106-117 12 p. (Lecture Notes in Artificial Intelligence (Subseries of Lecture Notes in Computer Science)).

Inclusive design - A balance between product demands and user capabilities
Clarkson, P. J. & Keates, S., 2003, p. 575-584. 10 p.

Multiple haptic targets for motion-impaired users
Hwang, F., Keates, S., Langdon, P. & Clarkson, P. J., 2003, p. 41-48. 8 p.

Parameter trails
Flanagan, T. L., Eckert, C. M. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Requirements capture for medical device design
Ward, J., Shefelbine, S. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Signposting: Modelling uncertainty in design processes
O'Donovan, B. D., Clarkson, P. J. & Eckert, C. M., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

The effectiveness of psychological distance in an empirical study of guideline clustering for aerospace Design
Langdon, P., Japikse, R., Clarkson, P. J. & Wallace, K., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

The reality of design process planning
Eckert, C. M. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

The simulated design process
O'Donovan, B. D., Clarkson, P. J. & Eckert, C. M., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

The spiral of applied research: A methodological view on integrated Design research
Eckert, C. M., Clarkson, P. J. & Stacey, M. K., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Towards a change process planning tool
Eger, T., Eckert, C. M. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Universal access to assistive technology through client-centred cognitive assessment
Langdon, P., Adams, R. & Clarkson, P. J., 2003, *Universal Access. Theoretical Perspectives, Practice, and Experience: 7th ERCIM International Workshop on User Interfaces for All, Paris, France, October 24-25, 2002, Revised Papers*. Springer, Vol. 2615. p. 153-164 12 p. (Lecture Notes in Artificial Intelligence (Subseries of Lecture Notes in Computer Science)).

Usability considerations in the design of handheld electronic devices
Gupta, S. P., Keates, S. & Clarkson, P. J., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Using design process tools to assist in the analysis of a protocol recording

Sim, S. K., Clarkson, P. J. & Wynn, D. C., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

Visualising Design exclusion

Clarkson, P. J., Dong, H. & Keates, S., 2003, *Proceedings of ICED 03, the 14th International Conference on Engineering Design*. Folkesson, A., Norell, M., Sellgren, U. & Gralen, K. (eds.). Design Society, (Proceedings of the International Conference on Engineering Design, ICED; vol. DS 31).

A validation model for the medical devices industry

Alexander, K. & Clarkson, P. J., Sept 2002, In: *Journal of Engineering Design*. 13, 3, p. 197-204 8 p.

The surge-stagnate model for complex design

Jarrett, J. & Clarkson, P. J., Sept 2002, In: *Journal of Engineering Design*. 13, 3, p. 189-196 8 p.

Developing a practical inclusive interface design approach

Keates, S., John Clarkson, P. & Robinson, P., 1 Jul 2002, In: *Interacting with Computers*. 14, 4, p. 271-299 29 p.

Optimization of turbine disk profiles by Metamorphic Development

Liu, J. S., Parks, G. T. & Clarkson, P. J., Jun 2002, In: *Journal of Mechanical Design*, Transactions of the ASME. 124, 2, p. 192-200 9 p.

Accelerating turbomachinery design

Jarrett, J. P., Dawes, W. N. & Clarkson, P. J., 2002, p. 1081-1088. 8 p.

A species conserving genetic algorithm for multimodal function optimization

Li, J. P., Balazs, M. E., Parks, G. T. & Clarkson, P. J., 2002, In: *Evolutionary computation*. 10, 3, p. 207-234 28 p.

Cursor measures for motion-impaired computer users

Keates, S., Hwang, F., Langdon, P., Clarkson, P. J. & Robinson, P., 2002, p. 135-142. 8 p.

Improving turbomachinery design process management

Jarrett, J. P., Clarkson, P. J. & Dawes, W. N., 2002, p. 161-170. 10 p.

Planning and scheduling based on an explicit representation of the state of the design

Melo, A. F. & Clarkson, P. J., 2002, p. 89-98. 10 p.

Understanding how to improve the accessibility of computers through cursor control studies

Keates, S., Clarkson, P. J. & Robinson, P., 2002, *CHI'02 Extended Abstracts on Human Factors in Computing Systems, CHI EA'02*. p. 766-767 2 p.

User models and user physical capability

Keates, S., Langdon, P., Clarkson, P. J. & Robinson, P., 2002, In: *User Modeling and User-Adapted Interaction*. 12, 2-3, p. 139-169 31 p.

Using cursor measures to determine appropriate computer input assistance for motion-impaired users

Hwang, F., Keates, S., Langdon, P. & Clarkson, P. J., 2002, In: *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*. 3, p. 2437-2438 2 p.

Perception and haptics: Towards more accessible computers for motion-impaired users

Hwang, F., Keates, S., Langdon, P., Clarkson, P. J. & Robinson, P., 15 Nov 2001, *Proceedings of the 2001 Workshop on Perceptive User Interfaces, PUI 2001*. Association for Computing Machinery (ACM), p. 24 1 p.

Shape optimisation of axisymmetric cylindrical nozzles in spherical pressure vessels subject to stress constraints
Liu, J. S., Parks, G. T. & Clarkson, P. J., 17 Apr 2001, In: International Journal of Pressure Vessels and Piping. 78, 1, p. 1-9 9 p.

The management of concept design knowledge in modern product development organizations
Rodgers, P. A., Caldwell, N. H. M., Clarkson, P. J. & Huxor, A. P., Jan 2001, In: International Journal of Computer Integrated Manufacturing. 14, 1, p. 108-115 8 p.

Complexity analysis of evaluating distances in the genetic algorithm using species conservation
Li, J. P., Balázs, M. E., Parks, G. T. & Clarkson, P. J., 2001, p. 52-59. 8 p.

Observations on the controllability of motion of two-wheelers
Seffen, K. A., Parks, G. T. & Clarkson, P. J., 2001, In: Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering. 215, 2, p. 143-156 14 p.

Predicting change propagation in complex design
Clarkson, P. J., Simons, C. & Eckert, C., 2001, p. 155-164. 10 p.

The effect of distance measure in a GA with species conservation
Balázs, M. E., Jianping, L., Parks, G. T. & Clarkson, P. J., 2001, p. 67-74. 8 p.

Metamorphic Development: A new topology optimization method for continuum structures
Liu, J. S., Parks, G. T. & Clarkson, P. J., Dec 2000, In: Structural and Multidisciplinary Optimization. 20, 4, p. 288-300 13 p.

Assessing reliability in mechanical systems
Covino, M. M., Rodgers, P. A., Smith, J. S. & Clarkson, J. P., 2000, In: Journal of Integrated Design and Process Science. 4, 2, p. 67-84 18 p.

Good design practice for medical devices and equipment, Part I: A review of current literature
Alexander, K. & Clarkson, P. J., 2000, In: Journal of Medical Engineering and Technology. 24, 1, p. 5-13 9 p.

Good design practice for medical devices and equipment, Part II: Design for validation
Alexander, K. & Clarkson, P. J., 2000, In: Journal of Medical Engineering and Technology. 24, 2, p. 53-62 10 p.

Investigating the applicability of user models for motion-impaired users
Keates, S., Clarkson, J. & Robinson, P., 2000, *Assets '00: Proceedings of the fourth international ACM conference on Assistive technologies*. p. 129-136 8 p.

SIGNPOSTING: AN AI APPROACH TO SUPPORTING HUMAN DECISION MAKING IN DESIGN
Stacey, M., Clarkson, P. J. & Eckert, C., 2000, *20th Computers and Information in Engineering Conference*. American Society of Mechanical Engineers (ASME), p. 141-150 10 p.

'Signposting', a parameter-driven task-based model of the design process
Clarkson, P. J. & Hamilton, J. R., 2000, In: Research in Engineering Design - Theory, Applications, and Concurrent Engineering. 12, 1, p. 18-38 21 p.

Simulated annealing algorithm for multiobjective optimization
Suppaitnarm, A., Seffen, K. A., Parks, G. T. & Clarkson, P. J., 2000, In: Engineering Optimization. 33, 1, p. 59-85 27 p.

Towards a practical inclusive design approach
Keates, S., Clarkson, P. J., Harrison, L. A. & Robinson, P., 2000, *Proceedings of the Conference on Universal Usability*. Scholtz, J. & Thomas, J. (eds.). Association for Computing Machinery (ACM), p. 45-52 8 p.

Visualization of routes in design process planning

Clarkson, P. J., Melo, A. & Eckert, C., 2000, *Proceedings - IEEE International Conference on Information Visualisation, IV 2000*. Banissi, E., McK. Bannatyne, M. W., Chen, C., Khosrowshahi, F., Sarfraz, M. & Ursyn, A. (eds.). IEEE, p. 155-164 10 p. (Proceedings of the International Conference on Information Visualisation; vol. 2000-July).

Web-Based Knowledge Management for Distributed Design

Caldwell, N. H. M., John Clarkson, P., Rodgers, P. A. & Huxor, A. P., 2000, In: *IEEE Intelligent Systems and Their Applications*. 15, 3, p. 40-47 8 p.

Observations on medical device design, Part II: Good practice.

Alexander, K., Clarkson, J. & Bishop, D., Oct 1999, In: *Medical device technology*. 10, 8, p. 24-28 5 p.

Observations on medical device design, Part I: Current practice.

Clarkson, J., Alexander, K. & Bishop, D., Sept 1999, In: *Medical device technology*. 10, 7, p. 28-31 4 p.

Metamorphic development: a new topology optimization method for truss structures

Liu, J. S., Parks, G. & Clarkson, J., 1999, *40th Structures, Structural Dynamics, and Materials Conference and Exhibit*. Vol. 3. p. 1578-1588 11 p. (Collection of Technical Papers - AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference).

A prototyping strategy for use in interactive robotic system development

Dowland, B., Clarkson, J. & Cipolla, R., 1998, In: *Robotica*. 16, 5, p. 517-521 5 p.

The development of a novel rotary damping mechanism for aerospace deployment systems

Burgess, S. C. & Clarkson, P. J., 1997, In: *Materials and Design*. 18, 1, p. 17-24 8 p.

Development and performance of a practical multi stepping motor system

Clarkson, P. J. & Acarnley, P. P., 1991, In: *Mechatronics*. 1, 3, p. 253-276 24 p.

Simplified Approach to the Dynamic Modelling of Variable-Reluctance Stepping Motors

Clarkson, P. J. & Acarnley, P. P., 1989, In: *IEE Proceedings B: Electric Power Applications*. 136, 1, p. 1-10 10 p.

Stability limits for dynamic operation of variable reluctance stepping motor systems

Clarkson, P. J. & Acarnley, P. P., 1988, In: *IEE Proceedings B: Electric Power Applications*. 135, 6, p. 308-317 10 p.

INSTABILITIES IN DUAL STEPPING MOTOR SYSTEMS.

Clarkson, P. J. & Acarnley, P. P., 1987, In: *Journal of the Institution of Electronic and Radio Engineers*. 57, 5, p. 200-206 7 p.

CLOSED-LOOP CONTROL OF STEPPING MOTOR SYSTEMS

Clarkson, P. J. & Acarnley, P. P., 1986, *1986 Annual Meeting Industry Applications Society*. p. 1543-1549 7 p.