

Chamil Abeykoon
Academic (Teaching & Research) Lecturer
Materials Engineering
Visiting address:
James Lighthill Building, Sackville Street
School of Materials, Faculty of Science and Engineering
M13 9PL
Manchester
United Kingdom
Email: chamil.abeykoon@manchester.ac.uk
Phone: +441613062540



Employment

Lecturer

Academic (Teaching & Research) Lecturer
Materials Engineering
The University of Manchester
1 Oct 2015 → present

Research output

Numerical Integration of Solar, Electrical and Thermal Exergies of Photovoltaic Modules: A Novel Thermophotovoltaic Model

Ogbonnaya, C., Turan, A. & Abeykoon, C., Jun 2019, In : Solar Energy.

Investigation of the Effect of Processing Parameters on 3D Printed Structures

Zhu, C., Abeykoon, C. & Fernando, A., Mar 2018, *2nd International Conference on 3D Printing Technology and Innovations*. London

Design and Applications of Soft Sensors in Polymer Processing: A Review

Abeykoon, Y. M. C., 2018, In : Sensors Journal, IEEE. 10.1109/JSEN.2018.2885609.
DOI: 10.1109/jsen.2018.2885609

Modelling of Heat Transfer and Fluid Flow in the Hot Section of Gas Turbines Used in Power Generation: A Comprehensive Survey

Samarasinghe, T., Abeykoon, C. & Turan, A., 2018, In : International Journal of Energy Research. DOI: 10.1002/er.4296.
DOI: 10.1002/er.4296

Design and Analysis of a Kaplan Turbine Runner Wheel

Abeykoon, C. & Hantsch, T., 2017, *The 3rd World Congress on Mechanical, Chemical, and Material Engineering (MCM'17)*. Rome, Italy, p. 1-16 16 p. HTFF151

The Effect of Materials, Process Settings and Screw Geometry on Energy Consumption and Melt Temperature in Single Screw Extrusion

Abeykoon, C., Kelly, A. L., Brown, E. C. & Coates, P. D., Oct 2016, In : Applied Energy. 180, p. 880-894 15 p.
DOI: 10.1016/j.apenergy.2016.07.014

Soft Sensing of Melt Temperature in Polymer Extrusion

Abeykoon, C., Jul 2016, *2016 European Control Conference (ECC)*.

Single screw extrusion control - A comprehensive review and directions for improvements

Abeykoon, C., Jun 2016, In : Control Engineering Practice. 51, p. 69-80 11 p.
DOI: 10.1016/j.conengprac.2016.03.008

Heat Transfer Enhancement of a Biodiesel Heater

Abeykoon, C., Sep 2015, *host publication*.

Modelling of a wind power turbine

Christ, F. & Abeykoon, C., Sep 2015, *host publication*. p. 205-210 6 p.

Modelling of a turbojet gas turbine engine

Klein, D. & Abeykoon, C., 2015, *host publication*. p. 198-204 7 p.

A novel model-based controller for polymer extrusion

Abeykoon, C., Dec 2014, In : I E E Transactions on Fuzzy Systems. 22, 6, p. 1413-1430 17 p.

DOI: 10.1109/TFUZZ.2013.2293348

Monitoring and Modelling of the Energy Consumption in Polymer Extrusion

Abeykoon, C., Kelly, A. L., Vera-Sorroche, J., Brown, E. C. & Coates, P. D., Jun 2014, *host publication*. p. 1030-1035 6 p.

A Novel Soft Sensor for Real-time Monitoring of Die Melt Temperature Profile in Polymer Extrusion

Abeykoon, C., 2014, In : I E E Transactions on Industrial Electronics. 61, 12, p. 7113-7123 10 p.

DOI: 10.1109/TIE.2014.2321345

Dynamic Modelling of Die Melt Temperature Profile in Polymer Extrusion: Effects of Process Settings, Screw Geometry and Material

Abeykoon, C., Martin, P. J., Li, K. & Kelley, A. L., 2014, In : Applied Mathematical Modelling. 38, 4, p. 1224-1236 12 p.

DOI: 10.1016/j.apm.2013.08.004

Improving the Performance of Shell-and-Tube Heat Exchangers by the Addition of Swirl

Abeykoon, C., 2014, In : International Journal of Process Systems Engineering. 2, 3, p. 221-245 24 p.

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Investigation of the Process Energy Demand in Polymer Extrusion: A Review and an Experimental Study

Abeykoon, C., Kelly, A. L., Vera-Sorroche, J., Brown, E. C., Coates, P. D., Howell, K. B., Deng, J., Li, K., Harkin-Jones, E. & Price, M., 2014, In : Applied Energy. 136, p. 726-737 11 p.

DOI: 10.1016/j.apenergy.2014.09.024

Investigation of the Temperature Homogeneity of Die Melt Flows in Polymer Extrusion

Abeykoon, C., Martin, P. J., Kelley, A. L., Li, K., Brown, E. C. & Coates, P. D., 2014, In : Polymer Engineering and Science. 54, 10, p. 2430-2440 10 p.

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Process Efficiency in Polymer Extrusion: Correlations between the Energy Demand and Melt Thermal Stability

Abeykoon, C., Kelly, A. L., Vera-Sorroche, J., Brown, E. C., Coates, P. D., Deng, J., Li, K., Harkin-Jones, E. & Price, M., 2014, In : Applied Energy. 135, p. 560-571 11 p.

DOI: 10.1016/j.apenergy.2014.08.086

The effect of melt viscosity on thermal efficiency for single screw extrusion of HDPE

Vera-Sorroche, J., Kelly, A. L., Brown, E. C., Gough, T., Abeykoon, C., Coates, P. D., Deng, J., Li, K., Karnachi, N., Harkin-Jones, E. & Price, M., 2014, In : Chemical Engineering Journal. 92, 11, p. 2404-2412 8 p.

Dynamic modelling of die melt temperature profile in polymer extrusion

Abeykoon, C., Kelly, A. L., Martin, P. J. & Li, K., Dec 2013, *host publication*. p. 2550-2555 6 p.

Correlations between Process Thermal Stability and Energy Demand in Polymer Extrusion

Abeykoon, C., Kelly, A. L., Vera-Sorroche, J., Brown, E. C., Coates, P. D., Deng, J., Li, K., Karnachi, N., Harkin-Jones, E. & Price, M., Jul 2013, *host publication*.

The Effect of Molecular Weight on Thermal Efficiency for Single Screw Extrusion of HDPE

Vera-Sorroche, J., Abeykoon, C., Kelly, A. L., Brown, E. C., Coates, P. D., Deng, J., Li, K., Karnachi, N., Harkin-Jones, E. & Price, M., Jul 2013, *host publication*.

Polymer Extrusion: A Study on Thermal Monitoring Techniques and Melting Issues

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A review and evaluation of melt temperature sensors for polymer extrusion

Abeykoon, C., Martin, P. J., Kelly, A. L. & Brown, E. C., 2012, In : Sensors and Actuators A: Physical: an international journal devoted to research and development of physical and chemical transducers . 182, p. 16-27 11 p.

Monitoring and Modelling of the Effects of Process Settings and Screw Geometry on Melt Pressure Generation in Polymer Extrusion

Abeykoon, C., Li, K., Martin, P. J. & Kelly, A. L., 2012, In : International Journal of System Control and Information Processing. 1, 1, p. 71-88 17 p.

Extruder Melt Temperature Control With Fuzzy Logic

Abeykoon, C., McAfee, M., Thompson, S., Li, K., Kelly, A. L. & Brown, C., Aug 2011, *host publication*. p. 8577-8582 6 p.

Modelling of Melt Pressure Development in Polymer Extrusion: Effects of Process Settings and Screw Geometry

Abeykoon, C., Li, K., Martin, P. J. & Kelly, A. L., Jun 2011, *host publication*. p. 197-202 6 p.

A new model based approach for the prediction and optimization of thermal homogeneity in single screw extrusion

Abeykoon, C., Li, K., McAfee, M., Martin, P. J., Niu, Q., Kelly, A. L. & Deng, J., 2011, In : Control Engineering Practice. 19, 8, p. 862-874 12 p.

The inferential monitoring of screw load torque to predict process fluctuations in polymer extrusion

Abeykoon, C., McAfee, M., Li, K., Martin, P. J. & Kelly, A. L., 2011, In : Journal of Materials Processing Technology. 211, 12, p. 1907-1918 11 p.

Modelling the effects of operating conditions on die melt temperature homogeneity in single screw extrusion

Abeykoon, C., Li, K., McAfee, M., Martin, P. J., Deng, J. & Kelly, A. L., Sep 2010, *host publication*. p. 42-47 6 p.

Modelling the effects of operating conditions on motor power consumption in single screw extrusion

Abeykoon, C., McAfee, M., Li, K., Martin, P. J., Deng, J. & Kelly, A. L., Sep 2010, *host publication*. p. 9-20 12 p.

Monitoring the effect of operating conditions on melt temperature homogeneity in single-screw extrusion

Abeykoon, C., McAfee, M., Li, K., Kelly, A. L. & Brown, E. C., May 2010, *host publication*. p. 1799-1806 8 p.

Key considerations for a sustainable plastics industry

Abeykoon, C., 2010, In : Institute of Certified Professional Managers-Sri Lanka. 1, 2, p. 6-9 4 p.

Investigation of torque fluctuations in extrusion through monitoring of motor variables

Abeykoon, C., McAfee, M., Thompson, S., Li, K., Kelly, A. L. & Brown, E. C., Oct 2009, *host publication*.

Experimental investigation of condensation heat transfer coefficient of refrigerants during in tube condensation

Rajapaksha, L. & Abeykoon, C., Nov 2007, *host publication*.

Activities