

Dr Tilak Dias

Publications

Dr Tilak Dias is Senior Lecturer in Knitting Technology at the University of Manchester's School of Materials. Through Engineered Fibre Structures Ltd, he consults to industry on a broad range of textiles based subjects. The following is a list of his academic publications.



Refereed Journal & Conference Papers

Dias, T. and Offerman, P., **Modellierung des Vliesverfestigungsprozesses beim Vlies-Nähwirken**

Textiltechnik Vol. 32(1982) No. 4

Dias, T. and Offerman, P., **Theoretische Untersuchungen zur Festigkeit von Vlies-Nähgewirken**, Textiltechnik Vol. 32(1982)

No. 9

Dias, T., **Automatische Fehlererkennung an der Rundstrickmaschine**, Wirkerei und Strickerei Technik Vol.

36(1986) No. 9, pp 927 - 931

Dias, T., **On-line Fault Detection on Circular Knitting Machines**, Knitting Technique Vol. 9(1987) No.3, pp168 – 177

Dias, T. and Buehler, G., **Optimierung des Rundstrickens durch automatische Qualitätsüberwachung**, Textil Praxis International, Mai (1987), pp 498 – 500

Dias, T. and Lau, K. W., **Knitability of High-Modulus Yarns**, Journal of the Textile Institute, Vol. 85 No. 2, (1994), pp 173 – 190

Dias, T., Choy, P. K. and Atkinson, J., **A new yarn feed system for the flat bed knitting machine**, Proceedings of the Institution of Mechanical Engineers, Vol. 209, pp 151-154

Dias, T., Chen, H. J. and Porat, I., **Measurement of fibre tuft weight in an air-duct using optical methods**, Journal of the Textile Institute, Vol. 86 No. 4 (1995), pp. 511-526

Dias, T., **New Technology for yarn delivery in flat-bed knitting**, Mellinad International 4(1996) pp 198–202

Dais, T., **Neue Technologien der Fadenzufuhr an Flachstrickmaschinen**, Melliand Textilberichte 3(1997), pp 150-152

Dias, T. and Scheffer, E., Eine neue **Technologie zur Herstellung kompakter dreidimensionalen Strukturen**, Melliand Textilberichte, 9(1998), pp 630–632

Dias, T. and Scheffer, E., **New technique for knitting 3-D structures**, Melliand International, 4(1998), pp 254–255

Dias, T. and Demiroz, A., **A study of graphical representation of plain knitted structures; part 1: stitch model for the graphical representation of plain knitted structures**, Journal of the Textile Institute, Vol. 91 No. 4, (2000), pp 463 – 480

Dias, T. and Demiroz, A., **A study of graphical representation of plain knitted structures; part 2: experimental studies and generation of plain knitted structures**, Journal of the Textile Institute, Vol. 91 No. 4 , (2000), pp 481 – 492

Dias, T., Kennon W. R. and Xie, P, **A novel positive yarn feed system for flat-bed knitting machines**, Journal of the Textile Institute, Vol. 91 No. (2000), pp 140 – 150

Dias, T. and Anand S., **Knitting three-dimensional preforms for Composites**, Technical Textiles International, 9(2000), pp 11 – 15

Dias, T., **Knitting seamless 3D shell structures**, Textile Technology International 2001, ISBN 185938 200 2, pp 57-61

Dias, T. and Lanarolle, G., **Stitch length variation in circular knitting machines due to yarn winding tension variation in the storage yarn feed wheel**, Textile Research Journal, 72(11)(2002), pp 997 – 1001

Dias, T., Yahathugoda, D., Fernando, A. and Mukhopadhyay, S., **Modelling the interface pressure applied by knitted structures designed for medical-textile applications**, Journal of the Textile Institute, Vol. 94 Part 3, (2003), pp 77 – 86

Dias, T., Wijesiriwardana, R., Mitcham, K. and Hurley, W.,
Capacitive fibre meshed transducers for touch and proximity sensing applications, IEEE Sensor Journal, Vol. 5 Issue 3, (2005)

Dias, T. and Monaragala, R., **Sound absorption in knitted structures for interior noise reduction in automobiles**, Measurement Science and Technology, 17 No 9 (2006) pp 2499-2505

Dias, T., Yahathugoda, D., and Johnson, D., **Structural and Mechanical Behaviour of Covered Elastomeric Yarns in Plain Knitted Fabrics**, accepted for publication by Textile Research Journal

Dias, T. and Delkumburawatte, G. B., **The influence of moisture content on the thermal conductivity of a knitted structure**, accepted for publication in 2007, Measurement Science and Technology

Dias, T., Monaragala, R. and Lay E., **Analysis of thick spacer fabrics to reduce automobile interior noise**, under review with, Measurement Science and Technology

Dias, T. and Monaragal, R., **Acoustic response of curved active PVDF paper/fabric speaker for active noise control of automobile interior noise**, accepted for publication in 2007, Journal of Information and Computing Science

Dias, T., **Möglichkeiten der Fehlererkennung während des Rundstrickens**, proceedings of the Sixth International Knitting Colloquium in Reutlingen, Germany, May 1986

Dias, T., **Waxed yarn; a must for knitting**, proceedings of the Conference "Quality Assurance in Textiles", Moratuwa, Sri Lanka, March 1991

Dias, T., **Latest developments in knitting**, proceedings of the Conference "Technical Review, ITMA '91" Moratuwa, Sri Lanka, January 1992

Dias, T., **Knitting of flat shaped 2-D and 3-D forms**, proceedings of the International Conference "Textiles for Composites", Manchester, UK, October 1994

Dias, T. and Choy, P. K., **In-process yarn tension relaxation system for flat bed knitting machine**, proceedings of the International Conference "Textile Process Control 2001", Manchester, UK, April 1995

Dias, T., Chen, H. J. and Porat, I., **On-line measurement and control of uniformity in card feeding machines**, proceedings of the International Conference "Textile Process Control 2001", Manchester, UK, April 1995

Dias, T., **Neue Technologien der Fadenzufuhr an Flachstrickmaschinen**, proceedings of the International Conference "3. Dresdner Textiltagung '96", Dresden, Germany, June 1996

Dias, T. and Sheffer, E., **New Technique for knitting solid 3-D structures**, proceedings of the International Conference "Advances in Fibre and Textile Science and Technologies" Muhlhouse, France, April 1997

Dias, T., **Solid 3-D warp knitted structures for composites**, proceedings of the "Fourth International Conference on Composite Engineering", Big Island of Hawaii, USA, July 1997

Dias, T., Day, R. and Heenkenda, N., **Weft knitted structures for composite manufacture**, proceedings of the "Fifth International Conference on Composite Engineering", Las Vegas, USA, July 1998

Dias, T., Tang, C. and Lanarolle, G., **Digital drive system for stitch length control in circular knitting**, proceedings of the "Sixth UK Mechatronics Forum International Conference", University of Skövda, Sweden, September 1998

Dias, T., Sheffer, E., **Creation of textile structures with multiple-needle bar warp knitting**, proceedings of the International Conference "Textiles engineered to perform", Manchester, UK, April 1998

Dias, T., Cooke, W. D. and Gandhi, K., **Knitting green fibres**, proceedings of the "Textile Institute World Conference", Madras, India, February 1998

Dias, T., Day, R. and Heenkenda, N., **Interlock weft knitted structures for textile composites**, proceedings of the "Sixth International Conference on Composite Engineering", Florida, USA, July 1999

Dias, T., Heenkenda, N. K., Ijaiya, R. A. and Sheffer, E., **Flat-bed knitting technology for creating 3D structures**, proceedings of the "World Congress on Textiles in the Millennium", Huddersfield, UK, July 1999

Dias, T., Choy, P. K., Xie, P. and Fernando, A., **Knitting seamless 3-D shell structures on modern flat-bed knitting machines**, proceedings of the "Medical Textiles Conference and Exhibition", Bolton, UK, August 1999

Dias, T., and Anand, S., **Three dimensional textile performs for composite materials**, proceedings of the "ECCM9", Brighton, UK, June 2000

Dias, T., Day, R. J. and Heenkenda, N. **Mechanical properties of knitted polyester fibre/urethane acrylate matrix composites**, proceedings of the "Polymer Fibres 2000", Manchester, UK, July 2000

Dias, T., Lanarolle, G. and Porat, I., **Automated Stitch Length Adjusting System for Multi-Feeder Circular Knitting Machines**, proceedings of the "Mechatronic 2000", Atlanta, USA, September 2000

Dias, T. and Fernando, A., **Special yarn delivery systems for processing low modulus yarns**, proceedings of the "Technical Textiles Conference", Bolton, UK, July 2001

Dias, T. and Heenkenda, N., **Weft knitted structures for textile composites**, proceedings of the "Eight International Conference on Composite Engineering", Tenerife, Spain, August 2001

Dias, T. & Lanarolle, G., **Automated setting of circular knitting machines**, proceedings of the "6th Asian Textile Conference", Hong Kong August 2001

Dias, T., Cooke, W. D., Fernando, A., Jayawarna, D., Chaudhury, N. J., McCollum, C. N. and Dix, F. Scan2Knit, **"World Congress – Knitting for the 21st Century"**, October 2002

Dias, T. and Lanarolle, G., **Theoretical analysis of yarn demand rate fluctuation and run-in yarn tension fluctuation in knitting**, "World Congress – Knitting for the 21st Century", October 2002

Dias, T. and Powers, J., **A study of flat-bed knitting technology for 3D performs**, "World Congress – Knitting for the 21st Century", October 2002

Dias, T., Wijesiriwardana, R. and Mukhopadhyay, S., **Knitted Strain Gauges** "SPIE's International Symposium on Microtechnologies for the New Millennium 2003", May 2003

Dias, T. and Powers, E. J., **Knitting of Electro conductive Yarns**, "IEE Eurowearable '03", September 2003 (proceedings ISBN 0 85296 2827, ISSN 0537- 9989

Dias, T., Wijesiriwardana, R. and Mukhopadhyay, S., **Resistive Fibre-Mesh Transducers**, "7th IEEE Conference of wearable computers", October 2003

Dias, T., Beatty, P., **Functions and Performance of Knitted Electrodes**, "International Conference on Technical Textiles", April 2004

Dias, T., Wijesiriwardana, R. and Mitcham, K., **Fibre meshed transducers based real time wearable physiological information monitoring system**, "8th IEEE Conference of wearable computers", November 2004

Dias, T., Fernando, A. and Chaudhury, R., **Technology platforms for innovation – Yarn delivery in weft knitting**, International Conference on Knitting 2005: Global Challenges and Innovative Solutions, June 2005

Dias, T., **Development of electrically active knitted structures**, 2nd International Conference on Technical Textiles, April 2006

Dias, T., Fernando, A., Cooke, W. D., Jayawarna, D. and Chaudhury, R. **Scan2Knit: Customised medical systems for medical applications**, 2nd International Conference on Technical Textiles, April 2006

Dias, T. and Yahathugoda, D. **Structural Mechanics of Elastomeric Yarns in Plain Knitted Structure**, 2nd International Conference on Technical Textiles, April 2006

Invited key note lectures

Dias, T., **Knitted 3D structures**, invited guest lecture at the conference "3-D Fabric Forming", Centre for Textile Research, University of Borås, Sweden, September 1998

Dias, T., **Novel technology for design and engineering pressure systems for the treatment of venous ulcers**, invited guest lecture of the "2nd International Conference on Advanced Fiber/Textile Materials 2002", Ueda, Japan, November 2002

Dias, T., **Knitting in the 3rd dimension and knitted transducers**, invited guest lecture of the conference "Future Textiles", National University of Science & Technology, Bulawayo, Zimbabwe, March 2004

Dias, T., **Smart and intelligent knitted structures**, invited guest lecture of the special workshop organised by the Textile Institute, Sri Lanka section, University of Moratuwa, Sri Lanka, August 2004

Dias, T., **Future Textiles**, invited guest lecture of the "Textile Industry Special Seminar", Textile Institute of Pakistan, Karachi,, February 2005

Theses

Dias, T., **Automatische Fehlererkennung und Betriebsdatenerfassung an der Rundstrickmaschine**; Dr.-Ing. Thesis, University of Stuttgart 1988

Dias, T., **Theoretische Untersuchungen zur Vliesverfestigung beim Vlies-Naehwirken**; Dipl.-Ing. Thesis, Technische Universitaet Dresden 1981

Dias, T., **Untersuchungen zur lichtmikroskopischen Charakterisierung der strahlenchemischen Modifizierung von Polyamid und Polyesterfaserstoffen**; Ingenieurarbeit Dissertation, Technische Universitaet Dresden 1979

Contact Details

Dr Tilak Dias
Technical Director
Engineered Fibre Structures Ltd
The Fairbairn Building
Sackville Street
Manchester M60 1QD
United Kingdom

tilak.dias@fibrestructures.com
www.fibrestructures.com