

# Johann Sienz

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## ***Current position***

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Senior Lecturer, Programme Director Mechanical and Aerospace Engineering

## ***Education***

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1984 - 1989	Diplom-Ingenieur (FH) (FH Augsburg, Germany)	<i>'Kriechversuche an FKV und seinen Komponenten – Entwicklung eines Prüfverfahrens (Creep experiments on FRP and its components –development of a test procedure)'</i>  <i>VDI award for best dissertation.</i>
1988 -1989	BEng (Hons) (Lancashire Polytechnic)	<i>'A finite element stress analysis on a lifting device'</i> IMEchE free membership award for best final year project.
1989 - 1990	MSc (University of Wales Swansea)	<i>'FE mesh design with adaptive procedures'</i>
1990 - 1994	PhD (University of Wales Swansea)	<i>'Integrated structural modelling, adaptive analysis and shape optimisation'</i>

## ***Research interests***

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Structural shape and topology optimisation, polymer processing simulation, engineering design optimisation, computational mechanics

## ***Career***

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2000	CEng, MIMechE	Membership Number: 522004,80016571
2001	CMath, MIMA	Membership Number: 19896
2004	MRAeS	Membership Number: 1367767

## ***Employment History***

1.1.92 - 31.07.93	Research Assistant, UWS
1.10.94 – 30.9.96	Senior Research Assistant, UWS
1.10.96 – 31.5.97	Honorary Lecturer/SRA, UWS
1.6.97 – 30.6.99	Lecturer, Dept. of Civil Engineering, UWS
1.7.99 – 30.9.01	Lecturer, Dept. of Mechanical Engineering, UWS
1.10.01 -	Senior Lecturer, School of Engineering, UWS

## ***Industrial***

7.87 – 8.87	6 weeks, Designer, MAN Roland, Germany
9.87 – 6.88	10 weeks, Final Year Project, MAN Technologie, Germany
3.98 – 6.99	Company Director Diktyon Ltd, UK

## ***Industrial Work Experience***

1981, 1985	40 weeks: MBB (now DASA), Germany, (high speed trains, helicopters, aircraft, and spacecraft): design, advanced materials, manufacturing.
1987, 1988	40 weeks: MAN, Germany, (heavy oil engines, printing machines and spacecraft): design, numerical analysis, advanced materials, testing.
1994, 1996, 1998	10 weeks: various consultancy jobs (Krause Software GmbH, Germany; Sage, UK; Kömmerling, Germany)

## **Honors and awards**

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CMath, CEng

## **Professional activities**

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### *Consultancies*

Invited Independent Expert for ICC International Court of Arbitration  
Expert Witness for Stuart Collins & Co Insurance, UK  
EC expert project reviewer  
Software development (Krause GmbH, Germany; SAGE, UK; Integer, UK)  
Others (INA Bearings, UK)

## **Refereed papers and chapters in books**

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Book	1
Edited Works	2 conference proceedings
Chapters in Books	8
Journal Papers	19
Invited Keynotes	6
Conference Papers	46

## **Summary of journal publications**

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<b>Journal</b>	<b>Impact factor</b>	<b>Number of papers</b>
Chemical Engineering Science	1.56	3
Computers and Structures	0.63	2
Engineering Computations	0.54	3
Other indexed journals		11
Other papers in refereed journals		0

## **Selected publications (max. 5)**

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E. Hinton, J. Sienz and M. Özakça, 'Analysis and Optimization of Prismatic and Axisymmetric Shell Structures: Theory, Practice and Software', Springer Verlag, 2003, ISBN: 1852334215. 528 pages, 247 illustrations, CD-Rom with ~ 60,000 lines of source code

J. Sienz, J.F.T. Pittman and A. Polynkin, 'Simulation and Optimization for Polymer Processing', in B.H.V. Topping and C.A. Moares (eds), Progress in Engineering Computational Technology, Saxe-Coburg Publications, pp 189 – 218, Edinburgh, UK. 2004. ISBN 1-874672-22-9.

H. Ettinger, J. Sienz, J.F.T. Pittman and A. Polynkin, 'Parameterization and optimization strategies for the automated design of uPVC profile extrusion dies', Structural and Multidisciplinary Optimization (IF 0.72), 28(2-3), pp 180 - 194, 2004

S.J. Bates, J.F.T. Pittman, J. Sienz and D.S. Langley, 'Enhancing Slit Die Performance by Optimization of Restrictor Profiles', Polymer Engineering & Science (IF 0.96), 43(8), 1500-1511, 2003.

J. Sienz and E. Hinton, 'Reliable structural optimisation with error estimation, adaptivity and robust sensitivity analysis', Computers and Structures (IF 0.63), 64(1-4), 31-63, 1997.