



Technische Universität München



Prof. dr.ir. Daniel J. Rixen, MSc

*Curriculum Vitae*

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<i>Nationality</i>	Belgian
<i>Date of birth</i>	14 October 1967
<i>Marital status</i>	married, 2 sons and 1 daughter
<i>Language</i>	French (first tongue) ; English ; German ; Dutch.

## Appointments

- since 2012 **Full Professor (Ordinarius)**, T.U. Munich (Germany)  
Chair of Applied Mechanics  
School of Engineering and Design  
Dept. of Mechanical Engineering
- 2012–2016 **Guest Professor**, Delft University of Technology (The Netherlands)  
Faculty of Mechanical, Maritime and Material Engineering
- 2000–2012 **Full Professor**, Delft University of Technology (The Netherlands)  
Chair of Engineering Dynamics  
Faculty of Mechanical, Maritime and Material Engineering
- 1999–2002 **Senior fellow**  
**of the Belgian National Scientific Research Foundation**  
(Chercheur qualifié FNRS)  
On leave
- 1997–1999 **Fellow**  
**of the Belgian National Scientific Research Foundation**  
(Chargé de Recherches FNRS)  
**Post-doctoral research assistant**  
University of Colorado at Boulder, USA  
Center for Aerospace Structures (Prof. C. Farhat)  
Topic: *Domain Decomposition–Fluid-Structure Interaction*
- 1993–1997 **Doctorate fellowship**  
**of the Belgian National Scientific Research Foundation**  
(Aspirant FNRS)  
Research assistant at the University of Liège  
Laboratoire des Techniques Aéronautiques et Spatiales (Prof. M. Géradin)  
Topic: *Dynamic Substructuring–Parallel Computing–Non-linear Dynamics*
- 1991–1992 **Research Assistant**  
Laboratoire des Techniques Aéronautiques et Spatiales (Prof. M. Géradin)  
Topic: *Structural Vibrations–Multibody Dynamics*
- 1990 **Support Engineer**  
Samtech Belgium

## Guestships

- 2002 & 2004 Ecole Normal Supérieure de Cachan (France)  
Invited professor, joint research with dr. C. Rey (2 months)
- 1997–1999 University of Colorado at Boulder (USA)  
Post-Doctoral research with Prof. C. Farhat
- 1993 & 1994 University of Waterloo (Canada)  
Joint research with Prof. J. McPhee (2 months)

## Degrees

- 1997 **Doctorate in Applied Sciences** (Highest honors)  
*University of Liège (Belgium) - Aeronautical and Space Lab (LTAS)*  
Thesis: *Substructuring and Dual Methods in Structural Analysis*  
Supervisor: *Prof. dr.ir. M. Géroardin*
- 1989–1990 **Master in Aerospace Vehicle Design**  
*Cranfield Institute of Technology (College of Aeronautics), U.K.*  
Thesis: *Finite Strip Method for Stability and Vibration Analysis*  
Master project: *Tactical Fighter - Air Intake and Powerplant Installation*  
*Double degree program (Erasmus - British Council)*
- 1985–1990 **Engineering degree in Electro-Mechanics and Aerospace** (Highest honors)  
*University of Liège (Belgium)*
- 1979–1985 High School St. Remacle, Stavelot (Belgium)  
Majors: *Mathematics & Latin*

## Research

The research of Prof. Rixen is focusing on the development of theoretical formulations, numerical methods and experimental techniques aimed at a better understanding and efficient simulation of the dynamics observed in complex structures and robotic systems. Although academic in nature, the innovative ideas resulting from the research are often tested and implemented on engineering applications. Numerous collaborations with industry and experts from other fields not only valorize the scientific advances, but also stimulates the developments of unusual concepts and inspires young research associates.

For his research, Prof. Rixen works closely with colleagues or industrial partners in order to apply the developed methodologies to engineering applications such as wind turbines, automotive, biomedical, aeronautics and aerospace, microsystems and machines.

Prof. Rixen has co-authored a book on Theory of Vibrations (in French and in English), another one on Substructuring techniques, published about 140 articles in peer-reviewed international scientific journals and made more than 350 contributions to peer-reviewed international conferences (as author and co-author). He also regularly serves as reviewer and guest editor for several international scientific journals and is involved in numerous national and

international scientific and academic committees. He has personally supervised more than 50 MSc thesis and 30 PhD projects.

The research activities can be described according to 4 aspects shortly summarized below.

**Numerical methods for engineering dynamics** Discretisation techniques and solution methods for efficient modeling the structural vibrations and multibody dynamics is one of the research directions. This includes finite element formulations, eigensolvers and time-discretisation techniques. In particular, efficient solvers for very large problems are investigated, developing parallel computing algorithms based on domain decomposition approaches and exploring novel substructuring techniques to reduce the size of dynamic models. In particular the reduction of non-linear dynamical models is a very active research topic.

**Experimental dynamics** Understanding the dynamics of structures requires observing and measuring academic and engineering structures. In addition to using classical Experimental Modal Analysis techniques, research is performed on identification methodologies applicable to operating machines where the excitation (input) is unknown. The paradigm of substructuring is applied in order to combine measurements and models of subcomponents, and predict the behavior of entire assemblies (experimental substructuring).

**Modeling of multifield coupling relevant to structural dynamics** In modern engineering, interaction of structures with non-structural effects become significant. Specific approaches are developed to properly model such coupling phenomena: aeroelastic coupling on aircraft, hydrodynamic forces in bearings and rotordynamics, vibro-acoustic nuisance in MRI scanners or electrostatic and thermo-mechanical interaction in microsystem sensors.

**Robotics and mechatronical systems** Since he took over the chair of Applied Mechanics of the Department of Mechanical Engineering at the TU Munich, he has been heavily involved in robotic projects. The main research interests are the planning and control of two-leg robots and manipulators. In addition, he started a new research area concerned with real-time substructuring techniques where advanced control strategies are developed to test vibration components and prostheses in a hard-ware-in-the-loop environment.

## Grants

Between 2000 and 2012 (at TU Delft)

- Dutch Technical Science Organization (STW): approx. 1.4 M€
- Siemens Wind Power: approx. 0,8 M€
- Airbus: approx. 0,2 M€
- Esa: approx. 0,4 M€
- Michelin: 0.05 M€
- BMW: 0,5 M€

Between 2012 and 2022 (at TU Munich)

- German Sciences Foundation: approx. 2 M€

- EU-Horizon 2020: 0,7 M€
- Boeing: approx. 0,3 M€
- Airbus/Bavarian Ministry: approx. 0,3 M€
- BMW: 1 M€
- Bavarian Research Foundation: 0,2 M€
- Goodyear/ Science Foundation Luxembourg: 0,4 M€
- Hyundai: 0,2 M€
- Siemens: 0.1 M€
- Zeiss: 0,1 M€
- Mitsubishi HI: 0,1 M€

## Temporary appointments

from 2023	member of the scientific advising committee of Safran Group (France)
since 2021	member of the board of directors of the Munich Institute of Robotics and Machine intelligence
2020	president of the Society of Experimental Mechanics (USA)
2016–2021	Spokesperson of the Faculty Graduate Center Mechanical Engineering
2015-2019	vice-dean of the Department of Mechanical Engineering
since 2012	Member of the exam commission (BSc & MSc) of the Faculty of Mechanics T.U. Munich
2011–2014	Scientific advisor for Michelin on parallel computing algorithms
2012–2013	Scientific advisor for Atlas Copco, Belgium
2001–2012	Member of the board of directors Engineering Mechanics Graduate School, The Netherlands
2008–2012	Responsible for the BSc/MSc curriculum of the Department Precision and Microsystems Engineering
2008–2012	Board of the Delft Center for Computational Science and Engineering
2008–2012	Member of the Delft University Wind energy research institute (DUWind)
2007–2008	Member of the National Committee, French National Center for Scientific Research (CNRS), section of Materials & Structures Engineering, Solid Mechanics & Acoustics
2006–2007	Scientific advisor for Open Engineering (Belgium)
2001	Scientific advisor for Snecma - Division Moteurs Spatiaux, Vernon, France Technical Auditing turbo-pump on engine Ariane 5
1999 & 2000	Lecturer in Engineering Dynamics
& 2002	European Master in Mechanics of Constructions, Ho Chi Minh, Vietnam
1996 & 1997	Lecturer in Structural Dynamics Pôle Universitaire Léonard de Vinci, Paris

## Membership and mandates

- since 2017 scientific council of CISM, Udine (Italy)
- since 2015 scientific committee for the AIVELA International Conference  
(Italian Association of LASer VElocimetry and non invasive diagnostics)
- since 2014 scientific committee of ISMA, Noise and Vibration Engineering Conference  
(KUL, Leuven Belgium)
- since 2014 Member of board IFToMM Germany
- since 2014 Member of Technical Committee for Vibrations, IFToMM
- 2014 - 2016 Executive Board of the Society of Experimental Mechanics (USA)
- since 2013 Board Member of the Likar Foundation, München
- since 2002 Member of the Society of Experimental Mechanics (USA)
- since 2012 scientific committee of the *colloque National en Calcul des Structure* (France)

## Lectures and education

- since 2012 Technical Mechanics 1, 2 and 3 (BSc)
- Engineering Dynamics (MSc)
- Structural Dynamics (MSc)
- Experimental Vibration Analysis (MSc)
- Robot Dynamics (MSc)
- Dynamics of Mechanical Systems (MSc)
- Introduction to Multibody Dynamics (MSc)
- 2018 Substructuring in Engineering Dynamics (Post-graduate, CISM Udine)
- 2000–2012 Mechanics (BSc)
- Engineering Dynamics (MSc)
- Numerical Methods in Computational Dynamics (MSc)
- Introduction to Fluid-Structure Interaction (MSc)
- Mechanical Analysis for Engineering (MSc)
- Advanced Dynamics (Post-graduate, EM Doctoral School)
- Multibody Dynamics (Post-graduate, EM Doctoral School)
- Non-linear Dynamics (Post-graduate, EM Doctoral School)
- 1991–2000 Theory of Vibration (MSc)
- Aeroelasticity (MSc)

## Awards

- 2020 Award for best MSc. online course, Faculty of Mechanical Engineering, TUM
- 2011 Finalist of the Delft Innovation Award
- 2009 & 2010 Award for best lecturer of the faculty for MSc studies
- 2006 & 2007 Award for best lecturer of the faculty for the 3rd BSc year
- 1997 Award of the Association des Amis de l'Université de Liège,  
best PhD thesis at the Faculty of Applied Sciences
- 1990 British Aerospace Award,  
best MSc thesis in Aerospace Vehicle Design

## Supervised PhD thesis

1. Ron A.J. Van Ostayen. *The Hydro-Support: An Elasto-Hydrostatic Thrust Bearing with Mixed Lubrication*. PhD thesis, Delft University of Technology, December 2002
2. Prasenjit Mohanty. *Operational Modal Analysis in the Presence of Harmonic Excitations*. PhD thesis, Delft University of Technology, January 2005
3. Nadine .E. Conza. *Dynamics of the human pelvis: Identification methodology for low back pain diagnosis*. PhD thesis, Delft University of Technology, December 2006
4. Dennis de Klerk. *Dynamic Response Characterization of Complex Systems through Operational Identification and Dynamic Substructuring: An application to gear noise propagation in the automotive industry*. PhD thesis, Delft University of Technology, Delft, The Netherlands, March 2009
5. Stephan D.A. Hannot. *Modeling Strategies for Electro-Mechanical Microsystems with Uncertainty Quantification*. Phd thesis, Delft University of Technology, October 2012
6. Sven N. Voormeeren. *Dynamic Substructuring Methodologies for Integrated Dynamic Analysis of Wind Turbines*. PhD thesis, Delft University of Technology, November 2012
7. Muammer Özbek. *Optical monitoring and operational modal analysis of large wind turbines*. PhD thesis, Delft University of Technology, March 2013
8. Paul .L.C. Van der Valk. *Coupled Simulations of Wind Turbines and Offshore Support Structures: Strategies based on the Dynamic Substructuring Paradigm*. PhD thesis, Delft University of Technology, October 2014
9. Michael Kirschneck. *Mastering Electro-Mechanical Dynamics of Large Off-Shore Direct-Drive Wind Turbine Generators*. PhD thesis, Delft University of Technology, March 2016
10. Franciscus Leendert Johannes van der Linden. *Gear contact modeling for system simulations and experimental investigation of gear contacts*. Dissertation, Technische Universität München, München, 2016
11. Johannes Rutzmoser. *Model Order Reduction for Nonlinear Structural Dynamics*. Dissertation, Technische Universität München, München, 2018
12. Daniel Wahrmann Lockhart. *Autonomous Robot Walking in Unknown Scenarios*. Dissertation, Technische Universität München, München, 2018
13. Andreas Krinner. *Multibody systems with lubricated contacts*. Dissertation, Technische Universität München, München, 2018
14. Arne-Christoph Hildebrandt. *Autonomous Robots in Unknown and Dynamic Scenarios*. Dissertation, Technische Universität München, München, 2018
15. Oliver Sven Hofmann. *Modeling, Identification and Control of Aging Effects in Common Rail Fuel Injectors*. Dissertation, Technische Universität München, München, 2019

16. Michael Christopher Dominik Leistner. *Dual Domain Decomposition Methods in Structural Dynamics*. Dissertation, Technische Universität München, München, 2019
17. Morteza Karamooz Mahdiabadi. *Nonlinear Model Order Reduction and Substructuring for Structural Dynamics Analysis - Non-intrusive methods*. Dissertation, Technische Universität München, München, 2019
18. Fabian M. Gruber. *Model Order Reduction and Substructuring Methods in Structural Dynamics Dynamic Substructuring - Methods for Undamped and Arbitrarily Damped Systems*. Dissertation, Technische Universität München, München, 2019
19. Christian Wagner. *Dynamic Modeling of Turbopumps - Rotordynamics, Bearings and Contactless Seals*. Dissertation, Technische Universität München, München, 2019
20. Andreas Bartl. *Real-Time Hybrid Substructure Testing - Adaptive approaches for compliant structures*. Dissertation, Technische Universität München, München, 2019
21. Felix Ellensohn. *Urban Motion Cueing Algorithms*. Dissertation, Technische Universität München, München, 2020
22. Umut TABAK. *Methods for Efficient Analysis of Vibro-acoustic Problems*. PhD thesis, Delft University of Technology, Mars 2020
23. Michael Häußler. *Modular sound & vibration engineering by substructuring - Listening to machines during virtual design*. PhD thesis, Technical University Munich - Department of Mechanical Engineering, April 2021
24. Felix Sygulla. *Dynamic Robot Walking on Unknown Terrain*. Dissertation, Technische Universität München, München, 2021
25. Christina Insam. *Fundamental Methods for Real-Time Hybrid Substructuring with Contact*. Dissertation, Technische Universität München, München, 2022

### **In co-supervision**

26. Véronique Rochus. *Finite element modelling of strong electro-mechanical coupling in MEMS*. PhD thesis, University of Liège, Liège, Belgium, 2006
27. Matthijs B. Groot Wassink. *Inkjet printhead performance enhancement by feedforward input design based on two-port modeling*. PhD thesis, Delft University of Technology, February 2007
28. Aukje De Boer. *Computational fluid-structure interaction: Spatial coupling, coupling shell and mesh deformation*. PhD thesis, Delft University of Technology, December 2008
29. Beate D. Heru Utomo. *High-speed Impact Modelling and Testing of Dyneema Composite*. PhD thesis, Delft University of Technology, November 2011
30. Jodi D.G. Kooijman. *Bicycle Rider Control: Observations, Modeling & Experiments*. PhD thesis, Delft University of Technology, September 2012



31. Edwin J.H. De Vries. *Model-Based Brake Control including Tyre Behaviour*. PhD thesis, Delft University of Technology, December 2012
32. Chris Valentin. *Curvature Manipulation of Photomasks – Enhancing the imaging performance of immersion lithography equipment*. PhD thesis, Delft University of Technology, May 22 2013
33. Oriol Lloberas-Valls. *Multiscale domain decomposition analysis of quasi-brittle materials*. PhD thesis, Delft University of Technology, October 2013
34. Nicole Spillane. *Méthodes de décomposition de domaine robustes pour les problèmes symétriques définis positifs*. PhD thesis, École Doctorale Paris Centre, Laboratoire Jacques Louis Lions, Paris, January 2014
35. Maarten van der Seijs. *Experimental Dynamic Substructuring, Analysis and Design Strategies for Vehicle Development*. PhD thesis, Delft University of Technology, Delft, The Netherlands, June 2016
36. Rob P.T. Eling. *Towards robust design optimization of automotive turbocharger rotor-bearing systems*. PhD thesis, Delft University of Technology, Mai 2019

## Publication list

### Guest (co)-editorship

1. Special issue of *Computer Methods in Applied Mechanics and Engineering* (Elsevier): Domain Decomposition Methods: recent advances and new challenges in engineering, Edited by F. Magoulès, D. Rixen, Volume 196, Issue 8, Pages 1345-1622 (20 January 2007)
2. Special issue of *Lubricants* (MDPI): Bearings in Turbomachinery, Edited by R. Van Ostayen and D.J. Rixen, 2017.
3. Special issue of *Mechanical Systems and Signal Processing* in Honor of Prof Prof. L. Gaul, Edited by M.Link, D.Rixen, A.Schmidt and K.Willner, 2020.
4. Editorial Board of *Journal of Structural Dynamics*, a diamond Open Access Journal. (jsd.ulb.be)

### Books

1. M. Géradin and D. Rixen. *Théorie des Vibrations. Application à la dynamique des structures*. Physique Fondamentale et Appliquée. Masson, Paris, 2d edition, 1996
2. M. Géradin and D. Rixen. *Mechanical Vibrations. Theory and Application to Structural Dynamics*. Wiley & Sons, Chichester, 3d edition, 2015
3. Matthew S Allen, Daniel Rixen, Maarten van der Seijs, Paolo Tiso, Thomas Abrahamson, and Randall L Mayes. *Substructuring in Engineering Dynamics*, volume 594 of *CISM International Centre for Mechanical Sciences*. Springer, 2020

### as co-editor

1. R. Mayes, D. Rixen, D.T. Griffith, D. De Klerk, S. Chauhan, S.N. Voormeeren, and M.S. Allen, editors. *Topics in Experimental Dynamics Substructuring and Wind Turbine Dynamics, Volume 2, Proceedings of the 30th IMAC, A Conference on Structural Dynamics, 2012*, volume 27 of *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer, 2012
2. Randy Mayes, Daniel Rixen, and Matt Allen, editors. *Topics in Experimental Dynamic Substructuring, Volume 2: Proceedings of the 31st IMAC, A Conference on Structural Dynamics, 2013*, volume 36 of *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer Science & Business, 2013
3. Randy Mayes, Daniel Rixen, and Matt Allen, editors. *Dynamics of Coupled Structures, Volume 1: Proceedings of the 32nd IMAC, A Conference on Structural Dynamics, 2014*, volume 36 of *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer Science & Business, 2014
4. Randy Mayes, Daniel Rixen, and Matt Allen, editors. *Dynamics of Coupled Structures, Volume 4: Proceedings of the 33rd IMAC, A Conference on Structural Dynamics, 2015*, volume 4 of *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer Science & Business, 2015

5. Randy Mayes, Daniel Rixen, and Matt Allen, editors. *Dynamics of Coupled Structures, Volume 4: Proceedings of the 34th IMAC, A Conference on Structural Dynamics, 2015*, volume 4 of *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer Science & Business, 2016

## Doctoral thesis

D. Rixen. *Substructuring and Dual Methods in Structural Analysis*. PhD thesis, Université de Liège, Belgium, Collection des Publications de la Faculté des Sciences appliquées, n° 175, 1997

## Reviewed articles in international journals and book chapters

1. M. Géradin and D.J. Rixen. Parametrization of finite rotations in computational dynamics : a review. *Revue européenne des éléments finis*, 4(5-6):497–553, 1995
2. D. Rixen, C. Farhat, and M. Géradin. A two-step, two-field hybrid method for the static and dynamic analysis of substructure problems with conforming and non-conforming interfaces. *Comput. Meth. Appl. Mech. Engin.*, 154:229–264, 1998
3. D. Rixen. Dual schur complement method for semi-definite problems. *Contemporary Mathematics*, 218:341–348, 1998. Tenth International Conference on Domain Decomposition Methods, Boulder, CO, August 1997
4. C. Farhat, C. Lacour, and Daniel Rixen. Incorporation of linear multipoint constraints in substructure based iterative solvers, part i: a numerically scalable algorithm. *International J. Numer. Methods Engineering*, 43(6):997–1016, 1998
5. D. Rixen and C. Farhat. A simple and efficient extension of a class of substructure based preconditioners to heterogeneous structural mechanics problems. *Internat. J. Num. Meth. Engin.*, 44(4):489–516, 1999
6. D. Rixen, C. Farhat, R. Tezaur, and J. Mandel. Theoretical comparison of the feti and algebraically partitioned feti methods, and performance comparisons with a direct sparse solver. *International J. Numer. Methods Engineering*, 46(4):501–534, 1999
7. M. Bhardwaj, D. Day, C. Farhat, M. Lesoinne, K. Pierson, and D. Rixen. Application of the FETI method to ASCI problems: Scalability results on a thousand-processor and discussion of highly heterogeneous problems. *International J. Numer. Methods Engineering*, 47(1-3):513–536, 2000
8. C. Farhat, M. Lesoinne, P. LeTallec, K. Pierson, and D. Rixen. FETI-DP: a dual-primal unified FETI method - part i: a faster alternative to the two-level FETI method. *International J. Numer. Methods Engineering*, 50(7):1523–1544, 2001
9. Charbel Farhat and Daniel Rixen. *Encyclopedia of Vibration*, chapter Linear Algebra, pages 710–720. Academic Press, 2002. isbn 0-12-227085-1
10. Daniel Rixen. *Encyclopedia of Vibration*, chapter Parallel Computation, pages 990–1001. Academic Press, 2002. isbn 0-12-227085-1

11. D. Rixen. Extended preconditioners for FETI method applied to constrained problems. *Internat. J. Num. Meth. Engin.*, 54(1):1–26, 2002
12. Attila Zsaki, Daniel J. Rixen, and Marius Paraschivoiu. A substructured based iterative inner solver coupled with Uzawa’s algorithm for the stokes problem. *International Journal in Numerical Methods in Fluids*, 43:215–230, 2003
13. P. Gosselet, C. Rey, and D.J. Rixen. On the initial estimate of interface forces in FETI methods. *Comput. Meth. Appl. Mech. Engin.*, 192(25):2749–2764, 2003
14. Prasenjit Mohanty and Daniel J. Rixen. Operational modal analysis in the presence of harmonic excitations. *Jnl. Sound and Vibration*, 270:93–109, 2004
15. Daniel Rixen. A dual Craig-Bampton method for dynamic substructuring. *Journal of Computational and Applied Mathematics*, 168(1-2):383–391, 2004
16. Prasenjit Mohanty and Daniel J. Rixen. A modified ibrahim time domain algorithm for operational modal analysis including harmonic excitation. *Jnl. Sound and Vibration*, 275:375–390, 2004
17. Prasenjit Mohanty and Daniel J. Rixen. Modified sstd method to account for harmonic excitations during operational modal analysis. *Mechanism and Machine Theory*, 39(12):1247–1255, 2004
18. S. van den Berg, P. Mohanty, and D. Rixen. Investigating the causes of non-uniform cookie flow in vibratory conveyors (part 1). *Experimental Techniques*, 28(6):46–49, 2004
19. S. van den Berg, P. Mohanty, and D.J Rixen. Investigating the causes of non-uniform cookie flow in vibratory conveyors (part 2). *Experimental Techniques*, 29(1):32–35, 2005
20. Prasenjit Mohanty and Daniel J. Rixen. Identifying mode shapes and frequencies by operational modal in the presence of harmonic excitation. *Experimental Mechanics*, 45(3):213–220, 2005
21. Prasenjit Mohanty and Daniel J. Rixen. Modified era method for operational modal analysis in the presence of harmonic excitations. *Mechanical Systems and Signal Processing*, 20(1):114–130, 2006
22. Daniel Rixen. Theoretical relations between domain decomposition and dynamic substructuring. In *Applied Parallel Computing, State of the Art in Scientific Computing, 7th International Workshop, PARA 2004, Lyngby, Denmark*, pages 342–348, Heidelberg, Germany, June 2004. Springer (LNCS 3732). issn 0302-9743
23. V. Rochus, D. J. Rixen, and J.-C. Golinval. Monolithic modelling of electro-mechanical coupling in micro-structures. *Int. J. Num. Meth. Eng.*, 65:461–493, 2006
24. V. Rochus, D. J. Rixen, and J.-C. Golinval. Electrostatic coupling of mems structures: transient simulations and dynamic pull-in. *Nonlinear Analysis*, 63(5-7):1619–1633, 2005
25. L. Qirong and Daniel J. Rixen. Self switching and resistive circuits for a piezo patch in vibration suppression. *Journal of Smart Materials and Structures*, 15:518–528, 2006

26. Alex de Kraker, Ron A.J. van Ostayen, and Daniel J. Rixen. Calculation of Stribeck curves for (water) lubricated journal bearings. *Trib. Int.*, 40(40):459–469, 2006
27. J.W. Hinnen, D.J. Rixen, O.H.J. Koning, J.H. van Bockel, and J.F. Hamming. Development of fibrinous thrombus analogue for in-vitro aneurysm studies. *Jnl. Biomec.*, 4(2):289–295, 2007
28. N.E. Conza and D.J. Rixen. Experimental modal analysis on a human specimen: Lessons learned. *Experimental Techniques*, 30(6):51–55, 2006
29. Daniel Rixen and Frédéric Magoulès. Domain decomposition methods: Recent advances and new challenges in engineering. *Comp. Meth. App. Mech. Eng.*, 8(20):1345–1346, 2007
30. N.E. Conza and D.J. Rixen. Influence of frequency-dependent properties on system identification: Simulation study on a human pelvis model. *Journal of Sound and Vibration*, 302(4-5):699 – 715, 2007
31. N.E. Conza, D.J. Rixen, and S. Plomp. Vibration testing of a fresh-frozen human pelvis: The role of the pelvic ligaments. *Journal of Biomechanics*, 40(7):1599 – 1605, 2007
32. J.W. Hinnen, D.J. Rixen, O.H.J. Koning, J.H. van Bockel, and J.F. Hamming. Aneurysm sac pressure monitoring: Does the direction of pressure measurement matter in fibrinous thrombus? *Jnl. Vascular Surgery*, 45(4):812–816, 2007
33. Alex de Kraker, Ron A.J. van Ostayen, A. van Beek, and Daniel J. Rixen. A multiscale method modeling surface texture effects. *J. Tribol.*, 129:221–230, 2007
34. V. Rochus, D. J. Rixen, and J.-C. Golinval. Non-conforming element for accurate modelling of mems. *Finite Elements in Analysis and Design*, 43(10):749–756, 2007
35. B.D. Heru Utomo, B.J. van der Meer, L.J. Ernst, and D.J. Rixen. High speed fracture phenomena Dyneema composite. *Key Engineering Materials*, 353:120–125, 2007
36. D. de Klerk, D. J. Rixen, and S. N. Voormeeren. General framework for dynamic substructuring: History, review and classification of techniques. *AIAA Journal*, 46(5):1169–1181, 2008
37. Pierre Gosselet, Daniel J Rixen, and Christian Rey. A domain decomposition strategy to efficiently solve structures containing repeated patterns. *International journal for numerical methods in engineering*, 78(7):828–842, 2009
38. S.N. Voormeeren, D. de Klerk, and D.J. Rixen. Uncertainty quantification in experimental frequency based substructuring. *Mechanical Systems and Signal Processing*, 24(1):106 – 118, 2010
39. Willem-Maarten Bosman, Jan-Willem Hinnen, Daniel J. Rixen, and Jaap F. Hamming. Effect of stent-graft compliance on endotension after evar. *Journal of Endovascular Therapy*, 16(1):105–113, 2011/09/16 2009
40. Andriy Andreykiv and Daniel J Rixen. Numerical modelling of electromechanical coupling using fictitious domain and level set methods. *International journal for numerical methods in engineering*, 80(4):478–506, 2009

41. Ph Nachtergaele, DJ Rixen, and AM Steenhoek. Efficient weakly coupled projection basis for the reduction of thermo-mechanical models. *Journal of computational and applied mathematics*, 234(7):2272–2278, 2010
42. Edwin de Vries, Achim Fehn, and Daniel Rixen. Flatness-based model inverse for feed-forward braking control. *Vehicle System Dynamics*, 48(S1):353–372, 2010
43. D. de Klerk and D.J. Rixen. Component transfer path analysis method with compensation for test bench dynamics. *Mechanical Systems and Signal Processing*, 24(6):1693 – 1710, 2010
44. SDA Hannot and DJ Rixen. Numerical modeling of the electromechanical interaction in mems. In *Advanced Computational Methods in Science and Engineering*, pages 315–342. Springer, 2010
45. F. Magoulès and D. Rixen. Substructuring and domain decomposition methods: An overview. In F. Magoulès, editor, *Substructuring Techniques and Domain Decomposition Methods*, chapter 1, pages 1–18. Saxe-Coburg Publications, Stirlingshire, UK, 2010
46. A De Kraker, RAJ Van Ostayen, and DJ Rixen. Development of a texture averaged reynolds equation. *Tribology International*, 43(11):2100–2109, 2010
47. Véronique Rochus, Laurent Van Miegroet, Daniel J Rixen, and Pierre Duysinx. Electrostatic simulation using xfem for conductor and dielectric interfaces. *International Journal for Numerical Methods in Engineering*, 85(10):1207–1226, 2011
48. Muammer Ozbek, Daniel J Rixen, Oliver Erne, and Gunter Sanow. Feasibility of monitoring large wind turbines using photogrammetry. *Energy*, 35(12):4802–4811, 2010
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## Patents

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