

List of Research Publications:

Dr. Mirza Mahmood Baig

1. M. M. Baig and A. A. Khan, "Formal Testing of Requirements Specifications", Pakistan Journal of Scientific Research, International Council for Science (ICUS), Paris, France, since 1950, Vol. 60, No. 3-4, September 2008.(HEC recognised).
2. M. M. Baig and A. A. Khan, "A Formal Technique for Reducing Software Testing Time Complexity", International Joint Conferences on Computer, Information and Systems Sciences, and Engineering, CISSE 2008 Book Proceedings will be sent by Springer-Verlag, Innovations and Advanced techniques in Computer and Information Sciences and Engineering August 2009. (Peer reviewed)
3. M. M. Baig and A. A. Khan, "Plummeting the Software Testing Time Complexity", Conference proceeding will be Published by IEEE Computer Society, CSIE 2009. (Peer reviewed).
4. M. M. Baig and A. A. Khan, "Efficient Testing of Database Applications", IJCSNS International Journal of Computer Science and Network Security, Vol.9 No. 4, 2009. (Peer reviewed).
5. M. M. Baig and A. A. Khan, "Formal Notation for Metric Space Based Software Testing Strategy", International Journal of Latest Trends in Computing (IJLTC), 2011(Peer reviewed).
6. M. M. Baig, A. Shaheen and A. A. Khan, "Efficient Execution Plan for Hypothetical Database Testing", International Journal of Latest Trends in Computing(IJLTC), 2011 (Peer reviewed).
7. M. M. Baig, and A. A. Khan, "Metric Space Based Software Testing Tool", International Journal of Latest Trends in Software Engineering (IJLTSE), 2011 (Peer reviewed).
8. M. M. Baig, and A. A. Khan, "Database Testing Application for Modifying Tuples Hypothetically", NED Journal of Research, 2012. (HEC recognised).
9. M. M. Baig and A. A. Khan, "A Formal Software Testing Technique", Pakistan Journal of Science, Vol. 63 No. 4. 2011(HEC recognised 'Y').
10. Fareed A., Ansar A. Khan, Mahmood B. and Shamsul H.," Intelligent Decision Making Technique for Marketing Using Hypothetical Database and Fuzzy-Criteria Method", Journal of Basic & Applied Sciences p-44-51, 2013. (HEC recognised 'Y').
11. Najeed A. Khan, Syed Shah Sultan Mohiuddin, Mirza Mehmood Baig and Twaha Ahmed Minai, "Statistical Analysis of Constraints Acquiring Higher Secondary Education", International Journal of Database Theory and Application Vol.7, No.2 (2014), pp.141-154, 2014. (Peer reviewed)
Foreign Journal (Ulrich)

- 12 Dr. Tahseen Jilani, Ubaida Fatima, Mirza Mahmood Baig, "A Survey and Comparative Study of Different PageRank Algorithms", *International Journal of Computer Applications*, Foundation of Computer Science New York, USA, 2015 (Peer Reviewed) **Foreign Journal (Ulrich)**
- 13 Mirza Mahmood Baig and Samreen Zaman, "Efficient shortest path estimation in social network", *International Journal Multidisciplinary Current Research (IJMCR)*, (Peer reviewed) September 2015 (Peer Reviewed) **Foreign Journal**
- 14 Noor Fatima Siddiqui, Mukkarum Hussain, Mirza Mahmood Baig, "To Study Large Time Step High Resolution Low Dissipative Schemes for Hyperbolic Conservation Laws", *Journal of Applied Fluid Mechanics (JAFM)*, *ISI(JCR) (Thomson Reuters)(I.F=0.888)*, June 2016
- 15 Mirza Mahmood Baig and Eraj Shahbaz, "Creation of Optimal Path using Min-sum Algebra", *International Journal of Multidisciplinary Current Research (IJMCR)*, (Peer reviewed) **Foreign Journal** November 2015
- 16 Dr. Tahseen Jilani, Ubaida Fatima, Mirza Mahmood Baig, "Fuzzy-page Ranking for Google Search Engine", *International Journal of Computer Science Issues*, 2015 (Peer Reviewed) **Foreign Journal**.
- 17 Rafique Ahmed, Mukkarum Hussain, Mahmood Baig, Ihteram ul Haq, "Numerical Simulation of High Speed Separated Flows", *Journal of Space Technology*, Volume-VI, No.1, July 2016. (HEC Recognised 'Y' category)
- 18 Sanreen Ahmad & Mirza Mahmood Baig, "Extended homotopy analysis method for system of non-linear equations", *International Journal of Mathematical Sciences*, IF=2.31, 2016, (Peer Reviewed) **Foreign Journal**
- 19 M. M. Baig, M. M. Khan, O. K. Shirwani, "Cross-Platform Message Communication Framework", *Sindh University Research Journal (SURJ)*, 2016. (HEC Recognised 'X' category)
- 20 Talha Akhtar, Mirza Mahmood Baig, "New Artistic Approach for Shortest Path by using Swarm Intelligence" *Science International Journal*, (ISI), 2016. (HEC Recognised 'Y' category)
- 21 Madiha Imdad, Mukarrum Hussain, Mirza Mahmood Baig, Tabinda Kanwal, "CFD Modeling of Thrust Vector Control through Jet Vane", *Science International Journal*, (ISI), 2016. (HEC Recognised 'Y' category).
- 22 Kashif Ali Abro, Mukarrum Hussain and Mirza Mahmood Baig, "Impacts of Magnetic Field on Fractionalized Viscoelastic fluid", *Journal of Applied Environmental and Biological Sciences*, (JAEBS) (ISI) **Thomson Reuters**, September 2016.
- 23 Tabinda kanwal, Mirza Mahmood Baig, Mukarrum Hussain, Madiha Imdad, "Aerodynamic performance prediction of Wind Turbine Airfoil through CFD", *Science International Journal*, (ISI), 2016. (HEC Recognised 'Y' category)

- 24 Safder Hussain, M Mubashir Khan and Mirza Mahmood Baig, "Numerical Modeling of Quantum Key Distribution System for KMB09 Protocol, Intl. Journal of Comp. Sc. and Information Security (IJCSIS), (ISI) Thomson Reuters, Vol. 14, No. 8 August, 2016.
- 25 Safder Hussain, M Mubashir Khan and Mirza Mahmood Baig, "Optomechanical Simulation of QKD System, Intl. Journal of Comp. Sc. and Information Security (IJCSIS), (ISI) Thomson Reuters, Vol. 14, No. 11, November 2016.
- 26 Kashif Ali Abro, Sumera Dero and Mirza Mahmood Baig, "Effects of Transverse Magnetic Field on Oscillating Plate of Second Grade Fluid", Sindh University Research Journal (SURJ), August, 2016 (HEC Recognised 'X' category)
- 27 Kashif Ali Abro, Zubair Ahmed Kalhor, Mirza Mahmood Baig, Rajab Ali Malookani, "Impacts of Permeability on Oldroyd-B Fluid in the Absence of Slippage", Science International Journal, (ISI), 2016. (HEC Recognised 'Y' category)
- 28 Kashif Ali Abro, Mukarrum Hussain and Mirza Mahmood Baig, "Slippage of Fractional Oldroyd-B Fluid with Magnetic Field in Porous Medium", Progress in Fractional Differentiation and Applications: An International Journal Peer Reviewed, Volume 3(1), 69-80, 2017.
- 29 Kashif Ali Abro, Mukarrum Hussain, Mirza Mahmood Baig and Khalil-ur-Rehman Channa "Flow of Generalized Burger's Fluid in Rayleigh Stokes Problem", Journal of Applied Environmental and Biological Sciences, (JAEBS), TEXTROAD, (ISI Indexed Thomson Reuters), 7(5)1-1, 2017.
- 30 Kashif Ali Abro, Mukarrum Hussain and Mirza Mahmood Baig, "Analytical Solution of MHD Generalized Burger's Fluid Embedded with Porosity, International Journal of Advanced and Applied Sciences, (ISI Indexed, Accepted). 2017.
- 31 Faiza Shahid, Mukarrum Hussain, Mirza Mahmood Baig, Ihteram ul Haq, "Variation in Aerodynamic Coefficients with Altitude", Elsevier IF 1.337, ISI Results in Physics (JCR) 7 (2017) 1261-1273.
- 32 Fareed Ahmad, Ansar Ahmed Khan, Mirza Mahmood Baig, "Weighting of Marketing Mix Elements Using Fuzzy Analytic Hierarchy Process and Area Based Ranking of Fuzzy Numbers", NED Journal of Research, March 2017, (HEC Recognised 'X' category).
- 33 Kashif Ali Abro, Mukarrum Hussain and Mirza Mahmood Baig, "An Analytic Study of Molybdenum Disulfide Nanofluids Using Modern Approach of Atangana-Baleanu Fractional Derivatives", European Physical Journal Plus, 2017. (HEC Recognised 'W' category).
- 34 Kashif Ali Abro, Sumera Dero and Mirza Mahmood Baig, "A Mathematical Analysis of Magnetohydrodynamic Generalized Burger Fluid for Permeable Oscillating Plate", Punjab university Journal of Mathematics, 2018 (HEC Recognised 'X' category).

Dr. Muhammad Jameel

[1]: R. K. Naeem, **M. Jamil**: A class of exact solutions to flow equations of an incompressible fluid of variable viscosity, Quaid-e-Awam University Research Journal of Engineering, Science and Technology, 6 (2005) 11-18 (**Pakistan**, non-ISI).

[2]: R. K. Naeem, **M. Jamil**: On plane steady flows of an incompressible fluid with variable viscosity, International Journal of Applied Mathematics and Mechanics, 2 (2006) 1-19 (**India**, non-ISI).

[3]: **M. Jamil**, N. A. Khan: Some exact solutions of equations of motion of a finitely conducting incompressible fluid of variable viscosity in the presence of transverse magnetic field by transformation method, ARPN J of Engg& App Math, 1 (2006) 5-25 (**Pakistan**, HEC approved)

[4]: W. Akhtar, **M. Jamil**: On the axial Couette flow of a Maxwell fluid due to longitudinal time dependent shear stress, Bull. Math.Soc. Sci. Roumanie Tome, 51 (2008) 93-101 (**Romania**, non-ISI).

[5]: N. A. Khan, A. Ara, **M. Jamil**: Traveling waves solution of a micropolar fluid, Int J Nonlinear Sc&Num Simulation, 10 (2009) 1121-1125 (**USA**, ISI-quoted, Impact Factor=**8.40**).

[6]: A. Mahmood, N. A. Khan, C. Fetecau, **M. Jamil**, Q. Rubbab: Exact analytic solutions for the flow of second grade fluid between two longitudinally oscillating cylinder, J Prime Research in Math, 5 (2009) 192-204 (**Pakistan**, HEC approved).

[7]: N. A. Khan, **M. Jamil**: Analytic solution for creeping flow of an unsteadymicropolar fluid, Int J of Appl Math & Mech., 5(1) (2009) 39-47 (**India**, non-ISI).

[8]: N. A. Khan, **M. Jamil**, R. K. Naeem, A. Ara: Martin's method applied to plane flow of a micropolar fluid, Int J of Appl Math & Mech., 5 (2009) 88-99 (**India**, non-ISI).

[9]: Corina Fetecau, **M. Jamil**, C. Fetecau, I. Siddique: A note on the second problem of Stokes for Maxwell fluids, International Journal of non-Linear Mechanics, 44 (2009) 1085 – 1090(**UK**, ISI-quoted, Impact Factor=**1.2**).

[10]: Corina Fetecau, **M. Jamil**, C. Fetecau, D. Vieru: The Rayleigh-Stokes problem for an edge in a generalized Oldroyd-B fluid, ZeitschriftfrangewandteMathematik und Physik (ZAMP), 60 (2009) 921 – 933 (**Germany**, ISI-quoted, Impact Factor=**1.1**).

[11]: Corina Fetecau, D. Vieru, **M. Jamil**: Unsteady flow of a generalized Oldroyd-B fluid in a duct of rectangular cross-section (II), BuletinulInstitutuluiPolitehnic Din Iasi, 165 (2010) 1700-1712 (**Romania**, non-ISI).

[12]: **M. Jamil**, C. Fetecau: Some exact solutions for rotating flows of a generalized Burgers' fluid in cylindrical domains, Journal of Non-Newtonian Fluid Mechanics, 165 (2010) 1700-1712 (**The Netherlands**, ISI-quoted, Impact Factor=**2.0**).

- [13]: C. Fetecau, A. Mahmood, **M. Jamil**: Exact solutions for the flow of a viscoelastic fluid induced by a circular cylinder subject to a time dependent shear stress, *Comm in Nonlinear Sc and NumSimul*, 15 (2010) 3931-3938 (**The Netherlands**, ISI-quoted, Impact Factor=**2.4**).
- [14]: N. A. Khan, A. Mahmood, **M. Jamil**, N-U Khan: Traveling wave solutions for MHD aligned flow of a second grade fluid, *Int J Chm React Engg*, 8 (2010) A163 (**USA**, ISI-quoted, Impact Factor=**0.7**).
- [15]: A. Mahmood, C. Fetecau, N. A. Khan, **M. Jamil**: Some exact solutions of the oscillatory motion of a generalized second grade fluid in an annular region of two cylinders, *ActaMechanicaSinica*, 26 (2010) 541-550 (**China**, ISI-quoted, Impact Factor=**0.86**).
- [16]: **M. Jamil**: A class of exact solutions to Navier-Stokes Equations for the given vorticity, *International Journal of non-Linear sciences*, 7 (2010) 12–20 (**UK**, non-ISI).
- [17]: **M. Jamil**, N. A. Khan, G. Murtaza, Q. Din: Some exact solutions for the flow of a Newtonian fluid with heat transfer via prescribed vorticity, *J Prime Research in Math*, 6 (2010) 38-55 (**Pakistan**, HEC approved).
- [18]: N. A. Khan, **M. Jamil**, S. Ali, Nadeem. A. Khan: Solutions of the Force-Free Duffing-van der Pol Oscillator Equation, *Int J of Differential Equations*, (2011) Article ID 852919 (**USA**, non-ISI).
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- [20]: N. A. Khan, N-U. Khan, **M. Jamil**, J. A. Siddiqui: Approximate analytical solutions for the Swift-Hohenberg equation with Cauchy Dirichlet condition, *Nonlin. Sc. Lett. A*, 2(2), (2011), 85-92 (**China**, non-ISI).
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- [22]: N. A. Khan, A. Ara, **M. Jamil**: Approximations of the nonlinear Volterra's population model by an efficient numerical method, *Mathematical Methods in the Applied Sciences*, 34 (2011) 1733-1738 (**USA**, ISI-quoted, Impact Factor=**0.5**).
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- [24]: N. A. Khan, A. Ara, **M. Jamil**, A. Yildirim: Traveling wave solutions for MHD Aligned flow of a second grade fluid: A symmetry independent approach, *J King Saud Uni Sc.*, 24 (2011) 63-67 (**Saudi Arabia**, ISI-quoted, Impact Factor=**0.758**).

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- [28]: **M. Jamil**, C. Fetecau: Helical flows of Maxwell fluid between coaxial cylinders with given shear stresses on the boundary, *Non-Linear Analysis: Real World Applications*, 11 (2011) 4302-4311 (The Netherlands, ISI-quoted, Impact Factor=2.3).
- [29]: **M. Jamil**, C. Fetecau, M. Imran: Unsteady helical flows of Oldroyd-B fluids, *Comm in Nonlinear Sc and NumSimul*, 16 (2011) 1378-1386 (The Netherlands, ISI-quoted, Impact Factor=2.4).
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- [31]: **M. Jamil**, N. A. Khan, M. I. Asjad: Unsteady rotating flows of Oldroyd-B fluids with fractional derivatives, *Int J Chm React Engg*, 9 (2011), Article A115 (USA, ISI-quoted, Impact Factor=0.7).
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- [43]: **M. Jamil**, Corina Fetecau, M. Rana: Unsteady flow of an Oldroyd-B fluid due to a time-dependent shear stress in an annular region, *Theoretical and Applied Mechanics*, 50 (2012) 549-562 (Poland, ISI-quoted, Impact Factor=0.2).
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[53]: **M. Jamil**: Starting solutions for the motion of second grade fluids due to oscillating shear stresses, Nonlinear Engineering, **4 (2015)** 105-116, De Gruyter. (**USA**, non-ISI-quoted).

[54]: **M. Jamil**, Kashif Ali Abro: MHD Maxwell fluid with non linear velocity over the boundary; Proceeding of 5th international Mechanical Engineering Congress 12th and 13th June, 2015, NED University of Engineering & Technology, Karachi. (**Pakistan**)

[55]: **M. Jamil**, S. Dehraj: Unsteady motion of fractionalized second grade fluid with slip effects; Proceeding of 5th international Mechanical Engineering Congress 9th and 10th May, 2015, NED University of Engineering & Technology, Karachi. (**Pakistan**)

[56]: **M. Jamil**, A. Ahmed: MHD viscous fluid flows when vorticity distribution perturbed by uniform and exponential stream; Proceeding of 5th international Mechanical Engineering Congress 9th and 10th May, 2015, NED University of Engineering & Technology, Karachi. (**Pakistan**)

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Dr. Fareed Ahmed

1. Fareed Ahmad, Ansar Ahmed Khan, Mirza Mahmood Baig, Weighting Of Marketing Mix Elements using Fuzzy Analytic Hierarchy Process and Area Based Ranking of Fuzzy Numbers, NED University Journal of Research, 2017 (Accepted).

2. Fareed, Ansar A. Khan, B. Mahmood and H. Shamsul, Intelligent Decision Making technique for Marketing using Hypothetical Database and Fuzzy Multi-Criteria Method, Journal of Basic & Applied Sciences, 2013, 9, 44-51

Dr. Azam Khan

1. *Zinc Oxide Nanostructure-Modified Textile and Its Application to Biosensing, Photocatalysis, and as Antibacterial Material*, Amir Hatamie, **Azam Khan**, Mohsen Golabi, Anthony P. F. Turner, Valerio Beni, Wing Cheung Mak, Azar Sadollahkhani, Hatim Alnoor, Behrooz Zargar, Sumaira Bano, Omer Nur and Magnus Willander, *Langmuir* 31(39) : 10913-21 (2015)

2. *Mechanical and piezoelectric properties of zinc oxide nanorods grown on conductive textile fabric as an alternative substrate*, **Azam Khan**, Mushtaque Hussain, Omer Nur and Magnus Willander, *Journal of Physics D: Applied Physics* 47 345102 (2014)

3. *Analysis of direct and converse piezoelectric responses from zinc oxide nanowires grown on a conductive fabric*, **Azam Khan**, Mushtaque Hussain, Omer Nur, Magnus Willander and Esteben Broitman, *Physica Status Solidi A*, 1–6 (2014) / DOI 10.1002/pssa.201431625

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5. *Study of transport properties of copper/zinc-oxide-nanorods-based Schottky diode fabricated on textile fabric*, **Azam Khan**, Mushtaque Hussain, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Omer Nur and Magnus Willander, *Semiconductor Science and Technology* 28 125006 (2013)

6. *Analysis of junction properties of gold–zinc oxide nanorods-based Schottky diode by means of frequency dependent electrical characterization on textile*, **Azam Khan**, Mushtaque Hussain, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Omer Nur and Magnus Willander, *Journal of Material Science* 49 3434–3441 (2014)

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8. *Fabrication of ZnO nanoneedles on conductive textile for harvesting piezoelectric potential*, **Azam Khan**, Mushtaque Hussain, Omer Nur and Magnus Willander, *Chemical Physics Letters* **612** 62-67 (2014)
9. *Potentiometric Zinc Ion Sensor Based on Honeycomb-Like NiO Nanostructures*, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Mushtaque Hussain, Yaqoob Khan, **Azam Khan**, Omer Nur and Magnus Willander, *Sensors* **12** 15424-15437 (2012)
10. *Fabrication of UV photo-detector based on coral reef like p-NiO/n-ZnO nanocomposite structures*, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, **Azam Khan**, Omer Nur and Magnus Willander, *Materials Letters* **108** 149–152 (2013)
11. *Iron (III) Ion Sensor based on the Seedless Grown ZnO Nanorods in 3 Dimensions Using Nickel Foam Substrate*, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Yaqoob Khan, **Azam Khan**, Omer Nur and Magnus Willander, *Journal of Sensors* **2013** 1-7 (2013)
12. *Comparative study of Energy harvesting from ZnO nanorods using different flexible substrates*, Mushtaque Hussain, Mazhar Ali Abbasi, **Azam Khan**, Omer Nur and Magnus Willander, *Energy Harvesting and Systems* **1 (1-2)** 19-26 (2014)
13. *Synthesis of CuO/ZnO composite nanostructures, their optical characterization and valence band offset determination by X-ray photoelectron spectroscopy*, Mushtaque Hussain, Zafar Hussain Ibupoto, Mazhar Ali Abbasi, **Azam Khan**, Galia Pozina, Omer Nur and Magnus Willander, *Journal of nanoelectronics and optoelectronics* **9 (3)** 1-9 (2014)
14. *The effect of oxygen-plasma treatment on the mechanical and piezoelectric Properties of ZnO nanorods*, Mushtaque Hussain, **Azam Khan**, Omer Nur, Magnus Willander and Esteban Broitman, *Chemical Physics Letters* **608** 235-238 (2014)

- 15.** *Use of ZnO NRs grown AFM tip in the architecture of piezoelectric nanogenerator*, Mushtaque Hussain, **Azam Khan**, Mazhar Ali Abbasi, Jonas Wissting, Omer Nur and Magnus Willander, *Micro and Nano Letters* **9** (8) 539-543 (2014)
- 16.** *Effect of Post-growth annealing on the structural and electrical properties of ZnO/CuO Composite nanostructures*, Mushtaque Hussain, **Azam Khan**, Omer Nur, Magnus Willander, *Acta Physica Polonica A*, 2014, **126**(3), 849-854
- 17.** *Flexible sandwich nanogenerator for harvesting piezoelectric potential from single crystalline zinc oxide nanowires*, E. S. Nour, **Azam Khan**, Omer Nur and Magnus Willander, *Nanomaterials and Nanotechnology*; DOI: 10.5772/59068(Invited paper)
- 18.** *Photonic Devices on Paper, Plastic and Textile Fabrics*, Magnus Willander, **Azam Khan** and Omer Nur, *Proc. of SPIE* **8626** 862600-1 (2013) (Invited paper)
- 19.** *Piezoelectric nanogenerator based on zinc oxide nanorods grown on textile cotton fabric*, **Azam Khan**, Mazhar Ali Abbasi, Mushtaque Hussain, Zafar Hussain Ibupoto, Jonas Wissting, Omer Nur and Magnus Willander, *Applied Physics Letters* **101** 193506 (2012)
- 20.** *ANALYTICAL ASPECT OF FOURTH-ORDER PARABOLIC PARTIAL DIFFERENTIAL EQUATIONS WITH VARIABLE COEFFICIENTS*, Najeeb Alam Khan, Asmat Ara, Muhammad Afzal and **Azam Khan**, *Mathematical and Computational Applications*, Vol. 15, No. 3, pp. 481-489, (2010)

Dr. Fahim Raees

Journal Publication

- 2015 *A Mass-conserving Level-Set method for simulation of multiphase flow in geometrically complicated domains.* International Journal for Numerical Methods in Fluids.
Abstract and Conference Proceedings
- 2013 *Extension of the Mass-Conserving Level-Set method to unstructured polyhedral control volumes for two-phase flows.* Bulletin of the American Physical Society, 66th Annual Meeting of the APS Division of Fluid Dynamics Volume 58, Number 18. Pittsburgh, Pennsylvania, USA.
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- 2012 Research work presented at the 6th ECCOMAS conference, University of Vienna, Vienna, Austria.
- 2012-2015 Tea Talks, Numerical Analysis group of DIAM, TU Delft.
- 2011-2014 Posters presented at 36th, 37th, 38th and 39th Woudschoten Conference, held in Zeist, The Netherlands.

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