

**Name, institute, position**

Gasser, Ingenuin, Prof. Dr. [REDACTED]  
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e-mail: gasser@math.uni-hamburg.de, web: www.math.uni-hamburg.de/home/gasser  
W3-Professor, Modeling with Partial Differential Equations, University of Hamburg

**Academic education**

Mathematics and Physics (10/1984-02/1992), Technical University of Vienna

**Scientific Degrees**

Diploma, Physics, Technical University of Vienna, 1989, with M. Faber  
Diploma, Mathematics, Technical University of Vienna, 1992, with C. Schmeisser  
Dissertation, Mathematics, TU Berlin, 1996, with P. Markowich and C. Schmeisser  
Habilitation, Mathematics, University of Hamburg, 2000.

**Professional employment**

2010 – W3- Professor, University of Hamburg  
2003 – 2009 Associate (C3) Professor, University of Hamburg  
2002 – 2003 Junior (W1) Professor, University of Hamburg  
2002 Contract Professor, Free University of Bozen, Italy  
1997 – 2002 Assistant (C1) Professor, University of Hamburg  
1994 – 1997 Research Assistant, TU Berlin  
1993 – 1994 Research Associate, Inst. Num. Anal. IAN-CNR, Pavia, Italy  
1992 – 1993 Research Assistant, Institute Appl. Math., TU Vienna

**Honours, awards, community services, etc.**

Member of DMV, DHV, SIAM  
Vice Dean of the MIN Faculty of the University of Hamburg (2012 -)  
Head of MIN Graduate School (2012 -)  
Head of the Mathematics Department (2010-2011)  
Best course award ("Hochschullehrer des Semesters") for the course on Partial Differential Equations (winter term 1999/00 and 2003/04)

**Selected research topics**

Applied Dynamical Systems  
Nonlinear PDE's  
Hyperbolic Conservation Laws  
Modelling with Differential Equations  
Modelling and Simulations of Fluid Dynamic Applications  
Renewable energies, traffic flow, urban systems

**Thesis supervision during the last 5 years**

M. Rybicki, Univ. Hamburg, 2010-2014, *Modeling, Asymptotics and Simulation of the gas dynamics in an exhaust tube.*  
A. Roggensack, Univ. Hamburg, 2010-2014, *Analysis of a gas dynamic network model for Tunnel fires in the small Mach number limit.*  
v.Luft, Univ. Hmburg, 2014- , *Microscopic traffic flow models.*  
F. Noethen, Univ.Hmburg, 2016-, *On convergence proofs of Ginelli type algorithms for covariant Lyapunov vectors.*

### Mentor for Postdocs during the last 5 years

E. Felaco, Univ. Hamburg, 2010-2017  
F. di Michele, Univ. Hamburg, 2011-2012  
J. Wächtler, Univ. Hamburg, 2013-2015  
C. Kaland, Univ. Hamburg, 2014-2016  
P. Kunde, Univ. Hamburg, 2017-  
A. Lohse, Univ. Hamburg, 2017-  
J. Bolte, Univ. Hamburg, 2017-

### Publications (10 most relevant)

- 1) I. Gasser, P. Szmolyan, J. Wächtler: Existence of Chapman-Jouquet detonation and deflagration waves, SIAM J. Math. Anal. 48-2, 1400-1422 (2016).
- 2) I. Gasser, M. Rybicki, W. Wollner: Optimal control of the temperature in a catalytic converter, Computers and Mathematics with Applications 67, 1521–1544 (2014).
- 3) I. Gasser, C. Lattanzio, A. Maurizi: Vehicular traffic flow dynamics on a Bus route, Multiscale Model. Simul. 11 (3), 925-942 (2013).
- 4) E. Felaco, I. Gasser: Modelling, Asymptotic Analysis and Simulation of the Gas Dynamics in a Chimney, Journal of Mathematics in Industry, 3:3, (2013).
- 5) I. Gasser, M. Rybicki: Modeling and simulation of gas dynamics in an exhaust pipe, Applied Mathematical Modelling, 37 (5), 2747-2764 (2013).
- 6) M. Bauer, I. Gasser, Modeling, asymptotic analysis and simulation of an Energy Tower, SIAM J. Appl. Math. 72(1):362-381 (2012).
- 7) Tower, J. Brouwer, I. Gasser, M. Herty, Gas pipeline models revisited: Model hierarchies, non-isothermal models and simulations of networks, Multiscale Model. Simul. 9:601-623 (2011).
- 8) I. Gasser and B. Werner, Dynamical phenomena induced by bottleneck, Phil. Trans. R. Soc. A, 368:4543-4562 (2010).
- 9) T. Seidel, I. Gasser and B. Werner, Microscopic car-following Models revisited: from road works to fundamental diagrams, SIADS, 8 (5):1305-1323 (2009).
- 10) I. Gasser, M. Kraft : Modelling and Simulation of Fires in Tunnel Networks, Networks and Heterogeneous Media, vol. 3 (4), 691-707 (2008).

### Third party funding (at the moment)

- 1.) DFG Transregio 181, Energy transfer in atmosphere and ocean, PI, 2016-2020. AAD IPID4all (als Prodekan der MIN Fakultät) MIN Graduiertenschule International, Antragsteller und Koordinator, PI, 2014-2017, 2017-2019.
- 2.) IFB Hamburg (Hamburgische Investitions- und Förderbank) Technologietransfer-Projekt (PROFI Transfer Plus) in the chemical industry, PI (with ENCOS, Prof. Dr. H.-U. Moritz, Prof. Dr. J. Struckmeier), 2017-2020, PI, 2014—2017.
- 3.) DAAD IPID4all (als Prodekan der MIN Fakultät) MIN Graduiertenschule International, Antragsteller und Koordinator, PI, 2014-2017, 2017-2019.
- 4.) HOOU (Hamburg Open Online University)-Content-Project (as Vice Dean of the MIN Fakultät), HM Höhere Mathematik für Ingenieure, 2017-2018.
- 5.) European Commission Erasmus Mundus M.Sc. Course MathMods I+II - Mathematical Modelling in Engineering: Theory, Numerics, Applications, PI and Hamburg node coordinator, 2008-2014 and 2013-2019.