



Veröffentlichungen

Professoren

Prof. Dr.-Ing. R. Weber

- [1] WEBER, R. *The Optimization of Diameter of Long Pipe-Line for Isothermal and Adiabatic Flow of Ideal and Half-Ideal Gas*. Masterarbeit. Chemical Engineering and Chemical Technology Department, The Technical University of Silesia, Gliwice, Poland, 1975.
- [2] TOMECZEK, J. and WEBER, R. *An Approach to Mathematical Model of a Gas Flame in Complex Shape*. Heat and Mass Transfer Symposium, Warsaw-Jablonna, Poland. 1976.
- [3] NOWAK, A. and WEBER, R. *The Optimisation of Inter-Stage Pressure in a Double-Stage Real Gas Compressor*. Zesz. Nauk. Pol. Sl., Zeszyt; Gliwice (Poland) (1978) S. 37–48.
- [4] TOMECZEK, J. and WEBER, R. *Simplified two-dimensional Model of a Gas Flame in Complex Shapes*. Archivum Thermodynamic Combustion 9 (1978) S.45–54.
- [5] WEBER, R. *Two-dimensional Mathematical Model of a Gas Diffusion Flame in Closed System*. PhD thesis. Chemical Engineering and Chemical Technology Department, The Technical University of Silesia, Gliwice, Poland, 1979.
- [6] TOMECZEK, J. and WEBER, R. *Modelling of Turbulent Flow with Chemical Reaction*. 2nd International Congress on Numerical Methods in Engineering, Dunod, Paris. 1980.
- [7] WEBER, R. *Modelling of Combustion Flow with Radiative Heat Transfer*. PTMTiS Symp, Szczyrk, Poland. 1980.
- [8] TOMECZEK, J. and WEBER, R. *Radiation and Burner Geometry in the Mathematical Modeling of a Flat Gaseous Flame*. Combustion & Flame 41 (1981) S. 149–156.
- [9] WEBER, R. *Isothermal Mixing of Two Parallel Gaseous Jets*. PTMTiS Symp., Wisla, Poland. 1981.
- [10] BOYSAN, F., WEBER, R., SWITENBANK, J., and AYERS, W. A. *Mathematical Modeling of Heterogeneous Combustion in Strongly Swirling Flows*. International Symposium on Refine Modeling of Flows, Paris, France. 1982.
- [11] BOYSAN, F., WEBER, R., and SWITENBANK, J. *Mathematical Modelling of an Entrained Coal Gasifier*. International Gas Research Conference, London, UK. 1983.
- [12] SWITENBANK, J., HEDLEY, A. B., BOYSAN, F., WEBER, R., and GARBETT, E. S. *Recent Progress in Coal Combustion, Gasification and Hot Gas Cleanup. Research at Sheffield University*. International Energy Agency Meeting, Sandia, Livermore, USA. 1983.



- [13] WEBER, R., BOYSAN, F., and SWITENBANK, J. *Design Procedure for an Entrained Coal Gasifier*. Symposium Fuels from Coal and Furnaces of Tomorrow, Longwith College, University of York, UK. 1983.
- [14] WEBER, R., BOYSAN, F., and SWITENBANK, J. *Simulation of Dispersion of Heavy Particles in Confined Turbulent Flows*. AIChE Journal 30 (3) (1984) S. 490–492.
- [15] WEBER, R., BOYSAN, F., BOLADO, R., YULE, A., and SWITENBANK, J. *Spray Combustion Modelling of Small and Large Droplets of Heavy Fuel Oil*. 3rd International Conference on Liquid Atomisation and Spray Systems, London, UK. 1985.
- [16] BOYSAN, F., WEBER, R., SWITENBANK, J., and LAWN, C. J. *Modeling Coal-Fired Cyclone Combustors*. Combustion & Flame 63 (1986) S. 73–86.
- [17] WEBER, R., BOYSAN, F., SWITENBANK, J., and ROBERTS, P. A. *Computations of Near Field Aerodynamics of Swirling Expanding Flows*. 21st Symposium (International) on Combustion (1986) 1435–1443.
- [18] SMART, J. P. and WEBER, R. *Advanced NO_x Reduction Techniques Using Staged Combustion*. International Conference on Coal Science, Maastricht, Netherlands. 1987.
- [19] WEBER, R., VISSER, B. M., and BOYSAN, F. *Calculation of Turbulent Swirling Flows*. International Specialists Meeting on Solid Fuel Utilization, The Combustion Institute, Lisbon, Portugal. 1987.
- [20] SMART, J. P., KNILL, K. J., VISSER, B. M., and WEBER, R. *Reduction of NO_x Emissions in a Swirled Coal Flame by Particle Injection into the Internal Recirculation Zone*. 22nd Symposium (International) on Combustion (1988) S. 1117–1125.
- [21] SMART, J. P. and WEBER, R. *Fundamentals of NO_x Reduction and Burnout Optimization Using Aerodynamic Air Staging and Fuel Rich Precombustion*. Joint International Conference. Australia/ New Zealand and Japanese Sections, University of Sydney, Sydney, Australia. 1989.
- [22] SMART, J. P. and WEBER, R. *Reduction of NO_x and Optimisation of Burnout Using an Aerodynamically Air Staged Burner and Air Staged Precombustor Burner*. Journal of the Institute of Energy 62 (453) (1989) S. 237–245.
- [23] VISSER, B. M. and WEBER, R. *Computations of Near Burner Zone Properties of Semi-Industrial Pulverised Coal Flames*. 14. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 765), Göttingen, Germany. 1989.
- [24] DUGUÉ, J. and WEBER, R. *The Effect of Fuel Gun Design and Local Heat Release on Swirling Flames Aerodynamics*. 5th International Symposium on Application of Laser Techniques to Fluid Mechanics, Lisbon, Portugal. 1990.



- [25] VISSER, B. M., SMART, J. P., KAMP, W. L. Van de, and WEBER, R. *Measurements and Predictions of Quarl Zone Properties of Swirling Pulverised Coal Flames*. 23rd Symposium (International) on Combustion (1990) S. 946–955.
- [26] WEBER, R. and VISSER, B. M. *Mathematical Modelling of Swirling Pulverised Coal Flames - A Short Review of the Recent IFRF Work*. DVV-Colloquium: Modelling und Diagnostic Stationärer Verbrennung, RWTH, Aachen, Germany. 1990.
- [27] WEBER, R., VISSER, B. M., and BOYSAN, F. *Assessment of Turbulence Modeling for Engineering Predictions of Swirling Vortices in the Near Burner Zone*. International Journal of Heat and Fluid Flow 11 (3) (1990) S. 225–235.
- [28] VISSER, B. M. and WEBER, R. *Mathematical Modelling of Swirl-Stabilised Pulverised Coal Flames of Thermal Input in the Range 200 kW to 54 MW*. 15. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 922), Bochum, Germany. 1991.
- [29] WEBER, R. *Reduction of NO_x with Pulverized Coal Firing*. Symposium "Rookgasemissie: regelgeving, controle en reductie?", T.U. Eindhoven, Netherlands. 1991.
- [30] DUGUÉ, J. and WEBER, R. *Laser Velocimetry in Semi-Industrial Natural Gas, Oil and Coal Flames by Means of an water-cooled LDV Probe*. 6th International Symposium on Application of Laser Anemometry in Fluid Mechanics, Lisbon, Portugal. 1992.
- [31] WEBER, R. and DUGUÉ, J. *Combustion Accelerated Swirling Flows in High Confinements*. Progress in Energy and Combustion Science 18 (1992) S. 349–367.
- [32] WEBER, R., DUGUÉ, J., SAYRE, A., and HORSMAN, H. *Aerodynamics and Low-NO_x Characteristics of Natural Gas Flames Issued from a Generic Burner*. Preprints of 1992 International Gas Research Conference, Orlando, Florida. 1992.
- [33] WEBER, R., DUGUÉ, J., SAYRE, A., and VISSER, B. M. *Quarl Zone Flow-Field and Chemistry of Swirling Pulverized Coal Flames: Measurements and Computations*. 24th Symposium (International) on Combustion (1992) S. 1373–1380.
- [34] WEBER, R., PETERS, A. A. F., BREITHAUPT, P. P., and VISSER, B. M. *Mathematical Modeling of Swirling Pulverized Coal Flames: What Can Combustion Engineers Expect from Modeling?* Presented at International ASME/EPRI Power Generation Conference, Kansas City, USA. 1993.
- [35] DUGUÉ, J., MBIÖCK, A., and WEBER, R. *Mixing Characterization in Semi-Industrial Natural Gas Flames using Planar Mie Scattering Visualization*. 7th International Symposium on Application of Laser Techniques to Fluid Mechanics, Lisbon, Portugal. 1994.



- [36] LALLEMANT, N. and WEBER, R. *Evaluation of Seven Approximate Emissivity Models for CFD Modelling of Non-Luminous Flames*. Proceedings of EURO THERM Seminar No. 37, Heat Transfer in Radiating and Combusting Systems, ENEA Research Centre, Saluggia, Italy. 1994.
- [37] PETERS, A. A. F. and WEBER, R. *Mathematical Modelling and Scaling of Fluid Dynamics and NO_x Characteristics of Natural Gas Burners*. 1994 International ASME/EPRI Power Generation Conference, Phoenix, Arizona, USA. 1994.
- [38] SAYRE, A. N., DUGUÉ, J., WEBER, R., DOMNICK, J., and LINDENTHAL, A. *Characterization of Semi-Industrial-Scale Fuel-Oil Sprays Issued from a Y-Jet Atomizer*. Journal of the Institute of Energy 67 (471) (1994) S. 70–77.
- [39] SAYRE, A., LALLEMANT, N., DUGUÉ, J., and WEBER, R. *Effect of Radiation on Nitrogen Oxide Emissions from Nonsooty Swirling Flames of Natural Gas*. 25th Symposium (International) on Combustion (1994) S. 235–242.
- [40] DAHM, W., DRISCOLL, J., WEBER, R., SERAUSKAS, R., and KEZERLE, J. *Scaling of Aerodynamics and Low NO_x Emissions in Natural Gas Burners from 30 kW to 12 MW*. 1995 International Gas Research Conference, Cannes, France. 1995.
- [41] DUGUÉ, J., HORSMAN, H., MBIÖCK, A., and WEBER, R. *Flow Visualization and Mixing Characterization in Industrial Natural Gas Flames*. 1995-International Gas Research Conference, France, Cannes. 1995.
- [42] PETERS, A. A. F. and WEBER, R. *Mathematical Modelling of a 2.25 MW_t Swirling Natural Gas Flame. Part 1: Eddy-Break-up Concept for Turbulent Combustion; Probability Density Function Approach for Nitric Oxide Formation*. Combustion Science and Technology 110-111 (1995) S. 67–101.
- [43] WEBER, R., PETERS, A. A. F., BREITHAUPT, P. P., and VISSER, B. M. *Mathematical Modeling of Swirling Pulverized Coal Flames: What Can Combustion Engineers Expect from Modeling?* ASME Journal of Fluids Engineering 117 (1995) 289–297.
- [44] WEBER, R., SAYRE, A., LALLEMANT, N., DUGUÉ, J., DAHM, W. J. A., DRISCOLL, J. F., HSIEH, A., and WU, M. S. *Scaling of Aerodynamics and NO_x Emissions of Swirl Stabilized Natural Gas Burners ? The Scaling 400 Study*. Invited Lecture of the joint meeting of the Central States/Western States/Mexican National Sections of the Combustion Institute and the American Flame Research Committee, San Antonio, USA. 1995.
- [45] BREUSSIN, F., PIGARI, F., and WEBER, R. *Predicting the Near-Burner-Zone Flow Field and Chemistry of Swirl-Stabilized Low- NO_x Flames of Pulverized Coal using the RNG- $k-\epsilon$, RSM and $k-\epsilon$ Turbulence Models*. 26th Symposium (International) on Combustion (1996) S. 211–217.
- [46] LALLEMANT, N., SAYRE, A., and WEBER, R. *Evaluation of Emissivity Correlations for $H_2O-CO_2-N_2$ /Air Mixtures and Coupling with Solution Methods*



of the Radiative Transfer Equation. Progress in Energy and Combustion Science 22 (1996) S. 543–574.

- [47] LALLEMANT, N. and WEBER, R. *A Computationally Efficient Procedure for Calculating Gas Radiative Properties Using the Exponential Wide Band Model*. International Journal of Heat and Mass Transfer 39 (1996) S. 3273–3286.
- [48] WEBER, R. *Research & Development in Burner Technology*. Studiedag - Branders in de processindustrie, Utrecht, Netherlands. 1996.
- [49] WEBER, R. *Scaling Characteristics of Aerodynamics, Heat Transfer and Pollutant Emissions in Industrial Flames*. 26th Symposium (International) on Combustion (1996) S. 3343–3354.
- [50] WEBER, R. and DUGUÉ, J. *Laser Diagnostics for Semi-Industrial and Industrial Flames*. Educational Paper presented at the TEMPUS S_JEP 07397 intensive course, Niedzica, Poland (1996).
- [51] DUGUÉ, J., WEBER, R., and BREITHAAPT, P. *Wassergekühlte Meßlanze zur Laser-Doppler-Anemometrie in semi-industriellen Flammen*. Gaswärme International 46 (1) (1997).
- [52] PEDERSEN, L. S., BREITHAAPT, P., JOHANSEN, K.-D., and WEBER, R. *Residence Time Distribution in Confined Swirling Flames*. Combustion Science and Technology 127 (1997) S. 251–273.
- [53] PETERS, A. A. F. and WEBER, R. *Mathematical Modeling of a 2.4 MW Swirling Pulverized Coal Flame*. Combustion Science and Technology 122 (1997) S. 131–182.
- [54] WEBER, R., BREUSSIN, F., PETERS, A. A. F., and DAIMON, J. *Mathematical Modelling of Industrial Flames. Review of recent IFRF activities: from model development through validation to industrial applications*. Japanese Flame Days '97, JFRC 20th Anniversary, Senri Life Science Center, Osaka, Japan. 1997.
- [55] WEBER, R. *Application Relevance of Flow, Mixing and Reaction in High Intensity Flames*. Final Colloquium, Collaborative Research Center 167. High Intensity Combustors - Steady Isobaric Combustion, Karlsruhe, Germany. 1998.
- [56] WEBER, R. *The Spirit of IJmuiden - Fifty Years of the IFRF*. IJmuiden, 1998.
- [57] WEBER, R. and BREUSSIN, F. *Scaling Properties of Swirling Pulverized Coal Flames: from 180 kW to 50 MW thermal input*. 27th Symposium (International) on Combustion (1998) S. 2957–2964.
- [58] WEBER, R., DUGUÉ, J., HORSMAN, H., and MBIÖCK, A. *Mie scattering zur Charakterisierung des Strömungsfeldes und des Mischungsverhaltens von industriellen low-NO_x-Erdgasbrennern*. Gaswärme International 47 (1) (1998).

- [59] WEBER, R., KAMP, W. L. van de, and ROBERTS, P. A. *General Characteristics of the International Flame Research Foundation*. Progress in Energy Combustion Science 24 (1998) S. 463–474.
- [60] WEBER, R., WECEL, G., VERLAAN, A., BREUSSIN, F., and DUGUÉ, J. *Experimental and Numerical Studies on Reburn Jet Penetration and Mixing with application to Boilers and Municipal Waste Incinerators*. Journal of the Institute of Energy 71 (1998) S. 94–109.
- [61] WEBER, R. *Energy Efficient and Environmentally Friendly Technologies for Furnaces and Boilers. Technical Concerns and Expectations Overseas*. Forum on High Performance Industrial Furnaces and Boilers, Science Museum, Tokyo, Japan. 1999.
- [62] WEBER, R., VERLAAN, A. L., ORSINO, S., and LALLEMANT, N. *Flow and Mixing in Gas-Fired Furnaces Operated with Highly Preheated Combustion Air*. 2nd High Temperature Air Combustion (HTAC) Symposium, Taiwan. 1999.
- [63] WEBER, R., VERLAAN, A. L., ORSINO, S., and LALLEMANT, N. *On Emerging Furnace Design Methodology that Provides Substantial Energy Savings and Drastic Reductions in CO₂, CO and NO_x Emissions*. Journal of the Institute of Energy 72 (1999) S. 77–83.
- [64] BREUSSIN, F., LALLEMANT, N., and WEBER, R. *Computing of Oxy-Natural Gas Flames Using both a Global Combustion Scheme and a Chemical Equilibrium Procedure*. Combustion Science and Technology Journal 160 (2000) 369–397.
- [65] BRINK, A., HUPA, M., BREUSSIN, F., LALLEMANT, N., and WEBER, R. *Modeling of Oxy-Natural Gas Combustion Chemistry*. Journal of Propulsion and Power 16 (4) (2000) 169–182.
- [66] HAAS, J., TAKEI, M., ORSINO, S., TAMURA, M., and WEBER, R. *A Novel Mathematical Model for Predicting Combustion Performance of Oil-Fired Glass Melting Furnaces*. Presented at the International Glass Annual Meeting. 2000.
- [67] LALLEMANT, N., BREUSSIN, F., and WEBER, R. *Flame Structure, Heat Transfer and Pollutant Emissions Characteristics of Oxy-Natural Gas Flames in the 0.7-1 MW Thermal Input Range*. Journal of the Institute of Energy 73 (2000) 169–182.
- [68] LALLEMANT, N., BREUSSIN, F., and AL., R. W. et. *Charakteristik der Flammenstruktur, der Wärmeübertragung und der Schadgasbildung in Sauerstoff-Erdgasflammen im Bereich 700-1000 kW*. Gaswärme International 49 (2000) 516–524.
- [69] MBIÖCK, A. and WEBER, R. *Radiation in Enclosures - Elliptic Boundary Value Problem*. Springer Verlag, 2000.



- [70] ORSINO, S., BREUSSIN, F., WEBER, R., PEREZ, E., and MALAUBIER, F. *A Numerical Study of Down-Fired Boilers*. International Conference on Applied Computational Fluid Dynamics ACFD. 2000.
- [71] ORSINO, S. and WEBER, R. *IFRF User Defined Subroutines for Predictions of Pulverized Coal Combustion using the Fluent CFD Code*. International Conference on Applied Computational Fluid Dynamics ACFD. 2000.
- [72] ORSINO, S. and WEBER, R. *Scaling of low NO_x Flames of Natural Gas*. IFRF Combustion Journal (Article Number 200005) (2000).
- [73] U.BOLLETTINI, BREUSSIN, N. F., and WEBER, R. *A Study on Scaling of Natural Gas Burners*. IFRF Combustion Journal (Article Number 200006) (2000).
- [74] WEBER, R., ORSINO, S., LALLEMANT, N., and VERLAAN, A. *Combustion of Natural Gas with High Temperature Air and Large Quantities of Flue Gas*. Proceedings of the Combustion Institute 28 (2000) 1315–1321.
- [75] WEBER, R., ORSINO, S., VERLAAN, A. L., and LALLEMANT, N. *Combustion of Light and Heavy Fuel Oils in High Temperature Air*. 3rd CREST International Symposium on High Temperature Air Combustion and Gasification. 2000.
- [76] WEBER, R., ORSINO, S., VERLAAN, A. L., and LALLEMANT, N. *Oil Combustion in High Temperature Air*. Symposium of High Temperature Air Combustion & Applications. 2000.
- [77] HAAS, J., TAMURA, M., and WEBER, R. *Characterisation of Coal Blends for Pulverized Fuel Combustion*. Fuel 80 (2001) 1317–1323.
- [78] MANCINI, M., WEBER, R., and BOLLETTINI, U. *Development of mathematical model for high temperature air combustion*. Fluent CFD User Group Meeting. 2001.
- [79] MANCINI, M., WEBER, R., and BOLLETTINI, U. *Mathematical Models Development for Design of HTAC Systems*. 4th International Symposium on High Temperature Air Combustion and Gasification, Rome, Italy. 2001.
- [80] ORSINO, S., WEBER, R., and U.BOLLETTINI. *Numerical Simulation of Combustion of Natural Gas with High-Temperature Air*. Combustion Science and Technology 170 (2001) 1–34.
- [81] TAMURA, M., HAAS, J., WEBER, R., and BOSS, M. *Discrete Fuel Injection - A Novel Technique for Oil-Fired Glass Furnaces*. 13th International IFRF Member Conference - The developing role of the IFRF - Conclusions from Triennial 1998-2000, Noordwijkerhout, Netherlands. IFRF. 2001.
- [82] TAMURA, M., WEBER, R., and KAMP W., van de. *Characterisation of Alternative Fuels for Co-Firing with Pulverized Coal*. 13th International IFRF Member Conference - The developing role of the IFRF - Conclusions from Triennial 1998-2000, Noordwijkerhout, Netherlands. IFRF. 2001.



- [83] WEBER, R. *Combustion of Natural Gas, Oil and Coal with Air Preheated to Temperatures in Excess of 1000 °C*. 13th International IFRF Member Conference - The developing role of the IFRF - Conclusions from Triennial 1998-2000, Noordwijkerhout, Netherlands. IFRF. 2001.
- [84] WEBER, R. *Combustion of Natural Gas with High Temperature Air. Basic Concepts and Applications of the New Technology - European Perspective*. Colloque de la Recherche de Gaz de France. 2001.
- [85] WEBER, R. *Industrial Applications of the New Technology - European Perspective*. Proceedings of the Forum on High Temperature Air Combustion Technology. 2001.
- [86] WEBER, R., ORSINO, S., VERLAAN, A. L., and LALLEMANT, N. *Combustion of Light and Heavy Fuel Oils in High-Temperature Air*. Journal of the Institute of Energy 74 (2001) 38–47.
- [87] LEUCKEL, W., SCHMITTEL, P., and WEBER, R. *Ähnlichkeitsbasierte Skalierung turbulenter Gasflammen*. Gaswärme International 51 (9) (2002) 400–403.
- [88] MANCINI, M. and WEBER, R. *Formation and Destruction of Nitrogen Oxides in Combustion of Natural Gas with High Temperature Air*. 5th International Symposium on High Temperature Air Combustion and Gasification HTACG, Yokohama, Japan. 2002.
- [89] MANCINI, M., WEBER, R., and BOLLETTINI, U. *Predicting NO_x Emissions of a Burner Operated in Flameless Oxidation Mode*. Proceedings of the Combustion Institute 29 (2002) 1155–1163.
- [90] WEBER, R. *New Combustion Technology for Reheating Furnaces*. Conference "Challenges in Reheating Furnaces". 2002.
- [91] WEBER, R., BRAUCKMANN, D., SCHOLZ, R., MANCINI, M., and KAMP, W. vd. *Numerical simulations of Cement Kiln Flames*. 6th European Conference on Industrial Furnaces and Boilers INFUB, Estoril-Lisboa, Portugal. 2002.
- [92] LALLEMANT, J., DUGUÉ, J., and WEBER, R. *Measurement techniques for studying oxy-natural gas flames*. Journal of the Institute of Energy 76 (2003) 38–53.
- [93] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Examining NO_x Chemistry in High Temperature Air Combustion Process*. Proceedings of XVIII International Symposium on Combustion Processes. 2003.
- [94] TAKEI, M., WEBER, R., and NIIOKA, T. *Mathematical Modeling of Industrial Furnaces Considering Detailed Oil Spray Characteristics*. Combustion Science and Technology 175 (2003) 1237–1262.
- [95] WEBER, R., BRAUCKMANN, D., SCHOLZ, R., MANCINI, M., and KAMP, W. vd. *Numerical Simulation of a Coal Fed Burner*. Ciments, Betons, Platres, Chaux 864 (2003) 2–7.



- [96] NOWAK, A. and WEBER, R. *Finite Volume Method for Heat Transfer in: Advanced Numerical Techniques in Energy Transfer*. 2004 53–77.
- [97] WEBER, R. *Computational Fluid Dynamics in: "Advanced Numerical Techniques in Energy Transfer"*. 2004 115–134.
- [98] WEBER, R. *Lecture Notes in Heat Transfer*. Papierflieger, 2004.
- [99] MAYER, C., KERSCHBAUMER, W., MANCINI, M., and WEBER, R. *Experimental and numerical investigation of a heating and ignition process of pulverized coal*. FLUENT CFD Forum. 2005.
- [100] MUSTER, M., MAIBÜCHER, L., WEBER, R., and JESCHAR, R. *Einfluss einer Zweiphasenströmung auf die Kühlwirkung beim Abschrecken heißer Metalloberflächen in Tauchbädern*. Online-Veröffentlichung im Auftrag der Forschungsgemeinschaft Industrieofenbau (FOGI eV) (2005).
- [101] MUSTER, M., MAIBÜCHER, L., WEBER, R., and JESCHAR, R. *Einfluss einer Zweiphasenströmung auf die Kühlwirkung beim Abschrecken heißer Metalloberflächen in Tauchbädern*. *Gaswärme International* 5 (2005) 313–317.
- [102] SCHAFFEL, N., SZLEK, A., LOEFFLER, K., MANCINI, M., and WEBER, R. *HTAC Application for Solid Fuel Combustion*. XIX International Symposium on Combustion Processes, Wisla, Poland. 2005.
- [103] SCHAFFEL, N., SZLEK, A., WILK, R., LOEFFLER, K., MANCINI, M., and WEBER, R. *Mathematical Modelling of MILD/Flameless Combustion of Pulverized Coal*. 6th International Symposium on High Temperature Air Combustion and Gasification, Essen, Germany. 2005.
- [104] SZLEK, A., WILK, R., LÖFFLER, K., MANCINI, M., and WEBER, R. *HTAC Application for Solid Fuel Combustion*. 6th International Symposium on High Temperature Air Combustion and Gasification, Essen, Germany. 2005.
- [105] SZLEK, A., WILK, R., and WEBER, R. *High Temperature Air Combustion Technology in Power Cycles*. 18th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS), Trondheim, Norway. 2005.
- [106] WEBER, R. *Characterisation of alternative fuels for co-firing in pulverized coal fired boilers*. *Karbo* (2) (2005) 136–140.
- [107] WEBER, R. *Charakterisierung von Ersatzbrennstoffen. Characterisation of Alternative Fuels*. Berliner Abfallwirtschaftskonferenz, Berlin, Germany. 2005.
- [108] WEBER, R. *Heat Transfer Enhancement and NO_x Emissions Reduction in the MILD Combustion of Gaseous, Liquid and Solid Fuels*. Kolloquium 6 "Innovation bei Thermoprozessen". 2005.
- [109] WEBER, R., ALT, R., and MUSTER, M. *Vorlesung zur Wärmeübertragung Teil I : Grundlagen*. Papierflieger, 2005.



- [110] WEBER, R., SMART, J., and KAMP, W. vd. *On the (MILD) Combustion of Gaseous, Liquid and Solid Fuels in High Temperature Preheated Air*. Proceedings of the Combustion Institute 30 (2005) 2623–2629.
- [111] WEBER, R., SZLEK, A., and WILK, R. *A Novel Application of Mild Combustion Technology to Gas Turbines that Results in Substantial Increase of Cycle Efficiency*. 6th International Symposium on High Temperature Air Combustion and Gasification, Essen, Germany. 2005.
- [112] KUPKA, T., CIESLIK, M., and WEBER, R. *Investigations on ash deposit formation rate during co-combustion of coal with sewage sludge*. 7th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2006.
- [113] KUPKA, T., MANCINI, M., IRMER, M., and WEBER, R. *Investigation of Ash Deposit Formation during Co-Firing of Coal with Sewage Sludge, Saw Dust and Refuse Derived Fuel*. 10th International Conference on Boiler Technology. 2006.
- [114] KUPKA, T., MANCINI, M., and WEBER, R. *A CFD analysis of ash particle flow around pipes including particle impaction efficiency calculation*. 6th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2006.
- [115] SCHWÖPPE, P., SCHOLZ, R., and WEBER, R. *A reactor network approach for modelling MILD-combustion*. Xian international conference on architecture and technology (XICAT), Xian, China. 2006.
- [116] KUPKA, T., MANCINI, M., and WEBER, R. *Experiments Supported by CFD Simulations for the Evaluation of Ash Deposit Formation during Co-Firing of Coal with Alternative Fuels*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [117] KUPKA, T., ZAJĄC, K., MANCINI, M., and WEBER, R. *A CFD Analysis of ash particle flow around pipes including particle impaction efficiency calculations*. 20th ECOS Conference, Padova, Italy. 2007.
- [118] KUPKA, T., ZAJĄC, K., MANCINI, M., and WEBER, R. *A laboratory method supported by simple CFD analysis for the evaluation of ash deposit formation during co-firing of coal with biomass-, bio-waste- and waste materials*. 15th Members' Conference - Combustion in an efficient and environmentally acceptable manner, Pisa, Italy. 2007.
- [119] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Influence of the Mixing on NO_x Emissions in the MILD Combustion of Natural Gas*. 20th International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS), Padova, Italy. 2007.
- [120] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Investigations on the modeling assumptions for NO_x emissions calculations in the MILD combustion of Natural Gas*. 15th Members' Conference - Combustion in an efficient and environmentally acceptable manner, Pisa, Italy. 2007.

- [121] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Numerical Computation of NO_x Formation in MILD Combustion of Natural Gas*. II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.
- [122] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *On Mathematical Modelling of Flameless Combustion*. *Combustion and Flame* 150 (2007) 54–59.
- [123] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Predictions of NO_x Formation in MILD/Flameless Combustion*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [124] MANCINI, M., WEBER, R., SCHAFFEL, N., and SZLEK, A. *Analysis of numerical modeling in predicting chemistry and NO_x in MILD combustion*. XX International Symposium on Combustion Processes, Pultusk, Poland. 2007.
- [125] MANCINI, M., WECEL, G., BIALECKI, R., and WEBER, R. *Advances in Boundary Element Method Used to Predict Radiative Heat Transfer in Flames*. II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.
- [126] MAYER, C., KERSCHBAUMER, W., MANCINI, M., and WEBER, R. *Time Dependent Simulations of Dispersion of a Cloud of Solid Particles*. *Journal of the Energy Institute* 80 (3) (2007) 181–183.
- [127] OSTROWSKI, Z., BIALECKI, R. A., FIC, A., MUSTER, M., and WEBER, R. *POD-RBF Network Approximation for Inverse Problem Solutions*. Proceedings of Inverse Problems, Design and Optimization Symposium (IPDO-2007), Miami, USA. 2007.
- [128] OSTROWSKI, Z., BIALECKI, R. A., FIC, A., WEBER, R., and MUSTER, M. *Zastosowanie aproksymacji POD-RBF do rozwiązywania zadan odwrotnych (POD-RBF approximation applied to the solution of inverse problems)*. XIII Symposium on Heat and Mass Transfer, Darlowek, Poland. 2007.
- [129] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Analysis of High Temperature Air Combustion (HTAC) boiler for efficient and clean power production using Computational Fluid Dynamics*. 20th ECOS Conference, Padova, Italy. 2007.
- [130] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology in supercritical pulverized coal boiler*. XX International Symposium on Combustion Processes, Pultusk, Poland. 2007.
- [131] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Design of the HTAC Boiler Fired with Pulverized Coal Using Numerical Modeling Methods*. II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.
- [132] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Numerical Investigation of the Configuration of a Pulverized Coal Fired Boiler Operated with HTAC Technology*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.



- [133] SEIFERT, H., BECKMANN, M., WEBER, R., and SCHOLZ, R. *Waste to Energy, Ersatzbrennstoffe für den Kraftwerkseinsatz*. ProcessNet Jahrestagung 2007. 2007.
- [134] WECEL, G., BIALECKI, R. A., MANCINI, M., and WEBER, R. *Radiative Heat Transfer in Industrial Furnaces*. Fortschrittsberichte der Deutschen Keramischen Gesellschaft, Verfahrenstechnik, Thermische Verfahrenstechnik. 1. 2007.
- [135] WORBERG, R., KIM, R., SCHUMACHER, R., HERMANN, SCHOLZ, WEBER, and MANCINI. *Wärmetechnik des Heat-Recovery-Ofens*. Fachtagung Kokereitechnik. 2007.
- [136] KUPKA, T., MANCINI, M., IRMER, M., and WEBER, R. *Investigation of ash deposit formation during co-firing of coal with sewage sludge, saw-dust and refuse derived fuel*. Fuel 87 (2008) 2824–2837.
- [137] KUPKA, T., ZAJĄC, K., and WEBER, R. *Effect of Fuel Type and Deposition Surface Temperature on the Growth and Structure of Ash Deposit Collected during Co-firing of Coal with Sewage Sludge and Saw Dust*. 22th Impacts of Fuel Quality on Power Production and Environment, Banff, Canada. 2008.
- [138] KUPKA, T., ZAJĄC, K., and WEBER, R. *Effect of fuel type and deposition surface temperature on the growth and structure of ash deposit collected during co-firing of coal with sewage-sludge and saw dust*. 40. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2008.
- [139] KUPKA, T., ZAJĄC, K., and WEBER, R. *Influence of Fuel Type and Deposition Surface Temperature on the Growth and Chemical and Physical Structure of Ash Deposit Sampled during Co-firing of Coal with Sewage Sludge and Saw Dust*. 8th European Conference on Industrial Furnaces and Boilers INFUB, Vilamoura, Portugal. 2008.
- [140] MANCINI, M., WEBER, R., SCHAFFEL, N., and SZLEK, A. *CFD Method and Detailed Mechanisms Modelling in Predicting NO_x in MILD Combustion*. 7th International Symposium on High Temperature Air Combustion and Gasification, Phuket, Thailand. 2008.
- [141] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology in power boilers fired with pulverized coal*. 7th International Symposium on High Temperature Air Combustion and Gasification, Phuket, Thailand. 2008.
- [142] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *HTAC boiler fired with pulverized coal for ecologic and efficient electricity production*. Archivum Combustionis 28 (2008) 105–112.
- [143] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Simulations of the steam power cycle with High Temperature Air Combustion (HTAC) boiler*. 21th ECOS Conference, Krakau, Poland. 2008.



- [144] WEBER, R. *Combustion Fundamentals - with Elements of Chemical Thermodynamics*. Papierflieger, 2008.
- [145] WEBER, R. *Extracting Mathematically Exact Kinetic Parameters from Experimental Data on Combustion and Pyrolysis of Solid Fuels*. Journal of the Energy Institute 81 (4) (2008) 226–233.
- [146] WEBER, R. *Recent Developments in Flameless Combustion Technology*. 8th European Conference on Industrial Furnaces and Boilers INFUB, Vilamoura, Portugal. 2008.
- [147] ALT, R. and WEBER, R. *Vokabelsammlung Mathematik - Mathematische Grundlagen zu den Vorlesungen Wärmeübertragung I, Wärmeübertragung II, Verbrennungstechnik, Hochtemperaturtechnik zur Stoffbehandlung*. Papierflieger, 2009.
- [148] KUPKA, T., ZAJĄC, K., and WEBER, R. *Effect of fuel type and deposition surface temperature on the growth and structure of an ash deposit collected during co-firing of coal with sewage sludge and saw dust*. Energy & Fuels 23 (2009) 3429–3436.
- [149] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and WEBER, R. *Ecological evaluation of the pulverized coal combustion in HTAC technology*. International Conference on Optimization using Exergy-Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [150] SCHAFFEL, N., MANCINI, M., SZLEK, A., and WEBER, R. *Mathematical modeling of MILD combustion of pulverized coal*. Combustion and Flame 156 (9) (2009) 1771–1784.
- [151] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology to pulverized coal boilers*. 10th Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2009.
- [152] WEBER, R., KUPKA, T., and ZAJĄC, K. *Combustion of Refuse Derived Fuel in the laboratory scale jet flames*. 10th Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2009.
- [153] WEBER, R., KUPKA, T., and ZAJĄC, K. *Jet Flames of a Refuse Derived Fuel*. Combustion and Flame 156 (2009) 922–927.
- [154] WEBER, R., MADERA-BIELAWSKA, K., and KUPKA, T. *Characterisation of the sintering behaviour of coals and bio-wastes ashes*. Preprinty Nr 7 (2009).
- [155] WROBEL, J. U., MANCINI, M., WEBER, R., and LÖFFLER, R. *An Advanced Model of Pulverized Coal Combustion for CFD Simulations*. International Conference on Optimization using Exergy-Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [156] ZAJĄC, K., KUPKA, T., BRINKER, S., and WEBER, R. *Advanced Solid Fuel Characterisation*. International Conference on Optimizing using Exergy Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.

- [157] HAAS, J. and WEBER, R. *Co-firing of refuse derived fuels with coals in cement kilns: combustion conditions for stable sintering*. Journal of the Energy Institute 83 (4) (2010) 225–234.
- [158] MANCINI, M. and WEBER, R. *NO_x modeling in HTAC Combustion*. 8th International Symposium on High Temperature Air Combustion and Gasification, Poznan, Poland. 2010.
- [159] OSTROWSKI, Z., BIALECKI, R., KASSAB, A., MUSTER, M., and WEBER, R. *Inverse POD-RBF solution for time and spatial distribution of film coefficient for ball immersed in cooling water*. 4th European Conference on Computational Mechanics (Solids, Structures and Coupled Problems in Engineering), ECCOMAS ECCM 2010 Paris, France. 1213. 2010.
- [160] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and R.WEBER. *Novel Concept for Supercritical Boilers*. 11th International Conference on Boiler Technology, Szczyrk, Poland. 2010.
- [161] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and WEBER, R. *Novel conceptual design of a supercritical pulverized coal boiler utilizing high temperature air combustion (HTAC) technology*. Energy 35 (7) (2010) 2752 – 2760.
- [162] SCHAFFEL-MANCINI, N., MANCINI, M., and WEBER, R. *Turbulence-chemistry interaction in mild and FLOX combustion*. 6th International Symposium on High Temperature Air Combustion and Gasification, Poznan, Poland. 2010.
- [163] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Furnace*. 23th Impacts of Fuel Quality on Power Production and Environment, Lapland, Finland. 2010.
- [164] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition*. XXI International Symposium on Combustion Processes, Miedzzydroje, Poland. 2010.
- [165] JAKOBS, T., FLECK, S., MANCINI, M., WEBER, R., and KOLB, T. *Gasification of High Viscous Slurry - R&D on Atomization and Numerical Simulation*. 36th International Technical Conference on Clean Coal and Fuel Systems, Clearwater, USA. 2011.
- [166] KUPKA, T., WEBER, R., ZAJĄC, K., and SCHOPF, N. *Combustion behaviour of alternative fuels in small-scale pulverised-fuel flames*. 11th International Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2011.
- [167] MANCINI, M., BUCZYNSKI, R., WEBER, R., FLECK, S., STOESSER, P., and KOLB, T. *Gasification of Glycol: Measurements and Mathematical Modelling*. 25. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2119), Karlsruhe, Germany. 2011.



- [168] OSTROWSKI, Z., BIALECKI, R., MUSTER, M., and WEBER, R. *Reconstruction of Heat Transfer Coefficient at Nucleate and Film Boiling using Proper Orthogonal Decomposition*. 7th International Conference on Inverse Problems in Engineering, Orlando, USA. 2011.
- [169] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Reactor*. 9th European Conference on Industrial Furnances and Boilers, Estoril, Portugal. 2011.
- [170] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Based Modelling of the Ash Behaviour in a Pulverized Coal Flame*. 44. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2012.
- [171] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD Modelling of a pulverized coal flame with emphasis on predicting the ash deposition behaviour*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.
- [172] BUCZYNSKI, R., WEBER, R., SZLEK, A., and NOSEK, R. *Time-Dependent Combustion of Solid Fuels in a Fixed-Bed: Measurements and Mathematical Modeling*. Energy & Fuels 26 (2012) 4767–4774.
- [173] JAKOBS, T., DJORDJEVIC, N., FLECK, S., MANCINI, M., WEBER, R., and KOLB, T. *Gasification of high viscous slurry R&D on atomization and numerical simulation*. Applied Energy 93 (0) (2012) 449–456.
- [174] KOKO, M., WILL, T., WEBER, R., and BECKMANN, A. M. *A 1-D Simulation Tool for Biomass Co-Firing Development and Application*. 2nd IEA Clean Coal Centre Workshop on Cofiring Biomass with Coal, Kopenhagen, Denmark. 2012.
- [175] MUSIOL, A., MANCINI, M., and WEBER, R. *Numerical Simulation of coal and biomass flame in a small scale combustion chamber*. 17th IFRF Members Conference, Chateau de Maffhers, France. 2012.
- [176] WEBER, R. *Lecture Notes in Heat Transfer Part II: : Radiative Heat Transfer*. Papierflieger, 2012.
- [177] WEBER, R. *CFD applications in industrial combustion*. 17th IFRF Members Conference, Chateau de Maffhers, France. 2012.
- [178] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On Importance of Fluid Dynamics in CFD Predictions of Ash Deposits*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.
- [179] ALBERTI, M., WEBER, R., MANCINI, M., and MODEST, M. *Comparison of models for predicting band emissivity of carbon dioxide and water vapour at high temperatures*. International Journal of Heat and Mass Transfer 64 (2013) 910–925.

- [180] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Modellierung einer Kohlenstaubflamme mit dem Fokus auf der Vorhersage der Ascheablagerung*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.
- [181] MANCINI, M., WEBER, R., WEIGAND, P., LEUCKEL, W., and KOLB, T. *Design of the entrained flow reactor for gasification of biomass based slurry*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.
- [182] PAULO, S., STECKLINA, G., and WEBER, R. *Verschlackungsuntersuchung mittels Online-Daten - Beispieluntersuchung am Braunkohle gefeuerten Kraftwerk Jänschwalde*. 45. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2013.
- [183] PAULO, S., STECKLINA, G., and WEBER, R. *Verschlackungsuntersuchung mittels Online-Daten - Beispieluntersuchung am Braunkohle gefeuerten Kraftwerk Jänschwalde*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.
- [184] VODEGEL, S., BERNHARDT, D., GEHRMANN, H.-J., and WEBER, R. *Prozessorientierte Bewertung verschiedener Biomassen*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.
- [185] WEBER, R. and MANCINI, M. *Heterogene Kinetik der Koksverbrennung*. 45. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2013.
- [186] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On predicting the ash behaviour using Computational Fluid Dynamics*. Fuel Processing Technology 105 (2013) 113 –128.
- [187] WEBER, R., SCHAFFEL-MANCINI, N., MANCINI, M., and KUPKA, T. *Fly ash deposition modelling: Requirements for accurate predictions of particle impaction on tubes using RANS-based computational fluid dynamics*. Fuel 108 (2013) 586 –596.
- [188] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Coal Ash Particle Deposition Modeling: A Closer Look at Various CFD sub-models*. 25th Impacts of Fuel Quality on Power Production and Environment, Snowbird, USA. 2014.
- [189] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Investigating Ash Deposition using Down-Fired Combustion Rig*. 12th International Conference on Boiler Technology, Szczyrk, Poland. 2014.
- [190] BRINKER, S. and WEBER, R. *Co-Combustion of Coal and Biomass in O₂/CO₂-atmosphere*. 25th Impacts of Fuel Quality on Power Production and Environment, Snowbird, USA. 2014.
- [191] BRINKER, S. and WEBER, R. *Mitverbrennung von Biomasse und Kohle in O₂/CO₂-Atmosphäre*. 46. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2014.

- [192] SCHOLZ, R., BECKMANN, M., PIEPER, C., MUSTER, M., and WEBER, R. *Considerations on providing the energy needs using exclusively renewable sources: Energiewende in Germany*. Renewable and Sustainable Energy Reviews 35 (0) (2014) 109–125.
- [193] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *On the accuracy of HITEMP-2010 calculated emissivities of Water Vapor and Carbon Dioxide*. 10th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2015.
- [194] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *On the accuracy of HITEMP-2010 calculated emissivities of Water Vapor and Carbon Dioxide*. 12th International Conference on Energy for a Clean Environment, Lisboa, Portugal. 2015.
- [195] ALBERTI, M., WEBER, R., and MANCINI, M. *Bestimmung der Emissionskoeffizienten von Gas-Gemischen auf Grundlage von spektroskopischen Datenbanken*. 27. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2267), Clausthal, Germany. 2015.
- [196] ALBERTI, M., WEBER, R., and MANCINI, M. *Calculation of Gas Emissivities at High Temperatures and High Pressures using HITEMP-2010*. XXII International Symposium on Combustion Processes, Gliwice, Poland. 2015.
- [197] ALBERTI, M., WEBER, R., and MANCINI, M. *Re-creating Hottel's emissivity charts for carbon dioxide and extending them to 40 bar pressure using HITEMP-2010 data base*. Combustion & Flame 162 (2015) 597–612.
- [198] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *Validation of HITEMP-2010 for Carbon Dioxide and Water Vapour at high temperatures and atmospheric pressures in 450-7600 cm⁻¹ spectral range*. Journal of Quantitative Spectroscopy & Radiative Transfer 157 (2015) 14–33.
- [199] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Modellierung einer Kohlenstaubflamme unter besonderer Berücksichtigung der Vorhersage von Ascheablagerungen*. 27. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2267), Clausthal, Germany. 2015.
- [200] BUCZYNSKI, R., WEBER, R., and SZLEK, A. *Innovative design solutions for small-scale domestic boilers: Combustion improvements using a CFD-based mathematical model*. Journal of the Energy Institute 88 (1) (2015) 53–63.
- [201] HOLUBCIK, M., NOSEK, R., SULOVOCA, K., and WEBER, R. *Factors affecting emission concentrations in small heat sources*. Komunikacie 17 (3) (2015) 18–24.
- [202] WEBER, R. and MANCINI, M. *On predicting char burnout in pulverized coal combustion*. Zeitschrift für Physikalische Chemie 229 (5) (2015) 619–641.
- [203] WEBER, R., POYRAZ, Y., BECKMANN, A. M., and BRINKER, S. *Combustion of biomass in jet flames*. Proceedings of the Combustion Institute 35 (3) (2015) 2749–2758.

- [204] ALBERTI, M., WEBER, R., and MANCINI, M. *Radiative Heat Transfer in a High Pressure Entrained Flow Gasifier*. 1st International Workshop on Oxy-Fuel Combustion, Montabaur, Germany. 2016.
- [205] ALBERTI, M., WEBER, R., and MANCINI, M. *Re-creating Hottel's emissivity charts for water vapor and extending them to 40 bar pressure using HITEMP-2010 data base*. *Combustion & Flame* 169 (2016) 141–153.
- [206] BECKMANN, A. M., MANCINI, M., WEBER, R., SEEBOLD, S., and MÜLLER, M. *Measurements and CFD modeling of a pulverized coal flame with emphasis on ash deposition*. *Fuel* 167 (2016) 168 –179.
- [207] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Towards understanding of deposit build-up mechanisms in our experimental facility: Experiments and CFD modeling of 15 kW coal flames*. 26th Impacts of Fuel Quality on Power Production and Environment, Prague, Czech Republic. 2016.
- [208] BIBRZYCKI, J., MANCINI, M., SZŁĘK, A., and WEBER, R. *A char combustion sub-model for CFD-predictions of fluidized bed combustion - experiments and mathematical modeling*. *Combustion and Flame* 163 (2016) 188 –201.
- [209] BUCZYNSKI, R., WEBER, R., KIM, R., and SCHWÖPPE, P. *One-dimensional model of heat-recovery, non-recovery coke ovens. Part I: General description and hydraulic network sub-model*. *Fuel* 181 (2016) 1097 –1114.
- [210] BUCZYNSKI, R., WEBER, R., KIM, R., and SCHWÖPPE, P. *One-dimensional model of heat-recovery, non-recovery coke ovens. Part II: Coking-bed sub-model*. *Fuel* 181 (2016) 1115 –1131.
- [211] BUCZYNSKI, R., WEBER, R., KIM, R., and SCHWÖPPE, P. *One-dimensional model of heat-recovery, non-recovery coke ovens. Part III: Upper-oven, down-comers and sole-flues*. *Fuel* 181 (2016) 1132 –1150.
- [212] BUCZYNSKI, R., WEBER, R., KIM, R., and SCHWÖPPE, P. *One-dimensional model of heat-recovery, non-recovery coke ovens: Part IV: Numerical simulations of the industrial plant*. *Fuel* 181 (2016) 1151 –1161.
- [213] JOHANSEN, J. M., GADSBØLL, R., THOMSEN, J., JENSEN, P. A., GLARBORG, P., EK, P., MARTINI, N. D., MANCINI, M., WEBER, R., and MITCHELL, R. E. *Devolatilization kinetics of woody biomass at short residence times and high heating rates and peak temperatures*. *Applied Energy* 162 (2016) 245 –256.
- [214] KOLB, T., AIGNER, M., KNEER, R., MÜLLER, M., WEBER, R., and DJORDJEVIC, N. *Tackling the challenges in modelling entrained-flow gasification of low-grade feedstock*. *Journal of the Energy Institute* 89 (4) (2016) 485 –503.
- [215] MONCALVO, D., DAVIES, M., WEBER, R., and SCHOLZ, R. *Breathing losses from low-pressure storage tanks due to atmospheric weather change*. *Journal of Loss Prevention in the Process Industries* 43 (2016) 702 –705.



Prof. Dr.-Ing. R. Scholz

- [1] SCHOLZ, R. and JESCHAR, R. *Untersuchungen über die Zerstäubung von schwerem Heizöl an einer neuen Versuchsbrennkammer in Oberhausen.* 2nd IFRF Members Conference. 1971.
- [2] SCHOLZ, R. *Berechnung der Zweiphasen-Zweikomponenten-Nebelströmung bei Expansion auf hohe Geschwindigkeiten unter besonderer Berücksichtigung von Gaszerstäuberbrennern für Heizöl.* PhD thesis. TU Clausthal, 1972.
- [3] SCHOLZ, R. and JESCHAR, R. *Bestimmung des Impulsstromes bei Gaszerstäuberbrennern.* Chemie-Ingenieur-Technik 45 (1973) S. 313–318.
- [4] SCHOLZ, R. and JESCHAR, R. *Theoretische und experimentelle Untersuchungen über die Gaszerstäubung von Heizöl.* Archiv für das Eisenhüttenwesen 44 (2) (1973) S. 151–159.
- [5] SCHOLZ, R. *Verschiedene Definitionen und Verwendung des Isentropenexponenten bei realen Gasen.* Gaswärme International 23 (1974) S 486–488.
- [6] JESCHAR, R. and SCHOLZ, R. *Der thermische Schutz von Bauten. ? Bestimmung der Schutzwirkung von Schutzräumen und Maßnahmen zur Verlängerung der Schutzwirkungsdauer.* Jahrestagung der Schutzkommission beim Bundesministerium des Inneren, Erlangen, Germany. 1975.
- [7] JESCHAR, R. and SCHOLZ, R. *Schutzwirkung von Bauten; Zivilschutzforschung Bd 1.* Osang-Verlag, Bad Honnef-Erpel, 1975.
- [8] SCHOLZ, R., BUSCH, K., and WEIMAR, R. *Entnahme von gespeichertem Erdgas aus Salzkavernen zur Deckung von Verbrauchsspitzen.* Von der Bergakademie zur Technischen Universität, Festband zur 200-Jahr-Feier der TU Clausthal (1975) S. 327–331.
- [9] SCHOLZ, R., JESCHAR, R., BUSCH, K., and WARNSTEDT, H.-C. *Entspannung und Verdichtung realer Gase bei gleichzeitiger Wärmeübertragung, gezeigt am Beispiel der Gasspeicherung in Salzkavernen.* Gaswärme International 24 (1975) S. 32–39.
- [10] EGGERS, R., JESCHAR, R., and SCHOLZ, R. *Modelluntersuchungen über die Strömungsverteilung und den konvektiven Wärmeübergang in Muffelöfen unter besonderer Berücksichtigung von Querströmungen.* Gaswärme International 25 (1976) S. 260–266.
- [11] JESCHAR, R., SCHOLZ, R., and WEIMAR, R. *Der thermische Schutz von Bauten.* Jahrestagung der Schutzkommission beim Bundesministerium des Inneren. 1976.
- [12] SCHOLZ, R. and GARDEIK, H. *Trocknungsvorgänge bei porösen Stoffen, Handbuch der Keramik.* Verlag Schmidt GmbH, Freiburg i.Br., 1976 Gruppe I E1, S. 1–25.



- [13] JUNGE, K., JESCHAR, R., and SCHOLZ, R. *Berechnung der Reaktionskinetik des Stickstoffmonoxids bei mathematisch vereinfachten Industrieofenprozessen.* Gaswärme International 26 (1977) S.602–608.
- [14] SCHOLZ, R., CARLOWITZ, O., and JESCHAR, R. *Untersuchungen zur Beeinflussung der Strömung in einer Zyklonbrennkammer zur thermischen Nachverbrennung.* Gaswärme International 26 (1977) S. 5–12.
- [15] SCHOLZ, R. and JESCHAR, R. *Abschätzung der Ausbreitung brennender Ölnebel in Gasströmungen hoher Geschwindigkeit.* Archiv für das Eisenhüttenwesen 48 (1977) S. 223–228.
- [16] SCHOLZ, R. and JESCHAR, R. *Strömung und Verbrennung in Räumen kleiner Abmessungen.* Archiv für das Eisenhüttenwesen 48 (1977) S 229–234.
- [17] SCHOLZ, R. and JESCHAR, R. *Zur Aufbereitung von brennbaren Flüssigkeiten durch Gaszerstäubung.* Archiv für das Eisenhüttenwesen 48 (1977) S. 151–155.
- [18] SCHOLZ, R., VOSS-SPIPKER, P., and JESCHAR, R. *Experimentelle Bestimmung von Tropfen- und Gasgeschwindigkeiten mittels Laser- und Hitzdrahtanemometrie in einer Freistrah - Nebelströmung.* Verfahrenstechnik 11 (1977) S. 416–420.
- [19] CARLOWITZ, O., SCHOLZ, R., and JESCHAR, R. *Modellvorstellung über die Wirkungsweise von Wirbelfäden zur Erhöhung der Verbrennungsdichte in einer Zyklonbrennkammer.* Chemie-Ingenieur-Technik 50 (1978) S. 716–717.
- [20] GARDEIK, H. and SCHOLZ, R. *Brennen in der Keramik. Handbuch der Keramik.* Verlag Schmid GmbH Freiburg i.Br., 1979 Gruppe I E3, S. 1–10.
- [21] SCHOLZ, R., JESCHAR, R., and BECHTHOLD, R. *Zur thermodynamischen Berechnung des ventilationsgesteuerten Brandes und der natürlichen Querbelüftung bei stationären und zeitlich veränderlichen Verhältnissen.* Heizung-Lüftung-Haustechnik 30 (1979) Teil 1: S. 433–435 Teil 2: S. 473–477.
- [22] CARLOWITZ, O., SCHOLZ, R., and JESCHAR, R. *Vereinfachte Berechnung von Wirbelfäden zur Erzeugung freier Turbulenz in Mischkammern.* Abhandlungen der Braunschweigischen Wissenschaftlichen Gesellschaft 31 (1980) S. 7–36.
- [23] SCHOLZ, R. and GARDEIK, H. *Drying Processes for porous Materials. Ceramic Monographs - Handbook of Ceramics.* Verlag Schmid GmbH, Freiburg i.Br., 1980 Monograph: 1.5.1, S. 1–15.
- [24] SCHOLZ, R. and GARDEIK, H. *Thermal Technology for Tunnel Kiln Firing in the Ceramic Industry. Ceramic Monographs - Handbook of Ceramics.* Schmid GmbH, Freiburg i.Br., 1981 Monograph: 1.5.2: S. 1–12.



- [25] JESCHAR, R., SCHOLZ, R., REINERS, U., and STREUBER, C. *Möglichkeiten der Schadstoffverminderung durch geeignete Wahl der Flammenführung*. Mitteilungsblatt der TU Clausthal 55 (1983) S. 7–12.
- [26] HÜNLICH, T., JESCHAR, R., and SCHOLZ, R. *Vereinfachtes mathematisches Modell zur Berechnung der Abkühlung von Eisenschmelzen in Pfannen sowie des Temperaturverlaufs im Pfannenfutter bei intermittierendem Gießbetrieb*. Gießerei-Forschung 36 (1984) S. 91–98.
- [27] JESCHAR, R., REINERS, U., and SCHOLZ, R. *Wärmeübergang bei der zweiphasigen Spritzwasserkühlung*. Gaswärme International 33 (1984) S. 299–308.
- [28] JESCHAR, R., SCHOLZ, R., and KÖHLER, C. *Probleme bei der technischen Verbrennung*. Energieseminar der Asphalt-Industrie, Willingen, Germany. 1984.
- [29] JESCHAR, R., SCHOLZ, R., PÖTKE, W., and REINERS, U. *Die Arbeitsgebiete des Instituts für Energieverfahrenstechnik der Technischen Universität Clausthal*. Gaswärme International 33 (1984) S. 203–210.
- [30] JESCHAR, R., SCHOLZ, R., and REINERS, U. *Heat Transfer During One- and Two Phase Water-Spray Cooling of Hot Metals*. Proceedings of The 6th Japan-Germany Seminar. 1984.
- [31] JESCHAR, R., SCHOLZ, R., and URLAU, U. *Zur Berechnung der Ausbildung von Feuerstürmen*. Jahrestagung der Schutzkommission beim Bundesministerium des Inneren. 1984.
- [32] SCHOLZ, R., JESCHAR, R., and CARLOWITZ, O. *Zur Thermodynamik von Freistrahlen*. Gaswärme International 33 (1984) S. 22–27.
- [33] SCHOLZ, R., JESCHAR, R., and EHLERT, K.-P. *Auslegung von Düsen zum Gaseinblasen in Schmelzen*. Archiv für das Eisenhüttenwesen 55 (1984) S. 573–579.
- [34] WAGNER, R., JESCHAR, R., and SCHOLZ, R. *Theoretische und experimentelle Untersuchungen von staubbeladenen Strömungsfeldern in Industriehallen*. Bundesministerium für Forschung und Technologie, Forschungsbericht BMFT - FB - HA 84-044, 1984.
- [35] JESCHAR, R., SCHOLZ, R., and KÖHLER, C. *Messungen an einem Hypokausten-Kachelofen*. Teil 1: Kachelofen & Kamin 2 (1985) 7, S. 4-10. Teil 2: Kachelofen & Kamin 2 (1985) 8, S. 4-15. 7,8 (1985) S. 4–10 S. 4–15.
- [36] JESCHAR, R., SCHOLZ, R., and SCHOPF, N. *Heißentschwefelung in Drallbrennkammersystemen und einem isothermen Rohrreaktor*. 12. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 574), Karlsruhe, Germany. 1985.
- [37] JESCHAR, R., SCHOLZ, R., SCHOPF, N., and HÜNLICH, T. *Direct Sulphur Capture at High Temperatures in a Combustion Chamber System with Swirl*. IX. International Symposium on Combustion Processes. 1985.



- [38] REINERS, U., JESCHAR, R., SCHOLZ, R., ZEBROWSKI, D., and REICHELT, W. *A measuring method for quick determination of local heattransfer coefficients in spray water cooling with the range of stable film boiling.* steel research 56 (1985) S. 239–246.
- [39] SCHOLZ, R. *Voraussetzungen für die Meß- und Regeltechnik beim Betrieb von metallurgischen Öfen.* 16. Metallurgisches Seminar der GDMB, Kassel, Germany. 1985.
- [40] SCHOLZ, R., JESCHAR, R., REINERS, U., REICHELT, W., and VOSS-SPILKER, P. *Mathematisches Modell zur dynamischen Abdichtung beim Eingießen und gleichzeitigen Erstarren von Stahl in einer mitlaufenden Kokille.* Archiv für das Eisenhüttenwesen 56 (1985) S. 191–198.
- [41] SCHOLZ, R., MAASS, R., and ALT, R. *Prinzip des Rekuperatorbrenners und Berechnungsgrundlagen.* Gaswärme International 34 (1985) S. 69–77.
- [42] SCHOLZ, R., MAASS, R., and ALT, R. *Prinzip des Rekuperatorbrenners und Berechnungsgrundlagen.* Die Industriefeuerung 35 (1985) S.12–20.
- [43] JESCHAR, R., REINERS, U., and SCHOLZ, R. *Heat Transfer During Water and Water-Air Spray Cooling in the Secondary Cooling Zone of Continuous Casting Plants.* 5th International Iron and Steel Congress, Proceedings 69th Steelmaking Conference, Washington, USA. 1986.
- [44] JESCHAR, R., REINERS, U., and SCHOLZ, R. *Wärmeübertragung in der Sekundärkühlzone von Stranggießanlagen.* Stranggießen Symposium der Deutschen Gesellschaft für Metallkunde, DGM Informationsgesellschaft Verlag, Oberursel, Germany. 1986.
- [45] JESCHAR, R., SCHOLZ, R., SCHOPF, N., and KLÖPPNER, G. *Schadstoffarme Verbrennung in einem Dralhbrennkammersystem.* Die Industriefeuerung 38 (1986) S. 90–95.
- [46] SCHOLZ, R. and HÜNLICH, T. *Zur Thermodynamik von Wärmepumpenprozessen mit Wärmequelle in der Gebäudehülle.* Teil 1: elektrowärme international Edition Teil 2: elektrowärme international Edition 4;5 (1986) S. A179–A184 S. A214–A221.
- [47] SCHOLZ, R. and REINERS, U. *Probleme der Wärmeübertragung bei der Wasserkühlung von Wandelementen in Elektrolichtbogenöfen.* Stahl und Eisen 106 (1986) S. 1017–1026.
- [48] JESCHAR, R., SCHOLZ, R., REINERS, U., and MAASS, R. *Kühltechniken zur thermischen Behandlung von Werkstoffen.* Stahl und Eisen 107 (1987) S. 251–258.
- [49] JESCHAR, R., SCHOLZ, R., and SCHOPF, N. *Mehrstufige Prozeßführung bei der Verbrennung von BRAM.* Müllverbrennung und Umwelt 2 (1987) S. 418–440.



- [50] JESCHAR, R., SCHOLZ, R., SCHOPF, N., and KLÖPPNER, G. *Schadstoffarme Verbrennungsführung bei unterschiedlichen Brennstoffen am Beispiel eines Dralbbrennkammersystems*. Synopse: Chemie-Ingenieur-Technik 59 (1987) S. 602–603.
- [51] JESCHAR, R., SCHOLZ, R., and URLAU, U. *Heat Transfer During Casting of Thinner Strips*. 7th Japan-Germany Seminar on Fundamentals of Iron and Steelmaking, VDEh, Düsseldorf, Germany. 1987.
- [52] SCHOLZ, R., KLÖPPNER, G., and WAGNER, R. *Schadstoffarme Deponie-gasverbrennung durch geeignete Flammenführung*. GIT-Supplement 5 (1987) S. 19–25.
- [53] POSTRZEDNIK, S., BIALECKI, R., NOWAK, A., SCHOLZ, R., and SPECHT, E. *Zur Problematik der Selbsterwärmung fester Brennstoffe*. Teil 1: Erdöl Erdgas Kohle Teil 2: Erdöl Erdgas Kohle 2;6 (1988) S. 79–85 S. 277–281.
- [54] SCHOLZ, R., JESCHAR, R., URLAU, U., REICHELT, W., and VOSS-SPILKER, P. *Influence of Cooling Method on Temperatures and Solidification during the Continuous Casting of Metal Strip*. steel research 59 (1988) S. 515–526.
- [55] SCHOLZ, R., MAASS, R., and ALT, R. *Grundlagen und Berechnung von Reku-peratorbrennern; Thermo Prozeß- und Abfalltechnik*. Vulkan-Verlag, 1988 S. 52–56.
- [56] SCHOLZ, R. and SCHOPF, N. *Environmental Protective Combustion Process For Waste Fuels*. 1st European Conference on Industrial Furnaces and Boilers (INFUB), Lisbon, Portugal. 1988.
- [57] SCHOLZ, R., SCHOPF, N., and HAEFFNER, E. *Ultrafine Grinding of Limestone in a Planetary Ball Mill and Tests to Determine Product Suitability for Flue-Gas Desulphurization by the Dry-Additive Process*. 16th International Mineral Processing Congress, Stockholm, Sweden. 1988.
- [58] JESCHAR, R., SCHOLZ, R., R., W., and KOEHN, H. v. *Schadstoffarme Ver-brennung von belasteten, flüssigen Brennstoffen*. 14. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 765), Göttingen, Germany. 1989.
- [59] REINERS, U., JESCHAR, R., and SCHOLZ, R. *Wärmeübertragung bei der Stranggußkühlung durch Spritzwasser*. steel research 60 (1989) S. 442–450.
- [60] SCHOLZ, R. and SCHOPF, N. *General Design Concept for Combustion Pro-cesses for Waste Fuels and some Test Results of Pilot Plants*. 1989 Incineration Conference, Knoxville, USA. 1989.
- [61] BARTH, H.-J., GÜR, M., MORGENROTH, S., and SCHOLZ, R. *Application of ceramics for hot gas radial fans for temperatures up to 1250° C*. Energy Conference Ceramics in Energy Applications, Sheffield UK AND Ceramics in Energy Applications, Adam Hilger, Bristol and New York, USA. 1990.

- [62] BARTH, H.-J., GÜR, M., and SCHOLZ, R. *Zwischenergebnisse zur Entwicklung eines Heißgasventilators aus Keramik Interim report on the development of a ceramic hot-gas fan.* Ceramic forum international 12 (1990).
- [63] JESCHAR, R., PÖTKE, W., and SCHOLZ, R. *Fields of activity of the Institute of Energy Process Technology of the Technical University of Clausthal.* Part 1: steel research Part 2: steel research 61 (1990) S. 526–530 S. 587–592.
- [64] KÖHLER, C., JESCHAR, R., SCHOLZ, R., SLOWIK, J., and BORCHARDT, G. *Heat Transfer Through Hot-Oxidized Steel Surfaces Cooled by Spray Water. Part 1 to: Influence of Oxide Scales on Heat Transfer in Secondary Cooling Zones in the Continuous Casting Process.* steel research 61 (1990) S. 295–301.
- [65] ORLOWSKI, R. and SCHOLZ, R. *Investigations of gas-particle-lance flows at high velocity for the injection of solid in melting baths.* steel research 61 (1990) S. 537–544.
- [66] SCHOLZ, R., BECKMANN, M., and MALEK, C. *Drallbrennkammer zur schadstoffarmen Verbrennung von schwierigen gasförmigen und flüssigen Brennstoffen.* Energietechnik 40 (1990) S. 292–295.
- [67] SCHOLZ, R., JESCHAR, R., MALEK, C., and FAATZ, O. *Betriebserfahrungen zur Schwefeleinbindung auf dem Rost eines Müllheizkraftwerkes.* Forum Städte-Hygiene 41 (1990) S. 316–319.
- [68] SCHOLZ, R., JESCHAR, R., SCHOPF, N., and KLÖPPNER, G. *Prozeßführung und Verfahrenstechnik zur schadstoffarmen Verbrennung von Abfällen.* Chemie-Ingenieur-Technik 62 (1990) S. 877–887.
- [69] SLOWIK, J., BORCHARDT, G., KÖHLER, C., JESCHAR, R., and SCHOLZ, R. *Determination of Material Properties of Oxide Scales on Steel under Spray Water Cooling Conditions. Part 2 to: Influence of Oxide Scales on Heat Transfer in Secondary Cooling Zones in the Continuous Casting Process.* steel research 61 (1990) S. 302–311.
- [70] BARTH, H.-J., GÜR, M., and SCHOLZ, R. *Zwischenergebnisse zur Entwicklung eines Heißgasventilators aus Keramik Interim report on the development of a ceramic hot-gas fan.* DKG 1/2 (1991) S. 46–48.
- [71] HÜNLICH, T., JESCHAR, R., and SCHOLZ, R. *Sorptionskinetik von SO₂ aus Verbrennungsabgasen bei niedrigen Temperaturen.* Zement-Kalk-Gips 44 (1991) S. 228–237.
- [72] JESCHAR, R., PÖTKE, W., SCHOLZ, R., SPECHT, E., and KÖHLER, E. *Die Arbeitsgebiete des Instituts für Energieverfahrenstechnik.* Gaswärme International 40 (1991) S. 281–285.
- [73] SCHOLZ, R. and BECKMANN, M. *Möglichkeiten der Verbrennungsführung bei Restmüll in Rostfeuerungsanlagen.* Prozeßführung und Verfahrenstechnik der Müllverbrennung (VDI Berichte 895), Düsseldorf, Germany. 1991.

- [74] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Verfahrenstechnik zur schadstoffarmen Verbrennung von Erdölrückständen*. BWK - Brennstoff-Wärme-Kraft (BWK) 43 (1991) S. V22–V39.
- [75] STEINEBRUNNER, K., BECKER, R., SEIFERT, H., SCHOLZ, R., and STERNBERG, J. *Untersuchungen zur thermischen Entsorgung von NO-haltigen Ablüften*. 15. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 922), Bochum, Germany. 1991.
- [76] STEINEBRUNNER, K., BECKER, R., SEIFERT, H., SCHOLZ, R., and STERNBERG, J. *Verfahrenstechnik zur schadstoffarmen Verbrennung von Erdölrückständen*. 15. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 922), Bochum, Germany. 1991.
- [77] HONCAMP, S., GÜR, M., JESCHAR, R., and SCHOLZ, R. *Entwicklung eines keramischen Heißgasventilators für industrielle Hochtemperaturprozesse*. Fortschrittsberichte der DKG 7 (1992) S. 89–128.
- [78] JESCHAR, R., PÖTKE, W., SCHOLZ, R., and SPECHT, E. *Arbeitsgebiete des Instituts für Energieverfahrenstechnik der TU Clausthal*. Teil 1: Mitteilungsblatt der TU Clausthal Teil 2: Mitteilungsblatt der TU Clausthal 74 75 (1992) S. 14–18 S. 29–34.
- [79] SCHOLZ, R., BECKMANN, M., HORN, J., and BUSCH, M. *Thermische Behandlung von stückigen Rückständen; Möglichkeiten der Prozeßführung im Hinblick auf Entsorgung oder Wertstoffrückgewinnung*. BWK - Brennstoff-Wärme-Kraft (BWK) 44 (1992).
- [80] KLÖPPNER, G., SCHOLZ, R., and JESCHAR, R. *On the Simplified Calculation of the NO Formation in Technical Combustion*. The International Conference Energy Systems and Ecology ENSEC, Cracow, Poland. 1993.
- [81] MALEK, C., SCHOLZ, R., and JESCHAR, R. *Vereinfachte Modellierung der Stickstoffoxidbildung unter gleichzeitiger Berücksichtigung des Ausbrandes bei einer Staubfeuerung*. 16. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1090), Clausthal-Zellerfeld, Germany. 1993.
- [82] SCHOLZ, R., JESCHAR, R., MATSCHULLAT, T., REICHELT, W., and URLAU, U. *Problems of metal feeding for single belt strip casters*. The Iron and Steel Institute of Japan. The 8th Japan-Germany Seminar. 1993.
- [83] SCHOLZ, R., JESCHAR, R., MATSCHULLAT, T., URLAU, U., and REICHELT, W. *The applicability of an isokinetic steel feeding system for near-net-shape strip casting*. steel research 64 (1993) S. 346–349.
- [84] SCHOLZ, R., JESCHAR, R., MATSCHULLAT, T., URLAU, U., and REICHELT, W. *Theoretical modelling of an isokinetic steel feeding system for near-net-shape strip casting*. steel research 64 (1993) S. 300–306.
- [85] SCHOLZ, R., SCHULENBURG, F., and BECKMANN, M. *Kriterien zur Beurteilung thermischer Behandlungsverfahren für Rückstände*. Techniken der Restmüllbehandlung, Kalte und/oder Thermische Verfahren (VDI-Berichte 1033). 1993.



- [86] BARTH, H.-J., JAKEL, R., KRAUSHAAR, H., and SCHOLZ, R. *Gestaltung eines keramischen Heißgasventilators für 1300° C*. Kolloquium zum Sonderforschungsbereich 180 "Konstruktion verfahrenstechnischer Maschinen bei besonderen mechanischen, thermischen oder chemischen Belastungen" ACHEMA. 1994.
- [87] BECKMANN, M. and SCHOLZ, R. *Modellvorstellungen zum Feststoffumsatz bei Rückständen in Rostfeuerungen*. GVC-Symposium Abfallwirtschaft: Herausforderung und Chance, Würzburg, Germany. 1994.
- [88] BECKMANN, M. and SCHOLZ, R. *Zum Feststoffumsatz bei Rückständen in Rostsystemen*. Brennstoff-Wärme-Kraft (BWK) 5 (1994) S. 218–229.
- [89] JESCHAR, R., SCHOLZ, R., ?ELKOWSKI, J., and ZAJONTZ, J. *Die Arbeitsgebiete des Instituts für Energieverfahrenstechnik und Brennstofftechnik*. Gaswärme International 43 (1994) S. 272–279.
- [90] MALEK, C. and SCHOLZ, R. *Thermische Behandlung von koksartigen staubförmigen Reststoffen*. GVC-Symposium Abfallwirtschaft: Herausforderung und Chance, Würzburg, Germany. 1994.
- [91] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Möglichkeiten der thermischen Behandlung von Abfällen*. Umweltkongreß des Landes Sachsen-Anhalt, Tagungsband Teil 2, Magdeburg, Germany. 1994.
- [92] SCHOLZ, R., BECKMANN, M., SCHULENBURG, F., and BRINKER, W. *Thermische Rückstandsbehandlungsverfahren - Aufteilung in Bausteine und Möglichkeiten der Bilanzierung*. Brennstoff-Wärme-Kraft (BWK) 11/12 (1994) 469–482.
- [93] SCHOLZ, R., JESCHAR, R., FUCHS, W., and JENNES, R. *Umweltgesichtspunkte bei der Herstellung und Anwendung von Kalkprodukten*. 8. Internationaler Kalkkongreß in Berlin. 1994.
- [94] SCHOLZ, R., JESCHAR, R., JENNES, R., and FUCHS, W. *Umweltgesichtspunkte bei der Herstellung und Anwendung von Kalkprodukten*. Zement-Kalk-Gips, ZKG International 10 (1994) S. 571–581.
- [95] SCHOLZ, R. and SCHULENBURG, F. *Moderne Verfahren zur thermischen Abfallverwertung*. 1. Rostocker Umwelttag, Rostock, Germany. 1994.
- [96] SCHOLZ, R. and SCHULENBURG, F. *Thermische Behandlung von Rückständen - Abstimmung der Prozeßführung bei unterschiedlichen Einsatzstoffen und Bewertungsmöglichkeiten thermischer Behandlungsverfahren*. Abfallwirtschaft im Lichte der neuen Vorschriften 9 (1994) S. 231 –265.
- [97] SCHOLZ, R., SCHULENBURG, F., and BECKMANN, M. *Experimental research on gasification of coarse waste on a stoker system and separate afterburning as well as optimization with the aid of a process model*. The 1994 International Incineration Conference, Houston, USA. 1994.



- [98] SCHOLZ, R. and STERNBERG, J. *Verfahrenstechnik der Verbrennungsführung zur Minderung von Schadstoffemissionen aus Brennkammerfeuerungen*. Energie und Umwelt, Freiberg, Germany. 1994.
- [99] STEINEBRUNNER, K., SEIFERT, H., WEICHERT, C., SCHOLZ, R., and STERNBERG, J. *Verbrennung von NH₃-haltigen Prozeßabgasen unter besonderer Berücksichtigung von Inertgaseinflüssen*. Chemie-Ingenieur-Technik 9 (1994) S. 1230.
- [100] BARTH, H.-J., JAKEL, R., KRAUSHAAR, H., and SCHOLZ, R. *Vollkeramischer Radialventilator bis 1350 °C für Industrieofenanlagen - Konstruktion, Förderverhalten und Betriebserfahrungen*. Chemie Ingenieur Technik 9 (1995) S. 1195.
- [101] BECKMANN, M. and SCHOLZ, R. *Simplified Mathematical Model of the Combustion in Stoker Systems*. 3rd European Conference on Industrial Furnaces and Boilers (INFUB), Lisbon, Portugal. 1995.
- [102] KLÖPPNER, G., SCHOLZ, R., and JESCHAR, R. *On the Simplified Modelling of NO Formation in Technical Combustion Processes*. Journal of Energy Resources Technology, Transactions of the ASME 117 (1995) S. 161–164.
- [103] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Systemy spalania odpadów; stan obecny i perspektywy rozwoju*. TEMPUS workshop on mathematical modelling in energy systems and processes. 1995.
- [104] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Thermische Verfahren zur Abfallbehandlung; Prozeßführung, Bausteine und Bewertung*. Thermische Abfallentsorgung (VDI-Berichte 1192). 1995.
- [105] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Waste Incineration Systems; Current Technology and Future Developments in Germany*. 3rd European Conference on Industrial Furnaces and Boilers (INFUB), Lisbon, Portugal. 1995.
- [106] SCHOLZ, R., JESCHAR, R., JENNES, R., and FUCHS, W. *Umweltgesichtspunkte bei der Herstellung und Anwendung von Kalkprodukten*. Zement-Kalk-Gips, ZKG International 6 (1995) S. 297–311.
- [107] STERNBERG, J., R., S., and JESCHAR, R. *Verfahrenstechnik zur schadstoffarmen Verbrennung von hochmolekularen organischen Rückständen*. Energie und Umwelt 95, Freiberg. 1995.
- [108] WEICHERT, C., SCHOLZ, R., STEINEBRUNNER, K., and SEIFERT, H. *Verbrennung von NH₃-haltigen Prozeßgasen unter besonderer Berücksichtigung von Inertgaseinflüssen*. 17. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1193), Hamburg, Germany. 1995.
- [109] BARTH, H.-J., JAKEL, R., KRAUSHAAR, H., and SCHOLZ, R. *Vollkeramischer SiSiC-Radialventilator bis 1350 °C für Industrieofenanlagen - Konstruktion, FEM-Berechnungen, Förderverhalten, Betriebserfahrungen*. Ventilatoren im industriellen Einsatz III (VDI-Berichte 1249). 1996.

- [110] SCHOLZ, R. *Wissenschaftliche Entwicklung des Instituts für Energieverfahrenstechnik und Brennstofftechnik der TU Clausthal seit 1965*. Mitteilungsblatt der TU Clausthal 78 (1996) S. 38–41.
- [111] SCHOLZ, R. and BECKMANN, M. *Determination of Measured Variables and Complex Parameters through Measurement Techniques and Specific Experimental Procedures in Thermal Waste Treatment*. Measurement techniques in energy systems and processes TEMPUS Structural Joint European Project. 1996.
- [112] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Entwicklungsmöglichkeiten der Prozeßführung bei Rostsystemen zur thermischen Abfallbehandlung*. FDBR-Symposium, Fakten! Die Thermische Abfallverwertung der Zukunft, Rostock, Germany. 1996.
- [113] SCHOLZ, R. and SCHULENBURG, F. *Prozeßführung bei Verfahren zur thermischen Restabfallbehandlung in Kombination mit mechanisch-biologischer Vorbehandlung*. UTECH Berlin '96: Zukunft der thermischen Behandlung von Restabfällen, Berlin. 1996.
- [114] BECKMANN, M., SCHOLZ, R., WIESE, C., BUSCH, M., and PEPPLER, E. *Gasification of waste materials in grate systems*. 4th European Conference on Industrial Furnaces and Boilers (INFUB), Porto, Portugal. 1997.
- [115] BECKMANN, M., SCHOLZ, R., WIESE, C., BUSCH, M., and PEPPLER, E. *Gasification of waste materials in grate systems*. Feuerungstechnik, Kaleidoskop aus aktueller Forschung und Entwicklung. ISBN 3-00-001593-0. 1997.
- [116] BECKMANN, M., WIESE, C., DAVIDOVIC, M., and SCHOLZ, R. *Gasification of Waste Materials in Grate Systems*. International Conference on Incineration and Thermal Treatment Technologies, Oakland, California, USA. 1997.
- [117] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Modellierung und Vergleich verschiedener Feuerungsführungen in Rostsystemen*. 18. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1313), Delft, Netherlands. 1997.
- [118] SCHOLZ, R. and C., W. *Elektrostahl-Erzeugung*. Verlag Stahleisen, 1997. Chap. Auslegung wassergekühlter Bauteile in Elektrolichtbogenöfen S. 176–193.
- [119] SCHOLZ, R., JESCHAR, R., JENNES, R., and FUCHS, W. *Umweltgesichtspunkte bei der Herstellung und Anwendung von Kalkprodukten. Teil 3. Zement-Kalk-Gips*, ZKG International 11 (1997) S. 632–644.
- [120] SCHOLZ, R. and WEICHERT, C. *Possibilities of Evaluating the Energy Input in Electric Steel Production of an Electric Arc Furnace with Scrap Preheating in a Shaft and Postcombustion of the Flue Gas*. New concept in the energy sector TEMPUS Structural Joint European Project SJEP-07397-94; Zakopane-Gliwice, Poland. 1997.



- [121] SCHULENBURG, F., SCHOLZ, R., and BECKMANN, M. *Modelling and Comparison of Various Combustion Operation Modes in Grate Systems for the Thermal Treatment of Waste*. 15th International Symposium on Combustion Processes, Zakopane, Polen. 1997.
- [122] BARBER, B., PATRICK, B., SHA, H., SPITZER, K., YORK, R., SCHOLZ, R., JESCHAR, R., and KRAUSHAAR, H. *Determination of Strand Surface Temperatures in Continuous Casting. Final Report EUR18370; Steelmaking, Technical steel research series*. for official publications of the European Communities, Luxembourg, 1998 S. 1 –100.
- [123] BECKMANN, M., GRIEBEL, H., and SCHOLZ, R. *Einfluß von Temperatur, Durchmischung und Verweilzeit auf den Abbau organischer Spurenstoffe bei der thermischen Behandlung von Abfallholz*. DGMK-Fachbereichstagung, Energetische und stoffliche Nutzung von Abfällen und nachwachsenden Rohstoffen - Velen III. 1998.
- [124] BECKMANN, M. and SCHOLZ, R. *Substitution of Primary Fuels by Waste Materials in High Temperature Processes*. Einsatz von industriellen und kommunalen Abfällen im Zementherstellungsprozeß; Opole. 1998.
- [125] BECKMANN, M. and SCHOLZ, R. *Vergasung von Abfällen in Rostsystemen*. Vergasungsverfahren für die Entsorgung von Abfällen. 1998.
- [126] BECKMANN, M., SCHOLZ, R., DAVIDOVI, M., and WEICHERT, C. *Vergasung und Verbrennung von Abfallholz in Rostsystemen*. Restmüllentsorgung (VDI-Bericht 1387). 1998.
- [127] SCHOLZ, R. and BECKMANN, M. *Substitution von Brennstoffen und Rohstoffen durch Abfälle in Hochtemperaturprozessen*. 11. DVV-Kolloquium Stoffliche und thermische Verwertung von Abfällen in industriellen Hochtemperaturprozessen, Braunschweig, Germany. 1998.
- [128] SCHOLZ, R., BECKMANN, M., DAVIDOVI, M., BUSCH, M., and SCHMIDT, W. *Vergasung von Restabfall auf Rosten*. Stoffstromspezifische Abfallbehandlung im Hinblick auf thermische Verfahren 13 (1998) S. 149–173.
- [129] SCHOLZ, R., WEICHERT, C., and DAVIES, M. *Development of an energetic processing concept for the description of the fusibility in a cokeless, natural gas-fired cupola furnace*. Contemporary Problems of Thermal Engineering (1998) S. 285–308.
- [130] SCHULENBURG, F. and SCHOLZ, R. *Bilanzierung und Bewertung von thermischen Abfallbehandlungsverfahren; Einfluß unterschiedlicher Abfallvorbehandlungsverfahren*. Restmüllentsorgung (VDI-Bericht 1387). 1998.
- [131] SCHULENBURG, F. and SCHOLZ, R. *Energetische Bilanzierung von Verfahrenslinien aus mechanischbiologischer und nachgeschalteter thermischer Abfallbehandlung*. Stoffstromspezifische Abfallbehandlung im Hinblick auf thermische Verfahren; 13 (1998) S. 15–52.



- [132] BECKMANN, M., DAVIDOVIC, M., GEHRMANN, H.-J., and SCHOLZ, R. *Prozessoptimierung der Verbrennung und Vergasung von Abfällen in Rostsystemen*. 19. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1492), Dresden, Germany. 1999.
- [133] BECKMANN, M. and SCHOLZ, R. *Energetische Bewertung der Substitution von Brennstoffen durch Ersatzbrennstoffe bei Hochtemperaturprozessen zur Stoffbehandlung. Energy evaluation of the substitution of fuels by replacement fuels in high temperature material treatment processes*. Teil 1 / Part 1: ZKG INTERNATIONAL Teil 2 / Part 2: ZKG INTERNATIONAL 6 8 (1999) S. 287–303 S. 411–419.
- [134] BECKMANN, M. and SCHOLZ, R. *Substitution of Fuels and Raw Materials by Waste in High Temperature Processes*. 2nd International Symposium on Incineration and Flue Gas Treatment Technologies, Sheffield, UK. 1999.
- [135] BECKMANN, M., SCHULENBURG, F., and SCHOLZ, R. *Vergleich verschiedener Konzepte aus mechanisch-biologischen und thermischen Verfahrensschritten zur Abfallbehandlung*. Thermische Abfallbehandlung in dezentralen Anlagen, 2. Fachtagung, Freiberg, Germany. 1999.
- [136] SCHOLZ, R. and BECKMANN, M. *Kriterien zur Substitution von Regelbrennstoffen durch Ersatzbrennstoffe*. 11. Kasseler Abfallforum "Bio- und Restabfallbehandlung", Witzenhausen, Germany. 1999.
- [137] WEICHERT, C. and SCHOLZ, R. *Einbindung von NO_x-Minderungsmaßnahmen in die Regelung von Feuerungsanlagen der thermischen Abfallbehandlung*. 19. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1492), Dresden, Germany. 1999.
- [138] WEICHERT, C., SCHOLZ, R., ZIPSER, S., and DÖSCHNER, C. *Berücksichtigung von Schadstoffemissionen bei der Regelung von Feuerungsanlagen für Brennstoffe veränderlicher Zusammensetzung*. Chemie Ingenieur Technik 9 (1999) S. 928 –929.
- [139] BECKMANN, M. and SCHOLZ, R. *Kriterien zur Substitution von Regelbrennstoffen durch Ersatzbrennstoffe*. VDI-Berichte Nr. 1540, VDI-Verlag, Düsseldorf 1540 (2000) 35–53.
- [140] BECKMANN, M. and SCHOLZ, R. *Residence time behaviour of solid material at grate systems*. 5th European Conference on Industrial Furnaces and Boilers (INFUB), Porto, Portugal. 2000.
- [141] BECKMANN, M., SCHULENBURG, F., and SCHOLZ, R. *Energy Utilisation of Biomass from the Sugar Industry with Fluidized Bed and Grate Systems*. Fluidization 2000, China-Japan Symposium. 2000.
- [142] DAVIES, M. and SCHOLZ, R. *Development of an Energetic Process Model for the Description of the Melting Behaviour in a Cokeless Natural Gas Fired Cupola Furnace (CLCF)*. Turkish National Conference on Thermal Sciences and Technologies. 2000.



- [143] DAVIES, M., WEICHERT, C., and SCHOLZ, R. *Energetic process model for the description of the melting behaviour in a natural gasfired cokeless cupola furnace (CLCF)*. 5th European Conference on Industrial Furnaces and Boilers (INFUB), Porto, Portugal. 2000.
- [144] SCHOLZ, R., DAVIES, M., ALT, R., and GHENDA, T. *Simulation of the CONTIARC furnace and process*. Demonstration of the "CONTIARC"-technology (chapter 4), Final Report, European Coal and Steel Community (2000) S. 13–86.
- [145] SCHULENBURG, F., GUIRAUD, A., DAVIDOVIC, M., GEHRMANN, H.-J., SCHOLZ, R., and BECKMANN, M. *Energy Utilisation of Biomass from the Sugar Industry*. 5th European Conference on Industrial Furnaces and Boilers (INFUB), Porto, Portugal. 2000.
- [146] SCHULENBURG, F. and SCHOLZ, R. *Optimierung der Energieauskopplung bei thermischen Abfallbehandlungsanlagen, Stand und Perspektiven der thermischen Restabfallbehandlung*. 2000 163–199.
- [147] SPITZER, K. and SCHOLZ, R. *Bandgießen nach dem DSC-Verfahren*. "Brücken in die Zukunft", Technische Universität Clausthal (2000) S. 91–93.
- [148] WEICHERT, C. and SCHOLZ, R. *Anwendung von Primärmaßnahmen zur Optimierung der NO_x-Emissionen bei Feuerungsanlagen mit zeitlich veränderlichen Eintrittsgrößen*. "Brücken in die Zukunft", Technische Universität Clausthal (2000) S. 50–53.
- [149] WEICHERT, C. and SCHOLZ, R. *Integration of Measures for NO_x-Reduction in the Control of Firing Plants for Thermal Waste Treatment*. Turkish National Conference on Thermal Sciences and Technologies. 2000.
- [150] BARTH, H.-J. and SCHOLZ, R. *Entwicklung keramischer Ventilatoren für die Umwälzung heißer Gase bis 1350 °C, Konstruktion verfahrenstechnischer Maschinen*. Springer-Verlag, Berlin, 2001.
- [151] DAVIES, M. and SCHOLZ, R. *Untersuchung zur Prozeßgestaltung und Brennstoffsubstitution an einem kokslosen, erdgasbefeuereten Kupolofen (KLKO)*. 'Betriebliches Energiemanagement' (VDI Berichte 1593) (2001) S. 491–503.
- [152] SCHOLZ, R. *Abfallverbrennung - Energieeinspar- und CO₂-Minderungspotentiale, Reformbedarf in der Abfallwirtschaft*. TK Verlag, Neuruppin, 2001 S. 717–735.
- [153] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Abfallbehandlung in thermischen Verfahren, Verbrennung, Vergasung, Pyrolyse, Verfahrens- und Anlagenkonzepte*. Teubner-Reihe UMWELT, B. G. Teubner GmbH, 2001.
- [154] SCHOLZ, R., BECKMANN, M., and SCHULENBURG, F. *Abfallwirtschaftliche Maßnahmen und Klimaschutz*. Münsteraner Schriften zur Abfallwirtschaft, Münsteraner Abfallwirtschaftstage. 2001.

- [155] SCHOLZ, R., DAVIES, M., and BALD, T. *Möglichkeiten der Prozessführung bei gasbefeuerten Kupolofen für den Einsatz unterschiedlicher Brennstoffe*. 20. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1629), Essen, Germany. 2001.
- [156] SCHOLZ, R. and HARNAUT, T. *Dezentrale Energieversorgung durch Kopplung unterschiedlicher regenerativer Energieressourcen*. Internationaler Fachkongress für nachwachsende Rohstoffe (Narossa). 2001.
- [157] SCHOLZ, R., SCHULENBURG, F., and BECKMANN, M. *Vergleich und Bewertung von Verfahren und Anlagen zur thermischen Abfallbehandlung*. Umweltpraxis, Abwasser, Abfall, Management (2001) Teil 1: 5/ 2001, S. 20–24, Teil 2: 6/ 2001, S. 20–25.
- [158] SPITZER, K.-H., SCHOLZ, R., KROOS, J., HOWER, K., NYSTRÖM, R., BURSTRÖM, E., REICHEL, W., and DUBKE, M. *Entwicklungsstand beim DSC-Bandgießverfahren*. Stahl und Eisen 121 (2001) S. 73–80.
- [159] BECKMANN, M., HORENI, M., and SCHOLZ, R. *Substitution of Fuels and Raw Materials by Waste in High Temperature Processes*. The Future of Waste Management in Europe, Die Zukunft der Abfallwirtschaft in Europa; GVC-Gesellschaft Verfahrenstechnik und Chemieingenieurwesen. 2002.
- [160] BECKMANN, M., HORENI, M., SCHOLZ, R., and HARNAUT, T. *Einfluß der Prozeßführung auf den spezifischen Energieverbrauch in Verfahren der Grundstoffindustrie beim Einsatz von Ersatzbrennstoffen*. Ersatzbrennstoffe in der Energietechnik' (VDI Berichte 1708) (2002) S. 131–163.
- [161] HARNAUT, T. and SCHOLZ, R. *Dezentrale Energieversorgung durch Kopplung unterschiedlicher regenerativer Energieressourcen, Energiepark Clausthal*. Air-conditioning, protection and district heating, Wroclaw University of Technology 804 (2002).
- [162] KROOS, J., HOWER, K., SPITZER, K.-H., and SCHOLZ, R. *The DSC-Process - An Efficient Technology For Flat Steel Production*. Advances in Production Engineering: Materials, Design, Manufacturing and Industrial Engineering; Proceedings of Sixth International Conference on Production Engineering and Design for Development - PEEDD 6. 2002.
- [163] NEUKIRCHEN, B., KNOCHE, M., SCHOLZ, R., and WIESNER, J. *GVC / Dechema - Fachausschuß "Abfallbehandlung" - Zukünftige Herausforderungen*. The Future of Waste Management in Europe, Die Zukunft der Abfallwirtschaft in Europa; Plenarvortrag 4; GVC - Gesellschaft "Verfahrenstechnik und Chemieingenieurwesen". 2002.
- [164] RÜPPEL, F., SPITZER, K.-H., SCHOLZ, R., KROOS, J., and HOWER, K. *The DSC process for energy efficient production of light weight steels*. European Conference on Industrial Furnaces and Boilers (INFUB). 2002.
- [165] SCHOLZ, R. and BECKMANN, M. *Einsatzkriterien für Ersatzbrennstoffe in thermischen Prozessen, in: Ersatzbrennstoffe*. Springer-VDI-Verlag, Düsseldorf, 2002 S. 163–194.



- [166] SCHOLZ, R. and BECKMANN, M. *Ersatzbrennstoffbewertung bei unterschiedlicher Prozeßführung*, in: *Ersatzbrennstoffe 2*. TK-Verlag, Neuruppin, 2002.
- [167] SCHOLZ, R. and HARNAUT, T. *Energetische Bewertung und Optimierung von Verfahren der thermischen Abfallbehandlung am Beispiel des Klinkerbrennprozesses und des Schrotteinschmelzens*. DVV-Kolloquium "Thermische Verfahren der Abfallbehandlung - Entwicklungen, Optimierung, Bewertung". 2002.
- [168] WEBER, R., BRAUCKMANN, D., SCHOLZ, R., MANCINI, M., and KAMP, W. vd. *Numerical simulations of Cement Kiln Flames*. 6th European Conference on Industrial Furnaces and Boilers INFUB, Estoril-Lisboa, Portugal. 2002.
- [169] BECKMANN, M., HORENI, M., SCHOLZ, R., and RÜPPEL, F. *Notwendigkeit der Charakterisierung von Ersatzbrennstoffen*, in: *Ersatzbrennstoffe 3*. TK-Verlag, Neuruppin, 2003 S. 213–230.
- [170] BECKMANN, M. and SCHOLZ, R. *Conventional Thermal Treatment Methods*, in: *Municipal Solid Waste Management*. Springer-Verlag, Berlin Heidelberg New York, 2003 S. 78 –101.
- [171] BECKMANN, M., SCHOLZ, R., and HORENI, M. *Using Substitute Fuels in the Basic Materials Industry*; in: *Municipal Solid Waste Management*. Springer-Verlag, Berlin Heidelberg New York, 2003 S. 196–204.
- [172] HARNAUT, T. and SCHOLZ, R. *Substitution of primary fuel by secondary fuel in a cokeless natural gas fired cupola furnace for melting scrap iron*. Canadian Chemical Engineering Conference. 2003.
- [173] LUDEWIG, S. and SCHOLZ, R. *Model Based Process Control with regard to Burnout Optimisation and NO_x-Emissions Minimisation for Incinerators Fired with Fuels of Unknown, Variable Compositions*. Polish Academy of Science, International Symposium on Combustion Processes. 2003.
- [174] LUDEWIG, S. and SCHOLZ, R. *Modellgestützte Prozessführung von Feuerungsanlagen der thermischen Abfallbehandlung zur Optimierung von NO_x-Emissionen für Einsatzstoffe mit unbekannter veränderlicher Zusammensetzung*. 21. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1750), Cottbus, Germany. 2003.
- [175] ROGASIK, J., ROSYADI, I., FLECKENSTEIN, J., HANEKLAUS, S., SCHNUG, E., FAN, X., and SCHOLZ, R. *Phosphorpotentiale von Tiermehl und Schlachtabfällen sowie Möglichkeiten des Phosphorrecyclings*. 'Rückgewinnung von Phosphor in der Landwirtschaft und aus Abwasser und Abfall', Bundesforschungsanstalt für Landwirtschaft (FAL). 2003.
- [176] RÜPPEL, F., SPITZER, K.-H., SCHOLZ, R., KROOS, J., and FLAXA, V. *Potentials of the Direct Strip Casting (DSC) process with regard to new materials and efficient energy use*. Federation of European Materials Societies, European Congress on Advanced Materials and Processes (Euromat). 2003.

- [177] SCHOLZ, R. and BECKMANN, M. *Verfahrenstechnische Möglichkeiten der Optimierung bei Rostfeuerungen zur Abfallbehandlung*, in: *Optimierungspotential der Abfallverbrennung*. TK-Verlag, Neuruppin, 2003 S. 87–133.
- [178] SCHOLZ, R., BECKMANN, M., JAGER, J., RÜPPEL, F., HORENI, M., and SZPADT, E. *Substitution von Primärbrennstoffen durch Sekundärbrennstoffe*. Dokumentation und Forschungsbericht, Entsorgungsgemeinschaft der Deutschen Entsorgungswirtschaft (EdDE) 5 (2003) S. 7–40.
- [179] SCHOLZ, R. and RÜPPEL, F. *CO₂ emission reduction by municipal waste incineration*. Internationaler Ausstellungskongreß für Chemische Technik, Umweltschutz und (ACHEMA) Biotechnologie. 2003.
- [180] SPITZER, K.-H., RÜPPEL, F., VISCOROVA, R., SCHOLZ, R., KROOS, J., and FLAXA, V. *Direct Strip Casting (DSC) - an Option for the Production of New Steel Grades*. steel research Nr. 74 (2003) S. 724–731.
- [181] WEBER, R., BRAUCKMANN, D., SCHOLZ, R., MANCINI, M., and KAMP, W. vd. *Numerical Simulation of a Coal Fed Burner*. Ciments, Betons, Platres, Chaux 864 (2003) 2–7.
- [182] MUSTER, M., SCHOLZ, R., BOSSE, P., and HEIDERMAN, T. *Entwicklung einer Dauerbrandsicherung für Wasserstoff welche den Testanforderungen der neuen EN 12874 genügt (EFRE 2002.109)*. Ergebnisse und Perspektiven der Struktur fondsförderung, Niedersächsisches Ministerium für Wissenschaft und Kultur. 2004.
- [183] RÜPPEL, F., SPITZER, K.-H., SCHOLZ, R., and SCHWERDTFEGER, K. *New approaches of the initial solidified shell formation mechanisms in the continuous casting mould; here chapter III.2: Heat transfer through interfacial layer with oil*. Final Report EUR 20947; Casting and solidification, Technical steel-research series, Luxembourg: Office for official publications of the European Communities (2004) S.128–148.
- [184] SCHOLZ, R., HARNAUT, T., BECKMANN, M., and HORENI, M. *Zur systematischen Bewertung der Energieumwandlungen bei der thermischen Abfallbehandlung - Was ist Energieeffizienz? in: Optimierung der Abfallverbrennung 1*. TK-Verlag, Neuruppin, 2004 S.203–235.
- [185] SCHOLZ, R., PLUSCHKELL, W., SPITZER, K., and STEFFEN, R. *Steigerung der Stoff- und Energieeffizienz sowie Minderung von CO₂-Emissionen in der Stahlindustrie*. Chemie Ingenieurtechnik 76 (2004) S.1318.
- [186] BECKMANN, M., HORENI, M., and SCHOLZ, R. *Energetische Bewertung zur Optimierung von Müllheizkraftwerken*. 37. Kraftwerkstechnisches Kolloquium - Heizkraftwerke und dezentrale Energieerzeugung, Dresden, Germany. 2005.
- [187] BECKMANN, M., HORENI, M., and SCHOLZ, R. *Schnittstelle und Aufbereitungstiefe von Ersatzbrennstoffen für die energetische Verwertung in: Bio- und Restabfallbehandlung IX, biologisch, mechanisch, thermisch*. Witzenhausen-Institut, 2005 S. 231–251.

- [188] BECKMANN, M., NEUKIRCHEN, B., NOTTRODT, A., SCHOLZ, R., and SEIFERT, H. *Energetische Bewertung der Abfallbehandlung in thermischen Verfahren - Bilanzierung und Wirkungsgrade*. Chemie Ingenieur Technik 77 (2005) S.1157.
- [189] REDEKER, C., KROOS, J., SPITZER, K.-H., and SCHOLZ, R. *CO₂ - Mitigation and Enhanced Steel Scrap Recycling with New Direct Strip Casting Process*. International Conference on Clean Technologies in the Steel Industry, Balatonfured, Hungary. 2005.
- [190] BECKMANN, M. and SCHOLZ, R. *Biomasse und Ersatzbrennstoffe als schwierige Brennstoffe*, in: *Energie aus Abfall, Band 1*. TK-Verlag, Neuruppin, 2006 105–137.
- [191] BECKMANN, M., SCHOLZ, R., and HORENI, M. *Energetische Verwertung von Ersatzbrennstoffen mit hohem Chlorgehalt in: Bio- und Sekundärrohstoffverwertung; stofflich, energetisch*. Witzenhausen-Institut, 2006 S. 180–205.
- [192] HARNAUT, T. and SCHOLZ, R. *Energetische Nutzung von Biomasse; Prozesstechnische Möglichkeiten der thermischen Behandlung von Biomasse und deren systematische Darstellung in: Erneuerbare Energien durch Biomasse aus der Phytoextraktion kontaminierter Böden*. CUTEC Schriftenreihe, Clausthal-Zellerfeld, 2006 S. 90–114.
- [193] SCHOLZ, R. *Aufgabenstellung der Verfahrenstechnik*. Müllmagazin 4 (2006).
- [194] SCHOLZ, R. and BECKMANN, M. *Werkzeuge zur Bewertung von Abfallbehandlungsverfahren; Methoden und Ergebnisse; Massen und Energiebilanzen (Kap. 5)*. VDI - Gesellschaft Verfahrenstechnik und Chemieingenieurwesen (VDI-GVC), Düsseldorf, 2006 S. 18–34.
- [195] SCHOLZ, R., BECKMANN, M., and HORENI, M. *Energetische Bewertung von Konzepten zur Substitution von fossilen Brennstoffen*, in: *Optimierung der Abfallverbrennung 3*. TK-Verlag, Neuruppin, 2006 S. 509–535.
- [196] SCHWÖPPE, P. and SCHOLZ, R. *Entwicklung einer Dauerbrandsicherung für Wasserstoff, welche den Testanforderungen der neuen EN12874 genügt (Teil 2)*. Abschlussbericht (EFRE-Projekt 2002.109) (2006).
- [197] SCHWÖPPE, P., SCHOLZ, R., and WEBER, R. *A reactor network approach for modelling MILD-combustion*. Xian international conference on architecture and technology (XICAT), Xian, China. 2006.
- [198] VISCOROVA, R., SCHOLZ, R., SPITZER, K.-H., and WENDELSTORF, J. *Measurements of spray water cooling heat transfer coefficients under oxide scale formation conditions*. AISTech 2006 Iron & Steel Technology Conference. 2006.
- [199] VISCOROVA, R., SCHOLZ, R., SPITZER, K.-H., and WENDELSTORF, J. *Spray water cooling heat transfer under oxide scale formation conditions*. Advanced Computational Methods in Heat Transfer IX 53 (2006) S. 163–172.

- [200] BECKMANN, M., KLEPPMANN, F., MARTIN, J., SCHOLZ, R., and SEIFERT, H. *Classification of Waste-to-energy Plants in Terms of Energy Recovery*. International Journal for Electricity and Heat Generation 87 (2007) S. 76–80.
- [201] BECKMANN, M., KLEPPMANN, F., MARTIN, J., SCHOLZ, R., and SEIFERT, H. *Einordnung von Müllverbrennungsanlagen im Hinblick auf die energetische Verwertung*, in: *Energie aus Abfall, Band 3*. TK-Verlag, Neuruppin, 2007 S. 47–60.
- [202] BECKMANN, M. and SCHOLZ, R. *Ermittlung der Energieeffizienz in Anlagen zur thermischen Abfallbehandlung - Zur Problematik von Äquivalenzzerten und der Berechnung des Heizwertes*, in: *Energie aus Abfall, Band 2*. TK-Verlag, Neuruppin, 2007 S. 145–164.
- [203] LUDEWIG, S. and SCHOLZ, R. *Model based optimisation of NO_x-emissions in grate stoker furnaces fired with fuels of unknown, variable composition*. Annual International Conference on Incineration and Thermal Treatment Technologies. 2007.
- [204] LUDEWIG, S. and SCHOLZ, R. *Modellgestützte Optimierung von NO_x-Emissionen in Rostfeuerungen*. 39. Kraftwerkstechnisches Kolloquium - Verfahren und Anlagen der Hochtemperatur-Energetechnik: Stand und Entwicklungsperspektiven. 2007.
- [205] SCHOLZ, R. *Integration of Thermal Waste Treatment in High-Temperature-Processes; Thermal Waste Treatment as an Example for a High-Temperature-Process*. Deutsch-Syrische Umweltwoche 2007: Nachhaltige Energie- und Umweltsysteme. 2007.
- [206] SCHOLZ, R. *Secondary fuels in industrial processes for substitution of fossil fuels; energetic evaluation of concepts*. Deutsch-Syrische Umweltwoche 2007: Nachhaltige Energie- und Umweltsysteme. 2007.
- [207] SCHOLZ, R. *Systematic evaluation of energy conversion in the field of thermal waste treatment; What is energy efficiency?* Deutsch-Syrische Umweltwoche 2007: Nachhaltige Energie- und Umweltsysteme. 2007.
- [208] SCHOLZ, R. *Waste Incineration Systems, Current Technology and Future Developments*. Deutsch-Syrische Umweltwoche 2007: Nachhaltige Energie- und Umweltsysteme. 2007.
- [209] SEIFERT, H., BECKMANN, M., WEBER, R., and SCHOLZ, R. *Waste to Energy, Ersatzbrennstoffe für den Kraftwerkseinsatz*. ProcessNet Jahrestagung 2007. 2007.
- [210] WORBERG, R., KIM, R., SCHUMACHER, R., HERMANN, SCHOLZ, WEBER, and MANCINI. *Wärmetechnik des Heat-Recovery-Ofens*. Fachtagung Kokereitechnik. 2007.
- [211] KLEMM, M., BECKMANN, M., and SCHOLZ, R. *Energetische Bewertung der Substitution von fossilen Brennstoffen durch Ersatzbrennstoffe und Biomasse*.



40. Kraftwerkstechnisches Kolloquium - Künftiges Brennstoff- und Technologieportfolio in der Kraftwerkstechnik. Technische Universität Dresden. 2008.

- [212] SCHOLZ, R. and GOSE, S. *Substitution von Regelbrennstoffen durch Ersatzbrennstoffe*. Deutsch-Syrische Umweltwoche 2008: Nachhaltige Energie- und Umweltsysteme. Universität Damaskus. 2008.
- [213] SCHOLZ, R., SCHWÖPPE, P., and GOSE, S. *Buchbeitrag zur Projektstudie "Netzintegration von Offshore-Großwindanlagen: Grundlast von der Nordsee (Thermodynamische Betrachtungen)"*. Papierflieger-Verlag, 2008 131 –146.
- [214] SCHWÖPPE, P. and SCHOLZ, R. *Experimental and theoretical investigations on passive flame arrestors*. 8th European Conference on Industrial Furnaces and Boilers INFUB, Porto, Portugal. 2008.
- [215] MAJANNY, A., NASSOUR, A., GOSE, S., SCHOLZ, R., and NELLES, M. *Characterization and thermal behaviour of textile wastes issued from industrial city Aleppo in Syria* (2009).
- [216] SCHOLZ, R. *Thermische Verfahren für das Recycling von Metallen*. Recycling und Rohstoffe 2 (2009) 291 –308.
- [217] SCHOLZ, R., BECKMANN, M., KUPKA, T., and STÜRMER, T. *Zur systematischen Bewertung der Energieumwandlungen bei der thermischen Abfallbehandlung - Was ist Energieeffizienz?* Waste Management Eastern European Countries Band 1 (2010) 153–217.
- [218] SCHOLZ, R. and STÜRMER, T. *Hochtemperaturprozesse beim Recycling von Rohstoffen*. Recycling und Rohstoffe Band 3 (2010) 469–495.
- [219] BECKMANN, M., PIEPER, C., SCHOLZ, R., and MUSTER, M. *Perspektiven für eine Vollversorgung mit erneuerbaren Energien - Teil I: Energiebedarf sowie Energiebereitstellung und -verteilung*. Wasser und Abfall 7-8 (2012) 47–55.
- [220] BECKMANN, M., PIEPER, C., SCHOLZ, R., and MUSTER, M. *Perspektiven für eine Vollversorgung mit erneuerbaren Energien - Teil II: Speicherbedarf, Regionale Demonstrationseinheit und Ausblick*. Wasser und Abfall 9 (2012) 20–27.
- [221] BECKMANN, M., PIEPER, C., SCHOLZ, R., and MUSTER, M. *Perspektiven für eine Vollversorgung mit erneuerbaren Energien*. 44. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2012.
- [222] SCHOLZ, R. and STÜRMER, T. *Methoden zur Energie- und Stoffeffizienz in der metallurgischen Hochtemperaturtechnik*. World of Metallurgy - ERZMETALL 65 (4) (2012) 5–18.
- [223] SCHOLZ, R., BECKMANN, M., PIEPER, C., MUSTER, M., and WEBER, R. *Considerations on providing the energy needs using exclusively renewable sources: Energiewende in Germany*. Renewable and Sustainable Energy Reviews 35 (0) (2014) 109 –125.



- [224] MONCALVO, D., DAVIES, M., WEBER, R., and SCHOLZ, R. *Breathing losses from low-pressure storage tanks due to atmospheric weather change*. Journal of Loss Prevention in the Process Industries 43 (2016) 702–705.

Wissenschaftliche Mitarbeiter

Dipl.-Ing. M. Alberti

- [1] ALBERTI, M., WEBER, R., MANCINI, M., and MODEST, M. *Comparison of models for predicting band emissivity of carbon dioxide and water vapour at high temperatures*. International Journal of Heat and Mass Transfer 64 (2013) 910–925.
- [2] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *On the accuracy of HITEMP-2010 calculated emissivities of Water Vapor and Carbon Dioxide*. 10th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2015.
- [3] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *On the accuracy of HITEMP-2010 calculated emissivities of Water Vapor and Carbon Dioxide*. 12th International Conference on Energy for a Clean Environment, Lisboa, Portugal. 2015.
- [4] ALBERTI, M., WEBER, R., and MANCINI, M. *Bestimmung der Emissionskoeffizienten von Gas-Gemischen auf Grundlage von spektroskopischen Datenbanken*. 27. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2267), Clausthal, Germany. 2015.
- [5] ALBERTI, M., WEBER, R., and MANCINI, M. *Calculation of Gas Emissivities at High Temperatures and High Pressures using HITEMP-2010*. XXII International Symposium on Combustion Processes, Gliwice, Poland. 2015.
- [6] ALBERTI, M., WEBER, R., and MANCINI, M. *Re-creating Hottel's emissivity charts for carbon dioxide and extending them to 40 bar pressure using HITEMP-2010 data base*. Combustion & Flame 162 (2015) 597–612.
- [7] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *Validation of HITEMP-2010 for Carbon Dioxide and Water Vapour at high temperatures and atmospheric pressures in 450-7600 cm⁻¹ spectral range*. Journal of Quantitative Spectroscopy & Radiative Transfer 157 (2015) 14–33.
- [8] ALBERTI, M., WEBER, R., and MANCINI, M. *Radiative Heat Transfer in a High Pressure Entrained Flow Gasifier*. 1st International Workshop on Oxy-Fuel Combustion, Montabaur, Germany. 2016.
- [9] ALBERTI, M., WEBER, R., and MANCINI, M. *Re-creating Hottel's emissivity charts for water vapor and extending them to 40 bar pressure using HITEMP-2010 data base*. Combustion & Flame 169 (2016) 141–153.

Dipl.-Ing. A. M. Beckmann

- [1] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Based Modelling of the Ash Behaviour in a Pulverized Coal Flame*. 44. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2012.
- [2] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD Modelling of a pulverized coal flame with emphasis on predicting the ash deposition behaviour*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.
- [3] KOKO, M., WILL, T., WEBER, R., and BECKMANN, A. M. *A 1-D Simulation Tool for Biomass Co-Firing Development and Application*. 2nd IEA Clean Coal Centre Workshop on Cofiring Biomass with Coal, Kopenhagen, Denmark. 2012.
- [4] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Modellierung einer Kohlenstaubflamme mit dem Fokus auf der Vorhersage der Ascheablagerung*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.
- [5] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Coal Ash Particle Deposition Modeling: A Closer Look at Various CFD sub-models*. 25th Impacts of Fuel Quality on Power Production and Environment, Snowbird, USA. 2014.
- [6] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Investigating Ash Deposition using Down-Fired Combustion Rig*. 12th International Conference on Boiler Technology, Szczyrk, Poland. 2014.
- [7] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Modellierung einer Kohlenstaubflamme unter besonderer Berücksichtigung der Vorhersage von Ascheablagerungen*. 27. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2267), Clausthal, Germany. 2015.
- [8] WEBER, R., POYRAZ, Y., BECKMANN, A. M., and BRINKER, S. *Combustion of biomass in jet flames*. Proceedings of the Combustion Institute 35 (3) (2015) 2749–2758.
- [9] BECKMANN, A. M., MANCINI, M., WEBER, R., SEEBOLD, S., and MÜLLER, M. *Measurements and CFD modeling of a pulverized coal flame with emphasis on ash deposition*. Fuel 167 (2016) 168 –179.
- [10] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Towards understanding of deposit build-up mechanisms in our experimental facility: Experiments and CFD modeling of 15 kW coal flames*. 26th Impacts of Fuel Quality on Power Production and Environment, Prague, Czech Republic. 2016.



Dipl.-Ing. S. Brinker

- [1] ZAJĄC, K., KUPKA, T., BRINKER, S., and WEBER, R. *Advanced Solid Fuel Characterisation*. International Conference on Optimizing using Exergy Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [2] HOUKEMA, M., FRYDA, L., KAMP, W. van de, RILEY, G., SMART, J., WHITEHOUSE, M., KAKIETEK, S., MILIEWSKA, A., BRINKER, S., and AZEVEDO, T. *Application of the biomass, oxyfuel and flameless combustion for the utilisation of pulverised coals for electricity generation (BOFCom)*. RFCS publications, 2012.
- [3] BRINKER, S. and WEBER, R. *Co-Combustion of Coal and Biomass in O₂/CO₂-atmosphere*. 25th Impacts of Fuel Quality on Power Production and Environment, Snowbird, USA. 2014.
- [4] BRINKER, S. and WEBER, R. *Mitverbrennung von Biomasse und Kohle in O₂/CO₂-Atmosphäre*. 46. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2014.
- [5] WEBER, R., POYRAZ, Y., BECKMANN, A. M., and BRINKER, S. *Combustion of biomass in jet flames*. Proceedings of the Combustion Institute 35 (3) (2015) 2749–2758.

Dr.-Ing. T. Kupka

- [1] KUPKA, T., CIESLIK, M., and WEBER, R. *Investigations on ash deposit formation rate during co-combustion of coal with sewage sludge*. 7th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2006.
- [2] KUPKA, T., MANCINI, M., IRMER, M., and WEBER, R. *Investigation of Ash Deposit Formation during Co-Firing of Coal with Sewage Sludge, Saw Dust and Refuse Derived Fuel*. 10th International Conference on Boiler Technology. 2006.
- [3] KUPKA, T., MANCINI, M., and WEBER, R. *A CFD analysis of ash particle flow around pipes including particle impaction efficiency calculation*. 6th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2006.
- [4] KUPKA, T., MANCINI, M., and WEBER, R. *Experiments Supported by CFD Simulations for the Evaluation of Ash Deposit Formation during Co-Firing of Coal with Alternative Fuels*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [5] KUPKA, T., ZAJĄC, K., MANCINI, M., and WEBER, R. *A CFD Analysis of ash particle flow around pipes including particle impaction efficiency calculations*. 20th ECOS Conference, Padova, Italy. 2007.

- [6] KUPKA, T., ZAJĄC, K., MANCINI, M., and WEBER, R. *A laboratory method supported by simple CFD analysis for the evaluation of ash deposit formation during co-firing of coal with biomass-, bio-waste- and waste materials.* 15th Members' Conference - Combustion in an efficient and environmentally acceptable manner, Pisa, Italy. 2007.
- [7] KUPKA, T., MANCINI, M., IRMER, M., and WEBER, R. *Investigation of ash deposit formation during co-firing of coal with sewage sludge, saw-dust and refuse derived fuel.* Fuel 87 (2008) 2824–2837.
- [8] KUPKA, T., ZAJĄC, K., and WEBER, R. *Effect of Fuel Type and Deposition Surface Temperature on the Growth and Structure of Ash Deposit Collected during Co-firing of Coal with Sewage Sludge and Saw Dust.* 22th Impacts of Fuel Quality on Power Production and Environment, Banff, Canada. 2008.
- [9] KUPKA, T., ZAJĄC, K., and WEBER, R. *Effect of fuel type and deposition surface temperature on the growth and structure of ash deposit collected during co-firing of coal with sewage-sludge and saw dust.* 40. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2008.
- [10] KUPKA, T., ZAJĄC, K., and WEBER, R. *Influence of Fuel Type and Deposition Surface Temperature on the Growth and Chemical and Physical Structure of Ash Deposit Sampled during Co-firing of Coal with Sewage Sludge and Saw Dust.* 8th European Conference on Industrial Furnaces and Boilers INFUB, Vilamoura, Portugal. 2008.
- [11] KUPKA, T., ZAJĄC, K., and WEBER, R. *Effect of fuel type and deposition surface temperature on the growth and structure of an ash deposit collected during co-firing of coal with sewage sludge and saw dust.* Energy & Fuels 23 (2009) 3429–3436.
- [12] WEBER, R., KUPKA, T., and ZAJĄC, K. *Combustion of Refuse Derived Fuel in the laboratory scale jet flames.* 10th Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2009.
- [13] WEBER, R., KUPKA, T., and ZAJĄC, K. *Jet Flames of a Refuse Derived Fuel.* Combustion and Flame 156 (2009) 922–927.
- [14] WEBER, R., MADERA-BIELAWSKA, K., and KUPKA, T. *Characterisation of the sintering behaviour of coals and bio-wastes ashes.* Preprinty Nr 7 (2009).
- [15] ZAJĄC, K., KUPKA, T., BRINKER, S., and WEBER, R. *Advanced Solid Fuel Characterisation.* International Conference on Optimizing using Exergy Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [16] SCHOLZ, R., BECKMANN, M., KUPKA, T., and STÜRMER, T. *Zur systematischen Bewertung der Energieumwandlungen bei der thermischen Abfallbehandlung - Was ist Energieeffizienz?* Waste Management Eastern European Countries Band 1 (2010) 153–217.
- [17] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Furnace.*

23th Impacts of Fuel Quality on Power Production and Environment, Lapland, Finland. 2010.

- [18] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition*. XXI International Symposium on Combustion Processes, Miedzzydroje, Poland. 2010.
- [19] KUPKA, T., WEBER, R., ZAJĄC, K., and SCHOPF, N. *Combustion behaviour of alternative fuels in small-scale pulverised-fuel flames*. 11th International Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2011.
- [20] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Reactor*. 9th European Conference on Industrial Furnances and Boilers, Estoril, Portugal. 2011.
- [21] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On Importance of Fluid Dynamics in CFD Predictions of Ash Deposits*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.
- [22] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On predicting the ash behaviour using Computational Fluid Dynamics*. Fuel Processing Technology 105 (2013) 113 –128.
- [23] WEBER, R., SCHAFFEL-MANCINI, N., MANCINI, M., and KUPKA, T. *Fly ash deposition modelling: Requirements for accurate predictions of particle impaction on tubes using RANS-based computational fluid dynamics*. Fuel 108 (2013) 586 –596.

Dipl.-Ing. A. Lyczkowska

- [1] BERNHARDT, D., LYCZKOWSKA, A., GEHRMANN, H.-J., SEUFERT, T., and VODEGEL, S. *Prozessorientierte Biomassebewertung*. 44. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2012.
- [2] MUSIOL, A., MANCINI, M., and WEBER, R. *Numerical Simulation of coal and biomass flame in a small scale combustion chamber*. 17th IFRF Members Conference, Chateau de Maffhers, France. 2012.
- [3] VODEGEL, S., GEHRMANN, H.-J., BERNHARDT, D., and LYCZKOWSKA, A. *Steigerung der Biomasseflexibilität in der Energietechnik*. Chemie Ingenieur Technik 84 (11) (2012) 1948–1956.

Dr.-Ing. M. Mancini

- [1] MANCINI, M., WEBER, R., and BOLLETTINI, U. *Development of mathematical model for high temperature air combustion*. Fluent CFD User Group Meeting. 2001.

- [2] MANCINI, M., WEBER, R., and BOLLETTINI, U. *Mathematical Models Development for Design of HTAC Systems*. 4th International Symposium on High Temperature Air Combustion and Gasification, Rome, Italy. 2001.
- [3] MANCINI, M. and WEBER, R. *Formation and Destruction of Nitrogen Oxides in Combustion of Natural Gas with High Temperature Air*. 5th International Symposium on High Temperature Air Combustion and Gasification HTACG, Yokohama, Japan. 2002.
- [4] MANCINI, M., WEBER, R., and BOLLETTINI, U. *Predicting NO_x Emissions of a Burner Operated in Flameless Oxidation Mode*. Proceedings of the Combustion Institute 29 (2002) 1155–1163.
- [5] WEBER, R., BRAUCKMANN, D., SCHOLZ, R., MANCINI, M., and KAMP, W. vd. *Numerical simulations of Cement Kiln Flames*. 6th European Conference on Industrial Furnaces and Boilers INFUB, Estoril-Lisboa, Portugal. 2002.
- [6] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Examining NO_x Chemistry in High Temperature Air Combustion Process*. Proceedings of XVIII International Symposium on Combustion Processes. 2003.
- [7] WEBER, R., BRAUCKMANN, D., SCHOLZ, R., MANCINI, M., and KAMP, W. vd. *Numerical Simulation of a Coal Fed Burner*. Ciments, Betons, Platres, Chaux 864 (2003) 2–7.
- [8] HEKKENS, R. and MANCINI, M. *CFD modeling for high efficiency combustion*. 14th International IFRF Members' Conference - A Sustainable Energy Supply for Industry - A Challenge for the IFRF, Noordwijkerhout, Netherlands. 2004.
- [9] MAYER, C., KERSCHBAUMER, W., MANCINI, M., and WEBER, R. *Experimental and numerical investigation of a heating and ignition process of pulverized coal*. FLUENT CFD Forum. 2005.
- [10] SCHAFFEL, N., SZLEK, A., LOEFFLER, K., MANCINI, M., and WEBER, R. *HTAC Application for Solid Fuel Combustion*. XIX International Symposium on Combustion Processes, Wisla, Poland. 2005.
- [11] SCHAFFEL, N., SZLEK, A., WILK, R., LOEFFLER, K., MANCINI, M., and WEBER, R. *Mathematical Modelling of MILD/Flameless Combustion of Pulverized Coal*. 6th International Symposium on High Temperature Air Combustion and Gasification, Essen, Germany. 2005.
- [12] SZLEK, A., WILK, R., LÖFFLER, K., MANCINI, M., and WEBER, R. *HTAC Application for Solid Fuel Combustion*. 6th International Symposium on High Temperature Air Combustion and Gasification, Essen, Germany. 2005.
- [13] KUPKA, T., MANCINI, M., IRMER, M., and WEBER, R. *Investigation of Ash Deposit Formation during Co-Firing of Coal with Sewage Sludge, Saw Dust and Refuse Derived Fuel*. 10th International Conference on Boiler Technology. 2006.

- [14] KUPKA, T., MANCINI, M., and WEBER, R. *A CFD analysis of ash particle flow around pipes including particle impaction efficiency calculation*. 6th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2006.
- [15] KUPKA, T., MANCINI, M., and WEBER, R. *Experiments Supported by CFD Simulations for the Evaluation of Ash Deposit Formation during Co-Firing of Coal with Alternative Fuels*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [16] KUPKA, T., ZAJĄC, K., MANCINI, M., and WEBER, R. *A CFD Analysis of ash particle flow around pipes including particle impaction efficiency calculations*. 20th ECOS Conference, Padova, Italy. 2007.
- [17] KUPKA, T., ZAJĄC, K., MANCINI, M., and WEBER, R. *A laboratory method supported by simple CFD analysis for the evaluation of ash deposit formation during co-firing of coal with biomass-, bio-waste- and waste materials*. 15th Members' Conference - Combustion in an efficient and environmentally acceptable manner, Pisa, Italy. 2007.
- [18] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Influence of the Mixing on NO_x Emissions in the MILD Combustion of Natural Gas*. 20th International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS), Padova, Italy. 2007.
- [19] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Investigations on the modeling assumptions for NO_x emissions calculations in the MILD combustion of Natural Gas*. 15th Members' Conference - Combustion in an efficient and environmentally acceptable manner, Pisa, Italy. 2007.
- [20] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Numerical Computation of NO_x Formation in MILD Combustion of Natural Gas*. II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.
- [21] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *On Mathematical Modelling of Flameless Combustion*. Combustion and Flame 150 (2007) 54–59.
- [22] MANCINI, M., SCHWÖPPE, P., and WEBER, R. *Predictions of NO_x Formation in MILD/Flameless Combustion*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [23] MANCINI, M., WEBER, R., SCHAFFEL, N., and SZLEK, A. *Analysis of numerical modeling in predicting chemistry and NO_x in MILD combustion*. XX International Symposium on Combustion Processes, Pultusk, Poland. 2007.
- [24] MANCINI, M., WECEL, G., BIALECKI, R., and WEBER, R. *Advances in Boundary Element Method Used to Predict Radiative Heat Transfer in Flames*. II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.



- [25] MAYER, C., KERSCHBAUMER, W., MANCINI, M., and WEBER, R. *Time Dependent Simulations of Dispersion of a Cloud of Solid Particles*. Journal of the Energy Institute 80 (3) (2007) 181–183.
- [26] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Analysis of High Temperature Air Combustion (HTAC) boiler for efficient and clean power production using Computational Fluid Dynamics*. 20th ECOS Conference, Padova, Italy. 2007.
- [27] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology in supercritical pulverized coal boiler*. XX International Symposium on Combustion Processes, Pultusk, Poland. 2007.
- [28] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Design of the HTAC Boiler Fired with Pulverized Coal Using Numerical Modeling Methods*. II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.
- [29] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Numerical Investigation of the Configuration of a Pulverized Coal Fired Boiler Operated with HTAC Technology*. 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [30] WECHEL, G., BIALECKI, R. A., and MANCINI, M. *BEM employing Cartesian hierarchical meshes*. 5th International Symposium on Radiative Transfer, Bodrum, Turkey. 2007.
- [31] WECHEL, G., BIALECKI, R. A., MANCINI, M., and WEBER, R. *Radiative Heat Transfer in Industrial Furnaces*. Fortschrittsberichte der Deutschen Keramischen Gesellschaft, Verfahrenstechnik, Thermische Verfahrenstechnik. 1. 2007.
- [32] WORBERG, R., KIM, R., SCHUMACHER, R., HERMANN, SCHOLZ, WEBER, and MANCINI. *Wärmetechnik des Heat-Recovery-Ofens*. Fachtagung Kokereitechnik. 2007.
- [33] KUPKA, T., MANCINI, M., IRMER, M., and WEBER, R. *Investigation of ash deposit formation during co-firing of coal with sewage sludge, saw-dust and refuse derived fuel*. Fuel 87 (2008) 2824–2837.
- [34] MANCINI, M., WEBER, R., SCHAFFEL, N., and SZLEK, A. *CFD Method and Detailed Mechanisms Modelling in Predicting NO_x in MILD Combustion*. 7th International Symposium on High Temperature Air Combustion and Gasification, Phuket, Thailand. 2008.
- [35] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology in power boilers fired with pulverized coal*. 7th International Symposium on High Temperature Air Combustion and Gasification, Phuket, Thailand. 2008.

- [36] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *HTAC boiler fired with pulverized coal for ecologic and efficient electricity production*. *Archivum Combustionis* 28 (2008) 105–112.
- [37] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Simulations of the steam power cycle with High Temperature Air Combustion (HTAC) boiler*. 21th ECOS Conference, Krakau, Poland. 2008.
- [38] HEYMANN, C., RICHARDSON, A., and MANCINI, M. *The Impact of Turbulence- and Chemistry-Turbulence Interaction Models in the Simulation of OXY-Fuel*. 10th Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2009.
- [39] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and WEBER, R. *Ecological evaluation of the pulverized coal combustion in HTAC technology*. International Conference on Optimization using Exergy-Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [40] SCHAFFEL, N., MANCINI, M., SZLEK, A., and WEBER, R. *Mathematical modeling of MILD combustion of pulverized coal*. *Combustion and Flame* 156 (9) (2009) 1771 –1784.
- [41] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology to pulverized coal boilers*. 10th Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2009.
- [42] WROBEL, J. U., MANCINI, M., WEBER, R., and LÖFFLER, R. *An Advanced Model of Pulverized Coal Combustion for CFD Simulations*. International Conference on Optimization using Exergy-Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [43] MANCINI, M. and WEBER, R. *NO_x modeling in HTAC Combustion*. 8th International Symposium on High Temperature Air Combustion and Gasification, Poznan, Poland. 2010.
- [44] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and R.WEBER. *Novel Concept for Supercritical Boilers*. 11th International Conference on Boiler Technology, Szczyrk, Poland. 2010.
- [45] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and WEBER, R. *Novel conceptual design of a supercritical pulverized coal boiler utilizing high temperature air combustion (HTAC) technology*. *Energy* 35 (7) (2010) 2752 – 2760.
- [46] SCHAFFEL-MANCINI, N., MANCINI, M., and WEBER, R. *Turbulence-chemistry interaction in mild and FLOX combustion*. 6th International Symposium on High Temperature Air Combustion and Gasification, Poznan, Poland. 2010.
- [47] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Furnace*. 23th Impacts of Fuel Quality on Power Production and Environment, Lapland, Finland. 2010.



- [48] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition*. XXI International Symposium on Combustion Processes, Miedzyszdroje, Poland. 2010.
- [49] JAKOBS, T., FLECK, S., MANCINI, M., WEBER, R., and KOLB, T. *Gasification of High Viscous Slurry - R&D on Atomization and Numerical Simulation*. 36th International Technical Conference on Clean Coal and Fuel Systems, Clearwater, USA. 2011.
- [50] MANCINI, M., BUCZYNSKI, R., WEBER, R., FLECK, S., STOESSER, P., and KOLB, T. *Gasification of Glycol: Measurements and Mathematical Modelling*. 25. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2119), Karlsruhe, Germany. 2011.
- [51] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Reactor*. 9th European Conference on Industrial Furnances and Boilers, Estoril, Portugal. 2011.
- [52] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Based Modelling of the Ash Behaviour in a Pulverized Coal Flame*. 44. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2012.
- [53] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD Modelling of a pulverized coal flame with emphasis on predicting the ash deposition behaviour*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.
- [54] JAKOBS, T., DJORDJEVIC, N., FLECK, S., MANCINI, M., WEBER, R., and KOLB, T. *Gasification of high viscous slurry R&D on atomization and numerical simulation*. Applied Energy 93 (0) (2012) 449–456.
- [55] MUSIOL, A., MANCINI, M., and WEBER, R. *Numerical Simulation of coal and biomass flame in a small scale combustion chamber*. 17th IFRF Members Conference, Chateau de Maffhers, France. 2012.
- [56] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On Importance of Fluid Dynamics in CFD Predictions of Ash Deposits*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.
- [57] ALBERTI, M., WEBER, R., MANCINI, M., and MODEST, M. *Comparison of models for predicting band emissivity of carbon dioxide and water vapour at high temperatures*. International Journal of Heat and Mass Transfer 64 (2013) 910–925.
- [58] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Modellierung einer Kohlenstaubflamme mit dem Fokus auf der Vorhersage der Ascheablagerung*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.



- [59] MANCINI, M., WEBER, R., WEIGAND, P., LEUCKEL, W., and KOLB, T. *Design of the entrained flow reactor for gasification of biomass based slurry*. 26. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2161), Duisburg, Germany. 2013.
- [60] WEBER, R. and MANCINI, M. *Heterogene Kinetik der Koksverbrennung*. 45. Kraftwerkstechnisches Kolloquium, Dresden, Germany. 2013.
- [61] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On predicting the ash behaviour using Computational Fluid Dynamics*. Fuel Processing Technology 105 (2013) 113 –128.
- [62] WEBER, R., SCHAFFEL-MANCINI, N., MANCINI, M., and KUPKA, T. *Fly ash deposition modelling: Requirements for accurate predictions of particle impaction on tubes using RANS-based computational fluid dynamics*. Fuel 108 (2013) 586 –596.
- [63] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Coal Ash Particle Deposition Modeling: A Closer Look at Various CFD sub-models*. 25th Impacts of Fuel Quality on Power Production and Environment, Snowbird, USA. 2014.
- [64] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Investigating Ash Deposition using Down-Fired Combustion Rig*. 12th International Conference on Boiler Technology, Szczyrk, Poland. 2014.
- [65] BRINKER, S. and WEBER, R. *Co-Combustion of Coal and Biomass in O₂/CO₂-atmosphere*. 25th Impacts of Fuel Quality on Power Production and Environment, Snowbird, USA. 2014.
- [66] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *On the accuracy of HITEMP-2010 calculated emissivities of Water Vapor and Carbon Dioxide*. 10th International Conference on Industrial Furnaces and Boilers, Porto, Portugal. 2015.
- [67] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *On the accuracy of HITEMP-2010 calculated emissivities of Water Vapor and Carbon Dioxide*. 12th International Conference on Energy for a Clean Environment, Lisboa, Portugal. 2015.
- [68] ALBERTI, M., WEBER, R., and MANCINI, M. *Bestimmung der Emissionskoeffizienten von Gas-Gemischen auf Grundlage von spektroskopischen Datenbanken*. 27. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2267), Clausthal, Germany. 2015.
- [69] ALBERTI, M., WEBER, R., and MANCINI, M. *Calculation of Gas Emissivities at High Temperatures and High Pressures using HITEMP-2010*. XXII International Symposium on Combustion Processes, Gliwice, Poland. 2015.
- [70] ALBERTI, M., WEBER, R., and MANCINI, M. *Re-creating Hottel's emissivity charts for carbon dioxide and extending them to 40 bar pressure using HITEMP-2010 data base*. Combustion & Flame 162 (2015) 597–612.

- [71] ALBERTI, M., WEBER, R., MANCINI, M., FATEEV, A., and CLAUSEN, S. *Validation of HITEMP-2010 for Carbon Dioxide and Water Vapour at high temperatures and atmospheric pressures in 450-7600 cm⁻¹ spectral range*. Journal of Quantitative Spectroscopy & Radiative Transfer 157 (2015) 14–33.
- [72] BECKMANN, A. M., MANCINI, M., and WEBER, R. *CFD-Modellierung einer Kohlenstaubflamme unter besonderer Berücksichtigung der Vorhersage von Ascheablagerungen*. 27. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 2267), Clausthal, Germany. 2015.
- [73] WEBER, R. and MANCINI, M. *On predicting char burnout in pulverized coal combustion*. Zeitschrift für Physikalische Chemie 229 (5) (2015) 619–641.
- [74] ALBERTI, M., WEBER, R., and MANCINI, M. *Radiative Heat Transfer in a High Pressure Entrained Flow Gasifier*. 1st International Workshop on Oxy-Fuel Combustion, Montabaur, Germany. 2016.
- [75] ALBERTI, M., WEBER, R., and MANCINI, M. *Re-creating Hottel's emissivity charts for water vapor and extending them to 40 bar pressure using HITEMP-2010 data base*. Combustion & Flame 169 (2016) 141–153.
- [76] BECKMANN, A. M., MANCINI, M., WEBER, R., SEEBOLD, S., and MÜLLER, M. *Measurements and CFD modeling of a pulverized coal flame with emphasis on ash deposition*. Fuel 167 (2016) 168–179.
- [77] BECKMANN, A. M., MANCINI, M., and WEBER, R. *Towards understanding of deposit build-up mechanisms in our experimental facility: Experiments and CFD modeling of 15 kW coal flames*. 26th Impacts of Fuel Quality on Power Production and Environment, Prague, Czech Republic. 2016.
- [78] BIBRZYCKI, J., MANCINI, M., SZŁĘK, A., and WEBER, R. *A char combustion sub-model for CFD-predictions of fluidized bed combustion - experiments and mathematical modeling*. Combustion and Flame 163 (2016) 188–201.
- [79] JOHANSEN, J. M., GADSBØLL, R., THOMSEN, J., JENSEN, P. A., GLARBORG, P., EK, P., MARTINI, N. D., MANCINI, M., WEBER, R., and MITCHELL, R. E. *Devolatilization kinetics of woody biomass at short residence times and high heating rates and peak temperatures*. Applied Energy 162 (2016) 245–256.
- [80] KOLB, T., AIGNER, M., KNEER, R., MÜLLER, M., WEBER, R., and DJORDJEVIC, N. *Tackling the challenges in modelling entrained-flow gasification of low-grade feedstock*. Journal of the Energy Institute 89 (4) (2016) 485–503.

Dr.-Ing. N. Schaffel-Mancini

- [1] SCHAFFEL, N., SZLEK, A., LOEFFLER, K., MANCINI, M., and WEBER, R. *HTAC Application for Solid Fuel Combustion*. XIX International Symposium on Combustion Processes, Wisla, Poland. 2005.
- [2] SCHAFFEL, N., SZLEK, A., WILK, R., LOEFFLER, K., MANCINI, M., and WEBER, R. *Mathematical Modelling of MILD/Flameless Combustion of Pulver-*

ized Coal. 6th International Symposium on High Temperature Air Combustion and Gasification, Essen, Germany. 2005.

- [3] SCHAFFEL, N. and SZLEK, A. *Preliminary investigations of HTAC boiler fired with pulverized coal.* 10th International Conference on Boiler Technology, Szczyrk, Poland. 2006.
- [4] SCHAFFEL, N. and SZLEK, A. *Preliminary studies of HTAC technology applications in boiler.* 31st International Symposium on Combustion, Heidelberg, Germany. 2006.
- [5] MANCINI, M., WEBER, R., SCHAFFEL, N., and SZLEK, A. *Analysis of numerical modeling in predicting chemistry and NO_x in MILD combustion.* XX International Symposium on Combustion Processes, Pultusk, Poland. 2007.
- [6] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Analysis of High Temperature Air Combustion (HTAC) boiler for efficient and clean power production using Computational Fluid Dynamics.* 20th ECOS Conference, Padova, Italy. 2007.
- [7] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology in supercritical pulverized coal boiler.* XX International Symposium on Combustion Processes, Pultusk, Poland. 2007.
- [8] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Design of the HTAC Boiler Fired with Pulverized Coal Using Numerical Modeling Methods.* II ECCOMAS Thematic Conference on Computational Combustion, Delft, Netherlands. 2007.
- [9] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Numerical Investigation of the Configuration of a Pulverized Coal Fired Boiler Operated with HTAC Technology.* 23. Deutscher Flammentag - Verbrennung und Feuerung (VDI Berichte 1988), Berlin, Germany. 2007.
- [10] MANCINI, M., WEBER, R., SCHAFFEL, N., and SZLEK, A. *CFD Method and Detailed Mechanisms Modelling in Predicting NO_x in MILD Combustion.* 7th International Symposium on High Temperature Air Combustion and Gasification, Phuket, Thailand. 2008.
- [11] SCHAFFEL, N. and SZLEK, A. *Analysis of isothermal gas turbine coupled with the steam cycle.* 21th ECOS Conference, Krakau, Poland. 2008.
- [12] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology in power boilers fired with pulverized coal.* 7th International Symposium on High Temperature Air Combustion and Gasification, Phuket, Thailand. 2008.
- [13] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *HTAC boiler fired with pulverized coal for ecologic and efficient electricity production.* Archivum Combustionis 28 (2008) 105–112.



- [14] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Simulations of the steam power cycle with High Temperature Air Combustion (HTAC) boiler*. 21th ECOS Conference, Krakau, Poland. 2008.
- [15] SCHAFFEL, N., WERLE, S., SZLEK, A., WILK, R., and HUSTAD, J. E. *Experimental investigation of partially premixed flames*. 21th ECOS Conference, Krakau, Poland. 2008.
- [16] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and WEBER, R. *Ecological evaluation of the pulverized coal combustion in HTAC technology*. International Conference on Optimization using Exergy-Based Methods and Computational Fluid Dynamics, Berlin, Germany. 2009.
- [17] SCHAFFEL, N., MANCINI, M., SZLEK, A., and WEBER, R. *Mathematical modeling of MILD combustion of pulverized coal*. Combustion and Flame 156 (9) (2009) 1771 –1784.
- [18] SCHAFFEL, N., SZLEK, A., MANCINI, M., and WEBER, R. *Application of HTAC technology to pulverized coal boilers*. 10th Conference on Energy for a Clean Environment (Clean Air), Lissabon, Portugal. 2009.
- [19] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and R.WEBER. *Novel Concept for Supercritical Boilers*. 11th International Conference on Boiler Technology, Szczyrk, Poland. 2010.
- [20] SCHAFFEL-MANCINI, N., MANCINI, M., SZLEK, A., and WEBER, R. *Novel conceptual design of a supercritical pulverized coal boiler utilizing high temperature air combustion (HTAC) technology*. Energy 35 (7) (2010) 2752 – 2760.
- [21] SCHAFFEL-MANCINI, N., MANCINI, M., and WEBER, R. *Turbulence-chemistry interaction in mild and FLOX combustion*. 6th International Symposium on High Temperature Air Combustion and Gasification, Poznan, Poland. 2010.
- [22] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Furnace*. 23th Impacts of Fuel Quality on Power Production and Environment, Lapland, Finland. 2010.
- [23] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition*. XXI International Symposium on Combustion Processes, Miedzzydroje, Poland. 2010.
- [24] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *Mathematical Modelling of Ash Deposition in a Coal-Fired Experimental Reactor*. 9th European Conference on Industrial Furnances and Boilers, Estoril, Portugal. 2011.
- [25] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On Importance of Fluid Dynamics in CFD Predictions of Ash Deposits*. 24th Impacts of Fuel Quality on Power Production and Environment, Puchberg, Austria. 2012.



- [26] WEBER, R., MANCINI, M., SCHAFFEL-MANCINI, N., and KUPKA, T. *On predicting the ash behaviour using Computational Fluid Dynamics*. Fuel Processing Technology 105 (2013) 113 –128.
- [27] WEBER, R., SCHAFFEL-MANCINI, N., MANCINI, M., and KUPKA, T. *Fly ash deposition modelling: Requirements for accurate predictions of particle impaction on tubes using RANS-based computational fluid dynamics*. Fuel 108 (2013) 586 –596.

Dipl.-Ing. Y. Poyraz

- [1] WEBER, R., POYRAZ, Y., BECKMANN, A. M., and BRINKER, S. *Combustion of biomass in jet flames*. Proceedings of the Combustion Institute 35 (3) (2015) 2749–2758.