REFERENCES

[1] Peter McKendry, "Energy production from biomass (part 1): overview of biomass," *Bioresource Technology*, vol. 83, pp. 37-66, 2002.

[2] Tomoaki Namioka, Kunio Yoshikawa Kentaro Umeki, "Analysis of an updraft biomass gasifier with high temperature steam using," *Applied Energy*, vol. 90, pp. 38-45, 2012.

[3] "WBA Global Bioenergy Statistics 2018," World Bioenergy Association, Summery Report 2018.

[4] Perinaz Bhada-Tata Daniel Hoornweg, "WHAT A WASTE, A Global Review of Solid Waste Management," Urban Development & Local Government Unit, World Bank, 2012.

[5] "Annual Report 2012," Central Environmental Authority, Sri Lanka, Annual Report 2012.

[6] Peter McKendry, "Energy production from biomass (part 2): conversion technologies," *Bioresource Technology*, vol. 83, pp. 47-54.

[7] Y. Neubauer, "Biomass Gasification," in *Biomass Combustion Science, Technology and Engineering*, Lasse Rosendahl, Ed.: Woodhead Publishing Limited, 2013, ch. 6, pp. 106-129.

[8] A. Bridgwater, "Fast pyrolysis of biomass for the production of liquids," in *Biomass Combustion Science, Technology and Engineering*, Lasse Rosendahl, Ed.: Woodhead Publishing Limted, 2013, ch. 7, pp. 130-171.

[9] V. Nallathambi Gunaseelan, "Anaerobic Digestion of Biomass for Methane Production," *Biomass and Bioenergy*, vol. 13, pp. 83-114, 1997.

[10] Yunbo Zhaia, Yun Zhuc, Caiting Lia, Guangming Zeng Tengfei Wanga, "A review of the hydrothermal carbonization of biomass waste for hydrochar formation: Process conditions, fundamentals, and physicochemical properties," *Renewable and Sustainable Energy Reviews*, vol. 90, pp. 223-247, 2018.

[11] J. Patrick A. Hettiaratchi, S. C. Wirasinghe, Sumith Pilapiiya Nilanthi J. G. J. Bandara, "Relation of waste generation and composition to socio-economic factors: a case study," *Enviornmental Monitering and Assessment*, vol. 135, pp. 31-39, 2007.

[12] Florian Hoffmann, Bernhard Peters Amir Houshang Mahmoudi, "Application of XDEM as a novel approach to predict drying of a packed bed," *International Journal of Thermal Sciences*, vol. 75, pp. 65-75, 2014.

[13] Mahinsasa Narayana Niranjan Fernando, "A comprehensive two dimensional Computational Fluid Dynamics model for an updraft biomass gasifier," *Renewable Energy*, vol. 99, pp. 698-710, 2016.

[14] M. Vascellari, G. Cau S. Murgia, "Comprehensive CFD model of an air-blown coal-fired updraft gasifier," *Fuel*, vol. 101, pp. 129–138, 2012.

[15] Qinglin Zhang, Weihong Yang, Wlodzimierz Blasiak Yueshi Wu, "A two-dimensional CFD simulation of biomass gasification in a downdraft fixed bed gasifier with highly preheated air and steam," *Energy Fuels*, May 2013.

[16] W Malalasekera H K Versteeg, *An Introduction to Computational Fluid Dynamics*, 2nd ed.: Pearson Education Limited, 2007.

[17] Andrzej BIAŁOWIEC Paweł STĘPIEŃ, "Mathematical Modelling of Wooden Biomass torrefaction," *Drewno*, vol. 60, pp. 51-65, 2017.

[18] Michael P. Twedt, Christina Gerometta, Evan Almberg Stephen Gent, "Fundamental Theories of Torrefaction by Thermochemical Conversion," in *Theoretical and Applied Aspects of Biomass Torrefaction*.: Elsevier Inc., 2017, ch. 3, pp. 41-75.

[19] Radu Godina, João Carlos de Oliveira Matias, Leonel Jorge Ribeiro Nunes Jorge Miguel Carneiro Ribeiro, "Future Perspectives of Biomass Torrefaction: Review of the Current State-Of-The-Art and Research Development," *Sustainability*, vol. 10, July 2018.

[20] Peter Quickerb Kathrin Webera, "Properties of biochar," *Fuel*, vol. 217, pp. 240-261, 2018.

[21] Arjen Boersma, Robin Zwart, J. H. A. Kiel P.C.A. Bergman, "Torrefaction for Biomass Co-Firing in Existing Coal-Fired Power Stations," Energy research Centre of the Netherlands, ECN Report 2005.

[22] J Carlos De Oliveira Matias, J P Da Silva C Leonel Jorge Ribeiro Nunes, "Biomass Torrefaction Process," in *Torrefaction of Biomass for Energy Application*.: Elsevier Inc, 2017, ch. 3, pp. 89-124.

[23] Krzysztof J. Ptasinski, Frans J.J.G. Janssen Mark J. Prins, "Torrefaction of wood: Part 1. Weight loss kinetics," *Journal of Analytical and Applied Pyrolysis*, vol. 77, pp. 28-34, 2006.

[24] Krzysztof J. Ptasinski, Frans J.J.G. Janssen Mark J. Prins, "Torrefaction of wood: Part 2. Analysis of products," *Journal of Analytical and Applied Pyrolysis*, vol. 77, pp. 35-40, 2006.

[25] James R. Arcate, and Thomas B. Reed Edward S. Lipinsky, "Enanced Wood Fuels via Torrefaction," *Division of Fuel chemistry*, vol. 47, pp. 408-410, 2002.

[26] J Carlos De Oliveira Matias, J P Da Silva C Leonel Jorge Ribeiro Nunes, "Applications for Torrefied Biomass," in *Torrefaction of Biomass for Energy Application*.: Elsevier Inc., 2017, ch. 11, pp. 203-214.

[27] JianqiaoWang, Yijun Pan, Boxiong Shena, ChunfeiWub Peng Yuan, "Reviewof biochar for themanagement of contaminated soil: Preparation, application and prospect," *Science of the Total Environment*, vol. 659, pp. 473–490, 2019.

[28] I. Malgarinos, N. Nikolopoulos, P. Grammelis, S. Karrelas, E. Kakaras A. Nikolopoulos, "A decoupled approach for NOx–N2O 3-D CFD modeling in CFB plants," *Fuel*, vol. 115, pp. 401-415, 2014.

[29] A. Jhalani, M. R. Ravi, A. Ray S. Sinha, "Modelling of Pyrolysis in Wood: A Review," *SESI Journal*, vol. 10, pp. 41-62, 2000.

[30] W. A. M. K. P. Wickramaarachchi, Mahinsasa Narayana Muhammad Amin, "Performance Analysis of Updraft Gasifier," in *International Conference on Sustainable Energy Engineering and Application (ICSEEA)*, 2016, pp. 61-65.

[31] I. Obernberger, F. Biedermann C. Mandl, "Modelling of an updraft fixed-bed gasifier operated with softwood pellets," *Fuel*, vol. 89, pp. 3795-3806, 2010.

[32] M. Narayana K.U.C. Perera, "Finite Volume Analysis of Biomass Particle Pyrolysis," in *Moratuwa Engineering Research Conference (MERCon)*, 2017, pp. 379-384.

[33] J.A. van Oijen, L.P.H. de Goey Y. Haseli, "A detailed one-dimensional model of combustion of a woody biomass particle," *Bioresource Technology*, vol. 102, pp. 9772–9782, 2011.

[34] Mahinsasa Narayana Niranjan Fernando, "A comprehensive two dimensional Computational Fluid Dynamics model for an updraft biomass gasifier," *Renewable*

Energy, vol. 99, pp. 698-710, 2016.

[35] Hui Liu, "CFD Modeling of Biomass Gasification Using a Circulating Fluidized Bed Reactor," University of Waterloo, Ontario, Canada, PhD Thesis 2014.

[36] Lamees Akawi, Murray Moo-Young, C. Perry Chou Kajan Srirangan, "Towards sustainable production of clean energy carriers from biomass resources," *Applied Energy*, vol. 100, pp. 172–186, 2012.

[37] Xi Gao, Ya-ping Zhu, Zheng-hong Luo Ya-Qing Zhuang, "CFD modeling of methanol to olefins process in a fixed-bed reactor," *Powder Technology*, vol. 221, pp. 419–430, 2012.

[38] R.E. treybal, *Mass transfer Operations*, 3rd ed.: McGraw-Hill Book company, 1980.

[39] Tomáš Juˇrena, "NUMERICAL MODELLING OF GRATE COMBUSTION," Brno University of Technology, PhD Thesis 2012.

[40] Pawel Jan Zukb, Konrad Bajera, Marek Dudynski Kamil Kwiatkowskia, "Biomass gasification solver based on OpenFOAM," *Computer Physics Communications*, 2013.