



PERSONAL  
INFORMATION

**Dr. agr. sc. Shkelqim Karaj**

 Garbenstr. 9, 70599- Stuttgart – Germany  
 Mozartstr. 41, 70180 Stuttgart- Germany

 +49711459 24703  +4916096814837, +355698915641

 [shkelqim\\_karaj@uni-hohenheim.de](mailto:shkelqim_karaj@uni-hohenheim.de)

 <https://agrartechnik-440e.uni-hohenheim.de/en/staff/staff-agricultural-engineering-in-the-tropics-and-subtropics>

**ORCID iD** <https://orcid.org/0000-0001-7047-121X>

[https://www.researchgate.net/profile/Shkelqim\\_Karaj](https://www.researchgate.net/profile/Shkelqim_Karaj)

Sex Male | Date of birth 04/07/1982 | Nationality Albanian

WORK EXPERIENCE

- 
- (01/02/2020 – 31/07/2021) DFG Research Fellowship Stipend at University of Tirana, Faculty of Natural Sciences, Tirane – Albania.
- (01/07/2019 - ongoing) External Post Doc Researcher at Universität Hohenheim, Agricultural Engineering in the Tropics and Subtropics (440e), Stuttgart – Germany
- (01/10/2007 - 30/06/2019) Researcher at Universität Hohenheim, Agricultural Engineering in the Tropics and Subtropics (440e), Stuttgart – Germany.
- (03/04/2009 – 30/11/2016) Lecturer at Agriculture University of Tirana, Faculty of Agriculture and Environment
- (01/12/2006 – 30/09/2007) Scientific Assistant Universität Hohenheim, Agricultural Engineering in the Tropics and Subtropics (440e), Stuttgart – Germany.  
Prof. Dr. Joachim Müller  
Garbenstr. 9,  
70599 Stuttgart  
Tel 0711 459-22490  
Fax 0711 459-23298  
E-Mail [joachim.mueller@uni-hohenheim.de](mailto:joachim.mueller@uni-hohenheim.de)
- (01/04/2006 – 30/11/2006) Scientific Assistant Universität Hohenheim, Fundamentals of Agricultural Engineering (440a), Stuttgart – Germany.  
Prof. Dr.-Ing. Stefan Böttinger  
Garbenstr.9,  
70599 Stuttgart  
Tel 0711 459-23200  
Fax 0711 459-22519  
E-Mail [boettinger@uni-hohenheim.de](mailto:boettinger@uni-hohenheim.de)

## EDUCATION AND TRAINING

(01/02/2008 -17/12/2013)

Doctoral degree Dr., Universität Hohenheim, Stuttgart – Germany.

Universität Hohenheim, Agricultural Engineering in the Tropics and Subtropics (440e).  
Optimization of de-shelling and oil extraction of *Jatropha curcas* L. for direct use in Plant oil stoves

(15/10/2005 – 15/10/2007)

M. Sc. Studies in Universität Hohenheim Stuttgart – Germany.

Agricultural Sciences in the Tropics and Subtropics

(15/10/2000 – 30/03/2005)

Dip-. Bachelor Studies in Agricultural University of Tirana, Albania.

Agriculture Science Dipl.- Ing. Agronomy.

## PERSONAL SKILLS

Mother tongue(s)

Albanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1/2	C1/2	C1/2	C1/2	C1/2
IELTS					
German	C1/2	C1/2	C1/2	C1/2	C1/2
Italian	C1/2	C1/2	C1/2	C1/2	B1/2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

Communication skills

Lectures at Universität Hohenheim and Agriculture University of Tirana:  
Good communication skills gained through lecturing in Master and Bachelor degree.

Supervising Bachelor and Master Thesis.

Supervising PhD work and project coordinator.

Participating in National and International Conferences.

## Curriculum Vitae

### Organisational / managerial skills

#### Project Coordinator:

1. JatroilPROTEIN (Nr° 033R069B). Integrated de-hulling, de-shelling, and de-oiling process of Jatropha curcas for the efficient production of high-quality designer-protein feed and vegetable oil.
2. Optimization of de-shelling and oil extraction of Jatropha curcas L. for direct use in Plant oil stoves.
3. Tempus Project 544504-TEMPUS-1-2013-1-DE-TEMPUS-JPCR Renewable Energy Studies in Western Balkan Countries – RESI.
4. Erasmus + Project Key Action 1. Inter-institutional agreement 2014-2020 between institutions from programme and partner countries.
5. Danube Strategy. The network of the „Four Motors for Europe“(Baden-Württemberg, Lombardy, Catalonia and Rhône-Alpes), Use of Regional bioenergy potential.
6. Intelligent moisture – sensor for water efficient use during irrigation.
7. Development of a monitoring system for controlling and optimization of storage process in grain silos
8. Drying test of Folium cum Flore Crataegi in Universität Hohenheim and Agro-MAP farm in Albania
9. Solar Drying of woodchip.
10. Sustainable development strategies of medicinal and aromatic plants (MAP) in the Dinaric Alps (SAGEDA)

### Computer skills

MS-Office, Internet.

good command of Microsoft Office™ tools

SAS, Origin Pro 8, MATLAB.

Statistical analysis for Agricultural Engineering problems.

Visio, Design program for element construction and simulation.

Modelling and optimization of bio-chemical processes

### Driving licence

Replace with driving licence category.

B

Last update. 10.01.2020

Signature:

Dr. agr. sc. Shkelqim Karaj

## Publication list as part of the academic curriculum vitae:

- [1] S. Karaj, T. Rehl, and J. Müller, "Potenciali i biomases ne Shqiperi per prodhimin energjise elektrice," *Mjedisi SOT*, vol. 118, pp. 8-9, 2007.
- [2] S. Karaj, R. Huaitalla Mendoza, and J. Müller, "Physical, mechanical and chemical properties of *Jatropha curcas* L. seeds and kernels," in *Proceedings Tropentag 2008: Competition for Resources in a Changing World: New Drive for Rural Development*, Stuttgart (Germany), 2008, pp. 1-7.
- [3] S. Karaj and J. Müller, "Optimierung der mechanischen Ölgewinnung aus Jatrophakernen (Optimization of mechanical extraction of *Jatropha curcas* seeds)," *Landtechnik*, vol. 64, pp. 164-167, 2009.
- [4] S. Karaj and J. Müller, "Clarification of *Jatropha curcas* L. oil for direct use in plant oil stoves," in *Proceedings Tropentag 2009: International Research and Food security, Natural Resource Management and Rural Development*, Hamburg (Germany), 2009, pp. 1-6.
- [5] S. Karaj and J. Müller, "Optimization of *Jatropha curcas* oil-pressing for Biodiesel production," in *2nd International Congress on Biodiesel: "The Science and The Technology"*, München (Germany), 2009, p. 1.
- [6] H. P. S. Makkar, V. Kumar, S. Karaj, M. Kratzeisen, P. Tipraqsa, J. Müller, *et al.*, "Sustainable land development and ecosystem conservation through enhancing economic viability of the *Jatropha curcas* based biodiesel production chain using a bio-refinery concept," in *Proceedings of the International Conference ERSEC 2009: Sustainable Land Use and Ecosystem Conservation* Beijing (China), 2009, pp. 210-235.
- [7] S. Karaj and J. Müller, "Optimization of cold mechanical oil extraction from *Jatropha curcas* L. seeds with respect to oil recovery and oil residues in press cake," in *Proceedings of the 18th European Biomass Conference and Exhibition from Research to Industry and Markets*, Lyon (France), 2010, pp. 1-6.
- [8] S. Karaj, I. Barfuss, J. Schalk, G. Reisinger, R. Pude, and J. Müller, "Modelling of air resistance during drying of wood-chips," in *Proceedings of the CIGR International Symposium on "Sustainable Bioproduction - Water, Energy and Food"*, Tokyo (Japan), 2011, pp. 1-5.
- [9] S. Karaj, C. Kanyaporn, C. Maurer, K. Meissner, T. Kiatsiriroat, and J. Müller, "Physico – chemical characterization of Biochar products from *Jatropha curcas* L. shells, press cake and solid biogas digestate," presented at the Asia Pacific Biochar Conference APBC Kyoto 2011, Kyoto, Japan, 2011.
- [10] S. Karaj and J. Müller, "Determination of temperature influence on characteristic and variable chemical properties of *Jatropha curcas* L. oil extracted with mechanical screw press," in *Proceedings of the World Conference on Oilseed Processing, Fats & Oils Processing, Biofuels & Applications*, Izmir (Turkey), 2011, p. 1.
- [11] S. Karaj, K. Meissner, and J. Müller, "Geometric vs. aerodynamic diameter for modelling airflow resistance of wood chip," presented at the International Conference of Agricultural Engineering CIGR-AgEng2012, Valencia, Spain, 2012.
- [12] S. Karaj and J. Müller, "Influence of total contamination of *Jatropha curcas* oil on deposits and performance of plant oil pressure stoves," presented at the 20th European Biomass Conference, Milan, Italy, 2012.
- [13] S. Karaj, P. Schneider, and J. Müller, "Influence of air mass flow and feeding rate on combustion performance of *Jatropha curcas* seed shells and press cake in a tilting furnace with bowl burner," presented at the International Conference of Agricultural Engineering CIGR-AgEng2012, Valencia, Spain, 2012.
- [14] S. Karaj, P. Schneider, and J. Müller, "Influence of self-compaction on air-flow resistance of wood chip bulks " presented at the International Conference of Agricultural Engineering, CIGR-AgEng2012, Valencia, 2012.
- [15] S. Karaj, K. Spohrer, C. Hübner, and J. Müller, "Dual soil moisture sensor for simultaneous water content and water potential measurements: Functional principle and first results," presented at the Landtechnik 2012: Mit Erfahrung und Innovationskraft zu mehr Effizienz, Karlsruhe, 2012.
- [16] S. Munder, S. Karaj, M. Gummert, S. Haeefe, and J. Müller, "Improving thermal conversion properties of rice straw by briquetting," presented at the International Workshop on the innovative uses of rice straw and rice husk, International Rice Research Institute, Los Baños, Philippinen, 2012.
- [17] S. Romuli, S. Karaj, and J. Müller, "Optimization of mechanical oil extraction from husked kernels of *Jatropha curcas* L. using matrix additives," presented at the Tropentag 2012: "Resilience of agricultural systems against crises", Göttingen, Germany, 2012.
- [18] C. Hübner, K. Spohrer, S. Karaj, and J. Müller, "A novel dual soil sensor for simultaneous water content and water potential determination in irrigation scheduling and environmental monitoring," presented at the European Geoscience Union, Vienna, Austria, 2013.
- [19] S. Karaj, S. Latif, and J. Müller, "Shelf life analyses of *Jatropha curcas* L. oil extracted with mechanical and aqueous enzymatic procedures," in *11th Euro Fed Lipid Congress and 30th ISF lecture series – New strategies for High Quality Future*, Antalya, Turkey, 2013, p. 347.
- [20] S. Karaj and J. Müller, "Biomass systematic utilization " presented at the Example Strategy: Smart specialisation in the Field of Agribusiness/biomass Novi Sad, Serbia, 2013.
- [21] S. Karaj, S. Romuli, and J. Müller, "Modelling and design of a prototype machine for de-hulling *Jatropha curcas* L. fruit," presented at the Sustainable provision of rural renewable energy with focus on financially viable solutions in developing countries, Stuttgart, Germany, 2013.
- [22] S. Karaj, D. Wüst, A. Kruse, and J. Müller, "Assessment of thermal processing of Maize waste biomass: New opportunities for exploitation as energy crop," presented at the 21st European Biomass Conference and Exhibition - Setting the course for a biobased economy, Kopenhagen, Denmark, 2013.
- [23] S. Latif, S. Karaj, and J. Müller, "Quality evaluation of *Jatropha* seed kernel oil obtained by aqueous enzymatic, mechanical and solvent extraction," presented at the 11th Euro Fed Lipid Congress and 30th ISF lecture series – New strategies for High

- Quality Future, Antalya, Turkey, 2013.
- [24] S. Romuli, S. Karaj, and J. Müller, "Performance analysis of de-shelling process for *Jatropha curcas* L. seeds," presented at the Tropentag 2013, Hohenheim, Germany, 2013.
- [25] S. Romuli, S. Karaj, and J. Müller, "Matrix mechanical extraction of *Jatropha curcas* L. kernels: A novel method for improving oil recovery," presented at the 11th Euro Fed Lipid Congress and 30th ISF lecture series – New strategies for High Quality Future, Antalya, Turkey, 2013.
- [26] K. Spohrer, J. Müller, S. Karaj, C. Hübner, and K. D. Vollmond, "Bodenfeuchtesensor und Kalibrierungsverfahren hierzu [Soil moisture sensor for measuring water content and suction power, attached to irrigation plant, has sensors whose pore sizes are set different from each other]," Germany Patent DE102011056754A1, 2013.
- [27] H. N. Idakiev, F. Pudel, S. Romuli, J. Müller, H. P. S. Makkar, S. Latif, *et al.*, "Integrated use of *Jatropha curcas*," in *NAROSS - 19th International Conference for Renewable Resources and Plant Biotechnology*, Poznan, Polen, 2014.
- [28] H. N. Idakiev, F. Pudel, S. Romuli, J. Müller, H. P. S. Makkar, S. Latif, *et al.*, "Potentiale einer *Jatropha*-Bioraffinerie," presented at the Mitgliederversammlung des PPM e.V., Magdeburg, Germany, 2014.
- [29] S. Karaj and J. Müller, "Influence of air mass flow and feeding rate on combustion properties of *Jatropha curcas* L. pellet," presented at the Perspectives of the Use of Regional Bioenergy Potentials, Timisoara, Romania, 2014.
- [30] S. Karaj, S. Romuli, S. Awiszus, and J. Müller, "Performance of pellets form *Jatropha* hulls and shells in a prototype small scale stove," in *Tropentag 2014 - Bridging the gap between increasing knowledge and decreasing resources*, 2014.
- [31] S. Karaj, S. Romuli, and J. Müller, "Sedimentation of mechanical extracted *Jatropha Curcas* L. oil applying multiphase flow fundamentals," Tropentag 2014 - Bridging the gap between increasing knowledge and decreasing resources, 2014.
- [32] S. Karaj, D. Wüst, A. Kruse, and J. Müller, "Assessment of pyrolysis and hydrothermal carbonization production of corn and olive biomass residue," in *22 nd European Biomass Conference and Exhibition - Setting the course for a biobased economy*, Hamburg, Germany, 2014.
- [33] S. Romuli, S. Karaj, and J. Müller, "Microwave pretreatment for improving oil recovery of mechanical extraction of *Jatropha curcas* L. kernel," in *Tropentag 2014*, Prague, 2014.
- [34] S. Karaj, S. Munder, K. Meissner, and J. Müller, "Physico-chemical characterization of Biochar products from different biomass feedstock as soil amendment," presented at the International Conference on Soil, Tirana, Albania, 2015.
- [35] P. Tiayon, N. Wuttisathittaworn, K. Lammawut, W. Spreer, C. Santasup, K. Sringarm, *et al.*, "Properties of bio-char from different feedstock produced in a low cost kiln," presented at the 1st International Conference on Asian Highland Natural Resources Management (AsiaHiLand) and 2nd IDRC-SEARCA Upland Fellowship and Conference, Chiang Mai, Thailand, 2015.
- [36] N. Gruda, S. Karaj, M. Buscher, and J. Müller, "Production of valeriana roots in different soil structures in East Albania," in *VII South-Eastern Europe Symposium on vegetables and potatoes - VP 2017*, Maribor, Slovenia, 2017.
- [37] S. Karaj, A. Hack, and J. Müller, "Thin Layer Drying Behaviour of folium cum flore *Crataegi* from Different Plant Flowering Stages," presented at the 10th Conference on Medicinal and Aromatic Plants of Southeast European Countries Split, Croatia, 2018.
- [38] S. Karaj, M. Kleb, N. Gruda, E. Rroco, and J. Müller, "Einfluss unterschiedlicher Bewässerungs- und Düngungsstrategien von Salbei im Norden Albaniens," in *Bernburger Winterseminar für Arznei- und Gewürzpflanzen*, Bernburg, 2018.
- [39] S. Karaj and J. Müller, "Design mobile solar dryer (MSD) using standard shipping container based on computational fluid dynamic simulation," presented at the Agro-Tech Conference 2018, Expocity, Albania, 2018.
- [40] S. Karaj, D. Schmelzer, N. Gruda, E. Rroco, and J. Müller, "Einfluss unterschiedlicher Bewässerungs- und Düngungsstrategien von Currykraut im Norden Albaniens," in *Bernburger Winterseminar für Arznei- und Gewürzpflanzen 2018*, Bernburg, 2018.
- [41] S. Romuli, S. Karaj, and J. Müller, "Combustion performance of *Jatropha curcas* L. residues in a biomass burner with continuous feeding system," *Biofuels*, pp. 1-7, 28 March 2018 2018.
- [42] S. Karaj and J. Müller, "Temperature influence on chemical properties of *Jatropha curcas* L. oil extracted with mechanical screw press," *Biofuels*, pp. 1-8, received: 14 June 2018.