

Position: since 2003: Senior scientist “Industrial Biotechnology”
since 2006: Scientific Manager Pilot plant facility
since 2014: Program Coordinator

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Overview

Dr. Joachim Venus, Senior Scientist “Industrial Biotechnology”, is program coordinator for the research program “Material and energetic use of biomass” and head of the research group bio-based products at the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB Potsdam).

His work emphasized on the development of continuous processes for the production of basic chemicals - in particular lactic acid - from biomass. At ATB Joachim Venus is in charge of numerous national and international research projects being carried out in the multi-functional pilot plant for the biotechnological production of lactic acid from plant biomass. The scale-up to a technical scale of several processing steps have to be developed for transferable solutions of bioconversion technologies based on renewable materials. For that purpose a multifunctional pilot plant was built at the site of ATB to investigate different feedstocks and bio-based products.

He has published a great deal of papers in well-known journals of those research fields. Moreover, he has taken part in more than 100 presentations and proceedings, since 2003, such as in “World Congress on Industrial Biotechnology and Bioprocessing”, “International Conference on Environmental, Industrial and Applied Microbiology/BioMicroWorld”, “European Biomass Conference and Exhibition”, “European Forum for Industrial Biotechnology/EFIB”, “International Conference on Renewable Resources and Biorefineries/RRB” or “Symposium on Biotechnology for Fuels and Chemicals”.

He is heading the national advisory board "Biotechnology of Renewable Resources" at DECHEMA. On international level Joachim Venus is being also a Management Committee member for Germany in the COST Action TD 1203 (Food waste valorisation for sustainable chemicals, materials & fuels, EUBis).

Main Research Fields

- Industrial Biotechnology, Biorefineries, Scaling-up of Bioprocesses
- pre-treatment of biomass for microbial conversion processes, bioconversion of renewable resources
- kinetics of cell growth/product formation and modelling of fermentation processes
- development of continuous mode processes for the production of basic chemicals (e.g. lactic acid) and biomass
- operation of a pilot plant facility for the optimization of biotechnological processes

Professional development

- **Group Leader Bioconversion** at ATB Potsdam (since April 2003) and **Program Coordinator** of the research program "Material and energetic use of biomass" at ATB Potsdam (since 2014)
- **Research associate/assistant** at the Brandenburg University of Technology (01/1997 – 04/2003)
- **Research associate** at University of Potsdam (01/1992 – 12/1996)
- **Research associate** at Institute of Biotechnology Potsdam (09/ 1988 – 12/ 1991)

Education

- **PhD** at TU Dresden (09/1984 – 08/1988, "Scale-up of aerobic fermentation processes in the pharmaceutical industry")
- **Dipl.-Ing. in Biotechnology** at Anhalt University of Applied Sciences Köthen (09/1980 – 08/1984)

Teaching (since 1992)

Microbiology, Bioengineering, Bioreaction engineering, Environmental Biotechnology, Renewables & Bio-conversion Processes

(University Potsdam, Technical University Dresden, Brandenburg University of Technology Cottbus-Senftenberg/BTU, Leibniz University Hannover, University of Applied Sciences Zittau/Görlitz, Lausitz University of Applied Sciences Senftenberg, University of Applied Sciences: Technology, Business and Design Wismar, Furtwangen University of Applied Sciences, UNICAMP Campinas/Brazil, Masdar Institute Abu Dhabi/UAE)

I. Journals etc.

1. Venus, J.; Richter, K.; Reimann, W.: Biochemicals and Energy from Sustainable Utilization of herbaceous Biomass (BESUB) - Biochemikalien und Energie aus der nachhaltigen Verwertung pflanzlicher Biomasse. Bornimer Agrartechnische Berichte, Heft 42, Potsdam-Bornim 2005 (ISBN 0947-7314)
2. Venus, J.; Richter, K.: Production of Lactic Acid from Barley: Strain Selection, Phenotypic and Medium Optimization. Eng. Life Sci. 2006, 6, No. 5, 492-500
3. Kamm, B., Kamm, M., Venus, J.: Principles of biorefineries: the role of biotechnology, the example lactic acid fermentation. – In: Edwin C. Hearn (Ed.), Trends in Biotechnology Research (pp. 199-223), Hauppauge, N.Y.: Nova Science Publishers, 2006 (ISBN 1-60021-224-7)
4. Venus, J.: Utilization of renewables for lactic acid fermentation. Biotechnol. J. 2006, 1, No. 12, 1428–1432. DOI: 10.1002/biot.200600180
5. Venus, J.; Richter, K.: Development of a Pilot Plant Facility for the Conversion of Renewables in Biotechnological Processes. Eng. Life Sci. 2007, 7, No. 4, 395-402. DOI: 10.1002/elsc.200720199
6. Meyer-Aurich, A.; Venus, J.; Jolliet, O.: Ökonomische und umweltrelevante Potenziale der Herstellung und Nutzung von Polymilchsäure aus nachwachsenden Rohstoffen als Ersatz für Kunststoffe aus petrochemischer Herstellung. Berichte über Landwirtschaft 86(2008)1, 142-161
7. Venus, J.: Continuous Mode Lactic Acid Fermentation based on Renewables. Res. J. Biotech 2009, 4, No. 2, 15-22
8. Vodnar, D.C.; Venus, J.; Schneider, R.; Socaciu, C.: Lactic Acid Production by *Lactobacillus paracasei* 168 in Discontinuous Fermentation Using Lucerne Green Juice as Nutrient Substitute. Chemical Engineering & Technology 33(2010) No. 3, 468-474. DOI: 10.1002/ceat.200900463
9. Leiß, S.; Venus, J.; Kamm, B.: Fermentative Production of L-Lysine-L-lactate with Fractionated Press Juices from the Green Biorefinery. Chem. Eng. Technol. 2010, 33, No. 12, 2102–2105. DOI: 10.1002/ceat.201000314
10. Carus, M.; Carrez, D.; Kaeb, H.; Ravenstijn, J.; Venus, J.: Level Playing Field for Bio-based Chemistry and Materials. – bioplastics MAGAZINE [03/11] Vol. 6, 52-55
11. Venus, J.: Feedstocks and (Bio)Technologies for Biorefineries. – In: G.E. Zaikov, F. Pudiel, G. Spychalski (Eds.), Renewable Resources and Biotechnology for Material Applications (pp. 299-309), Nova Science Publishers, 2011 (ISBN: 978-1-61209-521-9)

12. Papendiek, F.; Venus, J.: Cultivation and fractionation of leguminous biomass for lactic acid production. Chem. Biochem. Eng. Q., 28 (3) 375–382 (2014) doi: 10.15255/CABEQ.2013.1854
13. Koch, T.J.; Venus, J.; Bruhns, M.: Sugar beet syrups in lactic acid fermentation – Part I. Sugar Industry 139(2014) No. 8, 495–502
14. Koch, T.J.; Venus, J.: Sugar beet syrups in lactic acid fermentation – Part II - Saving nutrients by lactic acid fermentation with sugar beet thick juice and raw juice. Sugar Industry 139(2014) No. 11, 683–690
15. Venus, J.: Utilization of Waste Bread for Lactic Acid Fermentation. American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Volume 1, 2014, Pages 557-562 (doi: 10.13031/aim.20141892862 @ 2014, Paper number 141892862)
16. Turon, X., Venus, J., Arshadi, M., Koutinas, M., Lin, C., Koutinas, A. (2014) Food Waste and Byproduct Valorization through Bio-processing: Opportunities and Challenges. BioResources [Online] 9: 4, 5774-5777
17. Glaser, R.; Venus, J.: Screening of *Bacillus coagulans* strains in lignin supplemented minimal medium with high throughput turbidity measurements. Biotechnology Reports 4 (2014) 60–65. DOI: 10.1016/j.btre.2014.08.001
18. Pleissner, D.; Venus, J.: Agricultural residues as feedstocks for lactic acid fermentation. - ACS Symposium Series, Vol. 1186 "Green Technologies for the Environment" (2014) Chapter 13, pp 247–263, Chapter DOI: 10.1021/bk-2014-1186.ch013, ISBN13: 9780841230187/eISBN: 9780841230194
19. Idler, C.; Venus, J.; Kamm, B.: Microorganisms for the Production of Lactic Acid and Organic Lactates. Microorganisms in Biorefineries, Series: Microbiology Monographs, Vol. 26 (2015), Kamm, B. (Ed.) pp 225-273. DOI: 10.1007/978-3-662-45209-7_9
20. Pleissner, D.; Lau, K.Y.; Schneider, R.; Venus, J.; Lin, C.S.K.: Fatty acid feedstock preparation and lactic acid production as integrated processes in mixed restaurant food and bakery wastes treatment. Food Research International 73 (2015) 52–61. <http://dx.doi.org/10.1016/j.foodres.2014.11.048>
21. Papendiek, F.; Tartiu, V.E.; Morone, P.; Venus, J.; Hönig, A.: Assessing the economic profitability of fodder legume production for Green Biorefineries - A cost-benefit analysis to evaluate farmers profitability. Journal of Cleaner Production 112 (2016) 3643-3656. <http://dx.doi.org/10.1016/j.jclepro.2015.07.108>
22. Venus, J.: Bioconversion of renewable feedstocks and agri-food residues into lactic acid. RAMIRAN 2015 - 16th International Conference, 8th-10th September 2015, Hamburg, Abstract book, Pages 557-562
23. Kwan, T.H.; Pleissner, D.; Lau, K.Y.; Venus, J.; Pommeret, A.; Lin, C.S.K.: Techno-economic analysis of a food waste valorization process via microalgae cultivation and co-production of plasticizer, lactic acid and animal feed from algal biomass and food waste. Bioresource Technology 198 (2015) 292–299. <http://dx.doi.org/10.1016/j.biortech.2015.09.003>
24. Pleissner, D.; Venus, J.: Utilization of protein-rich residues in biotechnological processes. Applied Microbiology and Biotechnology 100(2016) Issue 5, 2133-2140, <http://link.springer.com/article/10.1007/s00253-015-7278-6>
25. Pleissner, D.; Venus, J.: Vom Reststoff zum Biokunststoff. Biobased Future - Mitteilungsblatt über Biomasse für Energie und Industrie in einer nachhaltigen Wirtschaft, Nr. 5 – Jänner 2016, S. 13, http://www.nachhaltigwirtschaften.at/iea_pdf/newsletter/iea_bioenergy_mitteilungsblatt_biobased_future_05_2016.pdf
26. Neu, A.-K.; Pleissner, D.; Mehlmann, K.; Schneider, R.; Puerta-Quintero, G.I.; Venus, J.: Fermentative utilization of coffee mucilage using *Bacillus coagulans* and investigation of down-stream processing of fermentation broth for optically pure L(+)-lactic acid production. Bioresource Technology Volume 211, July 2016, Pages 398–405, <http://dx.doi.org/10.1016/j.biortech.2016.03.122>
27. Pleissner, D.; Dietz, D.; van Duuren, J.B.J.H.; Wittmann, C.; Yang, X.; Lin, C.S.K.; Venus, J.: Biotechnological production of organic acids from renewable resources. Advances in Biochemical Engineering, in press
28. Dietz, D.; Schneider, R.; Papendiek, F.; Venus, J.: Leguminose green juice as an efficient nutrient for L(+)-lactic acid production. Journal of Biotechnology 236(2016) 26–34, <http://dx.doi.org/10.1016/j.jbiotec.2016.07.008>
29. Pleissner, D.; Neu, A.-K.; Mehlmann, K.; Schneider, R.; Puerta-Quintero, G.I.; Venus, J.: Fermentative lactic acid production from coffee pulp hydrolysate using *Bacillus coagulans* at laboratory and pilot scales. Bioresource Technology 218(2016) 167–173, <http://dx.doi.org/10.1016/j.biortech.2016.06.078>
30. Cota, J.; Venus, J.; Hoffmam, Z.B.; Ribeiro, L.F.: Editorial - Frontiers in the Expansion of Bioproducts. BioMed Research International, Volume 2016 (2016) <http://dx.doi.org/10.1155/2016/3809386>
31. Pleissner, D.; Qi, Q.; Gao, C.; Perez Rivero, C.; Webb, C.; Lin, C.S.K.; Venus, J.: Valorization of organic residues for the production of added value chemicals: A contribution to the bio-based economy. Biochemical Engineering Journal 116(2016) 3-16, <http://dx.doi.org/10.1016/j.bej.2015.12.016>
32. Pleissner, D.; Demichelis, F.; Mariano, S.; Fiore, S.; Navarro Gutiérrez, I.M.; Schneider, R.; Venus, J.: Direct production of lactic acid based on simultaneous saccharification and fermentation of mixed restaurant food waste. Journal of Cleaner Production 143 (2017) 615-623, <http://dx.doi.org/10.1016/j.jclepro.2016.12.065>

33. Laube, H.; Schneider, R.; Venus, J.: Investigation of spiral-wound membrane modules for the cross-flow nanofiltration of fermentation broth obtained from a pilot plant fermentation reactor for the continuous production of lactic acid. *Bioresour. Bioprocess.* (2017) 4: 4, <http://bioresourcesbioprocessing.springeropen.com/articles/10.1186/s40643-016-0133-5>
34. Glaser, R.; Venus, J.: Model-based characterisation of growth performance and L-lactic acid production with high optical purity by thermophilic *Bacillus coagulans* in a lignin-supplemented mixed substrate medium. *New Biotechnology*, 8 Feb 2017, Accepted manuscript published online <http://dx.doi.org/10.1016/j.nbt.2016.12.006>
35. Pleissner, D., Schneider, R., Venus, J., Koch, T.: Separation of lactic acid and recovery of salt-ions from fermentation broth. *J. Chem. Technol. Biotechnol.* (2017)92: 504–511. <http://onlinelibrary.wiley.com/doi/10.1002/jctb.5023/full>
36. Glaser, R.; Venus, J.: A brief dataset on the model-based evaluation of the growth performance of *Bacillus coagulans* and L-lactic acid production in a lignin-supplemented medium. *Data in Brief*, Available online 11 February 2017, <http://dx.doi.org/10.1016/j.dib.2017.02.010>

II. Selected Presentations @ International Conferences:

Presenter underlined

1. Venus, J.: Fermentation of Corn and Green Biomass to Lactic Acid. 2nd World Congress on Industrial Biotechnology and Bioprocessing, Orlando, FL, April 20-22, 2005. Abstracts, 49-50
2. Venus, J., Pecenka, R.: Pilot plants for the utilization of agricultural starchy and fibre raw materials. 3rd meeting of the Network on the Knowledge Based Bio-Economy, 29.05.-30.05.2007, Köln
3. Venus, J.: Continuous mode lactic acid fermentation based on renewables. BioMicroWorld 2007 – II International Conference on Environmental, Industrial and Applied Microbiology, 28 November – 1 December 2007, Seville (Spain), Book of Abstracts, 389
4. Venus, J.: Pilot plant for the bioconversion of sugar containing feedstocks. II Latin American Congress on Biorefineries, Unidad de Desarrollo Tecnológico (UDT) Univ. de Concepción, 04.05.-06.05.2009, Concepción, Chile
5. Venus, J.: Plenary lecture: Feedstocks and (Bio)Technologies for Biorefineries. 8th International Symposium - PROSPECTS FOR 3rd MILLENNIUM AGRICULTURE, October 8-10, 2009, Cluj-Napoca, Romania
6. Venus, J.: Scale-up of continuous mode lactic acid fermentation. BioProScale Symposium "Inhomogenities in large-scale bioreactors: Description – scaling – control", 24 to 27 November 2009, IfGB/TU Berlin
7. Venus, J.: Membrane based downstream processing of lactic acid fermentation broth. Proceedings of the 32nd Symposium on Biotechnology for Fuels and Chemicals, Hilton Clearwater Beach/FL, April 19-22, 2010, 60
8. Venus, J.: Plenary lecture: Fermentation and downstream processing of lactic acid using membrane processes. PERMEA 2010 – Proceedings of the 5th Membrane Science and Technology Conference, September 4-8, 2010, Tatranské Matliare, Slovakia, 93
9. Venus, J.: Pilot plant facility for the biotechnological manufacture of valuable products from renewable resources. EFIB2010 (19-21 October 2010, Edinburgh, Scotland, UK)
10. Venus, J.: Feedstocks and (Bio)Technologies for Biorefineries. Workshop Biorefineries - Recent Advances and New Challenges (November 10 to 12, 2010, Rio de Janeiro, Brazil)
11. Venus, J.: Pilot plant facility for the scale-up of continuous mode lactic acid fermentation. 2011 World Congress on Industrial Biotechnology & Bioprocessing, May 8-11, Toronto, Canada
12. Venus, J.: Pilot plant facility for the scale-up of continuous mode lactic acid fermentation. Advanced Biofuels in a Biorefinery Approach - Biorefinery Conference 2012, February 28 - March 1, Copenhagen, Denmark, Forest & Landscape Working Papers no. 70-2012
13. Venus, J.: Key note lecture: Scale up of lactic acid production (L18). 2nd BioProScale Symposium "Inhomogeneities in large-scale bioprocesses: System biology and process dynamics", 14 to 16 March 2012, Berlin
14. Venus, J.: Scale-up of Continuous Mode Lactic Acid Fermentation (Symposium 2: Industrial Microbiology). BIT's 5th Annual World Congress of Industrial Biotechnology (ibio-2012) "Bio-Economy in Synthetic Bio-era", 25-28 April 2012 in Xi'an Qujiang International Conference Center, China
15. Venus, J.: Pilot Plant Facility for the Scale-up of Continuous Mode Lactic Acid Fermentation. SEA-EU-NET Conference "Sustainable Development of Biomass Use in View of Future Research Initiative", 15-16 Nov 2012, Warsaw
16. Venus, J.: Pilot Plant Facility for the Scale-up of Continuous Mode Lactic Acid Fermentation. Symposium Biorefinery for food & fuel & materials (BFF2013), 7-11 April 2013 in Wageningen
17. Venus, J.: Utilization of waste bread for lactic acid fermentation. 9th International Conference on Renewable Resources and Biorefineries, 5–7 June 2013, Antwerp, Belgium
18. Venus, J.: Pre-treatment of biogenic feedstocks for lactic acid fermentation. The 4th International Environmental Best Practices Conference "Biorefinery: Biobased Value Chains and Sustainable Development", Olsztyn, Poland, 8-12 September, 2013

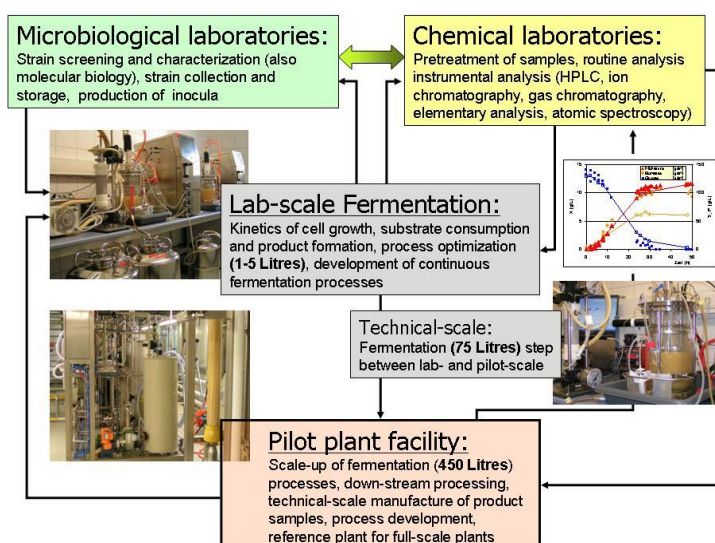
19. Venus, J.: Pilot Plant Facility for the Scale-Up of Continuous Mode Lactic Acid Fermentation. Industrial Biotechnology: meeting the challenges, 12-13 September 2013, Medicon Village, Lund, Sweden
20. Venus, J.: Invited lecture: "The COST Action EUBis on food waste valorisation for sustainable chemicals, materials & fuels" / "Pilot Plant for the bioconversion of renewable feedstocks and (agro/food...)residues" / "Utilization of waste bread for lactic acid fermentation". Workshop "BIOREFINERY FOR THE PRODUCTION OF ENERGY AND BIO-BASED PRODUCTS" Torino, Italy - 29-30 October, 2013
21. Venus, J.: Lignocellulosic biomass as potential substrates for the white biotechnology. BIO Pacific Rim Summit on Industrial Biotechnology and Bioenergy, December 8-11, San Diego/CA, 2013
22. Venus, J.: Pilot Plant Facility for the Scale-up of Continuous Mode Lactic Acid Fermentation. 3rd Biotechnology World Congress, 10th February - 12th February, 2014, Dubai/UAE
23. González, R.; Venus, J.: BRE4PLA Project. Utilization of Waste Bread for Lactic Acid Fermentation (tandem lecture). V International Seminar "Biopolymers & Sustainable Composites", The Technological Institute of Plastics/AIMPLAS (6&7 March, 2014 in Valencia)
24. Venus, J.: Bioconversion of renewable feedstocks and (agri/food) residues into lactic acid. 3rd PLA World Congress, 27th and 28th of May 2014 in Munich, Germany
25. Venus, J.: Utilization of Waste Bread for Lactic Acid Fermentation. 2014 ASABE and CSBE | SCGAB Annual International Meeting, July 13-16, 2014 – Montréal
26. Venus, J.: Pilot plant for the bioconversion of renewable feedstocks and (agri/food) residues - CLIB International Conference CIC2014, Düsseldorf, 19./20.11.2014
27. Venus, J.: Bioconversion of renewable feedstock and (agri/food) residues into lactic acid - 9th European Bioplastics Conference, 2/3 December 2014 at THE Square in Brussels, Belgium
28. Venus, J.: Lignocellulosic biomass and residues as potential substrates for the White Biotechnology - Workshop/Webinar «Fostering R&D-cooperations between German and Russian stakeholders in the bioeconomy, especially in the industrial biotech area» | December 5, 2014, Moscow, Russia
29. Venus, J.: Production of optical pure L- and D-lactate based on whey. COST TD1203 Dairy Waste Valorisation Workshop, Semmering, 10th March 2015
30. Pleissner, D.; Venus, J.: -Green hotels- Use of food waste derived from hotels and restaurants for the production of sustainable and biodegradable consumables. 5th Sweep-Net Regional Forum on Integrated Solid Waste Management, 15.04.2015, Tunis/Tunesia
31. Venus, J.: Pilot plant facility for the manufacture of bio-based products. CLIB-Qingdao Biotechnology Workshop (22 April 2015, Qingdao Institute of Bioenergy and Bioprocess Technology/QIBEBT - China)
32. T.H. Kwan, D. Pleissner, K.Y. Lau, J. Venus, A. Pommeret, C.S.K. Lin: Techno-economic analysis of a food waste valorization process via microalgae cultivation and co-production of plasticizer, lactic acid and animal feed from algal biomass and food waste. Proceedings of the International Conference on Solid Wastes 2015: Knowledge Transfer for Sustainable Resource Management, Hong Kong SAR, P.R. China, 19 – 23 May 2015, p. 499-503
33. Venus, J.: Lactic acid fermentation based on residues from a sugar mill. 11th International Conference on Renewable Resources & Biorefineries, 3–5 June 2015, York
34. Venus, J.: Bioconversion of renewable feedstocks and (agri/food) residues into lactic acid. BIO 2015 World Congress on Industrial Biotechnology, July 19-22, 2015 in Montréal
35. Venus, J.: Lignocellulosic biomass and residues as potential substrates for the Industrial Biotechnology. Sino-German Symposium on Biobased Chemicals & Biorefinery, Oct. 6-10, 2015 Frankfurt/M
36. Venus, J.: Integration of oilseed processing residues into biorefinery concepts. COST TD1203 Workshop "Green Technologies for Future Biorefineries", Kaunas, 23rd/24th February 2016
37. Pleissner, D.; Venus, J.: Scale-up of continuous mode lactic acid fermentation. EUBIS training school "Regulations and policy in food waste valorization". 9th-11th March 2016, Montreux, Switzerland
38. Venus, J.: Biotechnologische Stoffwandlung nachwachsender Rohstoffe in Chemikalien. Brandenburgischer Wissenschaftstag „Wissenschaftsregion Land Brandenburg und deutsch-russische Kooperationen“, 13. Deutsche Woche, 14. April 2016, St. Petersburg
39. Pleissner, D.; Venus, J.: Membrane based downstream processing of 2nd generation lactic acid fermentation broth. BIO World Congress on Industrial Biotechnology, April 17-20, 2016 - San Diego Convention Center
40. Demichelis, E.; Pleissner, D.; Venus, J.; Fiore, S.: Fermentative production of lactic acid and biogas from food waste: preliminary tests. SUM 2016 - 3rd Symposium on Urban Mining and Circular Economy, May 23rd 2016 - Bergamo, IT
41. Pleissner, D.; Venus, J.: -GREEN HOTELS- USE OF FOOD WASTE DERIVED FROM HOTELS FOR THE PRODUCTION OF SUSTAINABLE AND BIODEGRADABLE CONSUMABLES. WasteEng2016 Conference, May 24th 2016 - Albi (France)

42. Pleissner, D.; Ewald, D.; Venus, J.: Valorization of hemp residues in fermentative lactic acid production. 13th International Conference of European Industrial Hemp Association (EIHA), June 1st-2nd 2016, Rheinforum Wesseling
43. Venus, J.: EU COST Action EUBis - Exploring science and technology surrounding the breakdown and transformation of plant-derived FSCW biowastes. Ideenwerkstatt „Neue Produkte für die Bioökonomie“, 29.06.2016, DBFZ Leipzig
44. Venus, J.; Pleissner, D.: Feedstock tolerance of the lactic acid fermentation using agri-food residues. International conference COST Action TD1203 “The future of food waste: challenges and opportunities for valorisation in Europe”, 20th - 21st September 2016, Wageningen
45. Venus, J.; Pleissner, D.: BIOCONVERSION OF AGRI-FOOD RESIDUES INTO LACTIC ACID. 15th Intern. Symposium PROSPECTS FOR THE 3rd MILLENNIUM AGRICULTURE, 29th Sept – 1st Oct 2016, Cluj-Napoca, Romania
46. Venus, J.: Bioeconomy in Germany, at Leibniz and ATB. Simpósio Internacional de Bioeconomia “Bioeconomia: visões internacionais no Brasil”, 09 e 10 de dezembro de 2016, São Paulo
47. Venus, J.: Agropolo Campinas-Brasil: SEMINÁRIO "Biotecnologia Industrial: conversão de biomassa, biorefinaria e scale-up de bioprocessos", 12 de dezembro de 2016 – NIPE/UNICAMP, Campinas – SP
48. Venus, J.; Papendiek, F.; Morone, P.: Ressourcen vom Dauerund Wechselgrünland als Beitrag zur nachhaltigen Kohlenstoffnutzung. BIO-raffiniert IX “Die neue Rohstoffwelt der Bioökonomie – Welche Rolle spielt der Kohlenstoff?”, 13./14. Februar 2017 in Oberhausen

III Expertise & recent projects:

The institute’s task is to create process-engineering bases for sustainable land-use management and to provide innovative technical solutions for agriculture and industry. The mission of ATB is application-oriented basic research in all areas of agricultural engineering. By combining scientific and engineering findings with economic and social expertise it is ensured that the newly developed processes and technical solutions are profitable for manufacturers and users but also meet the concerns of consumer-, animal-, and environmental protection and of sustainability.

Production, conditioning, and biotechnical conversion of renewable raw materials for generating bioenergy and bio-based materials are focal research issues at the institute since its foundation in 1992. With its complex research program the ATB has developed comprehensive expertise in the field of biomass research. Its work makes a considerable scientific-technical contribution to the reorientation process in energy and material producing industry towards the utilization of bio-based feedstocks. It also provides knowledge and technologies for a successful and internationally leading ‘knowledge based bio-economy’ (KBBE).



<http://www.atb-potsdam.de/en/institute/about-us/research-infrastructure/pilot-plant-lactic-acid.html>

For several years, **“bioconversion of raw materials produced in agriculture into chemicals, microbial biomass and active substances”** has been the subject of intensive studies in the bioengineering department of the ATB. Alongside technologically oriented studies of the overall process (pre-treatment of renewa-

bles/residues, fermentation, up- und down-stream) design, they include fundamental research into strain optimization and the kinetics of microbial processes.

Walsh, P.; Venus, J. (2013) Method for Producing L(+)Lactic acid using Bacillus strains. EP 2013/059184 [WO/2013/164423] & Walsh, P.; Venus, J. (2013) D(-)Lactic acid Production. EP 2013/059186 [WO/2013/164425]

Description of experience / project	European, national or local/regional level	Duration	Website
Verbundvorhaben: Forschungsverbund SynRg – Systembiotechnologie nachwachsender Rohstoffgewinnung; Teilvorhaben 6: Aufarbeitung, Funktionalisierung und Polymerisation der Fette und Polyphenole	national: FKZ22023008 BMELV/FNR	2009-2014	http://www.synrg-cluster.com/index.html
A.N.Bach Inst. of Biochemistry of Russian Academy of Sciences, INBI, Moskau „Enzymes for lignocellulosic feedstocks degradation and production of sugars (C6, C5) and value added products“	national/international: BMBF/DLR (Russia/Germany)	2010-2013	
BREAD4PLA: Demonstration-plant project to produce poly-lactic acid (PLA) biopolymer from waste products of bakery industry	EU: EU LIFE10 ENV/ES/479	2011-2014	http://www.bread4plalife.eu/index.php
Sugarcane biorefinery: bioconversion of bagasse into lactic acid and poly-lactate	international: FKZ 01DN12053, BMBF (Brazil/Germany)	2012-2014	
Food waste valorisation for sustainable chemicals, materials & fuels (EUBis,) – MC Member	EU: COST-Action TD1203	2012-2016	http://costeubis.org/
Residues from the coffee production as potential feedstock for the biotechnological production of bulk chemicals / CAFELACTIC	international: FKZ 01DN13057, BMBF/DLR (Colombia/Germany)	2014	
Assessment of the potential of maniok (<i>Manihot esculenta C.</i>) and chinese potato (<i>Colocasia esculenta L.</i>) for the lactic acid fermentation / CACHIPLA	international: FKZ 01DN13056, BMBF/DLR (Colombia/Germany)	2014-2015	
Commercial production of lactic acid (L & D) from non food lignocellulosic feedstock in a resource efficient biorefinery process	EU: CIP-EIP-Eco-Innovation (CELLULAC – ECO/11/304523)	2012-2015	http://cellulac.co.uk/en/
Bio-Nylon-Nachhaltige Produktion von Bio-Adipinsäure als Plattform-Chemikalie	national: FKZ 03V0757, BMBF/ VIP initiative,	2014-2017	
Prozessoptimierung und Untersuchungen zur stofflichen Verwertung von Prozessabfällen in der Molkeindustrie / LACTO-plus	international: Österreichische Forschungsförderungsgesellschaft mbH (FFG) – Projektnr. 848572	2016-2017	
Branlact - Thermophile Milchsäureproduktion in kontinuierlicher Kultivierung auf Basis von Reiskleie	international: FKZ 031B0174, Bioökonomie International 2015, BMBF/DLR,	2016-2019	
Contract research / bilateral assignments (among others Uhde Inventa-Fischer Berlin; UIT GmbH Dresden; Pfeifer & Langen KG Elsdorf; Uhde BT Leuna; Endress+Hauser Conducta Gerlingen; NordBioChem Tallinn; Sustainable BioPolymers Ltd.& NUI Galway; HF Biotec Berlin GmbH; American Science and Technology Chicago; Fresh Factory GmbH & Co. KG Hamburg; Stenger Waffelfabrik GmbH; Cenicafe-FNC Colombia; DIREVO Industrial Biotechnology GmbH; Hermetia Baruth GmbH; AIMPLAS - Instituto Tecnológico del Plástico)			