

## Europass Curriculum Vitae



### Personal information

First name(s) / Surname(s)

**Menwer Attarakih**

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The University of Jordan  
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Nationality

Jordanian

Date of birth

10.09.1967

Gender

Male

### Work experience

Dates

**December, 2020, 15 – December, 2021, 15**

Occupation or position held

Director of the Accreditation & Quality Assurance Centre, The University of Jordan

Dates

**September, 2019, 15 – December, 2020, 15**

Occupation or position held

Prof. of Computer-aided Chemical Process Engineering,  
Vice Dean for Quality Affairs & Accreditation

Main activities and responsibilities

- Preparing the quality plan for the school in cooperation and coordination with the accreditation Centre and Quality assurance and academic departments and follow up its implementation.
- Follow up implementation of strategic plans and accreditation requirements for the school of engineering.
- Follow up of the procedures in the accreditation of the school and its academic departments locally and internationally and determine the related needs.
- Participating in the evaluation and development of study plans and academic programs in accordance with the standards of local and international accreditation.
- Compile, document and provide data about the school and its staff, and keep it online and updated periodically.
- Follow up and supervise the website of the school in coordination with the assistant dean for computer affairs and accreditation centre and include the basic information about the activities of the school and work to update it periodically and continuously.
- Chair the Quality Assurance Committee at the school and follow up its work in terms of preparing agendas and writing the minutes of meetings and making recommendations to the dean of the School.
- Preparation of the annual report of the school.

Dates

**September, 9, 2018 – September, 15, 2019**

Occupation or position held

Prof. of Computer-aided Chemical Process Engineering,  
Chairman of Chemical Engineering Department

Main activities and responsibilities	Responsible for general administration of the ChE department, the educational and research laboratories, staff, students and the quality and accreditation of academic programs (Preparation and finishing of the ChE program self-study report for ABET accreditation), research, strategic planning and the preparation of the annual report for the ChE department.
Name and address of employer	University of Jordan, School of Engineering 11942-Amman, Jordan
Type of business or sector	State University
Dates	<b>June, 2017, 1<sup>st</sup> - September, 2018</b>
Occupation or position held	Guest Professor, Institute of Thermal Process Engineering
Main activities and responsibilities	<ul style="list-style-type: none"> <li>- Researcher on Population Balance Modelling of two-phase flow in chemical equipment such as liquid-liquid extraction columns, bubble columns, two-phase chemical reactors.</li> <li>- Teaching advanced courses on Modelling, Simulation and Design of Liquid-liquid extraction columns to students and to participants from the International Chemical Industries.</li> <li>- Writing research proposals including DFG and DAAD, developing software as well as contacting chemical industries such as BASF, NOVAERTS, SULZER, TENOVA ... etc.</li> <li>- Conducting cooperative research with leading research institutions such as Fraunhofer Institute for Industrial and Economical Mathematics, Department of Applied Mathematics/ TU Kaiserslautern and Max Plank Institute for Complex Dynamical Systems/Magdeburg/Germany.</li> <li>- Delivering Workshops for the Academic and Industrial sectors: <ul style="list-style-type: none"> <li>o Summer School on Liquid-Liquid Extraction organized by GVT German Organization at the University of Kaiserslautern/ Germany, September, 2017, 2018.</li> <li>o Advanced Population Balance Modelling of Liquid Extraction Columns using PPBLab Software: Coupled Hydrodynamics and Mass Transfer, University of Ghent, Belgium/ PBM2018 Conference.</li> </ul> </li> </ul>
Name and address of employer	University of Kaiserslautern, Faculty of Mechanical & Process Engineering Gottlieb-Daimler Straße, 67653 Kaiserslautern
Type of business or sector	State University
Dates	<b>September, 2016, 1<sup>st</sup> - June, 2017</b>
Occupation or position held	Vice dean for Quality Affairs and Accreditation/ School of Engineering
Main activities and responsibilities	<ul style="list-style-type: none"> <li>- Preparing the quality plan for the school in cooperation and coordination with the accreditation Centre and Quality assurance and academic departments and follow up its implementation.</li> <li>- Follow up implementation of strategic plans and accreditation requirements for the school of engineering.</li> <li>- Follow up of the procedures in the accreditation of the school and its academic departments locally and internationally and determine the related needs.</li> <li>- Participating in the evaluation and development of study plans and academic programs in accordance with the standards of local and international accreditation.</li> <li>- Compile, document and provide data about the school and its staff, and keep it online and updated periodically.</li> <li>- Follow up and supervise the website of the school in coordination with the assistant dean for computer affairs and accreditation centre and include the basic information about the activities of the school and work to update it periodically and continuously.</li> <li>- Chair the Quality Assurance Committee at the school and follow up its work in terms of preparing agendas and writing the minutes of meetings and making recommendations to the dean of the School.</li> <li>- Preparation of the annual report of the school.</li> </ul>
Name and address of employer	University of Jordan, School of Engineering 11942-Amman, Jordan
Type of business or sector	State University
Dates	<b>September, 2011, 31 – Present</b>
Occupation or position held	Professor of Computer-aided Chemical Process Engineering
Main activities and responsibilities	Conducting research on computer-aided process design, mathematical modelling of chemical engineering processes, teaching and supervising undergraduate and postgraduate students, participating in department and faculty committees.
Name and address of employer	University of Jordan, School of Engineering 11942-Amman, Jordan
Type of business or sector	State University
Dates	<b>June, 2005, 31 - August, 2017</b>

Occupation or position held	Guest Professor, Institute of Thermal Process Engineering
Main activities and responsibilities	Spent regular Research Visits (Summer visits ) at the Institute of Process Engineering/University of Kaiserslautern/ Germany and Fraunhofer Institute for Industrial Economical Mathematics during the summer of 2005 until 2016.
Type of business or sector	State University
Dates	<b>September, 2009, Declined</b>
Occupation or position held	Researcher at transport phenomena group (Coupled CFD and Population Balances)
Main activities and responsibilities	Mathematical Modelling, Programming and Numerical Simulation of multiphase flow problems in chemical and physical processes, industrial proposal preparations, report writing and developing innovative solutions for industrial problems.
Name and address of employer	Fraunhofer Institute for Industrial and Economical Mathematics Kaiserslautern, Germany
Type of business or sector	Private Research Institution
Dates	<b>August, 2008, Declined</b>
Occupation or position held	Associate Professor of Computer-Aided Process Engineering
Main activities and responsibilities	Working at the Process Design Group, conducting research, holding workshops to teach the chemical industries, teaching and supervising undergraduate and postgraduate students.
Name and address of employer	University Technology Malaysia/ Faculty of Chemical & Natural Resources Engineering
Type of business or sector	State University
Dates	<b>June, 1994-September 1998</b>
Occupation or position held	Production Engineer & Head of glycerin refining plants
Main activities and responsibilities	A special five-year experience in erection, start-up and operation of oil splitting, fatty acids and glycerin refining plants in addition to managing utility systems (process & cooling water, steam generation and industrial waste water). Responsible for production planning and scheduling, general administration, quality assurance and control, and conducting internal audits for the ISO19001 quality and management system.
Name and address of employer	Jordan Industrial Resources Co., Amman, Jordan
Type of business or sector	Private Sector
Dates	<b>2006-Present</b>
Occupation or position held	Verified Reviewer
Main activities and responsibilities	Verified Reviewer for the Chemical Engineering Science Journal, Chemical Engineering & Processing: Process Intensification Journal, Nuclear Engineering Journal, Journal of Computational Physics, Computers & Chemical Engineering Journal, Journal of Cleaner Production, the Chemical Engineering Research and Design Journals, and many more.
Name and address of employer	Jordan Industrial Resources Co., Amman, Jordan
Type of business or sector	Private Sector
Dates	<b>2009-Present</b>
Occupation or position held	Verified Reviewer at Publons
Main activities and responsibilities	Handling and conducting papers for review
Name and address of employer	<a href="https://publons.com/">https://publons.com/</a>
Type of business or sector	Private Sector
Dates	<b>2016-Present</b>
Occupation or position held	Editorial Board Member
Main activities and responsibilities	Handling and conducting papers for review
Name and address of employer	The Open Chemical Engineering Journal
Type of business or sector	Private Sector
Dates	<b>2015-Present</b>

Occupation or position held Editorial Board Member  
 Main activities and responsibilities Handling and conducting papers for review  
 Name and address of employer Journal of Applied Engineering Science & Technology, University of Biskra, Algeria  
 Type of business or sector State Sector

**Education and training**

**Dates** January, 2001 – June, 2004  
**Title of qualification awarded** Doctor of Engineering Science /Chemical Process Engineering/ with Distinction grade/ Excellent (Auszeichnung).  
**Principal subjects/occupational skills covered** Thesis: Solution Methodologies for the Population Balance Equations Describing the Hydrodynamics of Liquid-liquid Extraction Contactors. Cooperation with Prof. Markus Kraft (Cambridge University/ UK), URL: <http://kluedo.uib.uni-kl.de/volltexte/2004/1746>  
**Name and type of organisation providing education and training** The University of Kaiserslautern, Faculty of Mechanical and Process Engineering/ Institute of Process Engineering/ Kaiserslautern-Germany  
**Dates** Septemeber,1995 – December, 1997  
**Title of qualification awarded** M.Sc. in Chemical Engineering with GPA 3.96/4, Rating: Excellent.  
**Principal subjects/occupational skills covered** Thesis: Dynamic Modelling of Packed Bed Glycerol-Water Distillation Column. The thesis is based on modelling industrial scale plant and is published in the Ind. Eng. Chem. Res., 40, 4857-4865, URL: <http://pubs.acs.org/doi/abs/10.1021/ie000430y>.  
**Name and type of organisation providing education and training** University of Jordan, School of Engineering 11942-Amman, Jordan  
**Dates** Septemeber,1986 – December, 1988  
**Title of qualification awarded** B.Sc. in Chemical Engineering  
**Principal subjects/occupational skills covered** The first two years of chemical engineering course work (Rating: Very Good, Ranking: third).  
**Name and type of organisation providing education and training** Jordan University of Science and Technology Chemical Engineering Department Irbid-Jordan  
**Dates** Septemeber,1988 – December, 1993  
**Title of qualification awarded** B.Sc. in Chemical Engineering  
**Principal subjects/occupational skills covered** The last three years of chemical engineering course work (Rating: Good).  
**Name and type of organisation providing education and training** The University of Jordan Chemical Engineering Department Amman-Jordan

**Personal skills and competences**

Mother tongue(s) **Arabic**

Other language(s)

Self-assessment  
 European level (\*)

**English**

**German**

Understanding		Speaking		Writing	
Listening	Reading	Spoken interaction	Spoken production		
C2	C2	C2	C2	C2	
B2	B2	B1	B1	B1	

Social skills and competences	<ul style="list-style-type: none"> <li>- Excellent social and Communication skills with Arabic, English and German gained through my experience as student, researcher and University professor involved in intensive delivery of public speeches.</li> <li>- Ability to work within a multidisciplinary team and able to deal with people from different backgrounds.</li> <li>- Excellent contact and teaching skills through numerous public lecturing at local and international levels.</li> </ul>
Organisational skills and competences	<ul style="list-style-type: none"> <li>- Able to organize professional meetings, workshops mini-symposiums and gatherings.</li> </ul>
Technical skills and competences	<ul style="list-style-type: none"> <li>- Able to use wide number of programming languages and common computer operating systems.</li> <li>- Shows strong affinity to computer-aided process engineering software proficiency.</li> <li>- Strong proficiency in technical writing where I published hundreds of peer reviewed articles and book chapters.</li> <li>- Has strong capacity for project management with high-level of data analysis skills using various statistical measures and tools.</li> </ul>
Computer skills and competences	<ul style="list-style-type: none"> <li>- Long experience with Microsoft office suite (word processor, spread sheet and powerpoint) and VISIO drawing software.</li> <li>- Professional in high-level programming languages such as FORTRAN, BASIC, MATLAB, MATHCAD and MAPLE.</li> <li>- Professional in using Process Simulators such as CHEMCAD and the Open-CAPE COCO Simulator.</li> <li>- Professional in dealing with Computational Fluid Dynamics software such as COMSOL and the Finite Point Set software.</li> </ul>
Artistic skills and competences	Has an ability of imagination and constructive drawings with hand on experience in preparing process flow diagrams as well as piping and instrumentation diagrams according to international standards
Other skills and competences	Writer and poet
Driving licence	I hold a Jordanian driving licence
<b>Inventions &amp; Developed software</b>	<ul style="list-style-type: none"> <li>- Inventor of the Sectional Quadrature Method Of Moments SQMOM (USA Patent) and the MSQMOM for discrete modelling of particulate systems.</li> <li>- Invented and developed OPOSPM as a reduced population balance model which is used in the OPENFOAM Computational Fluid Dynamics (CFD) used by the open-source CFD toolkit OpenFOAM and is included in the release of OpenFOAM as multiphaseEulerFoam. Version 2.2.1. OPOSPM is used by Chemical Sciences and Engineering Division, Argonne National Laboratory, Argonne, IL 60439, USA to model centrifugal extractors to extract spent nuclear fuels.</li> <li>- Invented NQMOM a stable and reduced population balance solver which is implemented in the meshfree computational fluid dynamics software (FPM) of Fraunhofer Institute for Industrial and Economic Mathematics (ITWM)/Kaiserslautern/Germany. According to Reuters 2020 ITWM is ranked the second worldwide as top institution in scientific research and number of inventions. (<a href="https://www.itwm.fraunhofer.de/en.html">https://www.itwm.fraunhofer.de/en.html</a>).</li> <li>- Invented and Developed PPBLAB software, which was used by EDL-Poerner Company (<a href="http://www.edl.poerner.de/en.html">http://www.edl.poerner.de/en.html</a>) and the University of Kaiserslautern.</li> <li>- Invented and Developed LLECMOD software, which was used by BASF company/ Germany and the University of Kaiserslautern/ Germany.</li> <li>- Invented CDA: A Conservative Discretization Method for discrete modelling and solution of Population Balances.</li> <li>- Developer of the Differential Maximum Entropy Method for solving Integral Population Balances.</li> <li>- Developer of the CQMOM, which recently solved the Moment Problem in Population Balances.</li> <li>- Developed SIMULINK-MATLAB software for dynamic modelling and control of gas absorption columns as well as liquid extraction columns.</li> <li>- Developed Differential models for the dynamic simulation of gas adsorption using MATLAB/University of Kaiserslautern/Germany.</li> </ul>

## Industrial experience & collaboration

- Developed many steady state and dynamic flowsheet models using COCO free simulator and the commercial simulator CHEMCAD which include multicomponent glycerin distillation plants, chlorine drying, Drying oil, CO<sub>2</sub> removal from natural gas, butyl acetate process, reactive dimethyl ether process, mono chlorobenzene process and many more.
- Developed of OPOSPM: A reduced Population Balance Model for modelling Two-phase flow systems with particular coupling to CFD software:
- FLUENT: CFD Simulation of RDC and Kuhni Extraction columns .
- FPM: CFD simulation of RDC Extraction column.
- OPENFOAM: CFD simulation of RDC and Kuhni Extraction columns.
- COMSOL: Two-Fluid Model of Bubbly flow in vertical Tubes.
- SIMULINK-MATLAB: Steady state and Dynamic Modelling of Kühni liquid Extraction Column.
- Prof. Attarakih has active projects in modelling, troubleshooting, debottlenecking, design and operation with many leading international oil and petrochemical companies which include:
- EDL Company in Leiptzeg/ Germany (<http://www.edl.poerner.de/en.html>).
- LANXESS/ Germany (<http://lanxess.com/en/corporate/home/>).
- SULZER Company/ Germany (<http://www.sulzer.com/en/>).
- BASF/ Germany (<http://www.basf.com/group/corporate/en/>).
- NOVARTIS/ Switzerland (<http://www.novartis.com/>).
- Prof. Attarakih Conducted many courses in Process modelling & Simulation, Process Retrofitting & Energy Integration.
- Participated in many of International Symposia and Chemical Process Industrial Conferences, which include the famous symposium: ESCAPE (European Symposium on Computer-Aided Process Engineering) with regular participation from 2003-2020.
- As a Prof. of Computer-aided process design, Attarakih conducted many computer-aided design projects including gas & oil industries, vegetable oil refineries and in biochemical engineering.
- Long experience in erection, start-up and operation of chemical process plants including oil splitting, fatty acids and glycerin distillation processes.
- ProcessBuilder workshop – Advanced Process Modelling and Flowsheeting, held by the PSE The Advanced Modelling Company in Grand Hotel Bernardin/ Slovenia and organized by ESCAPE26, 15 June 2016.
- Workshop on Teaching Product and Process Design, held at the National University of Singapore by the organizers of the 11th International Symposium on Process Systems Engineering (PSE2012). The workshop was given by the editor of the Computers and Chemical Engineering Journal (Prof. Rafiq Al ghani), Prof. Warren Seider & Soemantri Widagdo, 3M Co., 20 July-2012.
- Chemical and Process Engineer/ high pressure oil and fat splitting, fatty acids & glycerine distillation: June 1993 - September 1998.
- Certified internal auditor (ISO 9000 quality management system): December 1995 - August 1998.
- Course in internal quality auditing from quality college of Scotland (a course held in Jordan, 1996).
- Training course on improved productivity through method study. organized by industrial extension services project (UNDP).
- Training course on introduction to materials management. organized by industrial extension services project (UNDP).
- Training course on supervisory skills. organized by industrial extension services project (UNDP).
- Training course on production short term scheduling tactics. organized by industrial extension services project (UNDP).

## Academic experience

- Long experience in teaching: Process Design, Computer-Aided Process Design, Chemical Plant Design, Process Modelling and Simulation, Process Dynamics & Control, Process Optimization, Applied Numerical Methods in Chemical Engineering, Industrial mathematics and Water Chemistry (at bachelor and master levels).
- Frequent reviewer for the Celebrated Chemical Engineering Science Journal, Chemical Engineering Research and Design Journal, Computers & Chemical Engineering Journal and Many International Conferences (Population balance conferences, CFD for process industries, IChEAP).
- Member of the editorial board of Journal of Applied Engineering Science & Technology at Université Mohamed Khider de Biskra.
- Member of the editorial board of Journal of the Journal of Open Chemical Engineering.

## Honors & awards

- Participated in developing and improving undergraduate and graduate chemical engineering curricula.
- Head of ABET committee at the Chemical Engineering Department/University of Jordan, 20014-2016 during which I established the ABET working system and brought six-year accreditation to the ChE department.
- Supervised, numerous undergraduate projects, master and doctoral level thesis at the University of Jordan/Amman and University of Kaiserslautern/Germany.
- 2005-2019: Awarded a full gest Professor research stays (three months each summer) at the Chair of Separation Sciences & Technology/ The University of Kaiserslautern/ Germany.
- 2016: Best short & poster presentation award in ICOME16 (Int. National Conference on Materials & Energy/ Larochele University/ France) .
- 2016: Named as top 10 percent reviewer in Chemical Engineering at Publons/September, 2016.
- 2016: Awarded as an OUTSTANDING REVIEWER by the Editors of the Journal of Computational Physics published by Elsevier for his major contribution to the quality of the Journal.
- 2015: Awarded the OUTSTANDING REVIEWER Award from the Editors of the Chemical Engineering Science Journal published by Elsevier for his major contribution to the quality of the Journal.
- 2015: Invited as a keynote speaker by BCI (Bio Chemieingenieurwissenschaften/ Verfahrenstechnik), University of Kaiserslautern/Germany, June, 03.
- 2014: Invited as keynote speaker/Advanced course on Population Balance Modelling and Design of Liquid-Liquid Extraction columns by the International Solvent Extraction 2014 (ISEC2014) conference/Wuertzburg/Germany, September, 7-11, 2014.
- 2014: Awarded one-year extraordinary time for full professorship promotion by the University of Jordan due to achieving 42 points with minimum University requirements of 12 points.
- 2013: The Award of the Most Downloaded Authors for the Computers & Chemical Engineering J.
- 2013, 2015, 2016, 2017, 2018, 2019, 2020: The first Award of Chemical Process Design Graduation project among the Jordanian Universities, which offered by the Jordan Engineering Association.
- 2005-2016: Awarded a full gest Professor research stays at the Chair of Separation Sciences & Technology/ The University of Kaiserslautern/ Germany.
- 2011: Invited as a lead speaker on coupling population balances to CFD codes, CFD2011 conference, Trondheim/ Norway, 21 – 24 June 2011.
- 2010: Selected as a Committee member for Evaluating the best PhD Thesis in Chemical Engineering for Tiburtius Prize at the Universities of Berlin/ Germany.
- 2008: Honored with the selection as a Testimonial in the Postgraduate & Doctoral Education by the International School for Graduate Studies (ISGS) at the University of Kaiserslautern/ Germany.
- 2008: The University of Technology Malaysia (UTM)/ Faculty of Chemical and Natural Resources Engineering / Process Design Group, promoted me to Associate Professor rank in Chemical Engineering. UTM ranks the first in the ten-top Malaysian Universities for science & technology.
- 2008: My article Process intensification with reactive extraction columns appeared as the 17th in the top of the 25th hottest articles in the Chemical Engineering And Processing Journal.
- 2006: My article LLECMOD: A windows-based program for hydrodynamics simulation of liquid-liquid extraction columns appeared as the 13th in the top of the 25th hottest articles in the Chemical Engineering And Processing Journal.
- 2004: My article (co-authored with Faqir, M.): Optimal temperature policy for immobilized enzyme packed bed reactor performing reversible Michaelis-Menten kinetics using the disjoint policy. Biotechnology and Bio-engineering, 77, 163-173, was selected as the best practical research by the University of Jordan/ Amman-Jordan.
- 2000: Awarded a full five-year Grant by Al-Balqa Applied University to get my PhD in Chemical Engineer-ing/University of Kaiserslautern/Germany.
- Participated in more than 50 peer reviewed International Symposia and Conferences on Computer-Aided Process Engineering, CFD, Industrial Mathematics & Solvent Extraction (see the details on the last pages).

- OPOSPM: A Reduced Population Balance Model that Works: A Seminar Delivered at Max Planck Institute for Dynamics of Complex Technical Systems Magdeburg, January, 10, 2018, <https://www.mpi-magdeburg.mpg.de/events/12554/2316>
- Organized a workshop on the Advanced Population Balance Modelling of Liquid Extraction Columns using PPBlab Software: Coupled Hydrodynamics and Mass Transfer during the 6th Population Balance Modelling Conference (PBM2018), May 07-09, 2018, University of Ghent, Belgium.
- Delivered a workshop on Population Balance Modelling (PBM) and PPBlab Software at the Process and Systems Engineering Centre in Department of Chemical and Biochemical Engineering, Technical University of Denmark, 6th of March, 2018.
- Conducted an advanced course on Population Balance Modelling and Design of Liquid-Liquid Extraction columns by the International Solvent Extraction 2014 (ISEC2014) conference/ Wuerzburg/ Germany, September, 7-11, 2014.
- Conducted two workshops on coupling population balances to CFD software/ Fraunhofer Institute for Industrial Mathematics/ Germany: October 2010 & January 2011.
- Participated in ProcessBuilder workshop – Advanced Process Modelling and Flowsheeting, held by the PSE The Advanced Modelling Company in Grand Hotel Bernardin/ Slovenia and organized by ESCAPE26, 15 June 2016.
- Participated in Workshop on Teaching Product and Process Design, held at the National University of Singapore by the organizers of the 11th International Symposium on Process Systems Engineering (PSE2012). The workshop was given by the editor of the Computers and Chemical Engineering Journal (Prof. Rafiq Al ghani), Prof. Warren Seider & Soemantri Widagdo, 3M Co., 20 July-2012.
- Participated in Computer-Aided Chemical Engineering Course: Consists of advanced case studies selected from chemical engineering which were solved using ASPEN PLUSE, CEMCAD, MATHCAD, ChemSep, MATLAB and Fluent. It was a two-month course held by the Institute of Process Engineering/ University of Kaiserslautern/Germany, 2001.
- Participated in Interne Arbeitssitzung der GVC-Fachhausschuesse "Mischvorgaenge" und "Computational Fluid Dynamics", (2003), Berlin, Germany.
- 10th European Congress on Chemical Engineering, 27 September - 01 August 2015, Nice, France
- Jahrestreffen der Fachgruppen Extraktion und Mischvorgaenge, 16.-17.03.2015, Heidelberg, Germany.
- Mathematics in (Bio) Chemical Kinetics and Engineering MaCKiE, 02-03.07.2015, Ghent, Belgium.
- 24th European Symposium on Computer-Aided Process Engineering (ESCAPE24), June 15-18, 2014, Budapest, Hungary.
- 2nd International Symposium on Multiscale Multiphase Process Engineering, 24-27 September 2014, Hamburg, Germany.
- 20th International Solvent Extraction Conference 2014, 7-11 September 2014, Würzburg, Germany.
- 5th International Conference on Population Balance Modelling, Indian Institute of Science, Bangalore, India, September, 2013.
- 6th International Conference on Process System Engineering: PSE ASIA 2013, Kuala Lumpur, June, 2013.
- 83rd Annual Scientific Conference of the International Association of Applied Mathematics and Mechanics, 26-30 March, 2012, Technische Universität Darmstadt, Germany.
- The 16-th European Conference on Mathematics for Industry July 26-30, 2010 Wuppertal, Germany.
- 4th International Conference on Population Balance Modelling (2010), Berlin, Germany.
- European Symposium on Computer Aided Process Engineering-20, (2010), Ischia, Italy.
- The European Symposium on Computer Aided Process Engineering-19, (2009), Cracow, Poland.
- International Solvent Extraction Conference ISEC 2008. Tucson, Arizona, USA, 15-19 Sep. 2008.
- 6th International Conference on CFD in Oil & Gas, Metallurgical and Process Industries, SINTEF/NTNU, Trondheim Norway, 10-12 June 2008.



## International Symposia Conferences & workshops

- The European Symposium on Computer Aided Process Engineering-18, (2008), Lyon, France.
- Third International Conference on Population Balance Modelling, (2007), Quebec City, Canada.
- The European Symposium on Computer Aided Process Engineering-16, (2006), Garmish-Partinkirschen, Germany.
- The 8th Conference on Process Integration, Modeling and Optimization for Energy saving and Pollution Reduction, PRES' 05, Giardini di Naxos, Italy, May 15-18, 2005.
- International Solvent Extraction Conference ISEC 2005, 19-23 Sep. 2005, Beijing, China.
- The European Symposium on Computer Aided Process Engineering-15, (2005), Barcellona, Spain.
- DECHEMA/GVC – Jahrestagungen (2004), Karlsruhe, Germany.
- Second Int. Conf. on Population Balance Modelling, (2004) Valencia, Spain.
- Interne Arbeitssitzung der GVC-Fachhausschuesse "Mischvorgaenge" und "Computational Fluid Dynamics", (2003), Berlin, Germany.
- The European Symposium on Computer Aided Process Engineering-14, (2003), Finland.
- The European Symposium on Computer Aided Process Engineering-12, (2002), Den-Hag/ The Netherlands.
- Emulsification: Modeling, Technologies and Applications, 19-21 November 2012, Lyon, France.
- CHISA: 20th International Congress of Chemical and Process Engineering, Prague, Czech Republic, 2012
- The 11th International Symposium on Process System Engineering, 15-19 July, 2012, Singapore.
- The European Symposium on Computer Aided Process Engineering-22, (2012), University College London, London.
- Workshop Mulm and ReDrop, 22-23 September 2011, AVT - Thermische Verfahrenstechnik, RWTH Aachen University, Aachen, Germany
- Aachen Conference on Computational Engineering Science ACCES, 13-15 July, 2011, Aachen, Germany.
- Treffen der Fachgruppen Extraktion und Phytoextrakte, 18-20 April 2012, Clausthal-Zellerfeld, Germany.
- ProcessNet-Jahrestagung und 30. DECHEMA-Jahrestagung der Biotechnologen 2012, 10. - 13. September 2012, Kongresszentrum Karlsruhe.
- 8th European Congress of Chemical Engineering, September 25 - 29, 2011, Berlin, Germany.
- II International Conference on Particle-based Methods: Fundamentals and Applications, PARTICLES 2011, E. Onate and D.R.J. Owen (Eds), 26-28 October 2011, Barcelona/ Spain.
- 8th International Conference on CFD in Oil & Gas, Metallurgical and Process Industries, SINTEF/NTNU, Trondheim Norway, 21-23 June 2011.
- The European Symposium on Computer Aided Process Engineering-21, (2011), Chalkidiki, Greece.

## References

- Prof. Dipl.-Ing. Dr. techn. Hans-Jörg Bart, The University of Kaiserslautern, Institute of Process Engineering, Kaiserslautern-Germany, Tel.: +49(0)631-205-2414, E-mail: bart@mv.uni-kl.de <http://www.uni-kl.de/wcms/tvt.html>
- Dr. Jörg Kuhnert, Institut Techno- und Wirtschaftsmathematik, Fraunhofer-Platz, 67663 Kaiserslautern/ Germany, Telefax +49 (0) 6 31/3 16 00-10 99, E-mail: kuhnert@itwm.fraunhofer.de
- Dr. Sudarshan Tiwari, The University of Kaiserslautern, Department of Mathematics, Telefon: +49 (0)631 205 4133, E-mail: Tiwari@mathematik.uni-kl.de

## Publications

1. M. Attarakih, A. Fricke & H.-J. Bart (2022). A Reduced Population Balance Model for Coupled Hydrodynamics and Mass Transfer in Shallow Bubble Column Reactors, Computer-Aided Chemical Engineering, Accepted.
2. M. Attarakih, H.-J. Bart A. Fricke (2022). Unified and Consistent Discretization of the PBE with particle growth, coagulation and breakage, Proceedings of 7th Population Balance Modelling Conference (PBM2022), May 09-11, Lyon, France, Accepted.
- 3.

4. M. Attarakih, A. Fricke & H.-j. Bart (2021). InvQMOM: A simple inversion method that works, *Computer-Aided Chemical Engineering*, 50, 535.
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