

CURRICULUM VITAE

Professor Muthupandian Ashokkumar, MSc, PhD, FRACI
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QUALIFICATIONS

1984	M.Sc. Chemistry	Madurai-Kamaraj University, India
1989	Ph.D. Chemistry	University of Madras, India

ACADEMIC POSITIONS**Current Appointments**

Professor School of Chemistry, University of Melbourne (2011-)
Assistant Deputy Vice-Chancellor International, University of Melbourne (2018-)
Head School of Chemistry, University of Melbourne (2023-)

Previous Appointments

2018-2021 Deputy Head, School of Chemistry, University of Melbourne
2020-2021 Acting Director and CEO, Australia India Institute
2013-2017 Associate Dean (International & Engagement), Faculty of Science, University of Melbourne
2007-2010 Associate Professor and Reader, School of Chemistry, University of Melbourne.
2005-2006 Senior Lecturer, School of Chemistry, University of Melbourne.
2002-2004 Senior Research Fellow (Teaching and research position), School of Chemistry, University of Melbourne.
1996-2001 Research Fellow (Teaching and research position), School of Chemistry, University of Melbourne.
1994 Tokyo Institute of Technology, Japan - JSPS (Japan Society for the Promotion of Science) Fellow.
1993 Ecole Polytechnique-ENSTA, France - CNRS "Poste-Rouge" Fellow.
1992 Université de Paris-Sud, France - Maxwell Fellow of the French Academy of Sciences.
1991 University of Madras, India - CSIR-RA; Visiting Fellow Max-Planck Institute, Muelheim, Germany.
1990 Ecole Polytechnique-ENSTA, France - INSERM "Poste Orange" Fellow.

SCHOLARSHIPS, FELLOWSHIPS, AWARDS (SINCE 2005)

2005 Grimwade Prize in Industrial Chemistry
2007 Elected as a Fellow of the Royal Australian Chemical Institute
2008 Technical Education Quality Improvement Programme Visiting Professorship, National Institute of Technology, Trichy, India
2008 National Institute of Advanced Industrial Science and Technology (Japan) Fellowship
2009/2010 Australian Academy of Science Travel Awards
2011/2013 Distinguished Visitor Awards – University of Auckland
2013-2020 President, Asia Oceania Sonochemical Society
2013-2016 Founding Deputy Director, Melbourne India Postgraduate Program (MIPP)
2014 Elected as a Fellow of the Academy of Science – Chennai, India
2015- Editor-in-Chief – Ultrasonics Sonochemistry (Elsevier, JIF 9.336)
2015 Visiting Professor – University of Rome
2016 Global Initiative of Global Initiative for Academic Networks (GIAN) Distinguished International Faculty: Delivered a GIAN course at NIT Warangal
2016- International Research Council Member, South Ural State University, Chelyabinsk, Russia
2016-2018 Director, Melbourne India Postgraduate Program & Academy (MIPP/MIPA)

2017	Award for Excellence in Internationalisation of Research
2018	ERUDITE Visiting Professorship awarded by the Higher Education Council of Kerala
2020	Invited Panel Member for discussion with the Hon'ble Indian Prime Minister at VAIBHAV 2020 Summit inauguration
2022	Global Initiative of Global Initiative for Academic Networks (GIAN) Distinguished International Faculty: Delivered a GIAN course at VNIT Nagpur

Key Achievements

I am a Physical Chemist who has specialized in Ultrasonics and Sonochemistry. I am a renowned sonochemist, with about 25 years of experience in this field. I have developed a number of novel techniques to characterize acoustic cavitation bubbles and have made major contributions of applied sonochemistry to the Materials, Food and Dairy industries. My scientific achievements are grouped into two categories below, Fundamental Research and Applied Work. I have a strong track record of leadership and mentorship, contributed to the advancement of scientific knowledge and developed specific applications of ultrasound benefiting scientific and industry communities.

Fundamental Research

My fundamental and ground-breaking research work in ultrasonics and sonochemistry area include the following (but not limited to) major findings that contributed to the advancement of knowledge in the areas of sonochemistry and sonophysics. Majority of the pioneering work was carried out during 1996-2010, before ultrasonics and sonochemistry field was well established. Below, highlights of five publications are provided.

- My ground-breaking research on the fundamental aspects of acoustic cavitation discovered that cavitation bubbles are characterised by a peak (maximum) temperature and a time/volume average temperature (*J. Am. Chem. Soc.*, 127, 5326-5327, 2005). It was highlighted that sonochemical reactions depend upon the average temperature, not on peak temperatures predicted by theoretical modelling.
- A systematic study was reported highlighting the importance of interfacial chemistry in sonochemistry (*J. Phys. Chem. B*, 101, 10845-10850, 1997; *J. Phys. Chem. A*, 104, 8462-8465, 2000; *Phys. Rev. E*, 65, 046310, 2002). This was an important finding that has led to several follow-up investigations where the physical and functional properties of sonochemically synthesised materials could be controlled by manipulation of interfacial chemistry of precursor solutions.
- My study provided experimental evidence for the existence of two types of cavitation bubbles in an acoustic field (*Phys. Chem. Chem. Phys.*, 11, 10118-10121, 2009). I was able to demonstrate that low frequency ultrasound (20 kHz) primarily generates transient cavitation bubbles and high frequency ultrasound (>200 kHz) ultrasound primarily generates stable cavitation bubbles. These findings were helpful to understand the different levels of physical and chemical activities observed at different ultrasound frequencies.
- Cavitation bubble size and size distribution are critical parameters for many applications of sonochemistry. There were several theoretical studies reported in the literature. My research team developed a new and simple experimental technique, based on pulsed sonoluminescence, to measure the cavitation bubble size and size distribution (*J. Am. Chem. Soc.*, 127, 16810-16811, 2005; *Phys. Rev. Lett.*, 102, 084302, 2009).
- My recent work (*Mater. Horiz.*, 3, 563-567, 2016) has demonstrated that the reactive and oscillating surface of acoustic cavitation microbubbles acts as a catalytic binding site for the coupling of amphiphilic biomolecules bearing tyrosine moieties at the gas-liquid interface. This finding has led to the generation of biofunctional nanoarchitectures for applications in food and biomedical areas. It was shown that the simultaneous generation of ·OH radicals, hot bubble surface and surface-active phenolic species led to unexpected coupling reactions resulting in the formation of nanoparticles with remarkable optical properties because of the chemical coupling reactions and π - π interaction between oligomers. This is a new conceptual insight on the use of high frequency ultrasound for assembling phenolic building blocks into complex nanostructures possessing new biofunctional properties.

Applied Work

Based on the outcomes of the fundamental research in ultrasonics and sonochemistry research fields, I have developed a number of applications in the areas of health and food processing. My research team has developed a novel ultrasonic processing technology for improving the functional properties of dairy proteins. Recent research also involves the ultrasonic synthesis of functional nano- and biomaterials that can be used in energy production, environmental remediation and diagnostic and therapeutic medicine. I was the Deputy Director of an Australian Research Council Funded Industry Transformation Research Hub (ITRH; Industry Partner: Mondelez International) and led the Encapsulation project (<http://foodvaluechain.unimelb.edu.au/research/ultrasonic-encapsulation>). I was awarded several applied

research grants that include two ARC-ITRP grants (2013), two ARC-LP grants (2005, 2009), CSIRO-Food Future Flagship Cluster Grant (2006) and major industry grants (Dairy Innovation Australia Ltd (DIAL; 2008) and Maxarham Pty Ltd (2020). I also received a Proof of Concept study grant from Bill & Melinda Gates Foundation (2019).

Patents

My applied research work has resulted in the following patents. *Licencing agreement to commercialise the patented technologies is being negotiated with selected industry partners.*

- Provisional Patent (Australia): 2007906986 dated 21st December 2007 (Funded by ARC-LP0561887) and PCT Int. Appl. (2009), CODEN: PIXXD2 WO 2009079691 A1 20090702 AN 2009:795878 (Funded by ARC-LP0561887)
 Title: Processing of dairy ingredients by ultrasonication
 Applicant: Dairy Innovation Australia Ltd (DIAL)
 Inventors: Ashokkumar, Kentish, Lee, Zisu, Palmer and Augustin
 Summary of Invention: The heat stability of dairy proteins during spray drying process is a major issue in dairy industry. During spray drying process, dairy solutions are heated to 100-130 °C and spray dried. The heat-induced denaturation of whey proteins leads to protein aggregation and hence membrane fouling, that results in temporary plant shutdown until the blockage is removed. This ultimately leads inefficient plant operation increasing the production cost. His team developed a novel technology involving a short sonication process to provide heat stability to whey proteins, which was patented. The invention provides liquid and reconstituteable dried ingredients that have tuneable viscosity and gelation properties and improved heat stability. *The IP of this work belongs to the industry partner (DIAL) and member companies are in a position to commercialise the process.*
- PCT filed (2018) - PCT/AU2018/050887, (Funded by ARC-DP110101090)
 Title: A method of generating radicals by ultrasound
 Applicant: University of Melbourne
 Inventors: Qiao, Ashokkumar, McKenzie, Colombo, Collins and Tan
 Summary of Invention: The invention is generally directed towards a method of reacting carbon-containing molecules (e.g., monomers) using high frequency (>200 kHz) ultrasound (US) to synthesise a reaction product (e.g., polymer) without the need for exogenous initiating reagents (e.g., initiators). This eliminates the need to (i) use/store explosive exogenous initiating reagents and to (ii) purify the reaction product from residual exogenous initiating reagents. SonoRAFT polymerisation was reported for the first time.
- Provisional Patent: Application – AU2018903409 filed 11th September 2018 (Funded by DP160102908 and IH120100053)
 Title: UV filtering skin care composition
 Applicant: University of Melbourne
 Inventors: Zhou and Ashokkumar
 Summary of Invention: The invention relates generally to skin care compositions containing UV filtering microcapsules having a core containing a UV filter and a shell that encapsulates the core, where the UV filter in the core and the shell are of opposite solubilities. In particular, the invention relates to sunscreen compositions containing the UV filtering microcapsules, which are formulated to protect the skin against the harmful effects of sunlight. *Licencing agreement to commercialise this technology is being negotiated with Maxarham Pty Ltd.*
 My pioneering work on ultrasonic encapsulation of functional materials is the basis for the above patent. The incorporation of ultrasonically prepared flavour-encapsulated microspheres into confectionary (chocolates for example) products was successfully demonstrated to Mondelez International (ARC-ITRP grant IH120100053). Based on the work reported in this patent, I was successful in receiving new grants that focus on commercial products: Bill & Melinda Gates Foundation Challenges Explorations Phase I grant, edible micro-balloons to enhance the nutritional values of common food products and Maxarham Pty Ltd to work on the development of hemp oil seed sunscreen products.
- Provisional Patent: Application – AU2019902082, filed 14th June 2019. PCT filed (12th June 2020) – PCT/AU2020/050596 (Funded by DP170103791)
 Title: Shear-induced phase inversion of complex emulsions for recovery of organic components from biomass
 Applicant: University of Melbourne
 Inventors: Martin, Ashokkumar and Li
 Summary of Invention: The invention provides a method of recovering organic compounds from an aqueous biomass in the method comprising the steps of (i) providing an aqueous biomass containing

organic components, (ii) treatment of the aqueous biomass to release intracellular organic components from within cells of the biomass to form a biomass suspension, (iii) addition of a water-immiscible component to the biomass suspension to form a mixture comprising biomass and water-immiscible component, (iv) subjecting the mixture comprising biomass and water-immiscible component to high shear to form a water-in-water-immiscible component emulsion and (v) separating the water-immiscible component phase from water/aqueous phase. *A pilot scale plant has been constructed to demonstrate the scalability of this technology for industrial processes. Licencing agreement to commercialise this technology is being negotiated with industry partners that include Maxarham, Olivado and Phycor.*

Other Key Applied Work

In addition to the above-mentioned work in the areas of food and dairy processing, my applied research also focuses on biofunctional materials for drug delivery application and double emulsion technology for bioherbicide delivery. The work on biofunctional materials is being continued as part of an EU grant (H2020, Nanopeptides and Nanosaccharides for Advanced and Sustainable Materials, Project 872233, Project Lead, Francesca Cavaleri) involving industry partners such as BIOEMTECH, Greece. The work on double emulsions has led to engagement with NSW Department of Primary Industries.

- Following the fundamental work on the ultrasonic synthesis of biofunctional nanoparticles (*Mater. Horiz.*, 2016, 3, 563-567), further applied work was performed to produce peptide-based nanostructures by ultrasound assisted self-assembly of oligopeptides. [Arg-Phe]₄ octapeptides, consisting of alternating arginine (Arg/R) and phenylalanine (Phe/F) sequences, were subjected to 430 kHz ultrasound in aqueous solution in the absence of any external agents, to form ~220 nm [RF]₄ nanoparticles. This work highlighted that the combined use of ultrasonic technologies and peptides enables easy fabrication of nanoparticles, with potential application in drug delivery.
- My work on ultrasonic preparation of double emulsions was applied not only in food applications, but also in herbicide applications. In collaboration with NSW Department of Primary Industries, bioherbicides were encapsulated in a double emulsion, prepared using ultrasonic emulsification process. This process increased the viability of bioherbicides during storage. The bioherbicides-encapsulated double emulsions were effective in eliminating weeds compared to simple spraying of bioherbicides. NSW-DPI is currently in discussion with Bayer Crop Science for commercializing this technology.

Leadership, Mentorship, Promotion of Science Education

Executive and leadership roles

Assistant Deputy Vice-Chancellor International (2018-)

Since 2018, I have two roles at the University of Melbourne: 0.7 FTE Professor at the School of Chemistry (Head of School since 2023) and 0.3 FTE as the Assistant Deputy Vice-Chancellor International at the University of Melbourne.

I have developed a 5-year India Engagement Strategy for the University and is responsible for executing the engagement plan that involves developing joint/dual degree programs between the University of Melbourne and Indian academic institutions in STEM-M and HASS disciplines. To build lasting and genuine partnerships at community level, I have initiated a pilot project to collaborate with Indian High Schools whose mission is to engage students who are unrepresented (such as students from economically weaker backgrounds or those from marginalized communities or disadvantaged backgrounds) and enhance their social mobility and career success. In this role, I have also had the opportunity to engage with diplomats, Ministers, Ministerial Staff and Industry and Business Sector.

Head, School of Chemistry (2023-)

My leadership responsibilities as the Head of School of Chemistry include the Governance of the School, Accountability for facilitation of research, Accountability for the implementation of the Performance Development Framework and staff development for all staff in the School, Overseeing the academic development of students, Duty of care for staff, students and visitors to the School, Management of finances (annual budget AUD ~22 million) and infrastructure through effective financial planning and management, Occupational Health and Safety and Working with the Faculty leadership to maximise the financial and cultural health of the faculty.

Acting Director and CEO, Australia India Institute (2021)

In this role, I led a number of Govt projects (Department of Foreign Affairs & Trade (DFAT), Department of Education, Skills and Employment (DESE)) to strengthen the Australia-India relationship that included development of new policies, establishment of ARCH-India (<https://arch-india.org/>), organisation of several roundtable discussions on key policies, etc. In this role, I have also had the opportunity to engage with diplomats, Ministers, Ministerial Staff and Industry and Business Sector.

Associate Dean International – Faculty of Science (2013-2017)

During his tenure as the ADI, I developed the International Strategy for the Faculty of Science and established key programs that include a joint PhD program (MIPP/MIPA (<https://research.unimelb.edu.au/research-at-melbourne/melbourne-india-postgraduate-academy>), BSc Blended (<https://science.unimelb.edu.au/study/international-teaching-and-learning-initiatives/blended-bsc>) and joint academic programs (3+1+n Model) with Peking University (China). I played a key role in establishing a Virtual Maths Centre between Faculty of Science and Maths department in Peking University (<http://mprhms.ms.unimelb.edu.au/>).

Deputy Head, School of Chemistry (2018-2021)

4 years as Deputy Head (~0.2 FTE): Major projects I led/involved include: Stabilisation of First Year teaching team, conversion of casuals to fixed terms, workforce planning, implementation of change plan, space optimisation, school budget, etc.

Promotion of Science Education

I have been actively promoting science education in Australia and overseas. I was involved in the development of new chemistry courses at undergraduate and postgraduate levels. During my ADI tenure in the Faculty of Science, I played a key role in promoting In2Science (<https://science.unimelb.edu.au/engage/science-in-schools/in2science>) and for the establishment of RISE (Residential Indigenous Science Experience; <https://science.unimelb.edu.au/engage/science-in-schools/rise>) program. I have been involved in the establishment of several Transnational Education (TNE) programs.

Outreach, Advocacy and Policy Development

I have made significant contributions to promotion of science through the implementation of Transnational Education programs that include BSc Blended, Empowerment of secondary school children, BSc/MSc 3+1+1 model, BSc Hons Advanced (2+2), etc. I am currently in discussion with Education Ministries of several Indian state governments to offer BSc Blended and other dual degree programs at public and private universities. The aim is to deliver quality science education to children from diverse cultural and socio-economic backgrounds.

Successful Mentorship of the Next Generation Scientists

I have been the Leader of the Sonochemistry Research Group for more than 25 years. I have been the principal supervisor of 20 postdoctoral fellows and ~35 PhD, ~35 MSc/BSc Hons students. Several research projects have been completed by these young researchers under my guidance and mentorship. Most of the students who completed PhD/MSc under my research supervision have been employed in academic institutions and leading industrial positions. I have been also mentoring a number of young academics and Early Career Researchers from diverse background and cultures through research collaboration, professional development visits to his laboratory. Some examples are highlighted below.

- Dr Erico Colombo who completed his PhD in 2018 has been employed at CSL (Melbourne) as a Development Scientist
- Dr Akalya Shanmugam who completed her PhD in 2015 has been employed by the National Institute of Food Technology, Entrepreneurship and Management (NIFTEM-T), an Institute of National Importance, Ministry of Food Processing Industries, Government of India as an Associate Professor
- Dr Nor Saadah Yusof who completed her PhD in 2015 has been employed at the University of Malaya as a Senior Lecturer
- Dr Francesca Cavalieri, who completed her PhD in 2014 was awarded ARC-Future Fellowship and currently working as a Vice Chancellor Fellow at RMIT University
- Dr Adam Brochie, who completed his PhD in 2010 received Humboldt Fellowship and currently working as a Project Manager at Monash University

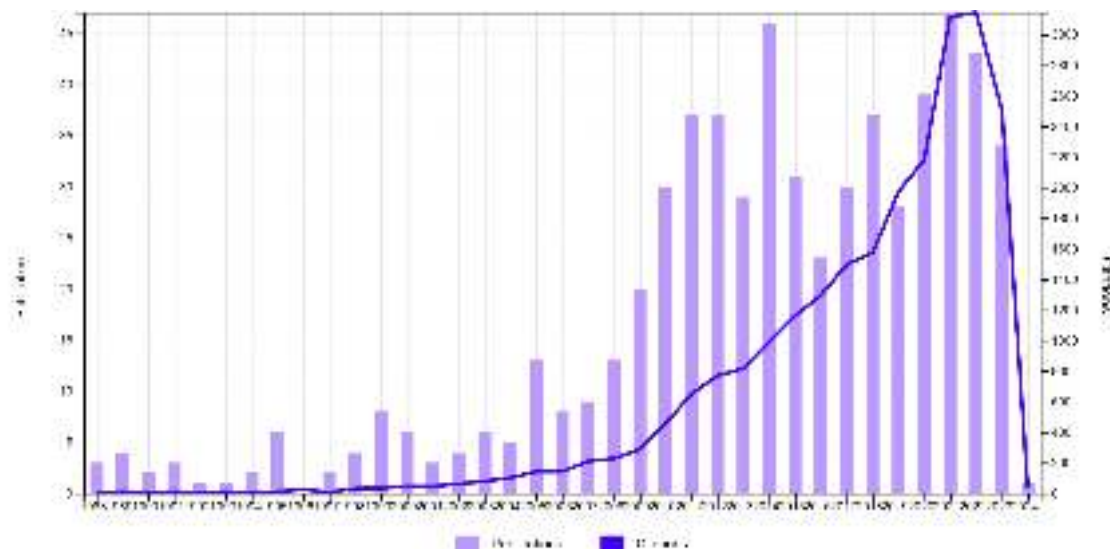
MAJOR RESEARCH GRANTS – SINCE 2005

Year	Grant/Title/Investigator(s)	Amount, A\$
2005-2007	ARC-DP Control of acoustic cavitation in complex fluids Grieser, Ashokkumar, Price, Matula, Yasui	345,000
2005-2007	Victorian Government STI grant Innovative Foods Centre: Advanced Processing and Innovative Foods Program Ashokkumar (Principal CI), Kentish, Grieser (University of Melbourne Participants) in collaboration with Food Science Australia	3.5 million
2005-2008	ARC-LP Ultrasonic processing of dairy ingredients to control protein aggregation and promote	375,000

	heat stability Ashokkumar, Grieser, Kentish, Augustin, Mawson (Industry Partner: Dairy Innovation Australia)	
2006-2008	CSIRO-Food Future Flagship Cluster Grant Separation of bioactives Ashokkumar (Principal CI), Kentish, Grieser (University of Melbourne Participants) in collaboration with Monash University	3.9 million
2007-2009	ARC-DP Surfactant effects in sonoprocessing Kentish, Ashokkumar	270,000
2007	Queensland Alumina Ltd Research Grant Sonocrystallization of alumina extraction and production Ashokkumar, Grieser	55,000
2007-2009	DST-Australia-India Strategic Research Fund Advanced oxidation processes for the degradation of organic pollutants in an aqueous environment Ashokkumar, Grieser, Maruthamuthu, Swaminathan, Pandit, Anandan	374,000
2008-2010	ARC-DP Composite nanomaterials for environmental and fuel cell applications Ashokkumar, Grieser, Kamat, Vinodgopal	545,000
2008-2009	Dairy Innovation Australia Research Grant Ultrasonics IP development Ashokkumar, Kentish	84,000
2009	EU – Marie Curie Ultrasonic Synthesis of Protein Microcapsules for Biomedical Applications Ashokkumar, Cavalieri, Price	70,000
2009-2012	ARC-LP Ultrasonics as a new platform technology in dairy processing Ashokkumar, Kentish, Zisu; Industry partner – Dairy Innovation Australia	507,000
2011-2015	ARC-DP Free radical generation and reactions in ultrasound assisted chemical processes Grieser, Ashokkumar, Yasui	800,000
2013-2017	ARC-ITRH Unlocking the Food Value Chain: Australian food industry transformation for ASEAN markets Dunshea, Qiao, Kashima, Fuentes, Ashokkumar, Webster, Dagastine, Samson, Paladino, Hastie, Barlow, Georges, Vernalls, Gravina, Talbot	5.6 million
2013-2018	ARC-ITRH Dairy Innovation Hub: Transformational Research to Underpin the Future of the Australian Dairy Manufacturing Industry Gras, Kentish, Ashokkumar, Martin, Dunstan, Bhandari, Turner, Bansal	6.5 million
2016-2018	ARC-DP Ultrasound-assisted fabrication of biofunctional materials Ashokkumar	388,900
2017-2019	ARC-DP Probing microbial emulsions to break barriers to green oil production Ashokkumar, Martin, Scales	496,000
2019-2020	Melinda & Bill Gates Foundation Grand Challenges Explorations Phase I grant Edible micro-balloons to enhance the nutritional values of common food products Ashokkumar	~ 130,000
2020-2022	Maxarham Pyt Ltd Hemp oil emulsion gels Ashokkumar and Martin	264,000
2021-2022	UoM-RIC Proof of Concept Funds Shear-induced phase inversion of complex emulsions for recovery of organic components from biomass Ashokkumar, Martin, Li	100,000
2022-2024	Shandong University Double Hundred Talent Program Sonochemical synthesis of biomaterials for drug delivery applications Cui, Ashokkumar, Cavalieri, Flores, Pollet	100,000

LIST OF PUBLICATIONS

Total number of peer reviewed publications = 523



Publications overview: H-index = 86; Sum of times cited = 25,528

(Source: <https://www.scopus.com/authid/detail.uri?authorId=7003407958>)ORCID ID: <https://orcid.org/0000-0002-8442-1499>; SCOPUS Author ID: 7003407958**Patents**Provisional Patent (Australia): 2007906986 dated 21st December 2007

Title: Processing of Dairy Ingredients

Applicant: Dairy Innovation Australia

Inventors: M. Ashokkumar, S.E. Kentish, J. Lee, B. Zisu, M. Palmer and M.A. Augustin

PCT Int. Appl. (2009), CODEN: PIXXD2 WO 2009079691 A1 20090702 AN 2009:795878.

Title: "Processing of dairy ingredients by ultrasonication",

Applicant: Dairy Innovation Australia

Inventors: M. Ashokkumar, S.E. Kentish, J. Lee, B. Zisu, M. Palmer and M.A. Augustin

PCT filed (2018) - PCT/AU2018/050887

Title: A method of generating radicals by ultrasound

Applicant: University of Melbourne

Inventors: G. Qiao, M. Ashokkumar, T.G. McKenzie, E. Colombo, J. Collins and S. Tan

Provisional Patent: Application – AU2018903409 "UV filtering skin care composition", filed 11th September 2018

Title: UV filtering skin care composition

Applicant: University of Melbourne

Inventors: M. Zhou and M. Ashokkumar

Provisional Patent: Application – AU2019902082 "Shear-Induced Phase Inversion of Complex Emulsions for Recovery of Organic Components from Biomass", filed 14th June 2019

Applicant: University of Melbourne

Inventors: G. Martin, M. Ashokkumar and W. Li

PCT filed (2020) – PCT/AU2020/050596

Title: Shear-Induced Phase Inversion of Complex Emulsions for Recovery of Organic Components from Biomass", filed 12th June 2020

Applicant: University of Melbourne

Inventors: G. Martin, M. Ashokkumar and W. Li

Books (author)

Ultrasonic Synthesis of Functional Materials, SpringerBriefs in Green Chemistry for Sustainability

M. Ashokkumar

Springer (ISBN 978-3-319-28974-8), 2016

Ultrasonic Production of Nano-emulsions for Bioactive Delivery in Drug and Food Applications
T. Leong, S. Manickam, G. Martin, W. Li and M. Ashokkumar
SpringerBriefs in Molecular Science (ISBN 978-3-319-73490-3), 2018

Introduction to Ultrasound, Sonochemistry and Sonoelectrochemistry,
B. Pollet and M. Ashokkumar
SpringerBriefs in Molecular Science (ISBN 978-3-030-25861-0), 2019

Books (edited)

Theoretical and Experimental Sonochemistry Involving Inorganic Systems,
Pankaj and M. Ashokkumar (Eds.), Springer (ISBN 978-90-481-3886-9), 2011

Cavitation: A Novel Energy-Efficient Technique for the Generation of Nanomaterials
Edited by Sivakumar Manickam and Muthupandian Ashokkumar
Copyright © 2014 Pan Stanford Publishing Pte. Ltd., ISBN 978-981-4411-54-7

Handbook on Ultrasonics and Sonochemistry
Chief Editor: M. Ashokkumar; Section Editors: S. Anandan, F. Cavaliere, K. Okitsu, K. Yasui, B. Zisu
and F. Chemat, Springer (ISBN 978-981-287-279-1), 2016.

SpringerBriefs in Molecular Science, ISSN 2511-123X ISSN 2511-1248 (electronic)
B.G. Pollet and M. Ashokkumar (Eds), SpringerBriefs in Ultrasound and Sonochemistry, ISBN 978-3-319-73490-3 ISBN 978-3-319-73491-0 (eBook)

Journals Special Issues (edited)

Guest Editor: Sonochemistry Special Issue
Research on Chemical Intermediates (An International Journal), 2004, Volume 30, Issues 7/8.

One of the Guest Editors
Innovative Food Science and Emerging Technologies, 2008, Volume 9, Issue 2.

Guest Editor: 1st Meeting of the Asia-Oceania Sonochemical Society -2013 Special Issue
Ultrasonics Sonochemistry Volume 21, 2014
<http://dx.doi.org/10.1016/j.ultsonch.2014.06.0191350-4177/2014> Published by Elsevier B.V.

One of the Guest Editors - A Special Issue on Recent Advances in Nanomaterials for Energy and the Environment
Energy and Environment Focus, Volume 4, Issue 3, 2015

Refereed Review Papers Published in Books / International Journals

Reviews Published as Book Chapters

- 1) J.L. Martin, J.C. Lambry, M. Ashokkumar, M.E.M- Beyerck, R. Feick and J. Breton,
"Primary charge separation processes in reaction centers from Chloroflexus Aurantiacus bacterium",
Ultrafast Phenomena VII, Eds. C.B. Harris, E.P. Ippen, G.A. Mourou and A.H. Zewali, Springer
Series in Chemical Physics, 53, pp.524-528, 1990.
- 2) M.H. Vos, J.C. Lambry, M. Ashokkumar, J. Breton and J.L. Martin,
"The 'T=0 fs' spectrum of the excited state of the reaction center of Rhodobacter Sphaeroides R-26
measured at 10 K",
In Spectroscopy of Biological Molecules, Eds. R.E. Hester and R.B. Girling, pp.427-428, 1991.
- 3) M. Ashokkumar, H. Gelabert, A. Antonetti and Y. Gauduel,
"Photodetachment of electron and early chemical steps in ionic solutions",
Ultrafast reaction dynamics and solvent effects, Eds. Y. Gauduel and P.J. Rossky, The American
Institute of Physics, NY, pp.107-118, 1993.
- 4) F. Grieser, M. Ashokkumar, J.Z. Sostaric,
"Sonochemistry and sonoluminescence in colloidal systems",
Sonochemistry and Sonoluminescence, (Ed) L.A. Crum, T.J. Mason, J.L. Reisse and K.S. Suslick,
NATO ASI series C, Kluwer academic publishers, 524, pp.345-362, 1999.

- 5) M. Ashokkumar, R.A. Caruso, P. Mulvaney and F. Grieser, "Radical chemistry from bubbles: the effect of adsorbates on sonochemical and sonoluminescence yields", Radiation Research, Vol. 2, (Eds) M. Moriarty, C. Mothersill, C. Seymour, M. Edington, J.F. Ward and R.J.M Fry, Allen Press, Lawrence, pp.97-100, 2000.
- 6) M. Ashokkumar and F. Grieser, "Sonochemical preparation of colloids", Encyclopaedia of Surface and Colloid Science, A. Hubbard (Ed.), Marcel Dekker, NY, pp. 4760-4774, 2002.
- 7) F. Grieser and M. Ashokkumar, "Sonochemical synthesis of inorganic and organic colloids", Colloids and Colloid Assemblies, F. Caruso (Ed.), Wiley-VCH GmbH & Co. KgaA, Weinheim, pp. 120-149, 2004.
- 8) M. Ashokkumar and F. Grieser, "Sonochemical Preparation of Colloids", Encyclopedia of Surface and Colloid Science, Second Edition; Taylor & Francis: New York, pp. 5685 - 5699, 2006.
- 9) M. Ashokkumar and T. Mason, "Sonochemistry", Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, 2007.
- 10) M. Ashokkumar, "Sonochemical synthesis of inorganic nanoparticles", Advanced Wet-Chemical Synthetic Approaches to Inorganic Nanostructures, Transworld Research Network, Editor: P.D. Cozzoli, pp. 107-131, 2008.
- 11) S. Anandan, J. Madhavan and M. Ashokkumar, "The contribution of the nanotechnology to hydrogen production" Nanotechnology for the Energy Challenge", Garcia-Martinez, Javier (ed.) Wiley-VCH, Weinheim, pp. 111-136, 2010.
- 12) S. Anandan and M. Ashokkumar, "Sonochemical preparation of monometallic, bimetallic and metal-loaded semiconductor nanoparticles", Theoretical and Experimental Sonochemistry Involving Inorganic Systems, Pankaj and M. Ashokkumar (Eds.), Springer (ISBN 978-90-481-3886-9), pp. 151-169, 2011.
- 13) A. Brotchie, F. Grieser and M. Ashokkumar, "The role of salts in acoustic cavitation and the use of inorganic complexes as cavitation probes", Theoretical and Experimental Sonochemistry Involving Inorganic Systems, Pankaj and M. Ashokkumar (Eds.), Springer (ISBN 978-90-481-3886-9), pp. 357-379, 2011.
- 14) K. Vilku, R. Manasseh, R. Mawson and M. Ashokkumar "Ultrasonic recovery and modification of food ingredients", Ultrasound Technologies for Food and Bioprocessing", H. Feng, J. Weiss and G. Barbosa-Cánovas, (eds), Springer, New York, pp. 345-368, 2011.
- 15) S. Kentish and M. Ashokkumar, "The physical and chemical effects of ultrasound" Ultrasound Technologies for Food and Bioprocessing, H. Feng, J. Weiss and G. Barbosa-Cánovas, (eds), Springer, New York, pp.1-12, 2011.
- 16) S. Kentish and M. Ashokkumar, "Ultrasonic membrane processing" Ultrasound Technologies for Food and Bioprocessing, H. Feng, J. Weiss and G. Barbosa-Cánovas, (eds), Springer, New York, pp. 583-598, 2011.

- 17) B. Teo, F. Grieser and M. Ashokkumar,
“Applications of ultrasound to polymer synthesis”
Handbook on Applications of Ultrasound and Sonochemistry, D. Chen, P.K. Sharma and A. Mudhoo (eds), CRC Press, Taylor & Francis LLC, USA, pp. 475-500, 2012.
- 18) M. Ashokkumar,
“Sonochemically synthesized of materials for biomedical applications”,
Chapter 3 in Surface Tailoring of Inorganic Materials for Biomedical Applications, L. Rimondini (ed.), C. Bianchi and E. Verne (co-eds.), Bentham Publishers, pp. 112-129, 2012.
- 19) B. Neppolian, M. Ashokkumar, I. Tudela and J. Gonzalez-Garcia,
“Hybrid sonochemical treatments of wastewater: sonophotochemical and sonoelectrochemical approaches. Part I: Description of the techniques”,
Chapter 10 in Advances in Water Treatment and Pollution, S.K. Sharma and R. Sanghi (eds.), Springer, pp. 267-302, 2012.
- 20) B. Neppolian, M. Ashokkumar, V. Saez, M.D. Esclapez and P. Bonete,
“Hybrid sonochemical treatments of wastewater: sonophotochemical and sonoelectrochemical approaches. Part II: Sonophotocatalytic and sonoelectrochemical degradation of organic pollutants”,
Chapter 11 in Advances in Water Treatment and Pollution, S.K. Sharma and R. Sanghi (eds.), Springer, pp. 303-336, 2012.
- 21) L.L.A. Koh, M. Ashokkumar and S. Kentish,
“Membrane fouling, cleaning and disinfection”,
Chapter 4 in Membrane Processing: Dairy and Beverage Applications, A.Y. Tamime (ed.), Blackwell Publishing Ltd., pp. 73-106, 2012.
- 22) D. Boffito, C. Pirola, C.L. Bianchi, G. Cerrato, S. Morandi and M. Ashokkumar,
Sulfated inorganic oxides for methyl esters production traditional and ultrasound-assisted techniques, in Producing Fuels and Fine Chemicals from Biomass Using Nanomaterials, Editors: R. Luque, A.M. Balu, CRC Press, 2013, Chapter 6, pp. 137-162.
- 23) S. Manickam, T.S. Ying and M. Ashokkumar,
“Development of multifunctional nanomaterials by cavitation”,
In “Cavitation: A Novel Energy-Efficient Technique for the Generation of Nanomaterials”, Eds. S. Manickam and M. Ashokkumar, Pan Stanford Publishing Pte. Ltd, 2014, pp. 1-28.
- 24) S. Anandan and M. Ashokkumar,
“Sonochemical synthesis of noble monometallic and bimetallic nanoparticles for catalytic applications”,
In “Cavitation: A Novel Energy-Efficient Technique for the Generation of Nanomaterials”, Eds. S. Manickam and M. Ashokkumar, Pan Stanford Publishing Pte. Ltd, 2014, pp. 55-88.
- 25) F. Cavalieri, M. Zhou, M. Tortora and M. Ashokkumar,
“Ultrasound-assisted preparation of nanopolymeric and micropolymeric materials for the encapsulation of bioactive agents”,
In “Cavitation: A Novel Energy-Efficient Technique for the Generation of Nanomaterials”, Eds. S. Manickam and M. Ashokkumar, Pan Stanford Publishing Pte. Ltd, 2014, pp. 227-261.
- 26) M. Ashokkumar and S. Manickam,
“Ultrasonics and Sonochemistry: Some Issues and Future Perspectives”,
In “Cavitation: A Novel Energy-Efficient Technique for the Generation of Nanomaterials”, Eds. S. Manickam and M. Ashokkumar, Pan Stanford Publishing Pte. Ltd, 2014, pp. 415-422.
- 27) T.J. Mason, F. Chemat and M. Ashokkumar,
“Power ultrasonics for food processing”,
In Woodhead Publishing Series in Electronic and Optical Materials: number 66, “Power Ultrasonics: Applications of High-intensity Ultrasound” Eds. J.A. Gallego-Juarez and K.F. Graff, Elsevier, 2014, pp. 815-843.
- 28) T. Leong, M. Ashokkumar and S.E. Kentish,
“The growth of bubbles in an acoustic field by rectified diffusion”,

- In Handbook on Ultrasonics and Sonochemistry, Chief Editor: M. Ashokkumar; Section Editors: S. Anandan, F. Cavalieri, K. Okitsu, K. Yasui, B. Zisu and F. Chemat, Springer (ISBN 978-981-287-279-1), 2016, pp. 69-98.
- 29) S.G. Babu, B. Neppolian and M. Ashokkumar,
“Ultrasound-assisted synthesis of nanoparticles for energy and environmental applications”,
In Handbook on Ultrasonics and Sonochemistry, Chief Editor: M. Ashokkumar; Section Editors: S. Anandan, F. Cavalieri, K. Okitsu, K. Yasui, B. Zisu and F. Chemat, Springer (ISBN 978-981-287-279-1), 2016, pp. 423-456.
- 30) N.S.Y. Yusof and M. Ashokkumar,
“Ultrasonic modification of micelle nanostructures”,
In Handbook on Ultrasonics and Sonochemistry, Chief Editor: M. Ashokkumar; Section Editors: S. Anandan, F. Cavalieri, K. Okitsu, K. Yasui, B. Zisu and F. Chemat, Springer (ISBN 978-981-287-279-1), 2016, pp. 491-524.
- 31) N. Pugazhenthiran, S. Anandan and M. Ashokkumar,
“Removal of heavy metal from wastewater”,
In Handbook on Ultrasonics and Sonochemistry, Chief Editor: M. Ashokkumar; Section Editors: S. Anandan, F. Cavalieri, K. Okitsu, K. Yasui, B. Zisu and F. Chemat, Springer (ISBN 978-981-287-279-1), 2016, pp. 813-840
- 32) M. Zhou, F. Cavalieri and M. Ashokkumar,
“Ultrasonic Synthesis and Characterization of Polymer-Shelled Microspheres”,
In Handbook on Ultrasonics and Sonochemistry, Chief Editor: M. Ashokkumar; Section Editors: S. Anandan, F. Cavalieri, K. Okitsu, K. Yasui, B. Zisu and F. Chemat, Springer (ISBN 978-981-287-279-1), 2016, pp. 1021-1048.
- 33) S. Anandan and M. Ashokkumar, "Graphene Oxide Nanodisks and Nanodots -An overview", Carbon Nanomaterials Source book, (2016) 131-152. Publisher: CRC Press, Taylor & Francis books. ISBN-978-1-4822-5268-2
- 34) R.S. Chandekar, K. Pushparaj, G.K. Pillai, M. Zhou, S.H. Sonawane, M.P. Deosarkar, B.A. Bhanvase and M. Ashokkumar,
“Ultrasound assisted synthesis of hydrogels and its effects on water/dye intake”,
In Process Modeling, Simulation and Environmental Applications in Chemical Engineering, Eds: B.A. Bhanvase and R.P. Ugwekar, AAP Inc., 2017, pp. 161-177.
- 35) K. Ansari, S.H. Sonawane, B.A. Bhanvase, M.L. Bari, K. Ramisetty, L. Shaikh, Y.P. Setty and M. Ashokkumar,
“Production of zinc sulphide nanoparticles using continuous flow microreactor”,
In Process Modeling, Simulation and Environmental Applications in Chemical Engineering, Eds: B.A. Bhanvase and R.P. Ugwekar, AAP Inc., 2017, pp. 257-278.
- 36) S. Anandan, F.T. Cheruvathoor and M. Ashokkumar,
“Contributions of nanotechnology to hydrogen production”,
Chapter 25, Nanotechnology for Energy Sustainability, First Edition. Eds: B. Raj, M. Van de Voorde, and Y. Mahajan, Wiley-VCH Verlag GmbH & Co. KGaA, pp. 597-628, 2017
- 37) T.S.H. Leong, M. Ashokkumar and G.J.O. Marin,
Chapter 8: “Ultrasonic food processing”,
In Green Chemistry Series No. 53, Alternatives to Conventional Food Processing: 2nd Edition, Ed: Andrew Proctor, The Royal Society of Chemistry 2018, pp: 316-354.
- 37) Y. Sánchez-García, S. Bhangu, M. Ashokkumar and N. Gutiérrez-Méndez,
Chapter 8: “Sonocrystallization of Lactose from Whey”,
In Technological Approaches for Novel Applications in Dairy Processing, Ed: N. Koca, 2018, DOI: 10.5772/68053, ISBN: 978-1-78923-313-1, Print ISBN: 978-1-78923-312-4, eBook (PDF) ISBN: 978-1-83881-276-8
- 38) G.Q. Chen, T.S.H. Leong, S.E. Kentish, M. Ashokkumar and G.J.O. Martin,
Chapter 8: “Membrane separations in the dairy industry”,

In Separation of Functional Molecules in Food by Membrane Technology 2018, Ed: C.M. Galanakis, Academic Press, Elsevier, London, 2019, pp: 267-304.

- 39) C.S.K. Lin, M. Ashokkumar, G. Kaur, C. Li, X. Li, K.L. Ong, D. Pleissner, Chapter 8: "Food Waste and Manure", Handbook on Characterization of Biomass, Biowaste and Related By-products, Ed: A. Nzihou, Springer, 2020.
- 40) T. Selvamani, S. Anandan and M. Ashokkumar, Chapter 2: Graphitic carbon nitride for photocatalytic hydrogen production, in Nanoscale Graphitic Carbon Nitride, 1st Edition, Eds: A. Pandikumar, C. Murugan and S. Vinoth, Elsevier, 2021
- 41) M. Krishnaveni, S. Anandan, B. Aljafari and M. Ashokkumar, Chapter 13: Nanocarbons (graphene, etc.), MXenes for energy storage applications, in Smart Supercapacitors: Fundamentals, Structures and Applications, Ed: C.M. Hussain, M.B. Ahamed, Elsevier, Amsterdam, 2023, pp: 275-320

Reviews Published as Journal Articles

- 42) M. Ashokkumar, "An overview on semiconductor particulate systems for photoproduction of hydrogen", International Journal of Hydrogen Energy, 23, 427-438, 1998.
- 43) M. Ashokkumar and F. Grieser, "Ultrasound assisted chemical processes", Reviews in Chemical Engineering, 15, 41-83, 1999.
- 44) F. Grieser and M. Ashokkumar, "The effect of surface active solutes on bubbles exposed to ultrasound", Advances in Colloid and Interface Science, 89-90, 423-438, 2001.
- 45) M. Ashokkumar and F. Grieser, "Single bubble sonoluminescence – A Chemists' overview", ChemPhysChem, 5, 439-448, 2004.
- 46) J. Wan, R. Mawson, M. Ashokkumar, K. Ronacher, M.J. Coventry, H. Roginski and K. Versteeg, "Emerging processing technologies for functional foods", Australian Journal of Dairy Technology, 60, 167-169, 2005.
- 47) S. Muthukumar, S.E. Kentish, M. Ashokkumar and G.W. Stevens, "Application of ultrasound in membrane separation processes: a review", Reviews in Chemical Engineering, 22, 155-194, 2006.
- 48) M. Ashokkumar and F. Grieser, "The effect of surface active solutes on bubbles in an acoustic field", Physical Chemistry Chemical Physics, 9, 5631-5643, 2007.
- 49) M. Ashokkumar, J. Lee, S. Kentish and F. Grieser, "Bubbles in an ultrasonic field: An overview", Ultrasonics Sonochemistry, 14, 470-475, 2007.
- 50) R. Bhaskaracharya, S.E. Kentish and M. Ashokkumar "Selected applications of ultrasonics in food processing" Food Engineering Reviews, 1, 31-49, 2009.
- 51) M. Ashokkumar, R. Bhaskaracharya, S. Kentish, J. Lee, M. Palmer and B. Zisu, "The ultrasonic processing of dairy products – an overview", Dairy Science and Technology, 90, 147-168, 2010.
- 52) F. Cavalieri, M. Zhou and M. Ashokkumar, "The design of multifunctional microbubbles for ultrasound image-guided cancer therapy", Current Topics in Medicinal Chemistry, 10, 1198-1220, 2010

- 53) M. Ashokkumar,
“The characterization of acoustic cavitation bubbles – An overview”,
Ultrasonics Sonochemistry, 18, 864-872, 2011.
- 54) T. Leong, M. Ashokkumar and S. Kentish,
“The fundamentals of power ultrasound – a review”,
Acoustics Australia, 39, 43-52, 2011.
- 55) J. Chandrapala, C. Oliver, S. Kentish and M. Ashokkumar,
“Ultrasonics in food processing”,
Ultrasonics Sonochemistry, 19, 975-983, 2012.
- 56) F. Cavaliere, M. Zhou, M. Tortora and M. Ashokkumar,
“Methods of preparation of multifunctional microbubbles and their in vitro/in vivo assessment of stability, functional and structural properties”,
Current Pharmaceutical Design, 18, 2135-2151, 2012.
- 57) J. Chandrapala, C. Oliver, S. Kentish and M. Ashokkumar,
“Ultrasonics in food processing – Food quality assurance and food safety”,
Trends in Food Science & Technology, 26, 88-98, 2012.
- 58) J. Chandrapala, C. Oliver, S. Kentish and M. Ashokkumar,
“Use of power ultrasound to improve extraction and modify phase transitions in food processing”,
Food Reviews International, 29, 67-91, 2013.
- 59) M. Ashokkumar,
“Applications of ultrasound in food and bioprocessing”,
Ultrasonics Sonochemistry, 25, 17-23, 2015.
- 60) S.K. Bhangu and M. Ashokkumar
“Theory of sonochemistry” in Sonochemistry: From basic principles to innovative applications,
Topics in Current Chemistry, 374, Article number 56, 2016.
- 61) S.G. Babu, M. Ashokkumar and B. Neppolian
“The role of ultrasound on advanced oxidation processes” in Sonochemistry: From basic principles to innovative applications,
Topics in Current Chemistry, 374, Article number 75, 2016.
- 62) J. Theerthagiri, R.A. Senthil, B. Senthilkumar, A.R. Polu, J. Madhavan and M. Ashokkumar,
“Recent advances in MoS₂ nanostructured materials for energy and environmental applications – A review”,
Journal of Solid State Chemistry, 252, 43–71, 2017.
- 63) T.S.H. Leong, G.J.O. Martin and M. Ashokkumar,
“Ultrasonic encapsulation – A review”,
Ultrasonics Sonochemistry, 35, 605-617, 2017.
- 64) M. Ashokkumar,
“Introductory text to sonochemistry”,
ChemTexts, 4:7, 1-9, 2018.
- 65) W. Li and M. Ashokkumar,
“Introduction to ultrasound and sonochemistry”,
Electrochemical Society Interface, 27, 43-45, 2018.
- 66) T. Jayaraman, A.P. Murthy, V. Elakkiya, S. Chnadraseskaran, P. Nithyadharseni, Z. Khan, R.A. Senthil, R. Shanker, M. Raghavender, P. Kuppasami, M. Jagannathan and M. Ashokkumar
“Recent development on carbon based heterostructures for their applications in energy and environment: A review”,
Journal of Industrial and Engineering Chemistry, 64, 16-59, 2018.

- 67) M. Munir, M. Nadeem, T.M. Qureshi, T.S.H. Leong, C.J. Gamlath, G.J.O. Martin and M. Ashokkumar,
Effects of high pressure, microwave and ultrasound processing on proteins and enzyme activity in dairy systems — A review,
Innovative Food Science and Emerging Technologies, 57, 102192: 1-14, 2019.
- 68) L. Li, F. Cavalieri and M. Ashokkumar,
Exploring new applications of lysozyme-shelled microbubbles,
Langmuir, 35, 9997-10006, 2019
- 69) T.G. McKenzie, F. Karimi, M. Ashokkumar and G.G. Qiao,
Ultrasound and sonochemistry for radical polymerization: Sound synthesis,
Chemistry A European Journal, 25, 5372-5388, 2019
- 70) J. Madhavan, J. Theerthagiri, D. Balaji, S. Sunitha, M.Y. Choi and M. Ashokkumar,
Hybrid advanced oxidation processes involving ultrasound: an overview,
Molecules, 24, 3341: 1-18, 2019
- 71) J. Theerthagiri, J. Madhavan, S.J. Lee, M.Y. Choi, M. Ashokkumar, B.G. Pollet,
Sonoelectrochemistry for energy and environmental applications
Ultrasonics Sonochemistry, 63, 104960:1-18, 2020
- 72) S. Anandan, V.K. Ponnusamy and M. Ashokkumar,
A review on hybrid techniques for the degradation of organic pollutants in aqueous environment
Ultrasonics Sonochemistry, 67, 105130: 1-14, 2020
- 73) A. Taha, E. Ahmad, A. Ismaiel, M. Ashokkumar, X. Xu, S. Pan and H. Hu,
Ultrasonic emulsification: An overview on the preparation of different emulsifiers-stabilized emulsions,
Trends in Food Science & Technology, 105, 363-377, 2020
- 74) W. Li, C.J. Gamlath, R. Pathak, G.J.O. Martin and M. Ashokkumar,
Ultrasound - The Physical and Chemical Effects Integral to Food Processing.
Innovative Food Processing Technologies: A Comprehensive Review, 1, 329-358, 2021.
- 75) V. Hakke, S. Sonawane, S. Anandan, S. Sonawane and M. Ashokkumar,
Process intensification approach using microreactors for synthesising nanomaterials – A Critical Review,
Nanomaterials, 11, 98, 2021
- 76) M. Pattnaik, P. Pandey, G.J. O. Martin, H.N. Mishra and M. Ashokkumar,
Innovative technologies for extraction and microencapsulation of bioactives from plant-based food waste and their applications in functional food development,
Foods, 10, 279, 2021
- 77) J. Theerthagiri, S.J. Lee, K. Karuppasamy, S. Arulmani, S. Veeralakshmi. M. Ashokkumar M.Y. Choi,
Application of advanced materials in sonophotocatalytic processes for the remediation of environmental pollutants,
Journal of Hazardous Materials, 412, 125245, 2021
- 78) S.K. Bhangu, A. Baral, H. Zhu, M. Ashokkumar and F. Cavalieri,
Sound methods for the synthesis of nanoparticles from biological molecules,
Nanoscale Advances, 3, 4907-4917, 2021
- 79) C.J. Gamlath, G.J.O. Martin and M. Ashokkumar,
Non-thermal treatment of milk: Ultrasonics and megasonics,
Encyclopedia of Dairy Science (3rd Ed), 724-732, 2022
- 80) D. Meroni, R. Djellabi, M. Ashokkumar, C.L. Bianchi and D.C. Boffito,
Sonoprocessing: from concept to large-scale reactors,
Chemical Reviews, 122, 3219-3258, 2022

- 81) A. Dehane, S. Merouani, A. Chibani, O. Hamdaoui and M. Ashokkumar, Sonochemical and sono-assisted reduction of carbon dioxide: A critical review, *Chemical Engineering and Processing: Process Intensification*, 179, 109075, 2022.
- 82) M.A. Sundaramahalingam, P. Sivashanmugam, J. Rajeshbanu and M. Ashokkumar, A review on contemporary approaches in enhancing the innate lipid content of yeast cells, *Chemosphere*, 293, 133616, 2022
- 83) N.S.M. Yusof, S. Anandan, P. Sivashanmugam, E.M.M. Flores and M. Ashokkumar, A correlation between cavitation bubble temperature, sonoluminescence and interfacial chemistry – a minireview, *Ultrasonics Sonochemistry*, 86, 106029, 2022.
- 84) V.H. Cauduro, J. Cui, E.M.M. Flores and M. Ashokkumar, Ultrasound-assisted encapsulation of phytochemicals for food applications: a review, *Foods*, 12, 3859, 2023.
- 85) A.R.S.S. Kumar, A. Padmakumar, U. Kalita, S. Samanta, A. Baral, N.K. Singha, M. Ashokkumar and G.G. Qiao, Ultrasonics in polymer science: applications and challenges, *Progress in Materials Science*, 136, 101113, 2023.
- 86) S. Manickam, D.C. Boffito, E.M.M. Flores, J-M. Leveque, R. Pflieger, B.G. Pollet and M. Ashokkumar, Ultrasonics and sonochemistry: Editors' perspective, *Ultrasonics Sonochemistry*, 99, 106540, 2023.

Journal Articles

- 87) M. Ashokkumar and P. Maruthamuthu, "I-V characterisation of doped and undoped WO₃ photoanodes in various electrolyte systems", *Bulletin of Electrochemistry*, 4, 905-910, 1988.
- 88) P. Maruthamuthu and M. Ashokkumar, "Doping effects of the transition metal ions on photosensitization of WO₃ particles", *Solar Energy Materials*, 17, 433-438, 1988.
- 89) P. Maruthamuthu and M. Ashokkumar, "Hydrogen Generation using Cu(II)/WO₃ and oxalic acid by visible light", *International Journal of Hydrogen Energy*, 13, 677-680, 1988.
- 90) P. Maruthamuthu, M. Ashokkumar and L. Venkatasubramanian, "Visible light assisted heterogeneous catalysis: decomposition of peroxomonosulfate over doped and undoped WO₃ dispersions in aqueous medium", *Bulletin of the Chemical Society of Japan*, 61, 4137-4141, 1988.
- 91) M. Ashokkumar and P. Maruthamuthu, "Preparation and characterisation of doped WO₃ particles", *Journal of Material Science*, 24, 2135-2139, 1989.
- 92) M. Ashokkumar and P. Maruthamuthu, "Factors influencing photocatalytic efficiency of WO₃ particles", *Journal of Photochemistry and Photobiology A. Chemistry*, 49, 249-258, 1989.
- 93) P. Maruthamuthu and M. Ashokkumar, "Hydrogen production with visible light by doped WO₃ and MV²⁺ in aqueous medium", *International Journal of Hydrogen Energy*, 14, 275-277, 1989.
- 94) P. Maruthamuthu, M. Ashokkumar, K. Gurunathan, E. Subramanian and M.V.C. Sastri,

- "Hydrogen evolution from water with visible radiation in presence of Cu(II)/WO₃ and an electron relay",
International Journal of Hydrogen Energy, 14, 525-528, 1989.
- 95) M. Ashokkumar and P. Maruthamuthu,
"Photocatalytic decomposition of peroxodisulfate over doped WO₃ particles",
New Journal of Chemistry, 14, 43-47, 1990.
- 96) P. Maruthamuthu, K. Gurunathan, E. Subramanian and M. Ashokkumar,
"Photocatalytic activities of Bi₂O₃: and assessment through decomposition of peroxomonosulfate in visible radiation",
Bulletin of Chemical Society of Japan, 64, 1933-1937, 1991.
- 97) M. Ashokkumar and P. Maruthamuthu,
"Photocatalytic hydrogen production with semiconductor particulate systems: an effort to enhance the efficiency",
International Journal of Hydrogen Energy, 16, 591-595, 1991.
- 98) P. Maruthamuthu, S. Muthu, K. Gurunathan and M. Ashokkumar,
"Photobiocatalysis: H₂ evolution using a semiconductor coupled with photosynthetic bacteria",
International Journal of Hydrogen Energy, 17, 863-866, 1992.
- 99) M. Ashokkumar, A. Kudo, N. Saito and T. Sakata,
"Semiconductor sensitisation of TiO₂ electrodes by RuS₂ colloids",
Chemical Physics Letters, 229, 383-388, 1994.
- 100) M. Ashokkumar, A. Kudo and T. Sakata,
"Synthesis and characterisation of RuS₂ nanocrystallites for semiconductor sensitisation",
Journal of Materials Science, 30, 2759-2764, 1995.
- 101) M. Ashokkumar, A. Kudo and T. Sakata,
"Photoelectrochemical properties of RuS₂-coated TiO₂ electrodes",
Bulletin of the Chemical Society of Japan, 68, 2491-2496, 1995.
- 102) Y. Gauduel, H. Gelabert and M. Ashokkumar,
"Ultrafast electronic relaxation dynamics - a comparison between water and ionic aqueous solutions",
Journal of Molecular Liquids, 64, 57-71, 1995.
- 103) Y. Gauduel, H. Gelabert and M. Ashokkumar,
"Short-lived charge-transfer-to-solvent-states and multiple electronic relaxations following femtosecond excitation of aqueous chloride ion",
Chemical Physics, 197, 167-193, 1995.
- 104) M. Ashokkumar, R. Hall, P. Mulvaney and F. Grieser,
"Sonoluminescence from aqueous alcohol and surfactant solutions",
Journal of Physical Chemistry B, 101, 10845-10850, 1997.
- 105) M. Ashokkumar and F. Grieser,
"Sonophotoluminescence: pyranine emission induced by ultrasound",
Journal of Chemical Society, Chemical Communications, 561-562, 1998.
- 106) S. Steenken, M. Ashokkumar, P. Maruthamuthu and R.A. McClelland,
"Making photochemically generated phenyl cations visible by addition to aromatics",
Journal of the American Chemical Society, 120, 11925-11931, 1998.
- 107) K. Tanno, M. Ashokkumar, D. Simpson and P. Mulvaney,
"Green and red electroluminescence from CdS powder electrodes in aqueous solutions",

Colloids and Surfaces: A141, 143-151, 1998.

- 108) M. Ashokkumar and J.L. Marignier,
"Hydrogen and oxygen production from water using Ag and AgCl colloids",
International Journal of Hydrogen Energy, 24, 17-20, 1999.
- 109) M. Ashokkumar and F. Grieser,
"Sonophotoluminescence from aqueous and non-aqueous solutions",
Ultrasonics Sonochemistry, 6, 1-5, 1999.
- 110) M. Wall, M. Ashokkumar, R. Tronson and F. Grieser,
"Multibubble sonoluminescence in aqueous salt solutions",
Ultrasonics Sonochemistry, 6, 7-14, 1999.
- 111) K. Tanno, M. Ashokkumar and P. Mulvaney,
"Quantized electroluminescence from Q-CdS films immersed in aqueous electrolytes",
Colloids and Surfaces: A146, 293-298, 1999.
- 112) M. Ashokkumar, P. Mulvaney and F. Grieser,
"The effect of pH on multibubble sonoluminescence from aqueous solutions containing simple organic weak acids and weak bases",
Journal of the American Chemical Society, 121, 7355-7359, 1999.
- 113) K. Barbour, M. Ashokkumar, R.A. Caruso and F. Grieser,
"Sonochemistry and sonoluminescence in aqueous AuCl₄⁻ solutions in the presence of surface active solutes",
Journal of Physical Chemistry B, 103, 9231-9236, 1999.
- 114) R.A. Caruso, M. Ashokkumar and F. Grieser,
"Sonochemical formation of colloidal platinum",
Colloids and Surfaces: A, 169, 219-225, 2000.
- 115) M. Ashokkumar, K. Vinodgopal and F. Grieser,
"Sonoluminescence quenching in aqueous solutions containing weak organic acids and bases and its relevance to sonochemistry",
Journal of Physical Chemistry B, 104, 6447-6451, 2000.
- 116) M. Ashokkumar, L.A. Crum, C.A. Frensley, F. Grieser, T.J. Matula, W.B. McNamara III and K.S. Suslick,
"Effect of solutes on single-bubble sonoluminescence in water",
Journal of Physical Chemistry A, 104, 8462-8465, 2000.
- 117) M. Ashokkumar and F. Grieser,
"Single-bubble sonophotoluminescence",
Journal of the American Chemical Society, 122, 12001-12002, 2000.
- 118) K. Vinodgopal, M. Ashokkumar and F. Grieser,
"Sonochemical degradation of a polydisperse nonylphenol ethoxylate in aqueous solution",
Journal of Physical Chemistry B, 105, 3338-3342, 2001.
- 119) S.T. Selvan, C. Bullen, M. Ashokkumar and P. Mulvaney,
"Synthesis of tunable, highly luminescent QD-glasses through sol-gel processing",
Advanced Materials, 13, 985-988, 2001.
- 120) M. Ashokkumar, J. Guan, R. Tronson, T.J. Matula, J.W. Nuske and F. Grieser,
"Effect of surfactants, polymers, and alcohol on single bubble dynamics and sonoluminescence",
Physical Review E, 65, 046310-1 – 046310-4, 2002.
- 121) R. Tronson, M. Ashokkumar and F. Grieser,
"A comparison of the effects of water soluble solutes on multibubble sonoluminescence generated in aqueous solutions by 20 kHz and 515 kHz pulsed ultrasound",
Journal of Physical Chemistry B, 106, 11064-11068, 2002.

- 122) G. J. Price, M. Ashokkumar, T. D. Cowan and F. Grieser,
"Sonoluminescence quenching by organic acids in aqueous solution: pH and frequency effects",
Journal of Chemical Society, Chemical Communications, 1740-1741, 2002.
- 123) R. A. Caruso, M. Ashokkumar and F. Grieser,
"Sonochemical formation of gold sols",
Langmuir, 18, 7831-7836, 2002.
- 124) M. Bradley, M. Ashokkumar and F. Grieser,
"Sonochemical production of fluorescent and phosphorescent latex particles",
Journal of the American Chemical Society, 125, 525-529, 2003.
- 125) M. Ashokkumar, T. Vu, F. Grieser, A. Weerawardene, N. Anderson, N. Pilkington and D. R. Dixon,
"Ultrasonic treatment of Cryptosporidium oocysts",
Water Science and Technology, 47, 173-177, 2003.
- 126) R. Tronson, M. Ashokkumar and F. Grieser,
"Multibubble sonoluminescence from aqueous solutions containing mixtures of surface active solutes"
Journal of Physical Chemistry B, 107, 7307-7311, 2003.
- 127) M. Ashokkumar, T. Niblett, L. Tantiogco and F. Grieser,
"Sonochemical decomposition of sodium dodecylbenzene sulfonate in aqueous solutions",
Australian Journal of Chemistry, 56, 1-5, 2003.
- 128) G. J. Price, M. Ashokkumar, T. D. Cowan and F. Grieser,
"Sonoluminescence emission from aqueous solutions of organic monomers",
Journal of Physical Chemistry B, 107, 14124-14125, 2003.
- 129) S. Muthukumar, K. Yang, A. Seuren, S. Kentish, M. Ashokkumar, G.W. Stevens and F. Grieser,
"The use of ultrasonic cleaning for ultrafiltration membranes in the dairy industry",
Separation and Purification Technology, 39, 99-107, 2004.
- 130) G. J. Price, M. Ashokkumar, and F. Grieser,
"Sonoluminescence quenching of organic compounds in aqueous solution: frequency effects and implications for sonochemistry"
Journal of the American Chemical Society, 126, 2755-2762, 2004.
- 131) S. Muthukumar, S. Kentish, M. Ashokkumar, V. Vivekanand and R. Mawson,
"Power ultrasound offers an environmentally friendly approach to cleaning dairy UF membranes",
Australian Journal of Dairy Technology, 59, 193, 2004.
- 132) R. Singla, M. Ashokkumar and F. Grieser,
"The mechanism of sonochemical degradation of benzoic acid in aqueous solutions",
Research on Chemical Intermediates, 30, 723-733, 2004.
- 133) J. Rae, M. Ashokkumar, O. Eulaerts, C. von Sonntag, J. Reisse and F. Grieser,
"Estimation of ultrasound induced cavitation bubble temperatures in aqueous solutions",
Ultrasonics Sonochemistry, 12, 325-329, 2005.
- 134) S. Muthukumar, S. Kentish, S. Lalchandani, M. Ashokkumar, R. Mawson, G.W. Stevens and F. Grieser,
"The optimisation of ultrasonic cleaning procedures for dairy fouled ultrafiltration membranes",
Ultrasonics Sonochemistry, 12, 29-35, 2005.
- 135) M. Ashokkumar and F. Grieser,
"A comparison between multibubble sonoluminescence intensity and the temperature within cavitation bubbles"
Journal of the American Chemical Society, 127, 5326-5327, 2005.
- 136) J. Lee, S.E. Kentish and M. Ashokkumar,
"The effect of surface active solutes on bubble coalescence in the presence of ultrasound"
Journal of Physical Chemistry B, 109, 5095-5099, 2005.

- 137) K. Okitsu, B.M. Teo, M. Ashokkumar and F. Grieser,
"Controlled growth of sonochemically synthesised gold seed particles in aqueous solutions containing surfactants",
Australian Journal of Chemistry, 58, 667-670, 2005.
- 138) J. Lee, S. Kentish and M. Ashokkumar,
"Effect of surfactants on the rate of growth of an air bubble by rectified diffusion",
Journal of Physical Chemistry B, 109, 14595-14598, 2005.
- 139) S. Muthukumaran, S. Kentish, M. Ashokkumar and G.W. Stevens,
"Mechanisms for the ultrasonic enhancement of dairy whey ultrafiltration",
Journal of Membrane science, 258, 106-114, 2005.
- 140) J. Lee, S. Kentish, T.J. Matula and M. Ashokkumar,
"Effect of surfactants on inertial cavitation activity in a pulsed acoustic field",
Journal of Physical Chemistry B, 109, 16860-16865, 2005.
- 141) G.J. Price, M. Ashokkumar, M. Hodnett, B. Zequiri and F. Grieser,
"Acoustic emission from cavitating solutions: implications for the mechanisms of sonochemical reactions",
Journal of Physical Chemistry B, 109, 17799-17801, 2005.
- 142) M. Ashokkumar and F. Grieser,
"Proton transfer between organic acids and bases at the acoustic bubble -aqueous solution interface",
Journal of Physical Chemistry B, 109, 19356-19359, 2005.
- 143) D. Sunartio, M. Ashokkumar and F. Grieser,
"The influence of acoustic power on multibubble sonoluminescence in aqueous solutions containing organic solutes",
Journal of Physical Chemistry B, 109, 20044-20050, 2005.
- 144) K. Okitsu, M. Ashokkumar and F. Grieser,
"Sonochemical synthesis of gold nanoparticles in water: effects of ultrasound frequency",
Journal of Physical Chemistry B, 109, 20673-20675, 2005.
- 145) J. Lee, M. Ashokkumar, S. Kentish and F. Grieser,
"Determination of size distribution of sonoluminescence bubbles in a pulsed acoustic field",
Journal of the American Chemical Society, 127, 16810-16811, 2005.
- 146) K. Vinodgopal, Y. He, M. Ashokkumar and F. Grieser,
"Sonochemically prepared platinum-ruthenium bimetallic nanoparticles",
Journal of Physical Chemistry B, 110, 3849-3852, 2006.
- 147) S. Balachandran, S. Kentish, R. Mawson and M. Ashokkumar,
"The use of ultrasound to enhance the supercritical extraction of ginger",
Ultrasonics Sonochemistry, 13, 471-479, 2006.
- 148) E. Ciawi, M. Ashokkumar and F. Grieser,
"On the limitations of the methyl radical recombination method for acoustic bubble temperature measurements in aqueous solutions",
Journal of Physical Chemistry B, 110, 9779-9781, 2006.
- 149) E. Ciawi, J. Rae, M. Ashokkumar and F. Grieser,
"Determination of temperatures within acoustically generated bubbles in aqueous solutions at different ultrasound frequencies",
Journal of Physical Chemistry B, 110, 13656-13660, 2006.
- 150) J. Lee, M. Ashokkumar, S. Kentish and F. Grieser,
"Effect of alcohols on the initial growth of sonoluminescence bubbles",
Journal of Physical Chemistry B, 110, 17282-17285, 2006.
- 151) Y. He, K. Vinodgopal, M. Ashokkumar and F. Grieser,

- "Sonochemical synthesis of ruthenium nanoparticles",
Research on Chemical Intermediates, 32, 709-715, 2006.
- 152) S. Kentish, J. Lee, M. Davidson and M. Ashokkumar,
"The dissolution of a stationary spherical bubble beneath a flat plate",
Chemical Engineering Science, 61, 7697-7705, 2006.
- 153) M. Ashokkumar, M. Hodnett, B. Zeqiri, F. Grieser and G.J. Price,
"Acoustic emission spectra from 515 kHz cavitation in aqueous solutions containing surface active solutes",
Journal of the American Chemical Society, 129, 2250-2258, 2007.
- 154) A. Brotchie, M. Ashokkumar and F. Grieser,
"Effect of water-soluble solutes on sonoluminescence under dual frequency sonication",
Journal of Physical Chemistry C, 111, 2007, 3066-3070.
- 155) S. Muthukumar, S.E. Kentish, G.W. Stevens, M. Ashokkumar and R. Mawson,
"Frequency effects in the application of ultrasound to dairy ultrafiltration",
Journal of Food Engineering, 81/82, 364-373, 2007.
- 156) D. Sunartio, M. Ashokkumar and F. Grieser,
"Study of the coalescence of acoustic bubbles as a function of frequency, power, and water-soluble additives",
Journal of the American Chemical Society, 129, 6031-6036, 2007.
- 157) D. Sunartio, K. Yasui, T. Tuziuti, T. Kozuka, Y. Iida, M. Ashokkumar and F. Grieser,
"Correlation between Na* emission and "chemically active" acoustic cavitation bubbles",
ChemPhysChem, 8, 2331-2335, 2007.
- 158) J. Lee, T. Tuziuti, K. Yasui, S. Kentish, F. Grieser, M. Ashokkumar and Y. Iida,
"The influence of surface active solutes on the coalescence, clustering and fragmentation of acoustic bubbles confined in a microspace",
Journal of Physical Chemistry C, 111, 19015-19023, 2007.
- 159) M. Ashokkumar, D. Sunartio, S.E. Kentish, R. Mawson, L. Simons, K. Vilku and C. Versteeg,
"Modification of food ingredients by ultrasound to improve functionality",
Innovative Food Science and Emerging Technologies, 9, 155-160, 2008.
- 160) P. Kanthale, M. Ashokkumar and F. Grieser,
"Estimation of cavitation bubble temperatures in an ionic liquid",
Journal of Physical Chemistry C, 111, 18461-18463, 2007.
- 161) B.M. Teo, S.W. Prescott, M. Ashokkumar and F. Grieser,
"Ultrasound initiated miniemulsion polymerization of methacrylate monomers",
Ultrasonics Sonochemistry, 15, 89-94, 2008.
- 162) P. Kanthale, M. Ashokkumar and F. Grieser,
"Sonoluminescence, sonochemistry and bubble dynamics: frequency and power effects",
Ultrasonics Sonochemistry, 15, 143-150, 2008.
- 163) B.J. George, N. Pereira, M. Al Massum, S.D. Kolev and M. Ashokkumar,
"Sensitivity enhancement in membrane separation flow injection analysis by ultrasound",
Ultrasonics Sonochemistry, 15, 151-156, 2008.
- 164) S.E. Kentish, T. Wooster, M. Ashokkumar, S. Balachandran, R. Mawson and L. Simons
"The use of ultrasonics for nano-emulsion preparation",
Innovative Food Science and Emerging Technologies, 9, 170-175, 2008.
- 165) P. Kanthale, A. Brotchie, M. Ashokkumar and F. Grieser,
"Experimental and theoretical investigations on sonoluminescence under dual frequency conditions",
Ultrasonics Sonochemistry, 15, 629-635, 2008.
- 166) B. Teo, M. Ashokkumar and F. Grieser,

- “Microemulsion polymerisation via high frequency ultrasound irradiation”,
Journal of Physical Chemistry C, 112, 5265-5267, 2008.
- 167) A. Brotchie, M. Ashokkumar and F. Grieser,
“Sonochemistry and sonoluminescence under simultaneous high and low frequency irradiation”,
Journal of Physical Chemistry C, 112, 8343-8348, 2008.
- 168) A. Brotchie, F. Grieser and M. Ashokkumar,
“Sonochemistry and sonoluminescence under dual frequency ultrasound irradiation in the presence
of water soluble solutes”,
Journal of Physical Chemistry C, 112, 10247-10250, 2008.
- 169) F. Cavalieri, M. Ashokkumar, F. Grieser and F. Caruso
“Ultrasonic synthesis of stable, functional lysozyme microbubbles”,
Langmuir, 24, 10078-10083, 2008.
- 170) B. Jimmy, S. Kentish, F. Grieser and M. Ashokkumar,
“Ultrasonic nebulization in aqueous solutions and the role of interfacial adsorption dynamics in
surfactant enrichment”,
Langmuir, 24, 10133-10137, 2008.
- 171) S. Anandan, F. Grieser and M. Ashokkumar,
“Sonochemical synthesis of Au-Ag core-shell bimetallic nanoparticles”,
Journal of Physical Chemistry C, 112, 15102-14105, 2008.
- 172) W.L. Guo, Y.H. He, M. Ashokkumar and F. Grieser,
“Sonochemical synthesis of single crystal Pd nanoparticles in aqueous solution”,
Materials Research Innovations, 12, 52-54, 2008.
- 173) P.S.S. Kumar, R. Sivakumar, S. Anandan, J. Madhavan, P. Maruthamuthu and M. Ashokkumar,
“Photocatalytic degradation of acid red 88 using Au-TiO₂ nanoparticles in aqueous solutions”,
Water Research, 42, 4878-4884, 2008.
- 174) D. Sunartio, F. Grieser and M. Ashokkumar,
“Sonoluminescence quenching in aqueous solutions of aliphatic diols and glycerol”,
Ultrasonics Sonochemistry, 16, 23-27, 2009.
- 175) R. Singla, F. Grieser and M. Ashokkumar,
“Sonochemical degradation of martius yellow dye in aqueous solution”,
Ultrasonics Sonochemistry, 16, 28-34, 2009.
- 176) S. Anandan and M. Ashokkumar,
“Sonochemical synthesis of Au-TiO₂ nanoparticles for the sonophotocatalytic degradation of organic
pollutants in aqueous environment”,
Ultrasonics Sonochemistry, 16, 316-320, 2009.
- 177) B. Teo, F. Chen, T.A. Hatton, F. Grieser and M. Ashokkumar,
“A novel one-pot synthesis of magnetite latex nanoparticles by ultrasound irradiation”,
Langmuir, 25, 2593-2595, 2009.
- 178) A. Brotchie, F. Grieser and M. Ashokkumar,
“The effect of power and frequency on acoustic cavitation bubble size distributions”,
Physical Review Letters, 102, 084302-1 - 084302-4 2009.
- 179) R. Singla, F. Grieser and M. Ashokkumar,
“The kinetics and mechanism for the sonochemical degradation of a non-ionic surfactant”,
Journal of Physical Chemistry A, 113, 2865-2872, 2009.
- 180) J. Zuo, K. Knoerzer, R. Mawson, S. Kentish and M. Ashokkumar,
“The pasting properties of waxy rice starch suspensions”,
Ultrasonics Sonochemistry, 16, 462-468, 2009.

- 181) N. Pugazhenthiran, S. Anandan, G. Kathiravan, N.K.U. Prakash, S. Crawford and M. Ashokkumar, "Microbial synthesis of silver nanoparticles by *Bacillus* sp." *Journal of Nanoparticle Research*, 11, 1811-185, 2009.
- 182) T.S.H. Leong, T.J. Wooster, S.E. Kentish and M. Ashokkumar, "Minimising oil droplet size using ultrasonic emulsification", *Ultrasonics Sonochemistry*, 16, 721-727, 2009.
- 183) B. Teo, F. Grieser and M. Ashokkumar, "High Intensity Ultrasound initiated polymerisation of butyl methacrylate in mini- and microemulsions", *Macromolecules*, 42, 4479-4483, 2009.
- 184) B. Neppolian, A. Doronila, F. Grieser and M. Ashokkumar, "Simple and efficient sonochemical method for the oxidation of arsenic(III) to arsenic(V)", *Environmental Science and Technology*, 43, 6793-6798, 2009.
- 185) P.S.S. Kumar, M.R. Raj, S. Anandan, M. Zhou and M. Ashokkumar, "Visible light assisted photocatalytic degradation of acid red 88 using Au-ZnO nanophotocatalysts", *Water Science and Technology*, 60, 1589-1596, 2009.
- 186) J. Madhavan, P. Maruthamuthu, S. Murugesan and M. Ashokkumar, "Kinetics of degradation of acid red 88 in the presence of Co^{2+} ion/peroxomonosulfate reagent", *Applied Catalysis A: General*, 368, 35-39, 2009.
- 187) A. Brotchie, R. Mettin, F. Grieser and M. Ashokkumar, "Cavitation activation by dual-frequency ultrasound and shock waves", *Physical Chemistry Chemical Physics*, 11, 10029-10034, 2009.
- 188) M. Ashokkumar, J. Lee, Y. Iida, K. Yasui, T. Kozuka, T. Tuziuti and A. Towata, "The detection and control of stable and transient acoustic cavitation bubbles" *Physical Chemistry Chemical Physics*, 11, 10118-10121, 2009.
- 189) S. Wu, T. Leong, S. Kentish and M. Ashokkumar, "Frequency effects during acoustic cavitation in surfactant solutions", *Journal of Physical Chemistry B*, 113, 16568-16573, 2009.
- 190) M. Ashokkumar, J. Lee, B. Zisu, R. Bhaskaracharya, M. Palmer and S. Kentish, "Sonication increases the heat stability of whey proteins", *Journal of Dairy Science*, 92, 5353-5356, 2009.
- 191) J. Madhavan, F. Grieser and M. Ashokkumar, "Kinetics of the Sonophotocatalytic degradation of orange G in the presence of Fe^{3+} ", *Water Science and Technology*, 60, 2195-2202, 2009.
- 192) Y. Iida, M. Ashokkumar, T. Tuziuti, T. Kozuka, K. Yasui, A. Towata and J. Lee, "Bubble population phenomena in sonochemical reactor: I Estimation of bubble size distribution and its number density with pulsed sonication – laser diffraction method", *Ultrasonics Sonochemistry*, 17, 473-479, 2010.
- 193) Y. Iida, M. Ashokkumar, T. Tuziuti, T. Kozuka, K. Yasui, A. Towata and J. Lee, "Bubble population phenomena in sonochemical reactor: II Estimation of bubble size distribution and its number density by simple coalescence model calculation", *Ultrasonics Sonochemistry*, 17, 480-486, 2010.
- 194) J. Madhavan, F. Grieser and M. Ashokkumar, "Degradation of orange G by advanced oxidation processes", *Ultrasonics Sonochemistry*, 17, 338-343, 2010.
- 195) M. Zhou, T. Leong, S. Melino, F. Cavalieri, S. Kentish and M. Ashokkumar, "Sonochemical synthesis of liquid-encapsulated lysozyme microspheres", *Ultrasonics Sonochemistry*, 17, 333-337, 2010.

- 196) B. Zisu, R. Bhaskaracharya, S. Kentish and M. Ashokkumar, "Ultrasonic processing of dairy systems in large scale reactors", *Ultrasonics Sonochemistry*, 17, 1075-1081, 2010.
- 197) S. Sonawane, B. Teo, A. Brotchie, F. Grieser and M. Ashokkumar "Sonochemical synthesis of ZnO encapsulated functional nanolatex and its anticorrosive performance", *Industrial and Engineering Chemistry Research*, 49, 2200-2205, 2010.
- 198) J. Madhavan, P.S.S. Kumar, S. Anandan, F. Grieser and M. Ashokkumar, "Sonophotocatalytic degradation of monocrotophos using TiO_2 and Fe^{3+} ", *Journal of Hazardous Materials*, 177, 944-949, 2010.
- 199) P.S.S. Kumar, A. Manivel, S. Anandan, M. Zhou, F. Grieser and M. Ashokkumar, "Sonochemical synthesis and characterization of gold-ruthenium bimetallic nanoparticles", *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 356, 140-144. 2010.
- 200) S. Sonawane, B. Neppolian, B. Teo, F. Grieser and M. Ashokkumar "Ultrasound-assisted preparation of semiconductor/polymer photoanodes and their photoelectrochemical properties", *Journal of Physical Chemistry C*, 114, 5148-5153, 2010.
- 201) S. Sonawane, S.P. Grmfekar, K.H. Kate, S.P. Meshram, J.K. Kunte, L. Ramjee, C.M. Mahajan, M.G. Parande and M. Ashokkumar "Hydrodynamic cavitation assisted synthesis of calcite nanoparticles", *International Journal of Chemical Engineering*, Article ID. 242963, p. 1-8, 2010.
- 202) J. Madhavan, F. Grieser and M. Ashokkumar, "Combined advanced oxidation processes for the synergistic degradation of ibuprofen in aqueous environment", *Journal of Hazardous Materials*, 178, 202-208, 2010.
- 203) B.M. Teo, S.W. Prescott, G.J. Price, F. Grieser and M. Ashokkumar, "Synthesis of temperature responsive poly(N-isopropylacrylamide) using ultrasound irradiation", *Journal of Physical Chemistry B*, 114, 3178-3184, 2010.
- 204) M. Ashokkumar, J. Lee, Y. Iida, K. Yasui, T. Kozuka, T. Tuziuti and A. Towata, "Spatial distribution of acoustic cavitation bubbles at different ultrasound frequencies" *ChemPhysChem*, 11, 1680-1684, 2010.
- 205) S. Anandan, S-D. Oh, M. Yoon and M. Ashokkumar, "Photoluminescence properties of sonochemically synthesized gold nanoparticles for DNA biosensing", *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 76, 191-196, 2010.
- 206) N. Selvaraj, S. Anandan, A. Kathiravan, R. Renganathan and M. Ashokkumar, "The interaction of sonochemically synthesised gold nanoparticles with serum albumins", *Journal of Pharmaceutical and Biomedical Analysis*, 53, 804-810, 2010.
- 207) B. Neppolian, A. Doronila and M. Ashokkumar, "Sonochemical oxidation of arsenic(III) to arsenic(V) using potassium peroxydisulfate as an oxidizing agent", *Water Research*, 44, 3687-3695, 2010.
- 208) J. Madhavan, F. Grieser and M. Ashokkumar, "Degradation of formetanate hydrochloride by combined advanced oxidation processes", *Separation and Purification Technology*, 73, 409-414, 2010.
- 209) K. Vinodgopal, B. Neppolian, I.V. Lightcap, F. Grieser, M. Ashokkumar and P.V. Kamat, "Sonolytic design of graphene-Au nanocomposites. Simultaneous and sequential reduction of graphene oxide and Au(III)", *Journal of Physical Chemistry Letters*, 1, 1987-1993, 2010.

- 210) J. Madhavan, P.S.S. Kumar, S. Anandan, M. Zhou, F. Grieser and M. Ashokkumar, "Ultrasound assisted photocatalytic degradation of diclofenac in an aqueous environment", *Chemosphere*, 80, 747-752, 2010.
- 211) B. Neppolian, Y. Kim, M. Ashokkumar, H. Yamashita and H. Choi, "Preparation and properties of visible light responsive $\text{Bi}_2\text{O}_3/\text{TiZrO}_4$ photocatalysts for 4-chlorophenol decomposition", *Journal of Hazardous Materials*, 182, 557-562, 2010.
- 212) J. Madhavan, P.S.S. Kumar, S. Anandan, F. Grieser and M. Ashokkumar, "Degradation of acid red 88 by the combination of sonolysis and photocatalysis", *Separation and Purification Technology*, 74, 336-341, 2010.
- 213) A. Brotchie, F. Grieser and M. Ashokkumar, "Characterization of acoustic cavitation bubbles in different sound fields", *Journal of Physical Chemistry B*, 114, 11010-11016, 2010.
- 214) A. Brotchie, T. Statham, M. Zhou, L. Dharmarathne, F. Grieser and M. Ashokkumar, "Acoustic bubble size, coalescence, and sonochemical activity in aqueous electrolyte solutions saturated with different gases", *Langmuir*, 26, 12690-12695, 2010.
- 215) Y.Y.N. Bonggotgetsakul, M. Ashokkumar, R.W. Catrall and S.D. Kolev, "The use of sonication to increase extraction rate in polymer inclusion membranes. An application to the extraction of gold(III)", *Journal of Membrane Science*, 365, 242-247, 2010.
- 216) T. Leong, S. Wu, S. Kentish and M. Ashokkumar, "Growth of bubbles by rectified diffusion in aqueous surfactant solutions", *Journal of Physical Chemistry C*, 114, 20141-20145, 2010.
- 217) J. Lee, M. Ashokkumar, K. Yasui, T. Tuziuti, T. Kozuka, A. Towata and Y. Iida "Development and optimisation of acoustic bubble structures at high frequencies", *Ultrasonics Sonochemistry*, 18, 92-98, 2011.
- 218) B. Neppolian, L. Ciceri, C.L. Bianchi, F. Grieser and M. Ashokkumar, "Sonophotocatalytic degradation of 4-chlorophenol using $\text{Bi}_2\text{O}_3/\text{TiZrO}_4$ as a visible light responsive photocatalyst", *Ultrasonics Sonochemistry*, 18, 135-139, 2011.
- 219) R. Singla, F. Grieser and M. Ashokkumar, "The mechanism of sonochemical degradation of a cationic surfactant in aqueous solution", *Ultrasonics Sonochemistry*, 18, 484-488, 2011.
- 220) P.S.S. Kumar, S. Anandan, P. Maruthamuthu, T. Swaminathan, M. Zhou, M. Ashokkumar, "Synthesis of Fe^{3+} doped TiO_2 photocatalysts for the visible light assisted degradation of an azo dye", *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 375, 231-236, 2011.
- 221) B.M. Teo, S.K. Suh, T.A. Hatton, M. Ashokkumar and F. Grieser "Sonochemical synthesis of magnetic Janus nanoparticles", *Langmuir*, 27, 30-33, 2011.
- 222) B.M. Teo, M. Ashokkumar and F. Grieser, "Sonochemical polymerisation of miniemulsions in organic liquids/water mixtures", *Physical Chemistry Chemical Physics*, 13, 4095-4102, 2011.
- 223) M. Zhou, F. Cavalieri and M. Ashokkumar, "Tailoring the properties of ultrasonically synthesised microbubbles", *Soft Matter*, 7, 623-630, 2011.
- 224) J. Chandrapala, B. Zisu, M. Palmer, S. Kentish and M. Ashokkumar,

- “Effects of ultrasound on the thermal and structural characteristics of proteins in reconstituted whey protein concentrate”,
Ultrasonics Sonochemistry, 18, 951-957, 2011.
- 225) I. Widnerrsson, B. Teo, M. Ashokkumar and F. Grieser,
“Sonochemical synthesis and characterization of thermoresponsive microgel particles”,
Colloids and Surfaces A: Physicochemical and Engineering Aspects, 377, 342-248, 2011.
- 226) H. Vo, S. Kentish and M. Ashokkumar,
“The Enhancement of foam generated by low power ultrasound and its application to foam fractionation”,
Colloids and Surfaces A: Physicochemical and Engineering Aspects, 380, 35-40, 2011.
- 227) B. Jimmy, S. Kentish and M. Ashokkumar,
“Dynamics of counter ion binding during acoustic nebulisation of surfactant solutions”,
Ultrasonics Sonochemistry, 18, 958-962, 2011.
- 228) Y. Son, M. Lim, M. Ashokkumar and J. Khim,
“Geometric optimization of sonoreactors for the enhancement of sonochemical activity”,
Journal of Physical Chemistry C, 115, 4096-4103, 2011.
- 229) B. Zisu, J. Lee, J. Chandrapala, R. Bhaskaracharya, M. Palmer, S. Kentish and M. Ashokkumar,
“Effect of ultrasound on the physical and functional properties of reconstituted whey protein powders”,
Journal of Dairy Research, 78, 226-232, 2011.
- 230) Y. Son, J. Cha, M. Lim, M. Ashokkumar and J. Khim,
“Comparison of ultrasonic and conventional mechanical soil-washing processes for diesel-contaminated sand”,
Industrial and Engineering Chemistry Research, 50, 2400-2407, 2011.
- 231) S. Anandan, G-J. Lee, S-H. Hsieh, M. Ashokkumar and J.J. Wu,
“Amorphous titania-coated magnetic spherical nanoparticles: sonochemical synthesis and catalytic degradation of nonylphenol ethoxylate”,
Industrial and Engineering Chemistry Research, 50, 7874-7881, 2011.
- 232) Y. He, F. Grieser and M. Ashokkumar,
“The mechanism of Sonophotocatalytic degradation of methyl orange and its products in aqueous solutions”,
Ultrasonics Sonochemistry, 18, 974-980, 2011.
- 233) F. Cavalieri, M. Zhou, F. Caruso and M. Ashokkumar,
“One-pot ultrasonic synthesis of multifunctional microbubbles and microcapsules using synthetic thiolated macromolecules”,
Chemical Communications, 47, 4096-4098, 2011.
- 234) Y. He, F. Grieser and M. Ashokkumar,
“Kinetics and mechanism for the Sonophotocatalytic degradation of p-chlorobenzoic acid”,
Journal of Physical Chemistry A, 115, 6582-6588, 2011.
- 235) S.R. Shrisanth, A.P. Hage, M. Zhou, S.H. Sonawane and M. Ashokkumar,
“Ultrasound assisted preparation of nanoclay bentonite-FeCo nanocomposite hybrid hydrogel: a potential responsive sorbent for removal of organic pollutant from water”,
Desalination, 281, 429-437, 2011.
- 236) C. Balaji, V.S. Moholkar, A.B. Pandit and M. Ashokkumar,
“Mechanistic investigations on Sonophotocatalytic degradation of textile dyes with surface active solutes”,
Industrial and Engineering Chemistry Research, 50, 11485-11494, 2011.
- 237) C. Browne, R.F. Tabor, D.Y.C. Chan. R.R. Dagastine, M. Ashokkumar and F. Grieser,

- “Bubble coalescence during acoustic cavitation in aqueous electrolyte solutions”, *Langmuir*, 27, 12025-12032, 2011.
- 238) S. Ganesan, B. Muthuraman, V. Mathew, M.K. Vadivel, P. Maruthamuthu, M. Ashokkumar and S.A. Suthanthiraraj,
“Influence of 2,6(N-pyrazolyl)isonicotinic acid on the photovoltaic properties of a dye-sensitized solar cell fabricated using poly(vinylidene fluoride) blended with poly(ethylene oxide) polymer electrolyte”,
Electrochimica Acta, 56, 8811-8817, 2011.
- 239) T. Leong, J. Collis, R. Manasseh, A. Ooi, A. Novell, A. Bouakaz, M. Ashokkumar and S. Kentish,
“The role of surfactant head group, chain length and cavitation microstreaming on the growth of bubbles by rectified diffusion”,
Journal of Physical Chemistry C, 115, 24310-24316, 2011.
- 240) Y. Son, M. Lim, J. Khim and M. Ashokkumar,
“Acoustic emission spectra and sonochemical activity in a 36 kHz sonoreactor”,
Ultrasonics Sonochemistry, 19, 16-21, 2012.
- 241) B. Neppolian, A. Bruno, C.L. Bianchi and M. Ashokkumar,
“Graphene oxide based Pt-TiO₂ photocatalyst: ultrasound assisted synthesis, characterization and catalytic efficiency”,
Ultrasonics Sonochemistry, 19, 9-15, 2012.
- 242) Y.Y.J. Zuo, P. Hebraud, Y. Hemar and M. Ashokkumar,
“Quantification of high-power ultrasound induced damage on potato starch granules using light microscopy”,
Ultrasonics Sonochemistry, 19, 421-426, 2012.
- 243) B. Jimmy, S.D. Kolev, S. Kentish and M. Ashokkumar,
“Novel approach for enhancing metal ion separation using acoustic nebulisation”,
Ultrasonics Sonochemistry, 19, 435-439, 2012.
- 244) L. Dharmarathne, M. Ashokkumar and F. Grieser,
“Photocatalytic generation of hydrogen using sonoluminescence and Sonochemi-luminescence”,
Journal of Physical Chemistry C, 116, 1056-1060, 2012.
- 245) M. Ashokkumar, O. Krasulya, S. Shestakov and R. Rink,
“A new look at cavitation and the applications of its liquid-phase effects in the processing of food and fuel”,
Applied Physics Research, 4, 19-29, 2012.
- 246) Y. Son, M. Lim, J. Khim, L-H. Kim and M. Ashokkumar,
“Comparison of calorimetric energy and cavitation energy for the removal of bisphenol-A: The effects of frequency and liquid height”,
Chemical Engineering Journal, 183, 39-45, 2012.
- 247) A. Manivel, R. Sivakumar, S. Anandan and M. Ashokkumar,
“Ultrasound-assisted synthesis of hybrid phosphomolybdate–polybenzidine containing silver nanoparticles for electrocatalytic detection of chlorate, bromate and iodate ions in aqueous solutions”,
Electrocatalysis, 3, 22-29, 2012.
- 248) S. Anandan, G-J. Lee, C-K. Yang, M. Ashokkumar, J.J. Wu,
“Sonochemical synthesis of Bi₂CuO₄ nanoparticles for catalytic degradation of nonylphenol ethoxylate”,
Chemical Engineering Journal, 183, 46-52, 2012.
- 249) M.R. Raj, K. Arun, M. Ashokkumar and S. Anandan,
“Ultrasound-assisted Ullmann reaction of alkyl and aromatic amines with substituted benzoic acids using copper catalyst”,
Organic Preparations and Procedures International, 44, 271–280, 2012.

- 250) M. Zhou, F. Cavalieri M. Ashokkumar,
“Modification of the size distribution of lysozyme microbubbles using a post-sonication technique”,
Instrumental Science and Technology, 40, 51-60, 2012.
- 251) Y. Son, M. Lim, J. Khim, L-H. Kim and M. Ashokkumar,
“Attenuation of UV light in large-scale sonophotocatalytic reactors: The effects of ultrasound irradiation and TiO₂ concentration”,
Industrial and Engineering Chemistry Research, 51, 232-239, 2012.
- 252) Y. Son, M. Lim, J. Khim, L-H. Kim and M. Ashokkumar,
“Comparison of energy consumptions between ultrasonic, mechanical, and combined soil washing processes”,
Ultrasonics Sonochemistry, 19, 395-398, 2012.
- 253) K. Vinodgopal, B. Neppolian, N. Salleh, I.V. Lightcap, F. Grieser, M. Ashokkumar, T.T. Ding and P.V. Kamat,
“Duel-frequency ultrasound for designing two dimensional catalyst surface: reduced graphene oxide-Pt composite”,
Colloids and Surfaces A: Physicochemical and Engineering Aspects, 409, 81-87, 2012.
- 254) L.L. Zhang, R.W. Catrall, M. Ashokkumar and S.D. Kolev,
“On-line extractive separation in flow injection analysis based on polymer inclusion membranes: a study on membrane stability and approaches for improving permeability”,
Talanta, 97, 382-387, 2012.
- 255) N.S.M. Yusof, M.N. Khan and M. Ashokkumar,
“Characterization of the structural transitions in CTAB micelles using fluorescein isothiocyanate”,
Journal of Physical Chemistry C, 116, 15019-15027, 2012.
- 256) D.F. Rivas, M. Ashokkumar, T. Leong, K. Yasui, T. Tuziuti, S. Kentish, D. Lohse, H.J.E. Gardeniers,
“Sonoluminescence and sonochemiluminescence from a microreactor”,
Ultrasonics Sonochemistry, 19, 1252-1259, 2012.
- 257) M. Zhou, F. Cavalieri, F. Caruso and M. Ashokkumar,
“Confinement of acoustic cavitation for the synthesis of protein-shelled nanobubbles for diagnostics and nucleic acid delivery”,
ACS Macro Letters, 1, 853-856, 2012.
- 258) S. Melino, M. Zhou, M. Tortora, M. Paci, F. Cavalieri and M. Ashokkumar,
“Molecular properties of lysozyme-microbubbles: towards the protein and nucleic acid delivery”,
Amino Acids, 43, 885-896, 2012.
- 259) J. Chandrapala, G.J.O Martin, B. Zisu, S. Kentish and M. Ashokkumar,
“The effect of ultrasound on casein micelle integrity”,
Journal of Dairy Science, 95, 6882-6890, 2012.
- 260) J. Chandrapala, B. Zisu, S. Kentish and M. Ashokkumar,
“The effects of high-intensity ultrasound on the structural and functional properties of α -Lactalbumin, β -Lactoglobulin and their mixtures”,
Food Research International, 48, 940-943, 2012.
- 261) M.R. Raj, S. Anandan, R.V. Solomon, P. Venuvanalingam, S.S.K. Iyer and M. Ashokkumar,
“Synthesis of conjugated perylene diimide-based copolymer with 5,5'-bis(4-aminophenyl)-2-2'-bifuryl moiety as an active material for organic photovoltaics”,
Journal of Photochemistry and Photobiology A: Chemistry, 247, 52-62, 2012.
- 262) L. Dharmarathne, M. Ashokkumar and F. Grieser,
“Reactions of ferricyanide and methyl viologen with free radicals produced by ultrasound in aqueous solutions”,
Journal of Physical Chemistry A, 116, 7775-7782, 2012.
- 263) A. Shanmugam, J. Chandrapala and M. Ashokkumar,

- “The effect of ultrasound on the physical and functional properties of skim milk”, *Innovative Food Science and Emerging Technologies*, 16, 251-258, 2012.
- 264) R. Tronson, M.F. Tchea, M. Ashokkumar and F. Grieser, “The behaviour of acoustic bubbles in aqueous solutions containing soluble polymers”, *Journal of Physical Chemistry B*, 116, 13806-13811, 2012.
- 265) S. Anandan, A. Manivel and M. Ashokkumar, “One-step sonochemical synthesis of reduced graphene oxide/Pt/Sn hybrid materials and their electrochemical properties”, *Fuel Cells*, 12, 956-962, 2012.
- 266) P. Kanthale, A. Brotchie, F. Grieser and M. Ashokkumar, “Sonoluminescence quenching and cavitation bubble temperature measurements in an ionic liquid”, *Ultrasonics Sonochemistry*, 20, 47-51, 2013.
- 267) P. Sathishkumar, R.V. Mangalaraja, S. Anandan and M. Ashokkumar, “Photocatalytic degradation of ternary dye mixture in aqueous environment using gold nanoparticles loaded amino and mercapto functionalised TiMCM-41 nanocatalysts in the presence of visible light”, *Separation and Purification Technology*, 102, 67-74, 2013.
- 268) D.C. Boffito, V. Crocella, C. Pirola, B. Neppolian, G. Cerrato, M. Ashokkumar and C.L. Bianchi, “Ultrasonic enhancement of the acidity, surface area and free fatty acids esterification catalytic activity of sulphated ZrO₂-TiO₂”, *Journal of Catalysis*, 297, 17-26, 2013.
- 269) M.R. Raj, S. Anandan, M. Zhou and M. Ashokkumar, “A facile one-step synthesis of hollow polydiphenylamine”, *International Journal of Polymeric Materials*, 62, 23-27, 2013.
- 270) K. Prasad, S. Sonawane, M. Zhou and M. Ashokkumar, “Ultrasound assisted synthesis and characterization of poly(methylmethacrylate)/CaCO₃ nanocomposites”, *Chemical Engineering Journal*, 219, 254-261, 2013.
- 271) P. Sathishkumar, R.V. Mangalaraja, S. Anandan and M. Ashokkumar, “CoFe₂O₄/TiO₂ nanocatalysts for the photocatalytic degradation of Reactive Red 120 in aqueous solutions in the presence and absence of electron acceptors”, *Chemical Engineering Journal*, 220, 302-310, 2013.
- 272) F. Cavalieri, L. Micheli, S. Kaliappan, B.M. Teo, M. Zhou, G. Palleschi and M. Ashokkumar, “Antimicrobial and biosensing ultrasound-responsive lysozyme-shelled microbubbles”, *ACS Applied Materials and Interfaces*, 5, 464-471, 2013.
- 273) N.S.M. Yusof and M. Ashokkumar, “Ultrasound-induced formation of high and low viscoelastic nanostructures of micelles”, *Soft Matter*, 9, 1997-2002, 2013.
- 274) J. Chandrapala, B. Zisu, S. Kentish and M. Ashokkumar, “Influence of ultrasound on chemically induced gelation of micellar casein systems”, *Journal of Dairy Research*, 80, 138-143, 2013.
- 275) S.S. Barkade, D.V. Pinjari, A.K. Singh, P.R. Gogate, J.B. Naik, S.H. Sonawane, M. Ashokkumar and A.B. Pandit, “Ultrasound assisted miniemulsion polymerization for preparation of polypyrrole-zinc oxide (PPy/ZnO) functional latex for liquefied petroleum gas sensing”, *Industrial and Engineering Chemistry Research*, 52, 7704-7712, 2013.
- 276) M.R. Raj, S. Anandan, R.J. Solomon, P. Venuvanalingam, S.S.K. Iyer and M. Ashokkumar, “Conjugated polymer based on oligobenzoc[*c*]thiophene with low-lying HOMO energy level as potential donor for bulk heterojunction solar cells”, *Journal of Photochemistry and Photobiology A: Chemistry*, 262, 34-44, 2013.

- 277) F. Cavalieri, L. Micheli, M. Zhou, M. Tortora, G. Palleschi and M. Ashokkumar, "Electrochemical investigation of the interaction between lysozyme-shelled microbubbles and vitamin C", *Analytical and Bioanalytical Chemistry*, 405, 5531-5538, 2013.
- 278) M. Ashokkumar, N. Tihomirova, S. Shestakov, O. Krasulya and R. Rink, "Research on sonochemistry of the dairy systems to improve the properties of milk semis", *IOSR Journal of Engineering*, 3, 9-13, 2013.
- 279) J. Jiao, Y. He, T. Leong, S.E. Kentish, M. Ashokkumar, R. Manasseh and J. Lee, "Experimental and theoretical studies on the movements of two bubbles in an acoustic standing wave field", *Journal of Physical Chemistry B*, 117, 12549-12555, 2013.
- 280) S. Naveenraj, S. Anandan, S. Velmathi, A.M. Asiri and M. Ashokkumar, "Tuning of chalcogenide nanoparticles fluorescence by Schiff bases", *Journal of Photochemistry and Photobiology A: Chemistry*, 254, 12-19, 2013.
- 281) S. Senthilkumar, R. Hariharan, A. Suganthi, M. Ashokkumar, M. Rajarajan and K. Pitchumani, "Synergistic photodynamic action of ZnO nanomaterials encapsulated meso-tetra(4-sulfonatophenyl) porphyrin", *Powder Technology*, 237, 497-505, 2013.
- 282) L. Dharmarathne, M. Ashokkumar and F. Grieser, "On the generation of the hydrated electron during the sonolysis of aqueous solutions", *Journal of Physical Chemistry A*, 117, 2409-2414, 2013.
- 283) M. Zhou, N.S.M. Yusof and M. Ashokkumar, "Correlation between sonochemistry and sonoluminescence at various frequencies", *RSC Advances*, 3, 9319-9324, 2013.
- 284) J. Madhavan, F. Grieser and M. Ashokkumar, "Sonophotocatalytic degradation of paracetamol using TiO₂ and Fe³⁺", *Separation and Purification Technology*, 103, 114-118, 2013.
- 285) S. Shestakov, O. Krasulya, R. Rink and M. Ashokkumar, "Sonication of dairy systems improves their properties", *Technical Acoustics*, 1-7, 2013.
- 286) F. Cavalieri, M. Colone, A. Stringaro, M. Tortora, A. Calcabrini, M. Zhou and M. Ashokkumar, "Influence of the morphology of lysozyme-shelled microparticles on the cellular association, uptake, and degradation in human breast adenocarcinoma cells", *Particle & Particle Systems Characterization*, 30, 695-705, 2013.
- 287) F. Cavalieri, J.P. Best, C. Perez, J. Tu, F. Caruso, T.J. Matula and M. Ashokkumar, "Mechanical characterization of ultrasonically synthesised microbubble shells by flow cytometry and AFM", *ACS Applied Materials and Interfaces*, 5, 10920-10925, 2013.
- 288) J. Lee, M. Ashokkumar and S. Kentish, "Influence of mixing and ultrasound frequency on antisolvent crystallisation of sodium chloride", *Ultrasonics Sonochemistry*, 21, 60-68, 2014.
- 289) F. Vong, S. Bhuiyan, M. Zhou, F. Cavalieri and M. Ashokkumar, "A comparison of the physical properties of ultrasonically synthesized lysozyme- and BSA-shelled microbubbles", *Ultrasonics Sonochemistry*, 21, 23-28, 2014.
- 290) L.L.A. Koh, H.T.H Nguyen, J. Chandrapala, B. Zisu, M. Ashokkumar and S. Kentish, "The use of ultrasonic feed pre-treatment to reduce membrane fouling in whey ultrafiltration", *Journal of Membrane Science*, 453, 230-239, 2014.
- 291) A. Shanmugam and M. Ashokkumar,

- “Ultrasonic preparation of stable flax seed oil emulsions in dairy systems - Physicochemical characterization”,
Food Hydrocolloids, 39, 151-162, 2014.
- 292) S. Anandan, A.M. Asiri and M. Ashokkumar,
“Ultrasound assisted synthesis of Sn nanoparticles-stabilized reduced graphene oxide nanodiscs”,
Ultrasonics Sonochemistry, 21, 920-923, 2014.
- 293) S. Gao, G.D. Lewis, M. Ashokkumar and Y. Hemar,
“Inactivation of microorganisms by low-frequency high-power ultrasound: 1. Effect of growth phase and capsule properties of the bacteria”,
Ultrasonics Sonochemistry, 21, 446-453, 2014.
- 294) S. Gao, G.D. Lewis, M. Ashokkumar and Y. Hemar,
“Inactivation of microorganisms by low-frequency high-power ultrasound: 2. A simple model for the inactivation mechanism”,
Ultrasonics Sonochemistry, 21, 454-460, 2014.
- 295) M. Bradley, M. Ashokkumar and F. Grieser,
“Multibubble sonoluminescence in ethylene glycol/water mixtures”,
Journal of Physical Chemistry B, 118, 337-343, 2014.
- 296) K. Prasad and M. Ashokkumar,
“Photocatalytic properties of CdS nanoparticles synthesised under various ultrasonic operating conditions”,
Industrial & Engineering Chemistry Research, 53, 715-722, 2014.
- 297) L.L.A. Koh, J. Chandrapala, B. Zisu, G.O. Martin, S. Kentish and M. Ashokkumar
“A comparison of the effectiveness of sonication, high shear mixing and homogenisation on improving the heat stability of whey protein solutions”,
Food Bioprocess Technology, 7, 556-566, 2014.
- 298) T. Leong, K. Yasui, K. Kato, D. Harvie, M. Ashokkumar and S. Kentish,
“Effect of surfactants on single bubble sonoluminescence behavior and bubble surface stability”,
Physical Review E, 89, 043007-1 - 043007-12, 2014.
- 299) A. Shanmugam and M. Ashokkumar,
“Functional properties of ultrasonically generated flaxseed oil-dairy emulsions”,
Ultrasonics Sonochemistry, 21, 1649-1665, 2014.
- 300) J. Chandrapala, G.J.O. Martin, S.E. Kentish and M. Ashokkumar,
“Dissolution and reconstitution of casein micelle containing dairy powders by high shear using ultrasonic and physical methods”,
Ultrasonics Sonochemistry, 21, 1658-1657, 2014.
- 301) R.J. Krupadam, B.A. Korde, M. Ashokkumar and S.D. Kolev,
“Novel molecularly imprinted polymeric microspheres for preconcentration and preservation of polycyclic aromatic hydrocarbons from environmental samples”,
Analytical & Bioanalytical Chemistry, 406, 5313-5321, 2014.
- 302) J. Chandrapala, B. Zisu, M. Palmer, S.E. Kentish and M. Ashokkumar,
“Sonication of milk protein solutions prior to spray drying and the subsequent effects on powders during storage”,
Journal of Food Engineering, 141, 122-127, 2014.
- 303) S. Gao, Y. Hemar, G.D. Lewis and M. Ashokkumar,
“Inactivation of Enterobacter aerogenes in reconstituted skim milk by high- and low-frequency ultrasound”,
Ultrasonics Sonochemistry, 21, 2099-2106, 2014.
- 304) B. Neppolian, C. Wang and M. Ashokkumar,
“Sonochemically synthesized mono and bimetallic Au–Ag reduced graphene oxide based nanocomposites with enhanced catalytic activity”,

- Ultrasonics Sonochemistry, 21, 1948-1953, 2014.
- 305) B. Neppolian, V. Saez, J-G. Garcia, F. Grieser, R. Gomez and M. Ashokkumar, "Sonochemical synthesis of graphene oxide supported Pt-Pd alloy nanocrystals as efficient electrocatalysts for methanol oxidation", *Journal of Solid State Electrochemistry*, 18, 3163-3171, 2014.
- 306) K. Thangavadivel, G. Owens, K. Okitsu and M. Ashokkumar, "Effect of partitioning on sonochemical reactor performance under 200 kHz indirect sonication", *Industrial & Engineering Chemistry Research*, 53, 9340-9347, 2014.
- 307) J. Chandrapala, D. Bui, S.E. Kentish and M. Ashokkumar, "Heat stability and acid gelation properties of calcium-enriched reconstituted skim milk affected by ultrasonication", *Journal of Dairy Research*, 81, 238-244, 2014.
- 308) M. Lim, M. Ashokkumar and Y. Son, "The effects of liquid height/volume, initial concentration of reactant and acoustic power on sonochemical oxidation", *Ultrasonics Sonochemistry*, 21, 1988-1993, 2014.
- 309) J. Theerthagiri, R.A. Senthil, A. Priya, J. Madhavan, R.J.V. Michael and M. Ashokkumar, "Photocatalytic and photoelectrochemical studies of visible-light active α -Fe₂O₃- γ -C₃N nanocomposites", *RSC Advances*, 4, 38222-38229, 2014.
- 310) S. Gao, Y. Hemar, M. Ashokkumar, S. Paturel and G.D. Lewis, "Inactivation of bacteria and yeast using high frequency ultrasound treatment", *Water Research*, 60, 93-104, 2014.
- 311) S.G. Babu, R. Vinoth, B. Neppolian, D.D. Dionysiou and M. Ashokkumar, "Diffused sunlight driven highly synergistic pathway for complete mineralization of organic contaminants using reduced graphene oxide supported photocatalyst", *Journal of Hazardous Materials*, 291, 83-92, 2015.
- 312) N.S.M. Yusof and M. Ashokkumar, "Ultrasonic transformation of micelle structures: Effect of frequency and power", *Ultrasonics Sonochemistry*, 24, 8-12, 2015.
- 313) S. Almarhabi and M. Ashokkumar, "Sonochemical degradation of p-toluenesulfonic acid in aqueous environment", *Energy and Environment Focus*, 4, 239-244, 2015.
- 314) J. Jiao, Y. He, K. Yasui, S.E. Kentish, M. Ashokkumar, R. Manasseh and J. Lee, "Influence of acoustic pressure and bubble sizes on the coalescence of two contacting bubbles in an acoustic field", *Ultrasonics Sonochemistry*, 22, 70-77, 2015.
- 315) A. Shanmugam and M. Ashokkumar, "Characterization of ultrasonically prepared flaxseed oil enriched beverage/carrot juice emulsions and process-induced changes to the functional properties of carrot juice", *Food and Bioprocess Technology*, 8, 1258-1266, 2015.
- 316) N.S.M. Yusof and M. Ashokkumar, "Sonochemical synthesis of gold nanoparticles by using high intensity focused ultrasound", *ChemPhysChem*, 16, 775-781, 2015.
- 317) J. Jiao, Y. He, S. Kentish, M. Ashokkumar, R. Manasseh and J. Lee, "Experimental and theoretical analysis of secondary Bjerknes forces between two bubbles in a standing wave", *Ultrasonics*, 58, 35-42, 2015.
- 318) M. Zhou, B. Babgi, S. Gupta, F. Cavalieri, Y. Alghamdi, M. Aksu and M. Ashokkumar,

- “Ultrasonic fabrication of TiO₂/chitosan hybrid nanoporous microspheres with antimicrobial properties”, RSC Advances, 5, 20265-20269, 2015.
- 319) J. Theerthagiri, R.A. Senthil, A. Malathi, A. Selvi, J. Madhavan and M. Ashokkumar, “Synthesis and characterization of a CuS–WO₃ composite photocatalyst for enhanced visible light photocatalytic activity”, RSC Advances, 5, 52718-52725, 2015.
- 320) T. Selvamani, C.A. Manjula, S. Anandan, A.M. Asiri, and M. Ashokkumar, “Preparation of CuO mesocrystals via antlerite intermediate for photocatalytic applications”, Crystal Research & Technology, 50, 143-149, 2015.
- 321) P. Gurav, S. Naik, B.A. Bhanvase, D.V. Pinjari, S.H. Sonawane and M. Ashokkumar, “Heat transfer intensification using polyaniline based nanofluids: Preparation and application”, Chemical Engineering and Processing, 95, 195–201, 2015.
- 322) P.V. Cherepanov, M. Ashokkumar and D.V. Andreeva, “Ultrasound assisted formation of Al–Ni electrocatalyst for hydrogen evolution”, Ultrasonics Sonochemistry, 23, 142-147, 2015.
- 323) T. Jayaraman, S.A. Raja, A. Priya, M. Jagannathan and M. Ashokkumar, “Synthesis of a visible-light active V₂O₅–γ-C₃N₄ heterojunction as an efficient photocatalytic and photoelectrochemical material”, New Journal of Chemistry, 39, 1367-1374, 2015.
- 324) E. Colombo, F. Cavalieri and M. Ashokkumar, “Role of counterions in controlling the properties of ultrasonically generated chitosan-stabilized oil-in-water emulsions”, ACS Applied Materials & Interfaces, 7, 12972-12980, 2015.
- 325) M. Ashokkumar and S. Anandan, “Comment on “Shining light on nanochemistry using silver nanoparticle-enhanced luminol chemiluminescence”, Journal of Chemical Education, 92, 1778-1778, 2015.
- 326) R. Pflieger, J. Lee, S.I. Nikitenko and M. Ashokkumar, “Influence of He and Ar flow rates and NaCl concentration on the size distribution of bubbles generated by power ultrasound”, Journal of Physical Chemistry B, 119, 12682-12668, 2015.
- 327) S. Anandan, J.J. Wu and M. Ashokkumar, “Sonochemical synthesis of layered copper hydroxy nitrate nanosheets”, ChemPhysChem, 16, 3389-3391, 2015.
- 328) B. Neppolian, R. Vinod, C. Bianchi and M. Ashokkumar, “Degradation of 4-chlorophenol and NO_x using ultrasonically synthesized TiO₂ loaded graphene oxide photocatalysts”, Science of Advanced Materials, 7, 1149-1155, 2015.
- 329) S. Appalakutti, S.H. Sonawane, B.A. Bhanvase, V. Mittal and M. Ashokkumar, “Process intensification of copper chromite (CuCr₂O₄) nanoparticle production using continuous flow microreactor”, Chemical Engineering and Processing, 89, 28-34, 2015.
- 330) B. Babgi, M. Zhou, M. Aksu, Y. Alghamdi and M. Ashokkumar, “Initial growth of sonochemically active and sonoluminescence bubbles at various frequencies”, Ultrasonics Sonochemistry, 29, 55-59, 2016.
- 331) N.S.M. Yusof, B. Babgi, Y. Alghamdi, M. Aksu, J. Madhavan and M. Ashokkumar, “Physical and chemical effects of acoustic cavitation in selected ultrasonic cleaning applications”, Ultrasonics Sonochemistry, 29, 568-576, 2016.

- 332) N. Kang, Y.J. Zuo, L. Hilliou, M. Ashokkumar and Y. Hemar, "Viscosity and hydrodynamic radius relationship of high-power ultrasound depolymerised starch pastes with different amylose content", *Food Hydrocolloids*, 52, 183-191, 2016.
- 333) R. Vinoth, P. Karthik, C. Muthamizhchelvan, B. Neppolian and M. Ashokkumar, "Carrier separation and charge transport characteristics of reduced graphene oxide supported visible-light active photocatalysts", *PhysChemChemPhys*, 18, 5179-5191, 2016.
- 334) L. Hallez, J. Lee, F. Touyeras, A. Nevers, M. Ashokkumar and J.Y. Hihn, "Enhancement and quenching of high-intensity focused ultrasound cavitation activity via short frequency sweep gaps", *Ultrasonics Sonochemistry*, 29, 194-197, 2016.
- 335) K. Kaviyaran, S. Anandan, R.W. Mangalaraja, T. Sivasankar and M. Ashokkumar, "Sonochemical synthesis of Cu₂O nanocubes for enhanced chemiluminescence applications", *Ultrasonics Sonochemistry*, 29, 388-393, 2016.
- 336) S. Bhangu, M. Ashokkumar and J. Lee, "Ultrasound assisted crystallization of paracetamol: crystal size distribution and polymorph control", *Crystal Growth & Design*, 16, 1934-1941, 2016.
- 337) T. Selvanmian, B.G.S. Raj, S. Anandan, J.J. Wu and M. Ashokkumar, "Synthesis of morphology-controlled bismutite for selective applications", *PhysChemChemPhys*, 18, 7768-7779, 2016.
- 338) J. Chandrapala, L. Ong, B. Zisu, S.L. Gras, M. Ashokkumar and S.E. Kentish, "The effect of sonication and high pressure homogenisation on the properties of pure cream", *Innovative Food Science & Emerging Technology*, 33, 298-307, 2016.
- 339) L.I. Bhagawat, V.S. Patil, B.B. Kale, S.H. Sonawane, B.A. Bhanvase, D.V. Pinjari and M. Ashokkumar, "Sonoprocessing of LiFePO₄ nanoparticles and nanocomposites for cathode material in lithium ion batteries", *Polymer Composites*, 37, 1874-1880, 2016.
- 340) F. Cavaliere, E. Colombo, E. Nicolai, N. Rosato and M. Ashokkumar, "Sono-assembly of nanostructures via tyrosine-tyrosine coupling reactions at the interface of acoustic cavitation bubbles", *Materials Horizons*, 3, 563-567, 2016.
- 341) A. Klinkova, P.V. Cherepanov, I.G. Ryabikin, M. Ho, M. Ashokkumar, A.F. Izmaylov, D.V. Andreeva and E. Kumacheva, "Shape-dependent interactions of palladium nanocrystals with hydrogen", *Small*, 12, 2450-2458, 2016.
- 342) S. Tan, S. Mettu, M.D. Bibiano, M. Zhou, B. Babgi, J. White, R.R. Dagastine and M. Ashokkumar, "Ultrasonics synthesis of stable oil filled microcapsules using thiolated chitosan and their characterisation by AFM and numerical simulations", *Soft Matter*, 12, 7212-7222, 2016.
- 343) S. Mettu, M. Zhou, B.L. Tardy, M. Ashokkumar and R.R. Dagastine, "Temperature dependent mechanical properties of air, oil and water filled microcapsules studied by atomic force microscopy", *Polymer*, 102, 333-341, 2016.
- 344) S. Theerthagiri, R.A. Senthil, M.H. Buraidah, J. Madhavan, A.K. Arof and M. Ashokkumar, "One-step electrochemical deposition of Ni_{1-x}Mo_xS ternary sulfides as an efficient counter electrode for dye-sensitized solar cells", *Journal of Materials Chemistry A*, 4, 16119-16127, 2016.
- 345) J.Z. Sostaric, M. Ashokkumar and F. Grieser, "Sodium atom emission from aqueous surfactant solutions exposed to ultrasound",

Langmuir, 32, 12387-12393, 2016.

- 346) Q. Ye, M. Biviano, S. Mettu, M. Zhou, R. Dagastine and M. Ashokkumar
“Modification of pea protein isolate for ultrasonic encapsulation of functional liquids”,
RSC Advances, 6, 106130–106140, 2016.
- 347) T.S.H. Leong, M. Zhou, N. Kukan, M. Ashokkumar and G.J.O. Martin,
“Preparation of water-in-oil-in-water emulsions by low frequency ultrasound using skim milk and sunflower oil”,
Food Hydrocolloids, 63, 685-696, 2017.
- 348) S.G. Babu, P. Aparna, G. Satishkumar, M. Ashokkumar and B. Neppolian,
“Ultrasound-assisted mineralization of organic contaminants using a recyclable LaFeO_3 and Fe^{3+} /persulfate Fenton-like system”,
Ultrasonics Sonochemistry, 34, 924-930, 2017.
- 349) S.K. Bhangu, S. Gupta and M. Ashokkumar,
“Ultrasonic enhancement of lipase-catalysed transesterification for biodiesel synthesis”,
Ultrasonics Sonochemistry, 34, 305-309, 2017.
- 350) W. Bai, B. Hebraud, M. Ashokkumar and Y. Hemar
“Investigation on the pitting of potato starch granules during high frequency ultrasound treatment”,
Ultrasonics Sonochemistry, 35, 547-555, 2017.
- 351) R. Vinoth, P. Karthik, K. Devan, B. Neppolian and M. Ashokkumar,
“ TiO_2 - NiO p-n nanocomposite with enhanced sonophotocatalytic activity under diffused sunlight”,
Ultrasonics Sonochemistry, 35, 655-663, 2017.
- 352) R.G. Bai, K. Muthoosamy, M. Zhou, M. Ashokkumar, N.M. Huang and S. Manickam
“Sonochemical and sustainable synthesis of graphene-gold(G-Au) nanocomposites for enzymeless and selective electrochemical detection of nitric oxide”,
Biosensors and Bioelectronics, 87, 622-629, 2017.
- 353) S. Gupta, D. Scott, C.R. Prabha and M. Ashokkumar,
“Biodiesel synthesis assisted by ultrasonication using engineered thermo-stable *Proteus vulgaris* lipase”,
Fuel, 208, 430-438, 2017.
- 354) A. Alizedah, G. Abdi, M.M. Khodaei, M. Ashokkumar and J. Amirian,
“Graphene oxide/ Fe_3O_4 / SO_3H nanohybrid: a new adsorbent for adsorption and reduction of Cr(VI) from aqueous solutions”,
RSC Advances, 7, 14876-14887, 2017.
- 355) Y. Shen, K. Yasui, T. Zhu and M. Ashokkumar,
“A model for the effect of bulk liquid viscosity on cavitation bubble dynamics”,
Phys Chem Chem Phys, 19, 20635-20640, 2017.
- 356) V. Vinoth, T. M. D’Rozario, J.J. Wu, S. Anandan and M. Ashokkumar,
“Graphene quantum dots anchored gold nanorods for electrochemical detection of glutathione”,
Chemistry Select, 4, 4744-4752, 2017.
- 357) E. Colombo, W. Li, S.K. Bhangu and M. Ashokkumar,
“Chitosan microspheres as a template for TiO_2 and ZnO microparticles: studies on mechanism, functionalization and applications in photocatalysis and H_2S removal”,
RSC Advances, 7, 19373-19383, 2017.
- 358) S. Shaik, U. Bagale, M. Ashokkumar and S. Sonawane,
“Preparation of Fe_2O_3 nanoparticles by acoustic and hydrodynamic cavitation Techniques and corrosion inhibition release studies using its nanocontainers”,
Protection of Metals and Physical Chemistry of Surfaces, 53, 850–858, 2017.
- 359) S. Anandan, J.J. Wu, D. Bahnemann, A. Emeline and M. Ashokkumar,
“Crumpled Cu_2O -g- C_3N_4 nanosheets for hydrogen evolution catalysis”,

Colloids and Surfaces A, 527, 34–41, 2017

- 360) S.K. Bhangu, M. Ashokkumar and F. Cavaliere,
“A simple one-step ultrasonic route to synthesize antioxidant molecules and fluorescent nanoparticles from phenol and phenol-like molecules”,
ACS Sustainable Chemistry & Engineering, 5, 6081–6089, 2017.
- 361) S. Shabana, S.H. Sonawane, V. Ranganathan, P.H. Pujjalwar, D.V. Pinjari, B.A. Bhanvase, P.R. Gogate and M. Ashokkumar,
“Improved synthesis of aluminium nanoparticles using ultrasound assisted approach and subsequent dispersion studies in di-octyl adipates”,
Ultrasonics Sonochemistry, 36, 59-69, 2017.
- 362) J. Theerthagiri, K. Thiyagarajan, B. Senthilkumar, Z. Khan, R.A. Senthil, P. Arunachalam, J. Madhavan and M. Ashokkumar
“Synthesis of hierarchical cobalt phosphate nanoflakes and their enhanced electrochemical performances for supercapacitor applications”,
Chemistry Select, 2, 201-210, 2017.
- 363) T.G. McKenzie, E. Colombo, Q. Fu, M. Ashokkumar and G.G. Qiao,
“Sono-RAFT polymerization in aqueous medium”,
Angewandte Chemie International Edition, 56, 12302-12306, 2017
- 364) G. Abdi, M. Ashokkumar and A. Alizedah,
“Ultrasound-assisted oxidative-adsorptive desulfurization using highly acidic graphene oxide as a catalyst-adsorbent”,
Fuel, 210, 639-645, 2017
- 365) E. Colombo, W. Li, S.K. Bhangu and M. Ashokkumar,
“Comparison of the photocatalytic efficiencies of continuous stirred tank reactor (CSTR) and batch systems using a dispersed micron sized photocatalyst”,
RSC Advances, 7, 48222-48229, 2017.
- 366) C.J. Gamlath, T.S.H. Leong, M. Ashokkumar and G.J.O. Martin,
“The inhibitory roles of native whey protein on the rennet gelation of bovine milk”,
Food Chemistry, 244, 36-43, 2018.
- 367) T.S.H. Leong, M. Zhou, D. Zhou, M. Ashokkumar and G.J.O. Martin,
“The formation of double emulsions in skim milk using minimal food grade emulsifiers –A comparison between ultrasonic and high pressure homogenisation efficiencies”,
Journal of Food Engineering, 2019, 81-92, 2018.
- 368) W. Li, T.S.H. Leong, M. Ashokkumar and G.J.O. Martin,
“A study of the effectiveness and energy efficiency of ultrasonic emulsification”,
PhysChemChemPhys, 20, 86-96, 2018.
- 369) A. Anandababu, S. Anandan and M. Ashokkumar,
“A simple discriminating p-tert-butylcalix[4]arene thiospirolactam rhodamine b based colorimetric and fluorescence sensor for mercury ion and live cell imaging applications”,
Chemistry Select, 3, 4413-4420, 2018.
- 370) T.S.H. Leong, V. Walter, C.J. Gamlath, M. Yang, G.J.O. Martin and M. Ashokkumar,
“Functionalised dairy streams: Tailoring protein functionality using sonication and heating”,
Ultrasonics Sonochemistry, 48, 499-508, 2018.
- 371) M.P. Rao, J.J. Wu, A.M. Asiri, S. Anandan and M. Ashokkumar,
“Photocatalytic properties of hierarchical CuO nanosheets synthesized by a solution phase method”,
Journal of Environmental Sciences, 69, 115-124, 2018.
- 372) Q. Ye, S. Mettu, M. Zhou, R. Dagastine and M. Ashokkumar,
“Ultrasonically synthesized organic liquid-filled chitosan microcapsules: part 1: tuning physical & functional properties”,

Soft Matter, 14, 3202-3208, 2018.

- 373) S. Mettu, Q. Ye, M. Zhou, R. Dagastine and M. Ashokkumar,
“Ultrasonically synthesized organic liquid-filled chitosan microcapsules: part 2: characterization using AFM (atomic force microscopy) and combined AFM–confocal laser scanning fluorescence microscopy”,
Soft Matter, 14, 3192-3201, 2018.
- 374) S. Bhangu, R. Singla, E. Colombo, M. Ashokkumar and F. Cavalieri,
“Sono-transformation of tannic acid into biofunctional ellagic acid micro/nanocrystals with distinct morphologies”,
Green Chemistry, 20, 816-821, 2018.
- 375) R.K. Polagani, P.L. Suryawanshi, S.P. Gumfekar, S.H. Sonawane and M. Ashokkumar,
“Ultrasound-assisted synthesis of Pt–Co/C bimetallic alloys for oxygen reduction in PEM fuel cells”,
Sustainable Energy & Fuels, 2, 1491-1499, 2018.
- 376) P.L. Suryawanshi, S.H. Sonawane, B.A. Bhanvase, M. Ashokkumar, M.S. Pimplapure and P.R. Gogate,
“Synthesis of iron oxide nanoparticles in a continuous flow spiral microreactor and Corning® advanced flow™ reactor”,
Green Process Synthesis, 7, 1-11, 2018.
- 377) H. Zhu, F. Cavalieri and M. Ashokkumar,
“Ultrasound-assisted synthesis of cross-linked poly(ethylene glycol) nanostructures with hydrophobic core and hydrophilic shell”,
Macromolecular Chemistry and Physics, 219, 1800353(1-5), 2018.
- 378) W. Li, F-M. Allieux, J. Lee, M. Ashokkumar and L.F. Duméeb,
“Ultrasound-assisted fabrication of metal nano-porous shells across polymer beads and their catalytic activity for reduction of 4-nitrophenol”,
Ultrasonics Sonochemistry, 49, 63-68, 2018.
- 379) S. Piogé, T.N. Tran, T.G. McKenzie, S. Pascual, M. Ashokkumar, L. Fontaine and G. Qiao,
“Sono-raft polymerization-induced self-assembly in aqueous dispersion: synthesis of LCST-type thermosensitive nanogels”,
Macromolecules, 51, 8862-8869, 2018.
- 380) S. Yao, S. Mettu, S.Q.K. Law, M. Ashokkumar and G.J.O. Martin,
“The effect of high-intensity ultrasound on cell disruption and lipid extraction from high-solids viscous slurries of *Nannochloropsis* sp. biomass”,
Algal Research 35, 341–348, 2018.
- 381) J. Lee, K. Yasui, M. Ashokkumar and S.E. Kentish,
“Quantification of cavitation activity by sonoluminescence to study the sonocrystallization process under different ultrasound parameters”,
Crystal Growth Design, 18, 5108-5115, 2018.
- 382) T. Selvamani, S. Anandan, L. Granone, D.W. Bahnemann and M. Ashokkumar,
“Phase-controlled synthesis of bismuth oxide polymorphs for photocatalytic applications”,
Materials Chemistry Frontiers, 2, 1664-1673, 2018.
- 383) R. Pflieger, L. Gravier, G. Guillot, M. Ashokkumar and S.I. Nikitenko,
“Inverse effects of the gas feed positioning on sonochemistry and sonoluminescence”,
Ultrasonics Sonochemistry, 46, 10-17, 2018.
- 384) Z. Sun, H. Wei, Z. Zhou, M. Ashokkumar and J. Liu,
“Screening of isochrysis strains and utilization of a two-stage outdoor cultivation strategy for algal biomass and lipid production”,
Applied Biochemistry and Biotechnology, 20, 185, 1100-1117, 2018.
- 385) J. Collins, T. G. McKenzie, M.D. Nothling, M. Ashokkumar and G. Qiao,

“High frequency sonoATRP of 2-hydroxyethyl acrylate in an aqueous medium†”,
Polymer Chemistry, 9, 2562-2568, 2018.

- 386) A. Malathi, J. Madhavan, M. Ashokkumar and P. Arunachalam,
“A review on BiVO₄ photocatalyst: Activity enhancement methods for solar photocatalytic applications”,
Applied Catalysis A, 555, 47-74, 2018.
- 387) S.Q.K. Law, S. Mettu, M. Ashokkumar, P. Scales and G.J.O. Martin,
“Emulsifying properties of ruptured microalgae cells: Barriers to lipid extraction or promising biosurfactants?”,
Colloids and Surfaces B: Biointerfaces, 170, 438-446, 2018.
- 388) M. Munir, M. Nadeem, T. M. Qureshi, A. Qayyum, M. Suhaib, F. Zeb, Ijaz-ul-Haq, A. Qureshi, M. Ashokkumar,
“Addition of oat enhanced the physico-chemical, nutritional and sensory qualities of date fruit based snack bars”,
Journal of Food and Nutrition Research, 6, 271-276, 2018.
- 389) K. Parveen, U. Rafique, M.J. Akhtar and M. Ashokkumar,
Ultrasound-assisted synthesis of gallium hybrids for environmental remediation application
Ultrasonics Sonochemistry, 49, 222-232, 2018
- 390) S.G. Babu, P. Karthik, M.C. John, S.K. Lakher, M. Ashokkumar, J. Khim and B. Neppolian,
Synergistic effect of sono-photocatalytic process for the degradation of organic pollutants using CuO-TiO₂/rGO,
Ultrasonics Sonochemistry, 50, 218-223, 2019
- 391) J. Collins, T.G. McKenzie, M.D. Nothling, S. Allison-Logan, M. Ashokkumar and G.G. Qiao,
Sonochemically initiated RAFT Polymerization in organic solvents,
Macromolecules, 52, 185-195, 2019
- 392) V. Srinivasan, M.A. Jhonsi, A. Kathiravan and M. Ashokkumar,
Fuel waste to fluorescent carbon dots and its multifarious applications,
Sensors & Actuators: B. Chemical, 282, 972-983, 2019
- 393) Y.I. Sánchez-García, M. Ashokkumar, T.J. Mason, N. Gutiérrez-Méndeza,
Influence of ultrasound frequency and power on lactose nucleation,
Journal of Food Engineering, 248, 34-39, 2019
- 394) X. Li, S. Mettu, G.J.O. Martin, M. Ashokkumar and C.S.K. Lin,
Ultrasonic pretreatment of food waste to accelerate enzymatic hydrolysis for glucose production,
Ultrasonics Sonochemistry, 53, 77-82, 2019
- 395) H.Y. Hafeez, S. Kumar Lakhera, M. Ashokkumar and B. Neppolian,
Ultrasound assisted synthesis of reduced graphene oxide (rGO) supported InVO₄-TiO₂ nanocomposite for efficient hydrogen production,
Ultrasonics Sonochemistry, 53, 1-10, 2019
- 396) N.E. Chadi, S. Merouani, O. Hamdaoui, M. Bouhelassa and M. Ashokkumar,
H₂O₂/periodate (IO₄⁻): a novel advanced oxidation technology for the degradation of refractory organic pollutants,
Environmental Science: Water Research & Technology, 5, 1113-1123, 2019
- 397) M. Ramachandran, S. Anandan and M. Ashokkumar,
A luminescent on-off probe based calix[4]arene linked through triazole with ruthenium(II) polypyridine complexes to sense copper(II) and sulfide ions,
New Journal of Chemistry, 43, 9832-9842, 2019
- 398) J.T. Guimarães, C.F. Balthazara H. Scudino, T.C. Pimentel, E.A. Esmerino, M. Ashokkumar, M.Q. Freitas and A.G. Cruz,
High-intensity ultrasound: A novel technology for the development of probiotic and prebiotic dairy products,

Ultrasonics Sonochemistry, 57, 21-21, 2019, 2019

- 399) F.Z. Meghlaoui, S. Merouani, O. Hamdaoui, M. Bouhelassa and M. Ashokkumar, Rapid catalytic degradation of refractory textile dyes in Fe(II)/chlorine system at near neutral pH: Radical mechanism involving chlorine radical anion (Cl_2^-)-mediated transformation pathways and impact of environmental matrices, Separation and Purification Technology, 227, 115685: 1-11, 2019
- 400) S.R. Pillai, S.H. Sonawane, S.P. Gumfekar, P.L. Suryawanshi, M. Ashokkumar and I. Potoroko, Continuous flow synthesis of nanostructured bimetallic Pt-Mo/C catalysts in milli-channel reactor for PEM fuel cell application, Materials Chemistry and Physics, 237, 121854: 1-9, 2019
- 401) R. Pflieger, S.I. Nikitenko and M. Ashokkumar, Effect of NaCl salt on sonochemistry and sonoluminescence in aqueous solutions, Ultrasonics Sonochemistry, 59, 104753: 1-8, 2019
- 402) N.E. Chadi, S. Merouani, O. Hamdaoui, M. Bouhelassa and M. Ashokkumar, Influence of mineral water constituents, organic matter and water matrices on the performance of the $\text{H}_2\text{O}_2/\text{IO}_4^-$ advanced oxidation process, Environmental Science: Water Research & Technology, 5, 1985-1992, 2019
- 403) Y. Son, D. Lee, W. Lee, J. Park, W.H. Lee and M. Ashokkumar, Cavitation activity in heterogeneous systems containing fine particles, Ultrasonics Sonochemistry, 58, 104599: 1-7, 2019
- 404) Z. Gao, H. Zhu, X. Li, P. Zhang, M. Ashokkumar, F. Cavalieri, J. Hao, and J. Cui, Sono-polymerization of poly(ethylene glycol)-based nanoparticles for targeted drug delivery, ACS Macro Letters, 8, 1285-1290, 2019
- 405) S. Mettu, S. Yao, S.Q.K. Law, Z. Sun, P.J. Scales, M. Ashokkumar and G.J.O. Martin, Rheological properties of concentrated slurries of harvested, incubated and ruptured Nannochloropsis sp. cells, BMC Chemical Engineering, 1, 8:1-11, 2019.
- 406) M. Yang, Y. Wei, M. Ashokkumar, J. Qin, N. Han and Y. Wang, Effect of ultrasound on binding interaction between emodin and micellar casein and its microencapsulation at various temperatures Ultrasonics Sonochemistry, 62, 104861: 1-10, 2020
- 407) G. Vinodhkumar, J. Wilson, S.S.R. Inbanathan, I.V. Potheher, M. Ashokkumar, A.C. Peter Solvothermal synthesis of magnetically separable reduced graphene oxide/ Fe_3O_4 hybrid nanocomposites with enhanced photocatalytic properties Physica B: Physics of Condensed Matter B, 580, 411752: 1-11, 2020
- 408) J. Li, X. Zhang, M. Ashokkumar, D. Liu and T. Ding, Molecular regulatory mechanisms of Escherichia coli O157:H7 in response to ultrasonic stress revealed by proteomic analysis Ultrasonics Sonochemistry, 61, 104835: 1-9, 2020
- 409) A. Sethupathy, A. Arunagiri, P. Sivashanmugam, J.R. Banu, M. Ashokkumar, Disperser coupled rhamnolipid disintegration of pulp and paper mill waste biosolid: Characterisation, methane production, energy assessment and cost analysis Bioresource Technology, 297, 122545: 1-10, 2020
- 410) K. Parveen, U. Rafique, M.J. Akhtar, M. Younas and M. Ashokkumar, Electrochemical impedance spectroscopic analysis of aluminium and gallium mixed matrix membranes Journal of Solid State Electrochemistry, 24, 961-974, 2020
- 411) R. Pathak, T. Leong, G. Martin and M. Ashokkumar, Amino acid and secondary structure integrity of sonicated milk proteins

Australian Journal of Chemistry, 73, 170-179, 2020

- 412) S. Bhangu, G. Bocchinfuso, M. Ashokkumar and F. Cavalieri,
Sound-driven dissipative self-assembly of aromatic biomolecules into functional nanoparticles
Nanoscale Horizons, 5, 553-563, 2020
- 413) B.G.S. Raj, R. Angulakshmi, N. Baskaran, J.J. Wu, S. Anandan and M. Ashokkumar,
Pseudocapacitive performance of Mn_3O_4 - SnO_2 hybrid nanoparticles synthesized via ultrasonication
approach
Journal of Applied Electrochemistry, 50, 609-619, 2020
- 414) M. Krishnaveni, C.M. Suresh, J.J. Wu, A.M. Asiri, S. Anandan and M. Ashokkumar,
Synthesis of 3D marigold flower-like rGO/BN/Ni(OH)₂ ternary nanocomposites for supercapacitor
applications
Sustainable Energy Fuels, 4, 3090–3101, 2020
- 415) T.S.H. Leong, L. Ong, C.J. Gamlath, S.L. Gras, M. Ashokkumar and G.J.O. Martin,
Formation of cheddar cheese analogues using canola oil and ultrasonication - A comparison between
single and double emulsion systems
International Dairy Journal 105, 104683: 1-10, 2020.
- 416) J. Lee, L. Hallez, F. Touyeras, M. Ashokkumar and J-Y. Hihn,
Influence of frequency sweep on sonochemiluminescence and sonoluminescence
Ultrasonics Sonochemistry, 64, 105047:1-9, 2020
- 417) M. Ramachandran, M.R. Raj, U.H.A. Azeez, A. Sorrentino, S. Anandan, M. Ashokkumar,
Synthesis of random copolymer using Zig-Zag naphthodithiophene for bulk heterojunction polymer
solar cell applications
Journal of Polymer Research, 27:171(1-10), 2020
- 418) S.K. Bhangu, M. M. Ashokkumar and F. Cavalieri,
Synthesis of bio-functional nanoparticles from sono-responsive amino acids using high frequency
ultrasound
Ultrasonics Sonochemistry, 63, 104967:1-9, 2020
- 419) Y. Hemar, C. Xu, S. Wu and M. Ashokkumar,
Size reduction of “reformed casein micelles” by high-power ultrasound and high hydrostatic pressure
Ultrasonics Sonochemistry, 63, 104929:1-4, 2020
- 420) S. Mettu, S. Yao, Q. Sun, S.R. Lawson, P.J. Scales, G. J. O. Martin and M. Ashokkumar,
Effect of bulk viscosity and emulsion droplet size on the separation efficiency of model mineral oil-
in-water (O/W) emulsions under ultrasonic standing wave fields: A theoretical and experimental
investigation
Industrial & Engineering Chemistry Research, 59, 7901–7912, 2020
- 421) C.J. Gamlath, T.S.H. Leong, M. Ashokkumar and G.J.O. Martin,
Incorporating whey protein aggregates produced with heat and ultrasound treatment into rennet gels
and model non-fat cheese systems
Food Hydrocolloids, 109, 106103:1-14, 2020
- 422) A. Kathiravan, A. Gowri, V. Srinivasan, T.A. Smith, M. Ashokkumar, M.A. Jhonsi,
A simple and ubiquitous device for picric acid detection in latent fingerprints using carbon dots
Analyst, 145, 4532-4539, 2020
- 423) M. Munir, M. Nadeem, T.M. Qureshi, C.J. Gamlath, G.J.O. Martin, Y. Hmear and M. Ashokkumar,
Effect of sonication, microwaves and high-pressure processing on ACE inhibitory activity and
antioxidant potential of Cheddar cheese during ripening
Ultrasonics Sonochemistry, 67, 105140: 1-8, 2020
- 424) S. Wu, G. Li, Y. Xue, M. Ashokkumar, H. Zhao, D. Liu, P. Zhou, Y. Sun and Y. Hemar,
Solubilisation of micellar casein powders by high-power ultrasound
Ultrasonics Sonochemistry, 67, 105131: 1-6, 2020

- 425) V. Vinesh, M. Ashokkumar and B. Neppolian,
rGO supported self-assembly of 2D nano sheet of (g-C₃N₄) into rod-like nano structure and its application in sonophotocatalytic degradation of an antibiotic
Ultrasonics Sonochemistry, 68, 105218: 1-9, 2020
- 426) S. Gupta, P.B. Mazumder, D. Scott and M. Ashokkumar,
Ultrasound-assisted production of biodiesel using engineered methanol tolerant *Proteus vulgaris* lipase immobilized on functionalized polysulfone beads
Ultrasonics Sonochemistry, 68, 105211: 1-8, 2020
- 427) F.Z. Meghlaoui, S. Merouani, O. Hamdaoui, A. Alghyamah, M. Bouhelassa and M. Ashokkumar,
Fe(III)-catalyzed degradation of persistent textile dyes by chlorine at slightly acidic conditions: the crucial role of Cl₂^{•-} radical in the degradation process and impacts of mineral and organic competitors
Asia Pacific Journal of Chemical Engineering, e2553: 1-12, 2020
- 428) R. Waichal, A. Bhirud, H. Fouad, S. Gosavi and M. Ashokkumar,
Nonenzymatic glucose detection in human serum using Ni nanoparticles decorated reduced graphene oxide
Science of Advanced Materials, 12, 1125-1136, 2020
- 429) A. Baral, S.K. Bhangu, R. Cimino, J.N.B.D. Pelin, W.A. Alves, S. Chattopadhyay, M. Ashokkumar and F. Cavaliere,
Sono-assembly of the [Arg-Phe]₄ Octapeptide into biofunctional nanoparticles
Nanomaterials, 10, 1772:1-12, 2020
- 430) M. Krishnaveni, J.J. Wu, S. Anandan and M. Ashokkumar,
Facile synthesis of SnO₂ nanoparticle intercalated unzipped multi-walled carbon nanotubes via an ultrasound-assisted route for symmetric supercapacitor devices,
Sustainable Energy & Fuels, 4, 5120-5131, 2020
- 431) A.R. Rezk, H. Ahmed, T.L. Brain, J.O. Castro, M.K. Tan, J. Langley, N. Cox, J. Mondal, W. Li, M. Ashokkumar, and L.Y. Yeo,
Free radical generation from high-frequency electromechanical dissociation of pure water,
The Journal of Physical Chemistry Letters, 11, 4655-4661, 2020
- 432) D.B. Rajamma, S. Anandan, N.S.M. Yusof, B.G. Pollet and M. Ashokkumar,
Sonochemical dosimetry: A comparative study of Weissler, Fricke and terephthalic acid methods,
Ultrasonics Sonochemistry, 72, 105413, 2021
- 433) A. Anandababu, S. Anandan, A. Syed, N. Marraiki and M. Ashokkumar,
Upper rim modified calix[4]arene towards selective turn-on fluorescence sensor for spectroscopically silent metal ions,
Inorganica Chimica Acta, 516, 120133, 2021
- 434) R. Pirarath, P. Shivashanmugam, A. Syed, A.M. Elgorban, S. Anandan and M. Ashokkumar,
Mercury removal from aqueous solution using petal-like MoS₂ nanosheets,
Frontiers of Environmental Science and Engineering, 15, 15, 2021
- 435) A. Sethupathy, P.S. Kumar, P. Sivashanmugam, C. Arun, R. Banu and M. Ashokkumar,
Evaluation of biohydrogen production potential of fragmented sugar industry biosludge using ultrasonication coupled with egtazic acid,
International Journal of Hydrogen Energy, 46, 1705-1714, 2021
- 436) K. Parveen, U. Rafique, M.J. Akhtar and M. Ashokkumar
Sonochemical synthesis of aluminium and aluminium hybrids for remediation of toxic metals,
Ultrasonics Sonochemistry, 70, 105299, 2021
- 437) Y. Yu, J. Theerthagiri, S.J. Lee, G. Muthusamy, M. Ashokkumar and M.Y. Choi,
Integrated technique of pulsed laser irradiation and sonochemical processes for the production of highly surface-active NiPd spheres,
Chemical Engineering Journal, 411, 128486, 2021

- 438) B. Yatipanthalawa, W. Li, D.R.A. Hill, Z. Trifunovic, M. Ashokkumar, P.J. Scales and G.J.O. Martin, Interplay between interfacial behaviour, cell structure and shear enables biphasic lipid extraction from whole diatom cells (*Navicula* sp.), *Journal of Colloid and Interface Science*, 589, 65–76, 2021
- 439) L.M. Carrillo-Lopez, I.A. Garcia-Galicia, J.M. Tirado-Gallegos, R. Sanchez-Vega, M. Huerta-Jimenez, M. Ashokkumar and A.D. Alarcon-Rojo, Recent advances in the application of ultrasound in dairy products: Effect on functional, physical, chemical, microbiological and sensory properties, *Ultrasonics Sonochemistry*, 73, 105467, 2021
- 440) J. Mondal, W. Li, A.R. Rezk, L.Y. Yeo, R. Lakkaraju, P. Ghosh and M. Ashokkumar, Acoustic cavitation at low gas pressures in PZT-based ultrasonic systems, *Ultrasonics Sonochemistry*, 73, 105493, 2021
- 441) H. Zhu, S. Mettu, F. Cavalieri and M. Ashokkumar, Ultrasonic microencapsulation of oil-soluble vitamins by hen egg white and green tea for fortification of food, *Food Chemistry*, 353, 129432, 2021
- 442) H. Mei, Z. Gao, Q. Wang, H. Sun, K. Zhao, P. Zhang, J. Hao, M. Ashokkumar and J. Cui, Ultrasound expands the versatility of polydopamine coatings, *Ultrasonics Sonochemistry*, 74, 105571, 2021
- 443) S. Jadhav, R.S. Kalubarme, N. Suzuki, C. Terashima, B. Kale, S.W. Gosavi, M. Ashokkumar and A. Fujishima, Probing electrochemical charge storage of 3D porous hierarchical cobalt oxide decorated rGO in ultra-high-performance supercapacitor, *Surface & Coatings Technology*, 419, 127287, 2021
- 444) Y. Wu, W. Li, G.J.O. Martin and M. Ashokkumar, Mechanism of low-frequency and high-frequency ultrasound-induced inactivation of soy trypsin inhibitors, *Food Chemistry*, 360, 130057, 2021
- 445) H. Zhu, S. Mettu, M.A. Rahim, F. Cavalieri and M. Ashokkumar, Insight into the structural, chemical and surface properties of proteins for the efficient ultrasound assisted co-encapsulation and delivery of micronutrients, *Food Chemistry*, 362, 130236, 2021
- 446) T. Selvamani, S. Anandan, A.M. Asiri, P. Maruthamuthu and M. Ashokkumar, Preparation of MgTi₂O₅ nanoparticles for sonophotocatalytic degradation of triphenylmethane dyes, *Ultrasonics Sonochemistry*, 75, 105585, 2021
- 447) A. Sethupathy, P.K. Pathak, P. Sivashanmugam, C. Arun, J. R. Banu and M. Ashokkumar, Enrichment of hydrogen production from fruit waste biomass using ozonation assisted with citric acids, *Waste Management & Research*, 1-9, 2021
- 448) N. Pandi, S.H. Sonawane, A.K. Kola, U.K. Zore, P.H. Borse, S.B. Ambade and M. Ashokkumar, Halloysite nanotubes-based supercapacitor: preparation using sonochemical approach and its electrochemical performance, *Energy Ecology & Environment*, 6, 13-25, 2021
- 449) V. Subbiah, G. Landi, J.J. Wu, S. Anandan and M. Ashokkumar, Platinum-free dye-sensitized solar cells by flower-like mixed-phase Co_xS_y/Ni_xS_y/Mo_xS_y composites, *New Journal of Chemistry*, 45, 1967-1976, 2021.
- 450) R. Pflieger, J. Bertolo, L. Gravier, S.I. Nikitenko and M. Ashokkumar, Impact of bubble coalescence in the determination of bubble sizes using a pulsed US technique: Part 1 – Argon bubbles in water, *Ultrasonics Sonochemistry*, 73, 105532, 2021

- 451) R. Pflieger, G. Audiger, S.I. Nikitenko and M. Ashokkumar, Impact of bubble coalescence in the determination of bubble sizes using a pulsed US technique: Part 2 – Effect of nature of saturating gas, *Ultrasonics Sonochemistry*, 73, 105537, 2021
- 452) Q. He, D. Liu, M. Ashokkumar, X. Ye, T.Z. Jin and M. Guo, Antibacterial mechanism of ultrasound against *Escherichia coli*: Alterations in membrane microstructures and properties, *Ultrasonics Sonochemistry*, 73, 105509, 2021
- 453) H. Mei, Z. Gao, K. Zhao, M. Li, M. Ashokkumar, A. Song, J. Cui, F. Caruso and J. Hao, Sono-Fenton chemistry converts phenol and phenyl derivatives into polyphenols for engineering surface coatings, *Angewandte Chemie International Edition*, 60, 2-9, 2021
- 454) M. Arumugam, T.S. Natarajan, T. Saelee, S. Prasertdam, M. Ashokkumar, P. Prasertdam, Recent developments in bismuth oxyhalides (BiOX; X = Cl, Br, I) based ternary nanocomposite photocatalysts for environmental applications, *Chemosphere*, 282, 131054, 2021
- 455) P. Pandey, S. Mettu, H.S. Mishra, M. Ashokkumar and G.J.O. Martin, Multilayer co-encapsulation of probiotics and γ -amino butyric acid (GABA) using ultrasound for functional food applications, *LWT - Food Science and Technology*, 146, 111432, 2021
- 456) R. Cimino, S.K. Bhangu, A. Baral, M. Ashokkumar and F. Cavaliere, Ultrasound-assisted microencapsulation of soybean oil and vitamin D using bare glycogen nanoparticles, *Molecules*, 26, 5157, 2021
- 457) R. Kaimal, G.K. Yogesh, D. Sastikumar, J.J. Wu, S. Anandan and M. Ashokkumar, Laser-assisted decoration of carbon nanotubes with palladium nanoparticles for application in electrochemical methanol oxidation, *Bulletin of Materials Science*, 44:125, 2021
- 458) A. Baral, F. Cavaliere, S. Chattopadhyay and Muthupandian Ashokkumar, Synthesis of gold nanosheets with controlled morphology by combining a natural amino acid with high-frequency ultrasound, *ACS Sustainable Chemistry & Engineering*, 9, 13953-13962, 2021
- 459) W.Li, G. Martin and M. Ashokkumar, Turbulence-induced formation of emulsion gels, *Ultrasonics Sonochemistry*, 81, 105847, 2021
- 460) R. Zhang, L. Luo, Z. Yang, M. Ashokkumar and Y. Hemar, Formation by high power ultrasound of aggregated emulsions stabilised with milk protein concentrate (MPC70), *Ultrasonics Sonochemistry*, 81, 105852, 2021
- 461) M.A. Sundaramahalingam, C. Amrutha, J. Rajeshbanu, K. Thirukumaran, S. Manibalan, M. Ashokkumar and P. Sivashanmugam, In silico approach for enhancing innate lipid content of *Yarrowia lipolytica*, by blocking the acyl-CoA oxidase-1 enzyme, using various analogous compounds of lipids, *Journal of Biomolecular Structure and Dynamics*, <https://doi.org/10.1080/07391102.2021.2008498>
- 462) M.C. Maridevaru, B. Aljafari, S. Anandan and M. Ashokkumar, Synergistic impacts of sonolysis aided photocatalytic degradation of water pollutant over perovskite-type CeNiO₃ nanospheres, *New Journal of Chemistry*, 46, 10117-10127, 2022
- 463) R. Kaimal, P.N. Mansukhal, B. Aljafari, S. Anandan and M. Ashokkumar,

- Ultrasound-aided synthesis of gold-loaded boron-doped graphene quantum dots interface towards simultaneous electrochemical determination of guanine and adenine biomolecules, *Ultrasonics Sonochemistry*, 83, 105921, 2022
- 464) V. Vinesh, M. Preeyanghaa, T.R.N. Kumar, M. Ashokkumar, C. Bianchi and B. Neppolian, Revealing the stability of CuWO₄/g-C₃N₄ nanocomposite for photocatalytic tetracycline degradation from the aqueous environment and DFT analysis, *Environmental Research*, 207, 112112, 2022
- 465) W. Li, Y. Wu, G.J.O. Martin and M. Ashokkumar, Turbulence-dependent reversible liquid-gel transition of micellar casein-stabilised emulsions, *Food Hydrocolloids*, 131, 107819, 2022
- 466) B.S. Yatipanthalawa, M. Ashokkumar, P.J. Scales and G.J.O. Martin, Ultrasound-assisted extracellular polymeric substance removal from the diatom *Navicula* sp.: a route to functional polysaccharides and more efficient algal biorefineries, *ACS Sustainable Chemistry & Engineering*, 10, 1795-1804, 2022
- 467) S.K. Bhangu, S. Fernandes, G.L. Beretta, S. Tinelli, M. Cassani, A. Radziwon, M. Wojnilowicz, S. Sarpaki, I. Pilatis, N. Zaffaroni, G. Forte, F. Caruso, M. Ashokkumar and F. Cavalieri, Transforming the chemical structure and bio-nano activity of doxorubicin by ultrasound for selective killing of cancer cells, *Advanced Materials*, 34, 2107964, 2022
- 468) M. Preeyanghaa, V. Vinesh, P. Sabarikirishwaran, A. Rajkamal, M. Ashokkumar, B. Neppolian, Investigating the role of ultrasound in improving the photocatalytic ability of CQD decorated boron-doped g-C₃N₄ for tetracycline degradation and first-principles study of nitrogen-vacancy formation, *Carbon*, 192, 405-417, 2022
- 469) A. Dehane, S. Merouani, O. Hamdaui and M. Ashokkumar, An alternative technique for determining the number density of acoustic cavitation bubbles in sonochemical reactors, *Ultrasonics Sonochemistry*, 82, 105872, 2022
- 470) M. Hamida, A. Dehane, S. Merouani, O. Hamdaui and M. Ashokkumar, The role of reactive chlorine species and hydroxyl radical in the ultrafast removal of Safranin O from wastewater by CCl₄/ultrasound sono-process, *Chemical Engineering & Processing: Process Intensification* 178, 109014, 2022.
- 471) V.S. Hakke, V.L. Landge, S.H. Sonawane, G.D.B. Babu, M. Ashokkumar and E.M.M. Flores, The physical, mechanical, thermal and barrier properties of starch nanoparticle (SNP)/polyurethane (PU) nanocomposite films synthesised by an ultrasound-assisted process, *Ultrasonics Sonochemistry*, 88, 106069, 2022.
- 472) N. Omer, Y-M. Choo, M. Ashokkumar and N.S.M. Yusof, Ultrasound-assisted extraction of β -asarone from sweet flag (*Acorus Calamus*) rhizome, *Applied Sciences*, 12, 11007, 2022.
- 473) K.D. Daware, R.N. Shinde, C.V. Khedkar, S.I. Patil, A.K. Pandey, M. Ashokkumar and S.W. Gosavi, Enhanced catalytic activity of platinum decorated silica nanocrystals in rapid reduction of organic dyes, *Chemical Physics Impact*, 5, 100109, 2022.
- 474) Y. Wu, S. Yao, B.A. Narale, A. Shanmugam, S. Mettu and M. Ashokkumar, Ultrasonic processing of food waste to generate value-added products, *Foods*, 11, 2035, 2022.
- 475) R. Pathak, S.K. Bhangu, G.J.O. Martin, F. Separovic and M. Ashokkumar, Ultrasound-induced protein restructuring and ordered aggregation to form amyloid crystals, *European Biophysics Journal*, 51, 335-352, 2022.

- 476) A. Singh, D. Srivastava, S.W. Gosavi, R. Chauhan, M. Ashokkumar, A.N. Albalwi, M. Muddassir and A. Kumar,
A double co-sensitization strategy using heteroleptic transition metal ferrocenyl dithiocarbamate phenanthroline-dione for enhancing the performance of N719-based DSSCs,
RSC Advances, 12, 28088-28097, 2022.
- 477) A. Dehane, S. Merouani, A. Chibani, O. Hamdaoui, K. Yasui, M. Ashokkumar,
Estimation of the number density of active cavitation bubbles in a sono-irradiated aqueous solution using a thermodynamic approach,
Ultrasonics, 126, 106824, 2022.
- 478) R.A. Hashad, R. Singla, S.K. Bhangu, E. Jap, H. Zhu, A.Y. Peleg, L. Blakeway, C.E. Hagemeyer, F. Cavaliere, M. Ashokkumar and K. Alt,
Chemoenzymatic surface decoration of Nisin-shelled nanoemulsions: Novel targeted drug-nanocarriers for cancer applications,
Ultrasonics Sonochemistry, 90, 106183, 2022.
- 479) A.K. Padmakumar, A.R.S.S. Kumar, S. Allison-Logan, M. Ashokkumar, N.K. Singha and G.G. Qiao,
High chain-end fidelity in sono-RAFT polymerization,
Polymer Chemistry, 13, 6140-6148, 2022.
- 480) N. Muñoz-Tebar, L. Ong, C.J. Gamlath, B.S. Yatipanthalawa, M. Ashokkumar, S.L. Gras, M.I. Berruga, G. J.O. Martin,
Nutrient enrichment of dairy curd by incorporation of whole and ruptured microalgal cells (*Nannochloropsis salina*),
Innovative Food Science and Emerging Technologies, 82, 103211, 2022.
- 481) L. Luo, Z. Yang, H. Wang, M. Ashokkumar and Y. Hemar,
Impacts of sonication and high hydrostatic pressure on the structural and physicochemical properties of quinoa protein isolate dispersions at acidic, neutral and alkaline pHs,
Ultrasonics Sonochemistry, 91, 106232, 2022.
- 482) H. Zhu, Q. Wen, S.K. Bhangu, M. Ashokkumar and M. Ashokkumar,
Sonosynthesis of nanobiotics with antimicrobial and antioxidant properties,
Ultrasonics Sonochemistry, 86, 106029, 2022.
- 483) J. Theerthagiri, K. Karuppasamy, S.J. Lee, R. Shwetharani, H-S. Kim, S.K.K. Pasha, M. Ashokkumar and M.Y. Choi,
Fundamentals and comprehensive insights on pulsed laser synthesis of advanced materials for diverse photo- and electrocatalytic applications,
Light: Science & Applications, 11, 250, 2022.
- 484) C.J. Gamlath, K.Y. Lo, T.S.H. Leong, M. Ashokkumar and G.J.O. Martin,
Protein fortification of model cheese matrices using whey protein-enriched double emulsions,
Food Hydrocolloids, 135, 108209, 2023.
- 485) Y. Wu, W. Li, E. Colombo, G.J.O. Martin and M. Ashokkumar,
Kinetic and mechanistic study of ultrasonic inactivation of Kunitz (KTI) and Bowman-Birk (BBI) inhibitors in relation to process-relevant parameters,
Food Chemistry, 401, 134129, 2023.
- 486) M. Preeyanghaa, E.S. Erakulan, R. Thapa, M. Ashokkumar and B. Neppolian,
Scrutinizing the role of tunable carbon vacancies in g-C₃N₄ nanosheets for efficient sonophotocatalytic degradation of Tetracycline in diverse water matrices: Experimental study and theoretical calculation,
Chemical Engineering Journal, 452, 139437, 2023.
- 487) D. Liu, Y. Guo, X. Liu, Yolandani, H. Ma and M. Ashokkumar,
Production of value-added peptides from soybean meal during natural solid-state fermentation: Metabolites and bacterial communities,
Food Bioscience, 56, 103266, 2023.

- 488) A.R.S.S. Kumar, S. Allison-Logan, J.R. Finnegan, N.K. Singha, M. Ashokkumar and G. Qiao, Visible light-accelerated photoiniferter polymerization in ionic liquid ACS Macro Letters, 12, 1012-1018, 2023.
- 489) R. Chauhan, P.H. Shinde, Y. Padwal, Y. Waghadkar, H. Fouad, C. Terashima, D.J. Late, S. Charhate, M. Ashokkumar and S.W. Gosavi, ZnS–MoS₂ nano-heterostructure: efficient photocatalyst for dye removal under sunlight, Journal of Materials Science: Materials in Electronics, 34, 1724, 2023.
- 490) S. Jadhav, R. Kalubarme, R. Chauhan, A. Singh, B. Kale, M. Ashokkumar and S.W. Gosavi, Nanocrystalline Ag-doped cobalt oxide as a flexible electrode material for high performance supercapacitor application, Journal of Energy Storage, 58, 106326, 2023.
- 491) A. Dehane, S. Merouani, O. Hamdaoui, K. Yasui and M. Ashokkumar, A hydrogen-based technique for determining the number density of acoustic microreactors (active bubbles) in sonicated solutions, International Journal of Hydrogen Energy, 48, 13430-13441, 2023.
- 492) Y. Shen, R. Pflieger, W. Chen and M. Ashokkumar, The effect of bulk viscosity on single bubble dynamics and sonoluminescence, Ultrasonics Sonochemistry, 93, 106307, 2023.
- 493) M. Preeyanghaa, E.S. Erakulan, R. Thapa, M. Ashokkumar and B. Neppolian, Scrutinizing the role of tunable carbon vacancies in g-C₃N₄ nanosheets for efficient sonophotocatalytic degradation of Tetracycline in diverse water matrices: Experimental study and theoretical calculation, Chemical Engineering Journal, 452, 139437, 2023.
- 494) S. Yao, W. Li, G.J.O. Martin and M. Ashokkumar, An investigation into the mechanism of alkaline extraction-isoelectric point precipitation (AE-IEP) of high-thiol plant proteins, Applied Sciences, 13, 6469, 2023.
- 495) A. Baral, H. Zhu, B.A. Moffat, S. Chattopadhyay, F. Cavalieri and M. Ashokkumar, Ultrasound-driven fabrication of hybrid magnetic tryptophan nanoparticles, Materials Advances, 4, 4463-4471, 2023.
- 496) S. Yao, W. Li, Y. Wu, G.J.O. Martin and M. Ashokkumar, The impact of high-intensity ultrasound-assisted extraction on the structural and functional properties of hempseed protein isolate (HPI), Foods, 12, 348, 2023.
- 497) R. Kaimal, M.C. Maridevaru, A. Dube, J.J. Wu, S. Anandan and M. Ashokkumar, Borophene nanosheet-based electrochemical sensing toward groundwater arsenic detections, Industrial & Engineering Chemistry Research, 62, 15418-15427, 2023.
- 498) H. Zhu, S.K. Bhangu, M. Ashokkumar and F. Cavalieri, Ultrasonic transformation of antibiotic molecules into a selective chemotherapeutic nanodrug, Molecules, 28, 4927, 2023.
- 499) A.K. Padmakumar, N.K. Singha, M. Ashokkumar, F.A. Leibfarth and G.G. Qiao, Ultrasound-assisted RAFT polymerization in a continuous flow method, Macromolecules, 56, 6920-6927, 2023.
- 500) A.K. Padmakumar, V.F. Jafari, N.K. Singha, M. Ashokkumar and G.G. Qiao, Synthesis of star polymers using ultrasound-induced RAFT polymerization, Journal of Polymer Science, 61, 1372-1381, 2023.
- 501) A. Qayum, A. Rashid, Q. Liang, Y. Wu, Y. Cheng, L. Kang, Y. Liu, C. Zhou, M. Hussain, X. Ren, M. Ashokkumar and H. Ma,

Ultrasonic and homogenization: an overview of the preparation of an edible protein-polysaccharide complex emulsion,
Comprehensive Review in Food Science and Food Safety, 22, 4242-4281, 2023.

- 502) L.H. Shi, W. Li, M.S. Rahman, N. Al-Habsi, M. Ashokkumar, F.R. Dunshea and H.A.R. Suleria, Comparison of phenolic composition in date (*Phoenix dactylifera* L.) flesh and seeds extracted by an ultrasonic-assisted and conventional method,
International Journal of Food Properties, 26, 2939-2962, 2023.
- 503) M.L. Djaballah, A. Belghit, A. Dehane, S. Merouani, O. Hamdaoui and M. Ashokkumar, Radicals ($\bullet\text{OH}$, $\text{Cl}\bullet$, $\text{ClO}\bullet$ and $\text{Cl}_2\bullet$) concentration profiles in the intensified degradation of reactive green 12 by UV/chlorine process: Chemical kinetic analysis using a validated model,
Journal of Photochemistry & Photobiology, A: Chemistry, 439, 114557, 2023.
- 504) Y. Wu, W. Li, H. Zhu, G.J.O. Martin and M. Ashokkumar, Ultrasound-enhanced interfacial adsorption and inactivation of soy trypsin inhibitors,
Ultrasonics Sonochemistry, 94, 106315, 2023.
- 505) D. Srivastava, A. Singh, G. Kociok-Kohn, S.W. Gosavi, R. Chauhan, M. Ashokkumar, A. Kumar and M. Muddassir, New heteroleptic 1,2-bis(diphenylphosphino)ethane appended cobalt(III) ferrocene dithiocarbamates as sensitizers in dye-sensitized solar cells (DSSCs),
New Journal of Chemistry, 47, 6420-6432, 2023.
- 506) J. Park, A. Min, J. Theerthagiri, M. Ashokkumar and M.Y. Choi, In situ studies on free-standing synthesis of nanocatalysts via acoustic levitation coupled with pulsed laser irradiation,
Ultrasonics Sonochemistry, 94, 106345, 2023.
- 507) A. Dehane, L. Nemdili, S. Merouani and M. Ashokkumar, Critical analysis of hydrogen production by aqueous methanol sonolysis,
Topics in Current Chemistry, 381, 9, 2023.
- 508) D. Srivastava, A. Kushwaha, G. K-Kohn, S.W. Gosavi, R. Chauhan, M. Ashokkumar, A. Kumar and M. Muddassir, Impact of substituent's position on the DSSC performances of new 1,1'-bis-(diphenylphosphino) ferrocene appended nickel(II) methoxy cyanodithiolates,
CrystEngComm, 25, 5660-5672, 2023.
- 509) A. Kathiravan, S. Thulasi, T.A. Smith, M. Ashokkumar and M.A. Jhonsi, Nanoarchitectonics of Congo red dye to biocompatible fluorescent carbon dots for highly sensitive Fe^{3+} and ferritin detection,
Analyst, 148, 137-145, 2023.

Refereed Papers in Proceedings

- 510) F. Grieser, M. Ashokkumar, R.A. Caruso, K. Barbour and P. Mulvaney, "Sonochemistry and sonoluminescence in aqueous solutions containing surface active solutes",
Proceedings - ICA/ASA'98, Editors: P.K. Kuhl and L.A. Crum, pp. 1537-1538, 1998.
- 511) M. Ashokkumar, F. Grieser, W.B. McNamara, K.S. Suslick, T.J. Matula, C. Frensley and L.A. Crum, "The effects of organic compound doping in single bubble sonoluminescence",
Proceedings - ICA/ASA'98, Editors: P.K. Kuhl and L.A. Crum, pp. 1543-1544, 1998.
- 512) M. Bradley, M. Ashokkumar and F. Grieser, "Sonoluminescence from water-ethylene glycol mixtures",
Proceedings - Forum Acusticum 99, Collected Paper No. 5pPAB-5, pp. 1-4, 1999.
- 513) F. Grieser and M. Ashokkumar, "Photoexcitation from acoustically excited single-bubbles",
Symposium on Monbusho International Program; Molecular assemblies for ultrafast nanophotonics, Hamamatsu, Japan, Proceedings pp. 78-84, 2000.

- 514) K. Vinodgopal, M. Ashokkumar and F. Grieser,
“Ultrasonic degradation of a polydisperse nonylphenol ethoxylate in aqueous solution”,
Extended Abstracts – ACS National Meeting, American Chemical Society, Division of
Environmental Chemistry, **40**, pp. 176-177, 2000.
- 515) M. Ashokkumar, T. Vu and F. Grieser,
“A quest to find the mechanism for the formation of excited state metal atoms during acoustic
cavitation”,
Proceedings ICA2004, ISBN4-9901915-6-0, pp. IV-2935-IV-2936, 2004.
- 516) F. Grieser and M. Ashokkumar,
“Acoustic cavitation in aqueous solutions containing polymers and surface active solutes”,
Proceedings 10th APCCHE Congress, pp. 5019_2935–5019_2936, 2004.
- 517) S. Balachandran, S.E. Kentish, R. Mawson, M. Ashokkumar,
“The use of ultrasound to enhance the supercritical extraction of ginger”,
World Congress of Chemical Engineering, 10-14th July, 2005, Glasgow, UK, Publishers: Institution
of Chemical Engineers, Rugby, England, ISBN 0852954948
- 518) S. Kentish and M. Ashokkumar,
“The enhancement of mass transport processes using ultrasound”,
Proceedings 19th International Congress on Acoustics, September 2-7, 2007, Madrid, Spain, Special
Issue of the Journal, Revista de Acustica, 38, 2007, ULT-09-003-1-6
- 519) S. Muthukumaran, S. Kentish, M. Ashokkumar and G. Stevens,
“Potential uses of ultrasound in the dairy ultrafiltration processes”, Acoustics 08,
Journal of the Acoustical Society of America, 123, 3046, 2008.
- 520) F. Grieser, D. Sunartio and M. Ashokkumar,
“Determination of cavitation bubble lifetimes using bubble-bubble coalescence data”, Acoustics 08,
Journal of the Acoustical Society of America, 123, 3558, 2008.
- 521) M. Ashokkumar, F. Cavaliere and F. Grieser,
“Ultrasonic synthesis of enzyme coated microbubbles”, Acoustics 08,
Journal of the Acoustical Society of America, 123, 3560, 2008.
- 522) M. Ashokkumar and S. Kentish,
“Ultrasound in food processing applications”,
2nd International Congress on Green Process Engineering (GPE 2009), Venice, Italy, 14-17 June
2009.
- 523) J. Collis, T. Leong, A. Novell, M. Ashokkumar, S. Kentish, A. Bouakaz, A. Ooi and R. Manasseh,
“Effect of surfactant type on microstreaming velocities around microbubbles”,
Proceedings of the 8th International Symposium on Cavitation (CAV2012), Submission No. 99,
August 13-16, 2012, Singapore.

Special Articles

- 524) M. Ashokkumar, J.Z. Sostaric, R.A. Caruso, P. Mulvaney and F. Grieser,
"Sound - Bubbles - Light - Chemistry",
Chemistry in Australia, **65**(2), 8 - 10, 1998.
- 525) F. Grieser and M. Ashokkumar,
“Bubbles under the “spell” of sound”,
Australasian Science Magazine ((INVITED), **26**, 33-34, 2005
- 526) M. Ashokkumar and S. Kentish,
“Ultrasonic enhancement of dairy ultrafiltration processes”,
European Dairy Magazine (INVITED), **5**, 24-25, October 2005.
- 527) W. Li, M. Palmer, G.J.O. Martin and M. Ashokkumar,
Turbulence-induced emulsion gels in food product development,
Food Australia, 32-25, 2022

Papers presented at National / International Conferences: Total: ~480**Invited/Plenary/Keynote Lectures/Presentations: 250****Selected presentations (since 2006)**

- M. Ashokkumar, "Modification of food ingredients by ultrasound to improve functionality", Food Innovation: Emerging Science, Technologies and Applications (FIESTA), 3rd Innovative Foods Centre Conference, October 16-17, 2006, Melbourne, Australia. (INVITED)
- M. Ashokkumar, "Frequency effects in sonochemistry and sonoluminescence", COST D32 Meeting – Chemistry in High-energy Microenvironments, October 22-23, 2006, Goettingen, Germany. (INVITED)
- M. Ashokkumar, "Sonochemistry: fundamental and applied aspects", Photoradchem-2007, February 8-11, 2007, Kottayam, India. (KEYNOTE)
- M. Ashokkumar, "Sonochemical synthesis of nanosized materials", International conference on nanomaterials and their applications, February 4-6, 2007, Trichi, India. (KEYNOTE)
- M. Ashokkumar, "Sonochemical effects on dairy protein aggregation and heat stability" Dairy Innovation Australia Science Workshop, February 20, 2007, Werribee, Australia. (INVITED)
- M. Ashokkumar, "Control of food reaction processes using ultrasound", Innovative Foods Centre – SPARK Workshop on Structure-Function Properties, March 27, 2007, Werribee, Australia. (INVITED)
- M. Ashokkumar, "Ultrasound in environmental applications", Workshop on Catalysts in Environmental Applications, December 2-3, 2007, Trichy, India. (KEYNOTE)
- M. Ashokkumar, "Applications of ultrasound in food science", International Symposium on Sonochemistry and Sonoprocessing, December 6-9, 2007, Kyoto, Japan. (INVITED)
- M. Ashokkumar, "Are sonochemically active and sonoluminescence bubbles the same?" 11th Meeting of the European Society of Sonochemistry, 1-5 June 2008 La Grande-Motte, France. (PLENARY)
- M. Ashokkumar, "Ultrasound Processing", Short Course on Introduction to Emerging Food Processing Technologies, 15 September, 2008, Brisbane, Australia. (INVITED)
- M. Ashokkumar, "The characterisation of acoustic cavitation bubbles by sonoluminescence, sonochemistry and acoustic emission", Japan Society of Sonochemistry 2008 Meeting, 5-6 December, 2008, Tokyo, Japan. (PLENARY)
- M. Ashokkumar, "Ultrasonic synthesis and characterisation of air- and oil-filled lysozyme microspheres", 1st Symposium on Interaction between Ultrasound and Microbubbles, 9 January 2009, Nagoya, Japan. (KEYNOTE)
- M. Ashokkumar, "Ultrasonic processing of dairy ingredients to control protein aggregation and promote heat stability", Dairy proteins workshop, 18 March 2009, Werribee, Australia. (INVITED)
- M. Ashokkumar (Invited as an International Expert) "The characterization of acoustic cavitation bubbles by sonoluminescence and sonochemistry", COST Action D32 Final Meeting, 29 March-1 April 2009, Crocow, Poland. (KEYNOTE)
- M. Ashokkumar, "Ultrasonic processing of dairy products", 4th International Symposium on Spray Dried Products, 15-17 April 2009, Melbourne, Australia. (KEYNOTE)
- M. Ashokkumar, "The sonochemical synthesis of functional nanomaterials", International Conference on Materials for Advanced Technologies, June 28-July 3, 2009, Singapore. (INVITED)
- M. Ashokkumar, "Ultrasonic processing of dairy ingredients", Murray Goulburn Ultrasonics Workshop, July 17, 2009, Melbourne, Australia. (INVITED)
- M. Ashokkumar, M. Madhavan and F. Grieser, "Sonochemistry as an advanced oxidation process for the degradation of organic pollutants in aqueous environments", International Workshop on Recent Advances in Waste Water Treatment, December 16-17, 2009, Mumbai, India. (INVITED)
- F. Grieser, M. Madhavan and M. Ashokkumar, "Combined advanced oxidation processes for the degradation of organic pollutants in aqueous environments", International Workshop on Recent Advances in Waste Water Treatment, December 16-17, 2009, Mumbai, India. (INVITED)
- B. Neppolian, A.M. Hussain, S.H. Sonawane, F. Grieser and M. Ashokkumar, "Polymers in photocatalysis for future energy conversion devices", Recent Advances in Polymer Technology, December 28-29, 2009, Jalgaon, India. (INVITED)
- M. Ashokkumar, "Sound and bubbles: How do they generate light and chemical reactions", 4th International GCOE-Chem6 Symposium for Emergence of New Molecular Chemistry, March 2, 2010, Tokyo, Japan. (KEYNOTE)
- M. Ashokkumar, "The characterization of acoustic cavitation bubbles – an overview", 12th Meeting of the European Society of Sonochemistry, May 30 – June 3, 2010, Crete, Greece. (INVITED)
- M. Ashokkumar, The sonochemical synthesis of functional materials, World Classical Tamil Conference, June 23-27, Coimbatore, India (INVITED)
- M. Ashokkumar, Ultrasonics as a new platform technology in dairy processing, Dairy Ultrasonics Workshop 2010, 30 August 2010, Werribee, Australia (INVITED)

- M. Ashokkumar, Spatial distribution of acoustic cavitation bubbles at different ultrasound frequencies, Pacificchem 2010, 15-20 December 2010, Honolulu, USA (INVITED)
- M. Ashokkumar, The Sonochemical Synthesis of Functional Materials , 2011 International symposium on Molecular systems (Global COE Symposium for Young Researchers), 9-11, May, 2011, Fukuoka, Japan (KEYNOTE)
- M. Ashokkumar, Probing multibubble cavitation fields under different experimental conditions, 161st Meeting of the Acoustical Society of America, 23-27 May, 2011, Seattle, USA (INVITED)
- M. Ashokkumar, Ultrasonics Sonochemistry: From AMPC induced chemical reactions to PFPC driven applications, AMPC/PFPC 20 year Anniversary Symposium, 28th July 2011, Melbourne (INVITED)
- M. Ashokkumar, Establishing and managing research collaborations, Science Early Career Academic Network Meeting, 12th July 2011, University of Melbourne (INVITED)
- M. Ashokkumar, The optimization of sonochemical reactions: Facts and Factors, International workshop on advanced sonochemistry, Nagoya, Japan, November 2-4, 2011(PLENARY)
- M. Ashokkumar, Enhancing the quality and nutritional aspects of food and dairy ingredients using ultrasonic processing, International Nonthermal Food Processing Workshop FIESTA 2012, 16-17 October 2012, Melbourne, Australia (INVITED)
- M. Ashokkumar, Applications of ultrasound in food and bioprocessing, 14th Meeting of the European Sonochemical Society, Avignon, France, June 2-6, 2014 (PLENARY)
- M. Ashokkumar, Ultrasonics and Sonochemistry, DAAD – Thematic Network Bayreuth-Melbourne Colloid/Polymer-Network, Bayreuth, Germany, May 17, 2015 (INVITED)
- M. Ashokkumar, Ultrasonic encapsulation and delivery of functional materials, 2nd Meeting of the Asia-Oceania Sonochemical Society (AOSS-2), Kuala Lumpur, Malaysia, July 25-28, 2015 (PLENARY)
- M. Ashokkumar, Ultrasonic processing technology for food security, International Symposium on Disaster Management, Melbourne, Australia, October 13-14, 2015. (PLENARY)
- M. Ashokkumar, Ultrasonic technology for food processing applications, Pacificchem 2015, Honolulu, USA, December 15-20, 2015(INVITED)
- M. Ashokkumar, Ultrasonic fabrication of composite materials, Pacificchem 2015, Honolulu, USA, December 15-20, 2015(INVITED)
- M. Ashokkumar, Ultrasonic synthesis of core-shell architectures: recent developments, 15th Meeting of the European Sonochemical Society, Istanbul, Turkey, June 27- July 1, 2016 (KEYNOTE)
- M. Ashokkumar, Technologies for Value Addition in Food Products, Ultrasonic technology for food/bioprocessing Technologies for value addition in food products, Chandigarh, India, 20-21 July, 2017 (KEYNOTE)
- M. Ashokkumar, Ultrasonic technology for food industry: Opportunities and Challenges, RACI Food, Nutrition & Analytical Chemistry (FNAC) Group Student Symposium, Melbourne, August 31, 2017 (KEYNOTE)
- M. Ashokkumar, Ultrasonic synthesis of functional materials, Thin Films & Photonics and Organic Electronics Interdisciplinary Workshop, Jinan, China, September 26-27, 2017 (INVITED)
- M. Ashokkumar, Processing technologies for value-added food products, Chemistry Fair Universitas Indonesia National Seminar, Jakarta, Indonesia, November 25, 2017. (KEYNOTE)
- M. Ashokkumar, Ultrasonic technology for food processing and value-added food/dairy products, 2017 International Nonthermal Food Processing and Nutrition Symposium, Guangzhou, China, November 26-28, 2017. (KEYNOTE)
- M. Ashokkumar, Ultrasonic transformation of tannic acid into bioactive nanocrystals, 16th Meeting of the European Society of Sonochemistry, Besançon, France, April, 15-19, 2018 (INVITED)
- M. Ashokkumar, Sonochemistry for Environmental and Energy Applications, 2nd International Conference on Sustainable Environment and Energy (ICSEE 2019), Chennai, India, 21-22 February, 2019. (PLENARY)
- M. Ashokkumar, Ultrasonics and sonochemistry for functional materials Awareness Programme on Careers in Chemistry, B.S. Abdur Rahman University, Chennai, India, January 27, 2020 (INAUGURAL LECTURE)
- M. Ashokkumar, Sonochemistry for environmental and energy applications, International Virtual Conference on Energy and Environment (IVCEE 2021), Vellore, India March 1, 2021 (PLENARY)
- M. Ashokkumar, Sound-Bubbles-Chemistry-Applications, Sixth Mini-Symposium (Virtual) of Humboldt Academy Pune Chapter, Pune, India, August 23, 2021 (INVITED)
- M. Ashokkumar, Ultrasonic synthesis of functional biopolymeric materials, International Webinar on Functional Polymeric Materials: Exploring Green & Sustainability (FPMGS2021), Kharagpur, India, October 7, 2021 (INVITED)
- M. Ashokkumar, Ultrasonics synthesis of functional materials, International Conference on Advanced Materials, Coimbatore, India, February 11-12, 2022 (PLENARY; Online)

- Ultrasonic synthesis of functional biopolymeric materials, Sustainable Functional Materials & Processes (SFMP 2023), IIT Kharagpur, India, February 20, 2023 (INVITED)
- Sonochemistry as a green technology for synthesizing functional clean energy materials, International Conference on Photochemistry and Clean Energy Materials, Jinju, S. Korea, August 23-25, 2023 (KEYNOTE)
- The relevance of bubble dynamics in ultrasonic/sonochemical processes, Acoustics 23, Sydney, Australia, December 4-8, 2023 (INVITED)

SELECTED INVITED LECTURES / SEMINARS (2006-ONWARDS)

- ♦ “Ultrasonics Research at the University of Melbourne in relation to STI3”, Advanced Processing and Innovative Program Workshop, Food Science Australia, 30th April 2006.
- ♦ “Sound-Bubbles-Chemistry-Applications”, Australia-Japan Core to Core Program, University of Melbourne, September 25, 2006.
- ♦ “Frequency effects in sonochemistry and sonoluminescence”, University of Goettingen, Goettingen, Germany, October 22, 2006.
- ♦ “Bubbles in an acoustic field: an overview of physical and chemical processes, University of Twente, Netherlands, October 26, 2006.
- ♦ “Sonochemical synthesis of nanoparticles”, Indian Institute of Technology, Chennai, India, January 31, 2007.
- ♦ “Sound and bubbles – can they generate chemistry?”, National University of Singapore, November 22, 2007.
- ♦ “Sound-Bubbles-Chemistry-Applications”, Madurai Kamarajar University, India, November 29, 2007.
- ♦ “Sonochemical synthesis of nanoparticles”, Tokyo Institute of Technology, Japan, December 10, 2007.
- ♦ “Sound-Bubbles-Chemistry-Applications”, Tohoku University, Japan, December 14, 2007.
- ♦ Short Course (5 lectures) delivered to staff and students as a Visiting Professor under the Technical Education Quality Improvement Programme) on “Ultrasonics as an Emerging Technology”, National Institute of Technology, Trichy, India, March 17th – 28th, 2008.
- ♦ “Sonochemical synthesis of nanomaterials”, Alagappa University, Karaikudi, March 24, 2008.
- ♦ “Applications of ultrasound in nanotechnology and food processing”, Bharadhidasan University, Trichy, March 28, 2008.
- ♦ “Chemistry from bubbles: Applications in nanomaterials and food processing”, Institute of Chemical Technology, University of Mumbai, India, 29th May 2008.
- ♦ “Sonochemistry: Synthesis of nanomaterials and oxidation of organic pollutants”, Nagoya University, Nagoya, January 13, 2009.
- ♦ “Sonoluminescence from aqueous solutions”, Meiji University, Tokyo, January 15, 2009.
- ♦ “The sonochemical synthesis of functional materials”, University of Rome, June 19, 2009.
- ♦ “Sonoluminescence, sonochemistry and sonoelectrochemistry”, University of Alicante, Spain, June 19, 2009.
- ♦ “Sound, Bubbles, Chemistry and Applications”, University of Notre Dame, USA, December 2, 2009.
- ♦ “Sound and bubbles: how do they generate light and chemical reactions?”, 4th International GCOE (Global Centre of Excellence)-Chem6 Symposium for Emergence of New Molecular Chemistry, March 2, 2010, Tokyo, Japan.
- ♦ “Ultrasound and bubbles for environmental remediation and nanomaterial synthesis”, University of Milan, 27th May, 2010.
- ♦ “The characterization of acoustic cavitation bubbles – an overview”, 12th Meeting of the European Society of Sonochemistry, May 30 – June 3, 2010, Chania, Greece.
- ♦ “The sonochemical synthesis of functional materials” World Classical Tamil Conference, June 23-27, Coimbatore, India.
- ♦ “Ultrasonics as a new platform technology in dairy processing”, Dairy Ultrasonics Workshop 2010, 30 August 2010, Werribee, Australia.
- ♦ Ultrasonics and sonochemistry for materials synthesis and food/dairy processing, University of Auckland, 25th March 2011, Auckland, New Zealand
- ♦ Ultrasonics and sonochemistry in food processing, Moscow State University of Technology and Management, 26th April 2011, Moscow, Russia
- ♦ Applications of ultrasonics and sonochemistry, Moscow State University of Technology and Management - Vyazma Campus, 28th April 2011, Vyazma, Russia,
- ♦ Ultrasonic processing of dairy systems, The Vereshchagin Vologda State Dairy Farming Academy, 29th April 2011, Vologda, Russia,
- ♦ Generation of functional nanomaterials using ultrasonic cavitation, University of Nottingham (Malaysia Campus), Kuala Lumpur, 19th July, 2011.
- ♦ Ultrasonics Sonochemistry: From AMPC induced chemical reactions to PFPC driven applications, AMPC/PFPC 20 year Anniversary Symposium, Melbourne, 28th July 2011.
- ♦ Ultrasonic processing of food and dairy ingredients for enhancing their quality and nutritional aspects, University of Auckland, 27th February, 2013.

- ◆ Sound and bubbles: Fundamentals and applications of acoustic cavitation, University of Auckland, 3rd March, 2013.
- ◆ Sound and Bubbles: Fundamentals and Applications of Acoustic Cavitation, University of Bayreuth, Germany, 28th May 2014
- ◆ Fundamentals Applications of Acoustic Cavitation and its Application in Controlling the Properties of Materials, CEA, Marcoule, France, 10th June 2014.
- ◆ Food and bioprocessing: Innovations in Technology, University of South Ural - Russia 22nd Sept 2014
- ◆ Sound and Bubbles: Fundamentals and Applications of Acoustic Cavitation, Université de Franche-Comté – Besançon, France, 20th Nov 2014
- ◆ Ultrasonic Synthesis and Processing of Biofunctional Materials, Academy of Science – Chennai, 18th December 2014
- ◆ Delivered 10 Lectures to University of Rome Department of Chemistry UG and RHD students on Ultrasonics and Sonochemistry under the Exchange of Professors Scheme, May 4 – 28, 2015.
- ◆ Ultrasonic synthesis and processing of biofunctional materials, Indian Institute of Technology (IIT-Madras), September 9, 2015
- ◆ Ultrasonic synthesis of nano- and bio-functional materials, University of Nanjing, China, October 21, 2015
- ◆ Delivered 15 Lectures at National Institute of Technology under Global Network of Academic Network Program: GIAN Course: Sonoprocess Engineering, February 22-26, 2016
- ◆ Delivered 5 Lectures at Bayreuth International Summer School: Colloids and polymers in Energy and Life Science, University of Bayreuth, Germany, July 4-15, 2016
- ◆ Ultrasonic Technology for Functional Material Synthesis and Food/Bioprocessing, University of Shandong, September 27, 2016
- ◆ Ultrasonic Technology for Functional Material Synthesis and Food/Bioprocessing, University of Santa Maria, Brazil, September 27, 2016
- ◆ Ultrasonic Technology for Food/Bioprocessing, South Ural State University, Chelyabinsk, Russia, October 12, 2016
- ◆ Ultrasonic Technology for Food Processing and Biomedical Applications, Shanghai Ocean University, March 21, 2017
- ◆ A Short Workshop on Fundamentals and Applications of Ultrasonic Processing in Food Technology and Functional Materials, South Ural State University, Chelyabinsk, Russia, June 13, 2017
- ◆ Delivered 5 Lectures at Bayreuth International Summer School: Polymer Science - Synthetic, Structural and Electro-optical Studies of Polymers and Colloids, University of Bayreuth, Germany, July 3-7, 2017
- ◆ Delivered 4 lectures at Mahatma Gandhi University, Maharaja's college and MA College, Kerala, India during January 19-24, 2018.
- ◆ Delivered 5 Lectures at Bayreuth International Summer School: Polymer Science - Synthetic, Structural and Electro-optical Studies of Polymers and Colloids, University of Bayreuth, Germany, July 1-5, 2018
- ◆ Delivered 5 Lectures at Summer School in High Energy Processing Ultrasound & Microwave Technologies, Cracow University of Technology, Poland, 26-28 June 2019
- ◆ Delivered 5 Lectures at Bayreuth International Summer School: Polymer Science, University of Bayreuth, Germany, July 1-5, 2019
- ◆ Delivered 15 Lectures at Shandong University Summer School: Sonochemistry and Sonoprocessing, Shandong University, 5-10, August, 2019
- ◆ Delivered 3 Lectures on Ultrasonics in Food processing at Norwegian University of Science & Technology NTNU, 10-12 November, 2019
- ◆ Applications of Ultrasound in Food and Bio-processing, Inaugural Lecture for a Webinar Series on Emerging Trends and Challenges in Advanced Research Areas of Science and Technology Organized by Directorate of Research, SRM University, May 12, 2020
- ◆ Ultrasonic synthesis of nano- and biofunctional materials, Kazi Nazrul University, West Bengal, India, June 19, 2020
- ◆ Ultrasonics and Sonochemistry for water treatment applications CSIR-National Environmental Engineering Research Institute, Nagpur, India, July 7, 2020
- ◆ Delivered 15 Lectures at Shandong University Summer School (online): Sonochemistry and Sonoprocessing, Shandong University, July 20-25, 2020
- ◆ Delivered 2 Lectures at the Gyeongsang National University Chemistry Winter School (online), JinJu, South Korea, February 16-23, 2021
- ◆ Delivered 6 Lectures at the Indo-Australia Workshop on Nano & Biomaterials: Synthesis & Applications (online), Trichi, India, June 21-25, 2021
- ◆ Delivered 4 Lectures at Bayreuth International Summer School (online): Polymer Science, University of Bayreuth, Germany, July 5-9, 2021.

- ♦ Delivered 15 Lectures at Shandong University Summer School (online): Sonochemistry and Sonoprocessing, Shandong University, July 12-17, 2021
- ♦ Sound → Bubbles → Chemistry → Applications, King Abdullah University of Science and Technology, Saudi Arabia, March 14, 2022 (online)
- ♦ Delivered 16 lectures for a GIAN (Global Initiative of Academic Network) course, Visvesvaraya National Institute of Technology, India, May 2-6, 2022.
- ♦ Delivered 4 Lectures at Bayreuth International Summer School (online): Polymer Science, University of Bayreuth, Germany, July 7-8, 2022.
- ♦ Delivered 10 Lectures at the Federal University of Santa Maria, Brazil on Sonochemistry and Sonoprocessing, July 11-15, 2022.
- ♦ Delivered 15 Lectures at Shandong University Summer School (online): Sonochemistry and Sonoprocessing, Shandong University, July 18-23, 2022 (online)
- ♦ Sonochemistry and sonophotocatalysis for environmental remediation applications, Prof. Santappa Endowment Lecture, The Academy of Sciences, Chennai, October 2, 2022 (online)
- ♦ Delivered 2 lectures on ultrasonic technology in food processing for staff and students in Department of Agricultural Product Technology, University of Jember, Indonesia, October 31 and November 14, 2022 (online)
- ♦ Delivered 15 Lectures at Shandong University Summer School (online): Sonochemistry and Sonoprocessing, Shandong University, July 17-21, 2023
- ♦ Ultrasonic synthesis of functional materials, Wuhan University of Technology, November 29, 2023 (online)
- ♦ Ultrasonic synthesis of functional materials, Aarhus University, Denmark, December 12, 2023

CONFERENCES / RESEARCH FIELD TRIPS (2007 ONWARDS)

2007

- ♦ Visited Indian Institute of Technology, January 31, 2007, Chennai, India.
- ♦ International conference on nanomaterials and their applications, February 4-6, 2007, Trichi, India.
- ♦ Photoradchem-2007, February 8-11, 2007, Kottayam, India.
- ♦ Dairy Innovation Australia Science Workshop, February 20, 2007, Werribee, Australia.
- ♦ Innovative Foods Centre – SPARK Workshop on Structure-Function Properties, March 27, 2007, Werribee, Australia.
- ♦ Colloid Science: Past, Present and Future, 40th Anniversary Symposium, Melbourne, June 8, 2007
- ♦ 40th Anniversary Australian Institute of Food Science and Technology Convention 2007, June 24-27, 2007, Melbourne, Australia
- ♦ International Workshop on Applied Sonochemistry, September 17 – 19, 2007, Melbourne, Australia
- ♦ Workshop on Catalysts in Environmental Applications, December 2-3, 2007, Trichy, India.
- ♦ International Symposium on Sonochemistry and Sonoprocessing, December 6-9, 2007, Kyoto, Japan

2008

- ♦ Visited (on invitation) the National Institute of Technology, Trichy, India, March 17th – 28th, 2008, as a Visiting Professor under the Technical Education Quality Improvement Programme and delivered a Short Course (5 lectures) on “Ultrasonics as an Emerging Technology” to postgraduate students and staff.
- ♦ Delivered an Invited Lecture on “Sonochemical synthesis of nanomaterials”, at Alagappa University, Karaikudi, March 24, 2008.
- ♦ Delivered an Invited Lecture on “Applications of ultrasound in nanotechnology and food processing”, at Bharadhidasan University, Trichy, March 28, 2008
- ♦ Attended Bio2008 conference, April 24-26, 2008, Bangalore, India.
- ♦ Delivered an Invited Lecture on “Chemistry from bubbles: Applications in nanomaterials and food processing”, Institute of Chemical Technology, University of Mumbai, India, 29th May 2008.

2009

- ♦ Visited National Institute of Advanced Industrial Science and Technology (AIST) as an AIST Fellow during December 4, 2008 – January 26, 2009.
- ♦ Attended COST Action D32 Final Meeting, Crocow, Poland, 29 March-1 April 2009.
- ♦ Attended 2nd International Congress on Green Process Engineering, Venice, Italy, 14-17 June 2009.
- ♦ Visited University of Alicante, Spain, June 17-18, 2009.
- ♦ Visited University of Rome, Italy, June 22, 2009.
- ♦ Visited University of Bath, UK, June 23-26, 2009.
- ♦ Attended International Conference on Materials for Advanced Technologies (ICMAT 2009), Singapore, June 28-July 3, 2009.
- ♦ Visited University of Notre Dame, USA, November 22-December 4, 2009
- ♦ Attended International Workshop on Recent Advances in Water Treatment, Institute of Chemical Technology, Mumbai, December 16-17, 2009
- ♦ Visited Vishwakarma Institute of Technology, India, December 15, 2009.

2010

- ♦ Delivered a Keynote lecture at the 4th International GCOE (Global Centre of Excellence)-Chem6 Symposium for Emergence of New Molecular Chemistry, March 2, 2010, Tokyo, Japan.
- ♦ Visited the University of Rome visit. 23rd – 30th May 2010.
- ♦ Delivered an Invited Lecture at the University of Milan, 27th May 2010.
- ♦ Delivered a Keynote lecture at the 12th Meeting of the European Society of Sonochemistry, May 30 – June 3, 2010, Chania, Greece.
- ♦ Delivered an Invited lecture at the World Classical Tamil Conference, June 23-27, 2010, Coimbatore, India.
- ♦ Organised sonochemistry sessions during the 20th International Congress on Acoustics (ICA2010), 23-27 August 2010, Sydney, Australia.
- ♦ Will deliver an Invited talk at the Pacificchem Conference, 14-19th December 2010, Honolulu, USA.

2011

- ♦ Delivered a Keynote lecture at 2011 International symposium on Molecular systems (Global COE Symposium for Young Researchers), 9-11, May, 2011, Fukuoka, Japan.
- ♦ Delivered an Invited lecture at 161st Meeting of the Acoustical Society of America, 23-27 May, 2011, Seattle, USA.
- ♦ Delivered an Invited Lecture at the University of Auckland, 25th March 2011, Auckland, New Zealand.
- ♦ Delivered an Invited lecture at Moscow State University of Technology and Management, 26th April 2011, Moscow, Russia.
- ♦ Delivered an Invited lecture at Moscow State University of Technology and Management - Vyazma Campus, 28th April 2011, Vyazma, Russia.
- ♦ Delivered an Invited Lecture at the Vereshchagin Vologda State Dairy Farming Academy, 29th April 2011, Vologda, Russia.
- ♦ Delivered an Invited Lecture at the University of Nottingham (Malaysia Campus), Kuala Lumpur, 19th July, 2011.
- ♦ Delivered a Plenary Lecture at the International workshop on advanced sonochemistry, Nagoya, Japan, November 2-4, 2011.

2012

- ♦ Delivered a Keynote lecture at the International Nonthermal Food Processing Workshop FIESTA 2012, 16-17 October 2012 Melbourne, Australia.
- ♦ Session Chair at the 13th Meeting of the European Society of Sonochemistry, July 1-5, 2012, Lviv, Ukraine.

2013

- ♦ Organising Committee Chairman, 1st Asia-Oceania Sonochemical Society Meeting, July 10-12, 2013, Melbourne, Australia

2014

- ♦ International Advisory Committee Member, 14th Meeting of the European Sonochemical Society, Avignon, France, June 2-6, 2014
- ♦ Delivered an Invited Lecture at University of Bayreuth, Germany, 28th May 2014
- ♦ Delivered an Invited Lecture at CEA, Marcoule, France, 10th June 2014
- ♦ Delivered an Invited Lecture at University of South Ural - Russia 22nd Sept 2014
- ♦ Delivered an Invited Lecture at Université de Franche-Comté – Besançon, France, 20th Nov 2014
- ♦ Delivered an Invited Lecture at Academy of Science – Chennai, 18th December 2014

2015

- ♦ Delivered 10 Lectures to University of Rome Department of Chemistry UG and RHD students on Ultrasonics and Sonochemistry under the Exchange of Professors Scheme, May 4 – 28, 2015.
- ♦ Delivered an Invited Lecture at Indian Institute of Technology (IIT-Madras), September 9, 2015
- ♦ Delivered an Invited Lecture at University of Nanjing, China, October 21, 2015
- ♦ Participated at Elsevier Editor's Conference, Beijing, China, October 23-24, 2015

2016

- ♦ 15th Meeting of the European Sonochemical Society, Istanbul, Turkey, June 27- July 1, 2016
- ♦ Photonics and organic electronic workshop, University of Shandong, China, September 26-28, 2016
- ♦ Melbourne India Postgraduate Program Workshop, Indian Institute of Technology Kharagpur, India, October 1-2, 2016
- ♦ International Research Council Meeting, South Ural State University, Chelyabinsk, Russia, October 10-12, 2016

2017

- ♦ International Research Council Meeting, South Ural State University, Chelyabinsk, Russia, June 10-14, 2017
- ♦ Technologies for Value Addition in Food Products, Chandigarh, India 20-21 July 2017
- ♦ 3rd Meeting of the AOSS, Chennai, India, September 14-16, 2017
- ♦ Chemistry Fair Universitas Indonesia National Seminar, Jakarta, Indonesia, November 25, 2017

- ◆ International Nonthermal Food Processing and Nutrition Symposium, Guangzhou, China, November 26-28, 2017
- ◆ Thin Films & Photonics and Organic Electronics Interdisciplinary Workshop, Jinan, China, September 26-27, 2017

2018

- ◆ 16th Meeting of the European Society of Sonochemistry, Besançon, France, April, 15-19, 2018
- ◆ International Nonthermal Food Processing and Nutrition Symposium, Guangzhou, China, November 26-28, 2018
- ◆ Thin Films & Photonics and Organic Electronics Interdisciplinary Workshop, Jinan, China, September 26-27, 2018

2019

- ◆ 2nd International Conference on Sustainable Environment and Energy (ICSEE 2019), Chennai, India, 21-22 February, 2019
- ◆ AOSS-4: 4th Asia-Oceania Sonochemical Society Conference, Nanjing, China, 19-21 September 2019
- ◆ Advances in Polymer Science & Rubber Technology-APSRT-2019, Kharagpur, India, September 24-27, 2019
- ◆ Interdisciplinary Workshop on Thin Films & Photonics and Organic Electronics (TF-POE2019), Jinan, November 20-22, 2019

2020

- ◆ Indo-Australia Workshop on Nanomaterials for Applications in Agriculture, Energy and Environment, National Institute of Technology Trichi, India, January 23, 2020.
- ◆ Awareness Programme on Careers in Chemistry, B.S. Abdur Rahman University, Chennai, India, January 27, 2020
- ◆ International Workshop on Green & Sustainability in Polymers and Functional Materials: Opportunity & Challenges, Kharagpur, India, February 7-8, 2020
- ◆ 111 Program Symposium (online), Shandong University, August 28, 2020
- ◆ International Workshop on Nanotechnology for green process and sustainable development (online), Visvesvratraya National Institute of Technology, Nagpur, India, August 24-28, 2020
- ◆ 7th Jinshan Food Physical Processing Conference (online), Jiangsu University, China, September 19-20, 2020

2021

- ◆ International interdisciplinary Virtual Conference on Breakthroughs and Approaches in Contemporary Scientific Research, Coimbatore, India, February 17-19, 2021
- ◆ International Virtual Conference on Energy and Environment (IVCEE 2021), Vellore, India March 1, 2021 (online)
- ◆ Environment Benign Technologies: An urge for Sustenance (Virtual), Bhopal, India, June 7-12, 2021
- ◆ Virtual International Conference on Recent Trends in Green Chemistry (ICRTGC-2021), Bathinda, India, September 28-30, 2021 (online)
- ◆ International Webinar on Functional Polymeric Materials: Exploring Green & Sustainability (FPMGS2021), Kharagpur, India, October 7, 2021 (online)
- ◆ Pachifichem 2021, Honolulu, Hawaii, USA, December 16-21, 2021 (online)

2022

- ◆ Workshop on Engineering Responsive Nanoparticles for Biomedical and Biosensing Applications (H2020), Rome, Italy, July 5-6, 2022.
- ◆ Meeting of the European Society of Sonochemistry, ESS-2022, August 28 – September 1, 2022, Jena, Germany.

2023

- ◆ Sustainable Functional Materials & Processes (SFMP 2023), IIT Kharagpur, India, February 20, 2023.
- ◆ International Youth Scholar Symposium on Process Intensification by Sonochemistry (YSSPIS) and Fourth Youth Seminar on Bubble Dynamics (YSBD), Jinan, China, July 22, 2023
- ◆ International Conference on Photochemistry and Clean Energy Materials, Jinju, S. Korea, August 23-25, 2023

Other Credentials**Editor/Editorial Board Member**

- Ultrasonics Sonochemistry – Journal Impact Factor 8.4 (Editor-in-Chief)
- International Journal of Agriculture and Food Research (Editorial Board Member)

Conference/Workshop Organisation

- Organising Committee Chair - Sonochemistry Symposium, Melbourne, July 20-21, 2005.
- Organising Committee Member - 25th Australian Colloid & Surface Science Student Conference, February 6-10, 2006, Beechworth, Australia.
- Scientific Program Advisory Committee – Food Innovation: Emerging Science, Technologies and Applications (FIESTA), Melbourne, Australia, October 16-17, 2006.

- Organising Committee Member - Photoradchem-2007, February 8-11, 2007, Kottayam, India
- Organising Committee Member - International conference on nanomaterials and their applications, February 4-6, 2007, Trichi, India
- Organising Committee Chair – International Workshop on Applied Sonochemistry Melbourne, Australia, September 17-19, 2007.
- Symposium Organiser/Chair - International Symposium on Sonochemistry and Sonoprocessing, December 6-9, 2007, Kyoto, Japan
- Organising Committee Chair – International Workshop on Sonochemistry and Photocatalysis for Environmental Remediation, Melbourne, Australia, November 26-28, 2008.
- Organising Committee Member - 4th Innovative Foods Centre Conference 2008, Brisbane, Australia, September 16-17, 2008.
- Organising Committee Member – Recent Advances in Polymer Technology, North Maharashtra University, India, December 28-29, 2009.
- Organising Committee Member – Higher Valued Foods – FIESTA 2010, Melbourne, Australia, August 18-19, 2010.
- Session organiser – International Congress on Acoustics, Sydney, Australia, August 23-27, 2010.
- Scientific Committee Advisory Board Member, International workshop on advanced sonochemistry, Nagoya, Japan, November 2-4, 2011.
- International Advisory Committee, International Nonthermal Food Processing Workshop FIESTA 2012.
- Organising Committee Chairman, 1st Asia-Oceania Sonochemical Society Meeting, July 10-12, 2013, Melbourne, Australia
- Advisory Committee Member – Frontier Technologies in Waste Management, Pune, India, January 15-17, 2014
- Scientific Advisory Committee member - "Novel Approaches in Food Industry 2014", Kusadasi, Turkey. May 26-29, 2014.
- International Scientific Advisory Committee member - 14th Meeting of the European Sonochemical Society, Avignon, France, June 2-6, 2014
- Session Chair - 14th Meeting of the European Sonochemical Society, Avignon, France, June 2-6, 2014
- International Advisory Committee Member – International Conference on Advanced Oxidation Processes (AOP-2014), Munnar, Kerala, India, September 25-28, 2014.
- Co-Chairman, 2nd Meeting of the Asia-Oceania Sonochemical Society (AOSS-2), Kuala Lumpur, Malaysia, July 25-28, 2015
- One of the Session Organisers, Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157), Pacificchem 2015, Honolulu, USA, December 15-20, 2015
- International Scientific Advisory Committee member - 15th Meeting of the European Sonochemical Society, Istanbul, Turkey, June 27 – July 1, 2016
- Co-Chairman, 3rd Meeting of the AOSS, Chennai, India, September 14-16, 2017
- International Scientific Advisory Committee member, 16th Meeting of the European Society of Sonochemistry, Besançon, France, April, 15-19, 2018
- Co-Chairman, 4th Asia-Oceania Sonochemical Society Conference, Nanjing, China, 19-21 September 2019
- Organising Committee Member, 1st ESS-JSS-AOSS Joint Sonochemistry Conference, November 8-10, 2021
- Organising Committee Chair, Sonochemistry: Fundamentals & Applications, Symposium #105, Pacificchem 2021, Honolulu, Hawaii, USA, December 16-21, 2021
- International Organising Committee Member, 17th Meeting of the European Society of Sonochemistry, ESS-2022, August 28 – September 1, 2022, Jena, Germany.
- International Advisory Committee Member, 5th Meeting of Asia-Oceania Sonochemical Society, AOSS-2023, September 28-30, 2023, Warangal, India

Professional Memberships

- President, Asia-Oceania Sonochemical Society (2013-2019)
- Corporate Member - Royal Australian Chemical Institute (1995-continuing)
- Fellow - Royal Australian Chemical Institute (2007-continuing)
- Fellow of the Academy of Science – Chennai, India (2014-continuing)
- Member - European Sonochemical Society (2000-continuing)
- Affiliate Member – IUPAC (2009-continuing)
- Member – International Association for Radiation Research (1996-continuing)

Other Services

University

- Director and CEO, Australia India Institute (2020-2021)

- Associate Dean (International), Faculty of Science (2013-2017)
- Deputy Head of School of Chemistry (2018-2021)
- Chair: Academic Programs Committee (2018-2019)
- Director of 1st Year Studies (2011-2012; 2018)
- Member of the Melbourne University International Advisory Group (2018-)
- Academic Board Member, University of Melbourne
- Faculty of Science Academic Promotion Panel Member

Discipline/Community

- Honorary Treasurer, Royal Australian Chemical Society (2011-2012)
- International Advisor: Center for Environment Education and Technology
- Editorial Board Member of International Journals
 - Ultrasonics Sonochemistry
 - International Journal of Agriculture and Food Research
 - Food Science and Technology
- Referee for some funding agencies and a number of international journals.
 - Research Funding Agencies
 - ARC Assessor, European Research Council, Georgian National Foundation, Qatar National Research Foundation, and others
 - Journals
 - ACS, RSC, Elsevier journals