

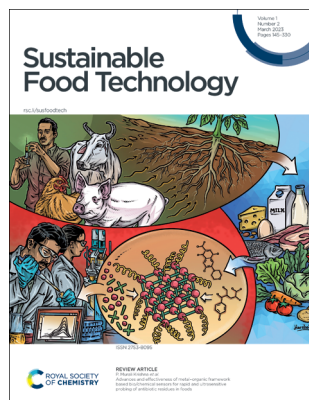
# Sustainable Food Technology

rsc.li/susfoodtech

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 2753-8095 CODEN SFTUAG 1(2) 145–330 (2023)



### Cover

See P. Murali Krishna *et al.*, pp. 152–184. Image reproduced by permission of Mirinal Kumar Rayappa from *Sustainable Food Technol.*, 2023, **1**, 152.

## REVIEWS

152

### Advances and effectiveness of metal–organic framework based bio/chemical sensors for rapid and ultrasensitive probing of antibiotic residues in foods

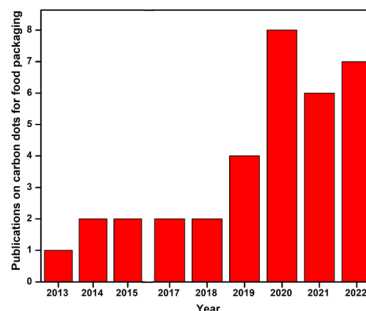
Mirinal Kumar Rayappa, Kavya K. S., Gurdeep Rattu and P. Murali Krishna\*



185

### Carbon dots for food packaging applications

Deepika, Lokesh Kumar and Kirtiraj K. Gaikwad\*



## Editorial Staff

### Executive Editor

Anna Rulka

### Deputy Editor

Audra Taylor

### Editorial Production Manager

Viktoria Titmus

### Assistant Editors

Shwetha Krishna, Michael Whitelaw, Alexander Whiteside

### Editorial Assistant

Samantha Campos

### Publishing Assistant

Brittany Hanlon

### Publisher

Neil Hammond

For queries about submitted papers, please contact Viktoria Titmus, Editorial Production Manager in the first instance. E-mail: [susfoodtech@rsc.org](mailto:susfoodtech@rsc.org)

For pre-submission queries please contact

Anna Rulka, Executive Editor.

E-mail: [susfoodtech-rsc@rsc.org](mailto:susfoodtech-rsc@rsc.org)

Sustainable Food Technology (electronic: ISSN 2753-8095) is published 6 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

Sustainable Food Technology is a Gold Open Access journal and all articles are free to read. Please email [orders@rsc.org](mailto:orders@rsc.org) to register your interest or contact Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK Tel +44 (0)1223 432398; E-mail: [orders@rsc.org](mailto:orders@rsc.org)

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

### Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail [advertising@rsc.org](mailto:advertising@rsc.org)

For marketing opportunities relating to this journal, contact [marketing@rsc.org](mailto:marketing@rsc.org)

# Sustainable Food Technology

[rsc.li/susfoodtech](http://rsc.li/susfoodtech)

Sustainable Food Technology publishes cultivating sustainable solutions to food processing and engineering.

## Editorial Board

### Editor-in-Chief

Jorge Barros Velázquez, University of Santiago de Compostela, Spain

### Associate Editors

Rekha Singhal, Institute of Chemical Technology, India

Qin Wang, University of Maryland, USA

Benu Adhikari, RMIT University, Australia

Editorial Board Members

Paula Bourke, University College Dublin, Ireland

## Advisory Board

Cristóbal N. Aguilar, Universidad Autónoma de Coahuila, Mexico

Maria G. Corradini, University of Guelph, Canada

Sakamon Devahastin, King Mongkut's University of Technology Thonburi (KMUTT), Thailand

Tian Ding, Zhejiang University, China

Hao Feng, North Carolina A&T State University, USA

Joe P. Kerry, University College Cork, Ireland

Olga Martín-Belloso, Universidad de Lleida, Catalonia, Spain

Maria Angela A Meireles, Universidade Estadual de Campinas, Brazil

Solange I. Mussatto, Technical University of Denmark, Denmark

Indrawati Oey, University of Otago, New Zealand

Umezurike Linus Opara, Stellenbosch University, South Africa

Federico Pallottino, CREA-IT, Italy

Marco Poiana, Mediterranean University of Reggio Calabria, Italy

Anet Režek Jambrak, University of Zagreb, Croatia

Victor Rodov, ARO - The Volcani Institute, Israel

Andreas Schieber, Universität Bonn, Germany

Juming Tang, Washington State University, USA

Paula Teixeira, Universidade Católica Portuguesa, Portugal

Long Yu, South China University of Technology, Institute of Chemistry, Henan Academy of Sciences, China

Min Zhan, Jiangnan University, China

## Information for Authors

Full details on how to submit material for publication in Sustainable Food Technology are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: [rsc.li/susfoodtech](http://rsc.li/susfoodtech)

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890

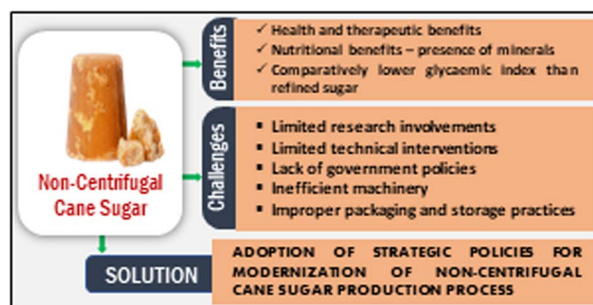


## REVIEWS

200

### Current production strategies and sustainable approaches towards the resurgence of non-centrifugal cane sugar production – a review

Venkatesh T,\* Nandhu Lal A. M., Silpa V., Balakrishnan Dharmalingam, Padma Ishwarya S., Reshma M. V., Sajeed M. S., Ravi Pandiselvam and Anjineyulu Kothakota\*



215

### Eco-friendly biodegradable nanocomposite materials and their recent use in food packaging applications: a review

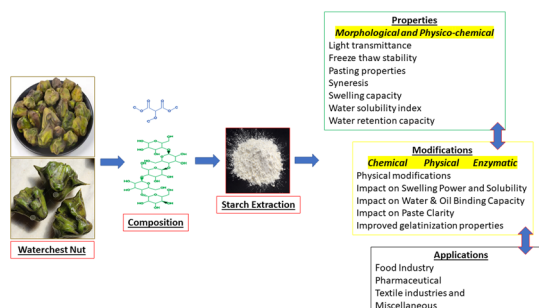
Samah M. El-Sayed\* and Ahmed M. Youssef\*



228

### Water chestnut starch: extraction, chemical composition, properties, modifications, and application concerns

Kamalpreet Kaur, Gurpreet Kaur and Ajay Singh\*

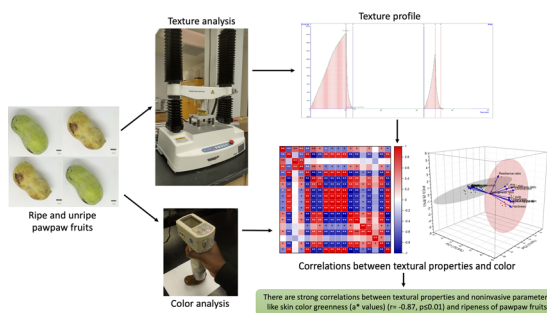


## COMMUNICATIONS

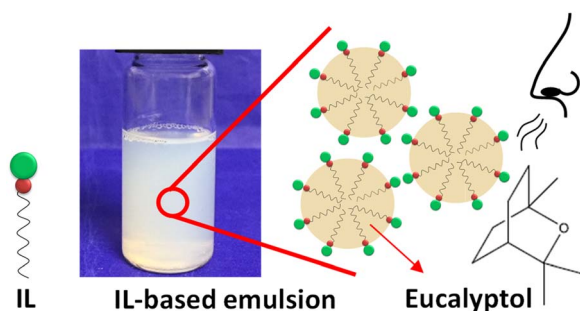
263

### Correlations between color, textural properties and ripening of the North American pawpaw (*Asimina triloba*) fruit

Bezalel Adainoo, Andrew L. Thomas and Kiruba Krishnaswamy\*



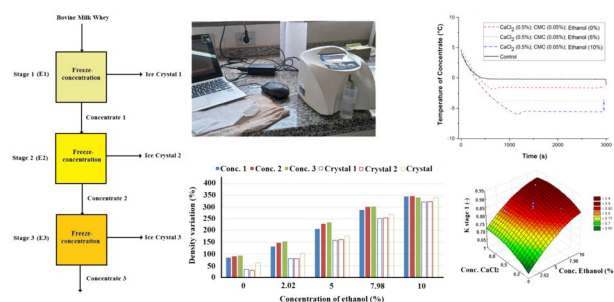
275



### Novel naturally derived encapsulation agents in the ionic liquid form for sustainable emulsion-based products

Ariel A. C. Toledo Hijo,\* Eric Keven Silva, Aureliano A. D. Meirelles, Rosiane L. Cunha and Antonio J. A. Meirelles\*

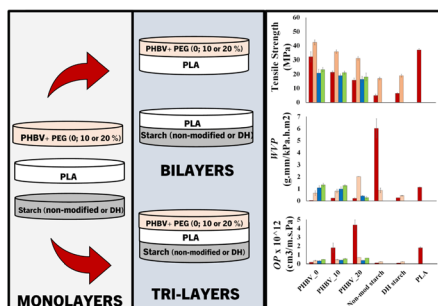
280



### Effects of mixtures of ethanol-calcium chloride-carboxymethylcellulose on the bovine milk whey freeze concentration process

Camilla Soares Duarte, Adrise Aparecida Rodrigues, Ana Cristina Freitas de Oliveira Meira, Luiz Ronaldo de Abreu, Fabiano Freire Costa and Jaime Vilela de Resende\*

296



### Lamination of starch/polyesters by thermocompression for food packaging purposes

Carla I. La Fuente Arias,\* Chelo González-Martínez and Amparo Chiralt

306



### Utilization of button mushroom (*Agaricus bisporus*) powder to improve the physiochemical and functional properties of cookies

Rafeeya Shams,\* Jagmohan Singh, Kshirod K. Dash, Aamir Hussain Dar\* and R. Pandiselvam



## Towards a sustainable and green extraction of curcuminoids using the essential oil of *Cinnamomum cassia*

[illegible]