

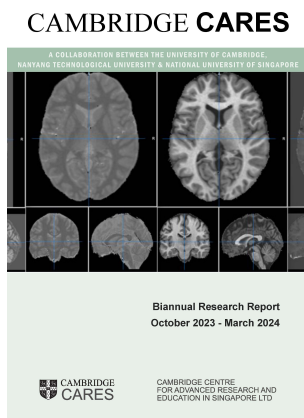


# CAMBRIDGE CARES

CAMBRIDGE CENTRE  
FOR ADVANCED RESEARCH AND  
EDUCATION IN SINGAPORE LTD.

**CARES Biannual Newsletter Issue 4, September 2024**

## Highlights



### *Biannual Reports*

Our 20th Biannual Report highlights all research programmes, small projects, and collaborations; including updated publications and a foreword from our Director.

[read more >>](#)



### *Decarbonisation projects*

CARES will be involved in two decarbonisation projects in a larger SGD\$90m programme by the National Research Foundation. We are excited to share more details soon!

[read the Straits Times write-up >>](#)



### *New start-up*

EMICAST, the newest CARES start-up by Dr Li Chin Law, will use physical modelling and machine-learning to improve ship optimisation and emissions forecasting in the maritime sector.

[read more >>](#)

# Outreach & Engagement



**Top Left:** The University of Cambridge's new VC Prof Deborah Prentice acknowledged CARES as an important cornerstone for research and partnerships in Singapore at a Global Cambridge event in April.

**Top Right:** CARES exhibited a booth at Singapore Maritime Week 2024 and met with leading companies and international agencies.

**Middle Left:** The Centre for Lifelong Learning and Individualised Cognition (CLIC) released an artbook showcasing submissions from 10 special needs schools in Singapore on the theme "Neurodiversity: No Brain is the Same".

**Middle Right:** Prof Tan Chorh Chuan (middle), Permanent Secretary to the National Research Foundation in Singapore engaged with CARES at CREATE Symposium 2024. On display were The World Avatar project, EMICAST, and CLIC.

**Bottom:** CARES supported (from left to right) Dr Ananth Govind Rajan, Dr Savvas Gkantonas, and Prof Shinya Furukawa on the C4T Visiting Scientist Scheme that promotes international collaboration with the centre's decarbonisation research.

# Congratulations

## Dr Yichen Zong

3Y Energy spin-off received a Maritime & Port Authority grant to develop a platform for biofuels assessment.

### **AWARDED A MARITIME INNOVATION AND TECHNOLOGY FUND**



## Dr Nadhilla Melia

Discussed the thought process behind decision-making in a documentary by Channel News Asia on healthy eating.

### **FEATURED IN THE CNA “NUDGE” SERIES**



*Dr Nadhilla  
Velda Melia*

## Prof Nondas

Signed a multi-partnership agreement with maritime operators to apply real-time data in CARES' modelling tools.

### **CARES, LASKARADIS SHIPPING CO. LTD., AND METIS**



*Prof Nondas  
Mastorakos*

## Dr Nicholas Jose

Accelerated Materials spin-off selected for UK-APAC Tech Growth Programme for development efforts in Japan.

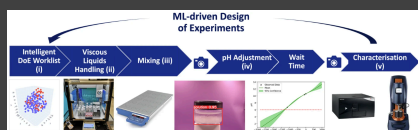
### **ACCELERATED MATERIALS AIMS TO BE BIG IN JAPAN**



*Dr Nicholas Jose*



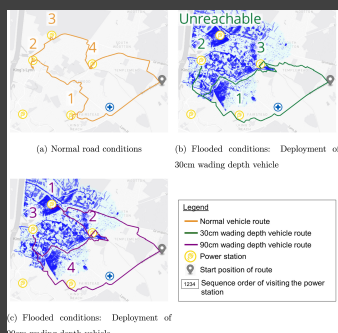
# Publications



## Accelerating Formulation Design via Machine Learning: Generating a High-throughput Shampoo Formulations Dataset

Aniket Chitre, Robert Querimit, Simon Rihm, Dogancan Karan, Zhu Benchuan, et al.

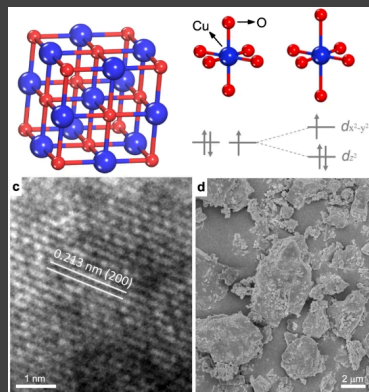
This paper uses an accelerated liquid formulation design to present a dataset of 812 formulations that cover a diverse design space. [Read the paper.](#)



## Fostering urban resilience and accessibility in cities: A dynamic knowledge graph approach

Phua Shin Zert, Markus Hofmeister, Tsai Yi-Kai, Oisin Peppard, Lee Kok Foong, et al.

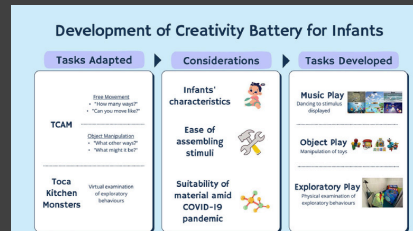
This paper discusses agent-based implementation and knowledge graphs for disaster and city planning with a focus on flooding events. [Read the paper.](#)



## Spin-related Cu-Co pair to increase electrochemical ammonia generation on high-entropy oxides

Sun Shengnan, Dai Chencheng, Zhao Peng, Xi Shibo, Ren Yi, et al.

This paper explains Cu-Co synergistic effect in high-entropy oxides for electrochemical nitrate-to-ammonia conversion, with spin states playing a crucial role. [Read the paper.](#)



## Age-appropriate adaptation of creativity tasks for infants aged 12–24 months

Teo Ling Zheng and Victoria Leong

This paper reports age-appropriate adaptation of creativity tasks with consideration of infants' cognitive capacities and stimulus practicality. The task protocols elaborated are intended to facilitate studies on the early development of creativity in infants. [Read the paper.](#)

CARES is open to collaborating with new partners and projects. Please see our [Careers page](#) for a list of opportunities or email [enquiries@cares.cam.ac.uk](mailto:enquiries@cares.cam.ac.uk)

Thank you for reading this





#CambridgeCARES newsletter, follow  
our social channels for any updates!



CARES was established in 2013 in Singapore and is the University of Cambridge's first research centre outside the UK.

Flagship C4T programme on decarbonisation

CLIC studies cognitive flexibility throughout the life course

AMPLE scales up nanomaterial production

PIPS is an industry-funded project for pharmaceutical manufacturing

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