DRIVING INNOVATION IN NANOTECHNOLOGY

NANOTECHNOLOGY & SENSING GROUP

A research group in the Centre for Advanced Materials and Industrial Chemistry (CAMIC) at RMIT University dedicated to creating mercury detection and abatement technology solutions. With more than 10 years of research, our team has developed a patented technology to measure toxic mercury levels in harsh industrial processes and effluent streams.

TECHNOLOGY SNAPSHOT

Our Mercury Sensing Technology is a one-of-a-kind sensor platform with:

- High sensitivity and selectivity
- No susceptibility to a broad spectrum of volatile organic compounds (VOCs), solvents and alkalines in the emission sources
- A wide range of measurement (0.005 - 20 mg/m^3 ± 5%)
- Operation capability in the presence of high water vapour (~ 58 g/m^3) and gas temperatures (up to 100ºC)
- Ability to be used for environments with acetone, hydrogen sulfide, ammonia, chlorine, high water vapour, methane and hydrogen
- A design specifically for industrial use to deploy for online applications

We can create a tailor-designed solution to specific needs including measuring, monitoring and optimizing mercury control methodologies for different processes.

TECHNOLOGY SCOPE

01 Mercury measurement and abatement technology sector will be worth over $500 mill. per year in US alone.

02 All partner countries who are signatories of the 2017 UNEP Minamata Convention will implement measures to control release of mercury.

03 There are 128 signatories of the UNEP Minamata Convention on Mercury.

04 The technology has been developed in collaboration with Alcoa and BHP

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FUNDS RECEIVED FOR RESEARCH

With over $4.0 mill. of research budget in total, we have received multiple research grants over the years:

2015-2016	TVP	$62,500
2004-2009	ARC Linkage 1	$760,000
2011-2014	ARC Linkage 2	$767,000
2010	Alcoa and BHP B	$150,000
2012	Exxon Mobil Australia	$92,500
2003-2011	Small Grants	$228,000

RESEARCH HIGHLIGHTS OF LAST 5 YEARS

40 Journal articles

02 Patents

12 Current HDR students

10 Funding bodies

08 Citations in national media

COVER PAGES IN REPUTABLE JOURNALS

- Environmental Science & Technology
- Analyst
- Chemistry A European Journal
- Journal of Materials Chemistry
- Physical Chemistry Chemical Physics (PCCP)

THE TEAM

- Distinguished Professor Suresh Bhargava
- Dr Samuel Ippolito
- Dr Ylias Sabri
- Dr Ahmad Kandjani