

THE T-UP EXCELLENCE AWARDS

The T-Up Excellence Awards is an annual award that acknowledges the outstanding contributions that A*STAR researchers have made in their secondment to local enterprises. By tapping into the pool of R&D talent at A*STAR, companies are able to leverage their scientific expertise, identify key areas of technology and position developments that will enable local enterprises to gain traction in an increasingly globally competitive market.

This year, four winning nominees bagged the T-Up Excellence Awards 2016, which were presented at the annual A*STAR SME Day. Talent Times learns more about their work.



DR. XAVIER LE GUEZENNEC
Senior Research Fellow of Institute of Molecular and Cell Biology (IMCB)

THE LAUNCH OF NEW PRODUCTS HAS ALSO ENABLED CURIOX BIOSYSTEMS TO INCREASE THEIR REVENUE BY 200 TO 300 PERCENT, EXPANDING INTO OTHER MARKETS AROUND THE WORLD SUCH AS JAPAN, KOREA, AND IN SILICON VALLEY OF THE USA.

SMALL INNOVATION, BIG BENEFITS

Improvements made on a tiny, but mighty cornerstone of the research and clinical diagnostics industry – the microplate – spell big benefits for the market.

A normal microplate is a plastic plate containing wells that act as small test tubes, and is commonly used in areas of analytic research and clinical diagnostic testing. The DropArray (DA) technology pioneered by Curiox Biosystems introduces a wall-less feature that eliminates issues of capillary action, and loss of cells from harsh washing.

Yang's work on the DA microplate involves applying a surface treatment to the plate, ensuring that one of the three different plastic surfaces attracts water and has a long shelf life, while the rest of the surfaces remain unchanged.

With his expertise in miniaturised biological applications, Xavier then improved upon Yang's technology, expanding the cell-based applications value of the optimised DA plate.

Their combined efforts have allowed Curiox Biosystems to file patents on the new technology, which will serve as a stepping stone to developing more applications and forms. The launch of new products has also enabled Curiox Biosystems to increase their revenue by 200 to 300 percent, expanding into other markets around the world such as Japan, Korea, and in Silicon Valley of the USA.

According to Yang, it is the day-to-day solving of problems, and their immediate impact, that makes her secondment experience to companies such as Curiox memorable. "It allows me to use the knowledge and skills I've gained from my research background to bring the project to success, and at the same time gain new knowledge from different areas of expertise." Xavier, on the other hand, is thankful for the opportunities that have opened up since his embarking on the T-Up programme. "The road has been rich in meeting and learning from many people in the pharmaceutical and biotechnology industries across the world," he says.



LING YII LEONG
ex-Research Engineer of Institute for Infocomm Research (I²R); current Head of IT, R&D Department of LDR Pte Ltd and LDR Technology Pte Ltd
Part of secondment to: LDR Pte Ltd

POCKET TRIPS WAS SUCCESSFULLY INTEGRATED INTO MAJOR EVENTS LIKE THE 8TH ASIAN PARA GAMES AND THE SG50 JUBILEE CELEBRATIONS VIA ITS SG HEART MAP MOBILE APP TRAILS IN 2015. LDR'S PROPRIETARY POWERFUL WEB-BASED AUTHORIZING PLATFORM WON THE COVETED GOLD AWARD FOR BEST INNOVATIVE INFOCOMM PRODUCT (ENTERPRISE) IN 2015.

PUTTING LEARNING ON THE MAP

Who knew that the large expanse of heritage trails could be conveniently condensed into the palm of your hand?

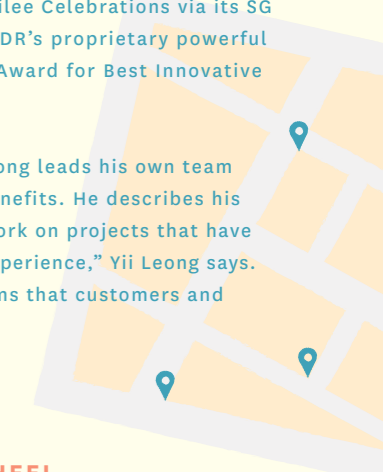
Over three secondment projects, Yii Leong assisted LDR in its effort to streamline *Pocket Trips* into a mobile app that has many uses ranging from education to customer engagement. *Pocket Trips* is a mobile app that allows users to publish their own location-based interactive trails without any prior programming knowledge.

Yii Leong also developed an advertising model that allows F&B outlets to integrate rewards like vouchers along the trails. This commercialises the app while at the same time eschews obtrusive advertising, and most importantly enables *Pocket Trips* to remain free and accessible to all.

Pocket Trips was successfully integrated into major events like the 8th Asian Para Games and the SG50 Jubilee Celebrations via its SG Heart Map Mobile App trails in 2015. LDR's proprietary powerful

web-based authoring platform won the coveted Gold Award for Best Innovative Infocomm Product (Enterprise) in 2015.

Now the Head of IT and R&D Department of LDR, Yii Leong leads his own team in tackling real world challenges with real, tangible benefits. He describes his secondment as a breath of fresh air, allowing him to work on projects that have a real impact on a consumer base. "It's a really great experience," Yii Leong says. "Working with SMEs allows me to tackle actual problems that customers and clients face, outside of research work."



DR. XIAO YANG
Scientist II of Institute of Materials Research and Engineering (IMRE)
Part of secondment to: Curiox Biosystems Pte Ltd



AO YINTAI
Senior Research Engineer of Singapore Institute of Manufacturing Technology (SIMTech)
Part of secondment to: LHT Holdings Ltd

THE INNOVATION HAS HELPED LHT TO MONITOR BUSINESS VOLUME AND IDENTIFY POTENTIAL ISSUES ALMOST INSTANTLY, REDUCE ANNUAL BUSINESS COSTS AND HUMAN ERROR.

REINVENTING THE WOODEN WHEEL

For an established timber company that churns out around 7,000 wooden pallets a day, to the tune of more than 1,800,000 pallets a year, efficient yet sustainable business practices rank high on the totem pole.

Using his expertise in sustainable manufacturing and business process management, Ao Yintai, a Senior Research Engineer from the Singapore Institute Of Manufacturing Technology (SIMTech), assisted the timber company LHT Holdings Ltd in setting up systems to better manage raw materials by planning their replenishments based on customer order patterns. Yintai's system also monitors real-time business activity in the pallet manufacturing operations through the analysis of event patterns. The innovation has helped LHT to monitor business volume and identify potential issues almost instantly, reduce annual business costs and human error. This was a huge improvement from the previously paper-based, manually entered system.

This secondment project kickstarted LHT's in-house R&D development, thereby enhancing several aspects of pallet manufacturing. The streamlining of processes has also helped LHT to manufacture and market RFID-tagged pallets, making the pallets trackable in the supply chain worldwide.

For his unexpected win, Yintai is grateful that all his efforts have paid off. However, he believes his success was a combination of effort contributed by both parties. "The researcher helps the SME to gain R&D capabilities, improve processes and enhance productivity, while the secondment in the SME allows the researcher to better understand the needs of the industry and be more targeted in helping them," he explains.

