May 2016

Science Innovation Pipeline

UNIQUEST

Asset name	Description	Faculty or Institute	Status	TRL
Stem Cell Production & Cell Culture				
Surface islands	Polymer materials that mimic cell surfaces and influence cellular development	AIBN	Available	4
Stem cell scaffolds	Efficient method for producing 3D porous tissue scaffolds	AIBN	Available	4
Parallel culture	Rapid cell culture optimisation device that can explore paracrine effects	AIBN	Industry partner. Some rights still available.	4
HA-PPS	Cartilage differentiation factor for MSC cells	AIBN	Industry partner	3
Industrial and Pharmaceutical Biotech				
Thermostable p450 enzymes	Robust enzymes for small molecule biotransformation and drug candidate screening	UQSc	Industry partner. Some rights still available.	4
Nanoemulsions for drug delivery	Producing stabilised nanoemulsions and modifying with target recognition and stabilising elements	AIBN	Available	3
Nanocapsules for active delivery	Silica micro/nanocapsules for controllable sustained release of active ingredients	AIBN	Available	4
VLP Vaccine System	Recombinant protein derived low cost VLPs that can display large viral sequences	AIBN	Industry partner. Some rights still available	5
ProGel	Micro-gel encapsulation of active ingredients	UQSc	Start-up: ProGel Pty Ltd	8
Low energy bioflocculation	Utilising the rapid flocculating capacity of a microorganism to cheaply flocculate	IMB	Available	4
Sensor Technologies				
Arbsense	Selective Explosive Sensors	UQSc	Licence: Arborescent2 Limited	7
Magnetometer	Ultrasensitive detection of magnetic fields using optical magnetometry	UQSc	Available	4
Chemical Production & Sensing				
OZCOPE	Organic Photonic & Electronic materials	UQSc	Available	4
Phosphorescent iridium (III)	Development of phosphorescent iridium (III) complexes and excited energy prediction for phosphorescent iridium (III) complexes	UQSc	Licence: Sumitomo Chemical Co. & Cambridge Display Technology Ltd	3
Photodiodes	Wavelength selective photodiodes for intelligent surveillance, machine vision and imaging	UQSc	Available	4
Research Tools				
3D cardio assay	High throughput 3D assay utilising more mature human cardiomyocytes for drug discovery	AIBN	Industry partner. Some rights still available.	3
GIZA	A next generation sequencing (NGS) workflow	UQSc	Available	4
Bio Energy				
Pongamia trees for bioenergy	High oil yielding, drought and salt tolerant elite varieties	UQSc	Start-up: BioEnergy Solutions	7
Microalgae library	Characterised elite microalgae strain library for biofuels and high value products	UQSc & IMB	Available	4
Low energy microalgae bioflocculation	Utilising the flocculating capacity of a microorganism to rapidly flocculate microalgae	IMB	Available	4

UQ Faculty/Institute **AIBN** Australian Institute for Bioengineering & Nanotechnology | **IMB** Institute for Molecular Bioscience | **UQSc** Faculty of Science

Technology Readiness Level - TRL 1 2 3 4 5 6 7 8 9 10

1 Basic principles observed and reported
2 Technology concept &/or application formulated
3 Analytical and experimental critical function &/or characteristic proof of concept
4 Validation in lab environment
5 Validation in relevant environment
6 Prototype demonstration in relevant environment
7 Prototype demonstration in operational environment
8 Test demonstration
9 Routine use
10 Product or outcome delivered to industry

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