



**Yale
University**

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Yale technology licensing and partnership opportunities 2015 Non-Therapeutics

1. DIGITAL TECHNOLOGY

Parallel Database System

Secure compliant database system that replicates remotely and scales near-linearly in the cloud for developers, marketers and businesses. Yale prototype Calvin matches Oracle and IBM database transaction speeds on low-cost NoSQL commodity servers.

OCR #5479 Patent 8,700,563 Software

Team: Daniel Abadi, founder of Hadapt.

Software Defined Networks (SDN) programmer

Suite of tools that makes network switches easier to program. Maple is a substantially simplified programming interface for existing or new controller platforms. Multicore McNettle is the fastest SDN controller on the market.

OCR #6121 Patent Application and Software

Team: Richard Yang, Maple Networks LLC, Yale ITS pilot

Online learning model

Anomaly detection models transients without training sets, enabling on-the-fly acoustic or electric transient detection.

OCR #5875 Demo

Team: Ronald Coifman

System and Method for Document Analysis

Sparse matrix decision-making algorithm provides data analytics that is agnostic to the data. Current prototype is tuned to increase the yield of questionnaires.

OCR #4691 Pat. 11/165,633 Demo

Team: Ronald Coifman

Second Opinion

Intelligent EHR dashboard provides empirical medical reference comparing an input such as hematology test result with a large database of historical demographical data.

OCR #4691 Software

Team: Ronald Coifman, Yale CORE

Sparse Superposition codes

Computationally efficient encoding and decoding algorithm that will be reliable at network information theory limits where current LDPE and Turbo codes will no longer be rate optimal.

OCR #5421 Pat. 13/696,745

Team: Andrew Barron

Compositional Certified Resource Bound Analysis

Certified prediction of resource usage for worst case execution time analyzers (memory usage, clock usage, network traffic) and also for detection of malware and Trojans.

OCR #6701 Software and Patent

Team: Zhong Shao lab, YEI team in formation

2. DESIGN SOFTWARE

Bi-Scale Material Design

Interactive High Quality Surfacing material design editor for cosmetic, textile, architectural and industrial design. Define the bulk material, and achievable geometries and reflectance and then realize the appearance at scale, or do the inverse.

OCR #5864 Software

Team: Julie Dorsey, founder of Mental Canvas

Texture Exemplars

Software that extracts texture from images and synthesizes seamless randomized surfaces, for renderers and games developers.

OCR #5733 Software, Patent 9,007,373

Team: Holly Rushmeier

CAD for photonic circuits

Photonic CAD plug-in for design of integrated photonic circuit layouts, apparatus for automatic characterization of devices and circuits.

OCR #6223 Software, OCR #6224 Prototype

Team: Hong Tang lab

3. SEMICONDUCTOR DEVICES

Unipolar CMOS

The 2020 transistor. High electron mobility CMOS based on tri-gate architecture uses only n-doping. Also promises lower power operation for Thin Film Displays CMOS.

OCR #4977 Pat. 8,384,156, OCR #6375 Patent

Team: TP Ma, founder of Alacrity

High power HBT

High power high frequency Heterojunction Bipolar Transistor.

OCR #1518 Pat. 6,809,400 Team: TP Ma lab

4. SOLID STATE LIGHTING DEVICES

Nanoporous (NP) GaN mirror

The use of a lateral etching technique to incorporate nanoporous layers in post processing of GaN production enhances light extraction, easily creates DBR mirrors and provides GaN manufacturers with other capabilities that can easily be integrated into their processing steps.

OCR #5705 Pat. 13/923,248

Recycling GaN wafer

Thin film slicing of bulk GaN substrate after photocleave. Also a manufacturable route to flexible GaN for high brightness, large, flexible blue or green lighting or displays.

OCR #6160 Patent

Large area GaN-on-Si

GaN template approach for epiwafer manufacturers, uses a dispersed micro 'GaN tiles' method that entirely eliminates thermal or lattice mismatch, enabling high quality growth of 16" wafers without bowing.

OCR #5943 Patent

Integration of GaN in CMOS

High quality GaN-on-Insulator (GaNOI) growth without the need for any seed GaN crystal is an enabler for heterogeneous integration of GaN in CMOS.

OCR #5811 Pat. 61/600,413

Blue GaN VCSEL

A new route to make GaN VCSEL laser technology practical for Solid State Lighting and accessible for LED manufacturers, applications include automobile headlighting.

OCR #6283 Patent

GaN edge-emitting Laser Diode

A method to make blue and green III-Nitride edge emitting laser diode (LD) of high confinement factor with lattice matched cladding layer, will greatly improve existing edge emitters used in automobile headlighting.

OCR #6385, #6504, #6697 Patent

Team: Jung Han lab, founder of Saphlux; YEI team in formation

Speckle-free imaging/projection source

Random Laser, Chaotic cavity laser and degenerate lasers, each producing spatially incoherent laser emission for speckle-free and cross-talk free illumination. The discovery of spatially incoherent lasers enables a transition from serial to parallel image acquisition. Solid state sources are in development for Optical Coherence Tomography (OCT), confocal microscopy and non-medical applications such as digital light projectors and barcode reader systems.

OCR #5659 Pat. 14/110,937 OCR #6419 OCR #6676 Patent

Team: Hui Cao, Michael Choma, Mode OneK LLC

Anti-Laser absorber

Coherent Perfect Absorber that completely absorbs incoming radiation with zero reflection, applications in free-space and on-chip optical communications.

OCR #5248 Pat. 13/380,625

Team: Douglas Stone lab

Quantum cascade laser

High power mid-IR laser >1W with high directionality, co-developed with Princeton University.

OCR #937 Pat. 6,134,257 Pat. 6,333,944

Team: Douglas Stone lab

Efficient fiber light coupler

Efficient III-Nitride mode converter efficiently couples photon detectors to waveguide.

OCR #6574 Patent

Team: Hong Tang lab

Large area III-Nitride waveguide

Thick Aluminum Nitride deposition for optical waveguide applications solves bandwidth and power dissipation challenges reaching 80 GBps in integrated photonic circuits for chip-to-chip optical interconnects (OI), modulators and optical frequency combs.

OCR #5914 Know-how OCR #6226 Patent

Team: Hong Tang lab

'Light Force' device

Today's electronic devices all rely on operating on electron charges through electrostatic interactions. This discovery opens up a new class of nanomechanical photonic devices that operate on gradient optical forces.

OCR #4952 Pat. 8,639,074

Team: Hong Tang lab

Optical frequency comb

Aluminum Nitride optical comb generator

OCR #6226 Patent

Team: Hong Tang lab

5. QUANTUM COMPUTER ENGINEERING

Solid state Qubits

3D integration of multiple solid-state qubits with microfabrication of devices and circuits.

OCR #6082 #6567 #6566 #6565 #6564 #6559 Patent application

OCR #6563 #6562 #6561 #6560 Patent application

Josephson directional amplifier

Integratable simple directional amplifier component that amplifies ultra-low noise microwave signals with efficient read-out.

OCR #6281 Patent

Wireless Josephson amplifier

Compact superconducting integrated Josephson circuit that amplifies microwave signals without the need for a physical electrical connection to the surrounding environment.

OCR #6352 Patent

Team: Robert Schoelkopf lab, Michel Devoret lab, Yale Quantum Institute.

6. SURFACES

High surface area metal electrodes

Bulk Metallic Glass nanowires for fuel cells and energy storage applications

OCR #5451

Team: Andre Taylor, Transformative Devices lab

3D electrode surface with substitution

Bulk Metallic Glass substitution process enables 3D metals electrode and collector design, optimization and incorporation of transition metals for electrochemical applications.

OCR #6394

Team: Jan Schroers lab, Andre Taylor, Transformative Devices lab

De-icing, de-wetting and low friction metal surfaces

Generation of ceramic-metallic composite or porous surfaces in 3D molded bulk metallic glass parts by sacrificial templating of deposited coatings, applicable to large area sheets or thermoplastic formed parts.

OCR #6519

Team: Jan Schroers lab, SuperCool Metals LLC

Amorphous Alloy discovery

High throughput combinatorial screening tool for the discovery and optimization of new Bulk Metallic Glass alloy compositions.

OCR #6186

Team: Jan Schroers lab

Structurally colored coating

Non-iridescent structurally colored coatings comprised of inert nanoparticles mimic bird and butterfly nanostructures.

OCR #5213 Know how

Team: Hui Cao lab

Semiconductor cleaning technique based on 'Gecko feet'

Efficient dry removal of nanometer and sub-nanometer particulate contamination from solid surfaces using polymeric micropillars.

OCR #6761

Team: Hadi Izadi, YEI team in formation

Robust catalyst support

A hybrid CNT catalyst support that prevents carbon poisoning in Direct Methanol Fuel Cells. Also stable at high operating temperatures, could replace carbon or ceramic monolith substrates.

OCR #5427 Know-how

7. THIN FILMS

The new Graphene: Black Phosphorous

Method for synthesis of high band gap thin film Black Phosphorus on flexible substrates.

OCR #6595 Patent

Team: Fengnian Xia Lab

Nanotube yield

High yield carbon SWNT, MWNT and advanced dispersion techniques, Boron nanotubes, superconducting Boron nanostructures, GaN nanowires, aligned AlGaN nanowires.

OCR #1250 Pat. 7,357,983

OCR #1613 Pat. 7,531,892

OCR #1614 Pat. 7,258,807

OCR #1736 Pat. 7,407,872

Team: CRISP Center, Lisa Pfefferle lab

Polymer filter for mixed-metal recovery

Polymer-CNT filter apparatus selectively separates bi-mixed metal stream in E-waste recycling.

OCR #6990 Patent

Team: Desiree Plata lab, Center for Green Chemistry team

Bulk polymer temperature sensor

Simple sensor material comprising polymer/copolymer nanorods for high resolution 2D pressure and temperature sensing.

OCR #4801 Pat. 8,179,026

Team: UMD

Increased selectivity nanofiltration membrane

Self assembled polymeric composite with oriented 1nm nanopores and sharp cutoff (extremely thin 300 nm), provides increased selectivity without sacrificing permeability.

OCR #6640 Patent

Temperature switchable pores nanofiltration membrane

Block copolymer film with temperature switchable pores on 1-10nm lengthscale.

OCR #6646 Patent

Field aligned manufacturing platform

Block co-polymer membrane roll-to-roll manufacturing provides exceptional control of morphology.

OCR #5540 Patent 8,748,504

Team: Chinedum Osuji and Menachem Elimelech lab, founder of Oasys

8. SOLAR PV

Photocatalytic metal oxide

Stable metal oxide grown on GaAs for high-efficiency tandem solar cells may generate sufficient photovoltage for stable unassisted water splitting.

Team: Fred Walker, CRISP Center

Flexible solar cell

Development of an all-carbon and a hybrid SWNT/Si solar cell platform.

OCR #5378 Know-how

Team: Andre Taylor, Teracon LLC

Invisible Battery

Transparent electrodes and battery anodes using a variety of techniques including Spin-spray layer-by-layer, a thin-film polymer CNT spraying and coating technique for enhanced power conversion.

Team: Andre Taylor TDI Lab

GaAsP solar cell

GaAsP solar cells on GaP and GaP/Si raise single-crystal Si-based PV efficiency to >30% through III-V integration.

Team: Minjoo Larry Lee lab

9. GREEN CHEMISTRY

Cobalt oxidation catalyst 'Artificial Leaf'

Easy deposition, low cost heterogeneous catalyst Cobalt Phosphine is stable at neutral or alkaline pH operation, works in seawater, for distributed hydrogen or fuel cell applications.

OCR #6209 Patent,

Team: Paul Anastas, Center for Green Chemistry, Catalytic Innovations LLC

Iridium catalyst saves energy in electrochemical processes

Paint-on catalyst reduces energy overpotential and provides corrosion resistance at a fraction of the cost of Iridium oxide - sets activity and stability records in water oxidation and C-H oxidation, is a monolayer hence low surface loading.

OCR #6156 Patent

Team: Gary Brudvig, Energy Sciences Institute, Catalytic Innovations LLC

One-pot biomass fractionating

Single step supercritical transesterification and fractionation of algae and other biomass provides energy efficiencies and produces high value-added upstream byproducts. Biomass conversion techniques extracting high value add products upstream of basic conversion in fuel production.

OCR #6012 Patent

Transformation of lignin into building blocks for protective coatings

Depolymerization of lignin into low molecular weight fractions as raw materials for polymer coatings using abundant commercial feedstocks (sugar cane bagasse, palm waste, wheat straw).

OCR #6168 Patent

Valorisation of lignin: conversion to aromatic platform chemicals

Depolymerization of lignin into simple monomers (catechols and phenols) using abundant commercial feedstocks (sugar cane bagasse, palm waste, wheat straw).

OCR #6168 Patent

Manufacture of adipic acid without evolution of NO₂

New CH activation chemistry (oxidation) via a heterogeneous cobalt catalyst (eg. phenethylalcohol to acetophenone, 1-butanol to butyric acid, cyclohexane to cyclohexanone, alpha-methyl styrene to acetophenone, cyclohexene to adipic acid).

OCR #6823 Patent

Team: Paul Anastas lab, Center for Green Chemistry

Glycerol conversion into Acetic Acid

Novel precatalyst scaffold for cross coupling reactions complimentary to biodiesel production.

OCR #6516 Patent

Team: Nilay Hazari lab, Robert Crabtree lab

10. ENVIRONMENTAL

Environmental Performance Index (EPI) manual

A capacity building manual for corporate, national or global ecosystem index developers, based on the Yale EPI launched at 2012 World Economic Forum.

OCR #6061 Software/Manual

Team: Daniel Esty, Yale Center for Environmental Law and Policy, Columbia University

The Criticality of Metals Calculator

From the founders of Industrial Ecology, data assimilation software generates assessment reports for business and government that evaluates their vulnerability to supply risk for metals (all 62 metals).

OCR #5892 Methodology

Team: Tom Graedel, Center for Industrial Ecology lab, Criticality Consortium

Methane in groundwater analysis

Methodology for impact analysis using pre- and post- fracking exploration data.

Team: James Saiers

Urban stormwater design methodology

Designs for better urban green infrastructure for better storm water quality and hydrology

Team: Gabe Benoit

Coastal infrastructure redevelopment strategies

Coordinating road networks, utilities, rail with urban and economic redevelopment, ranking and prioritizing risk, expanding the reach of models developed in Connecticut.

Team: Alex Felson, Urban Ecology and Design Lab

Computational fluid dynamics transport model

Models for packed solid particle/granular behavior under flow conditions

Team: Corey O'Hern group

Detection, fate and transport of fungal pathogens

Measurement of human exposure to microorganisms (whether good or bad) using affordable DNA profiling combined with air modeling (examples of projects include: full diversity testing for mold inspection or remediation, prediction of microbe growth post flood damage, microbial diversity that increases or decreases asthma severity, food safety and supply chain management).

Team: Jordan Peccia lab, YEI team in formation

11. CLEAN ENERGY

ThermalGreenWall™

Grey water treatment and heat rejection system using living green walls; transforms the living greenwall into a low environmental impact cooling tower replacement for urban buildings.

OCR #6114 Patent

Team: Alex Felson, Urban Ecology and Design Lab

Thermolytic Brine Heat Engine

A membrane distillation technology enabling power generation from waste heat.

Team: Menachem Elimelech, Colorado School of Mines (T2M)

Membrane vapor gap heat engine

Partial pressure membrane design converts low grade heat to energy.

OCR 6617

Team: Menachem Elimelech lab, founder of Oasys

12. WASTE WATER /POLLUTION MITIGATION

Anti-fouling coating

Nanoparticle coating for pretreatment of RO/FO and UF membranes, also post-processing and repair,

OCR #6378 Pat. 14/122,535 Partner leading

Team: Menachem Elimelech lab, founder of Oasys, Cornell

Onsite anti-fouling treatment

In-situ formation of silver nanoparticles on a reverse osmosis membrane (thin film composite).

Biofouling mitigation surfaces for water treatment and reverse osmosis membranes.

OCR #6221 Patent

Team: Menachem Elimelech lab, founder of Oasys, YEI team in formation

Nitrosamine mitigation

A nitrosamine destruction process that offers control over amine scrubbing efficiency and emissions in carbon capture and storage (CCS) projects.

OCR #5372 Pat. 61/445,652

Team: Stanford University

Chitosan sorbent beads

Environmentally inert sorbent media for arsenic and selenium removal from contaminated process water.

OCR #5312 Know-how

Team: Julie Zimmerman lab

Oil remediation and recovery material

Flexible, mechanically durable sol-gel composites for large area oil capture and recovery can outperform current booms and sorbents.

OCR #6809

Team: Desiree Plata lab, Center for Green Chemistry

Air pollution sensor package

Low cost mobile VOC sensor in development includes both chemical and time resolution, and low cost small research grade sensor package for field measurements of actively regulated air pollutants.
Team: Drew Gentner, proposed Yale SEARCH Center

13. ROBOTICS

Social robots

Robot assisted behavioral management and teaching tools.
Team: Brian Scassellati

Audible sonar

Audio sonar echolocation mapping system for robotic vision, blind persons assist and driver assist.
OCR #6658 Prototype
Team: Roman Kuc

Adaptive transmission needs no control

Passively adaptive variable transmission technology keeps linear actuators on robots or mobile tools (such as electric clamps) operating at peak across a range of output performance without the need for external (electric) control.
OCR #6203 Patent

Multiple-grasp prosthetic hand

Body-powered multi-grasp 3D printable artificial hand has a mechanically activated adjustable thumb.
OCR #6696
Team: Aaron Dollar, GrabLab, YEI team in formation

14. HEART ASSIST DEVICES

Wireless Power Delivery

Constant power transmission over 15cm range and fully implantable controller allows leadless operation of Left Ventricular Assist Devices (LVADs) eliminating the primary cause of infection in LVAD patients.

OCR #5966 Pat. 61/649,496 Pat. 13/843,884, OCR #6024 Patent

Implantable drive and controller

Catheter deliverable leadless miniature controller and driver for wireless power supply to implanted thoracic devices and iOS wireless app.

OCR #6069 Patent

Team: Pramod Bonde, Artificial Heart lab, University of Washington, YEI/CBIT team in formation

Heart Failure Recovery (HFR) device

Minimally invasive implantable low volume assist pump supports heart recovery in patients post heart failure. The pump is turned on only during recovery phase as needed, HFR system is proposed to extend the life of patients prior to need for transplant or bridge to transplant and mitigate the risk of additional heart failure events.

OCR #6069 Patent

LVAD Interrogation catheter device

Diagnosis, and maintenance of LVAD function is performed in a catheter lab.

OCR #6122 Patent

Boletz pump

Catheter-delivered non-invasive fully implantable heart assist device with long-term LVAD function.

OCR #6362 Patent

CAP RVAD pump

Implantable RVAD system overcomes the limitations of LVADs for uses other than left ventricular.

OCR #6362 Patent

Team: Pramod Bonde, Yale Artificial Heart lab, YEI/CBIT team in formation

15. MEDICAL DEVICES

Intraoperative Endocrine Surgery autopilot

Intraoperative software that shortens operating time and increases the accuracy of prognosis for parathyroidectomy (PTH) procedures.

OCR #6076 Software, surgical data

Team: Robert Udelsman surgery

4D quantitative Stress Echo

Software upgrade in stress echocardiography scanners precisely and automatically maps out the injury zone.

OCR #6131 Animal trials

Team: James Duncan, University of Washington

Preemie-Breathe

Mobile positive airway pressure device replaces CAP for premature infants with DI water and O2.

Team: Anjelica Gonzalez, YEI team

Falls Prevention

Falls Prevention and geriatric syndrome methodology, materials and training resources, based on Mary Tinetti's seminal work on multifactorial etiology. Demonstrated risk factors, cost effectiveness: 'Keeping people at home'.

OCR #4716 Manual

Team: Dorothy Baker, Denise Acampora, Connecticut Collaboration for Fall Prevention

Painless Bone biopsy needle

Combined lidocaine and bone marrow aspiration device reduces operative pain.

OCR #6577

Team: Elliott Brown, YEI/CBIT team

Invasive ultrasound

Stylet with micro-transducers opens the way to guided real time procedural vision.

OCR #4716 Manual

Team: Elliott Brown, Ryan Grant YNHH

16. NETWORK SYSTEMS

Sensor networks for monitoring behavior

Locate and track subjects using existing low cost building CMOS camera infrastructure. Heirarchical programming architecture 'Sensory Grammars' infers subject behavior.

OCR #5473 Pat. 14/130,298, OCR #4218 Pat. 8,630,695, OCR #5832

Team: Andreas Savvides, TandemLaunch incubator

Autonomous bots in social networks

Positioning of autonomous agents optimizes behavioral outcomes in human social network experiments.

OCR #6782 Patent

Team: Nicholas Christakis lab, Yale Institute of Network Science

17. RESEARCH TOOLS

Electronic nanopore

Real time single molecule sequencing via a 'virtual nanopore' is a solution to the translocation control problem for next generation sequencers.

OCR #4915 Pat. 8,294,092

Electronic nanowire sensor for cell detection

Breakthrough reproducibility of functionalized silicon nanowires could lead to point of care cytokine detection application. The patent portfolio includes device, physiologic sample preparation and parallel array calibration techniques, measurement of cellular response and regenerative nanowires.

OCR #4496 Pat. 12/517,230, OCR #5364, OCR #6055 Patents, OCR #5164 Pat. 13/218,864

Team: Mark Reed lab, Tarek Fahmy lab

Heterotypic microtissue engineering

Immuno-DNA directed cell assembly technique, tethering of heterotypic cells creates a specialized stem cell niche for injectable therapy.

OCR #5507 Know-how

Large-scale bioengineered vascular tissue

De novo bioengineering of large-scale ($1 \text{ cm}^2 +$), perfusable, functional endothelialized microvessel networks on a chip (in vitro).

OCR #6215 Patent

Single cell protein arrays

A generic approach for multiplex detection of intracellular or surface molecular targets in single cells

OCR #6413 Patent

Co-measurement of RNA and DNA information in single cells

Reagents, methods and protocol

OCR #6428 know-how

Team: Rong Fan lab

Vessel-on-a-chip

Inflammatory model of the microvessels of the lung, skin, eye and heart (bilayers) in a microfluidics flow assay format improves pre-clinical data.

OCR #5980 Know-how

Tunable Chemotaxis

Crystal templating method for tunable porosity and morphology to mimic basement membrane.

OCR #5980 Know-how

Wound healing dressing

Amnion matrix polymer scaffold has extended shelf life and provides shear strength in the healing process leading to less contraction and better surface closure towards scar-free healing.

OCR #6517 Patent application

Team: Anjelica Gonzalez lab

Biological applications of Carbon nanotubes

Carbon nanotube based culture medium exhibits bacteriocidal properties and stimulates rapid expansion of cells including T-cells for adoptive therapy.

OCR #4699 Pat. 8,658,178

Team: Tarek Fahmy lab

Heart-on-a-chip

Improved biocompatible engineered heart tissue for cardiac disease management based on thin slices of decellularized heart tissue re-seeded with cells.

Team: Stuart Campbell lab

High throughput cellular secretomics platform

qELISA platform to quantitatively detect cellular secretions and secretory kinetics in a high throughput manner.

OCR #6598 Patent

Team: Andre Levchenko lab, Yale Center for Molecular Discovery

18. RESEARCH INSTRUMENTS

Tuned-Oscillator Atomic Force Microscopy (TO-AFM)

Simple upgrade for existing Atomic Force Microscopy instruments finally allows reliable atomic resolution imaging in a vacuum.

OCR 6466 Patent application

Team: Udo Schwartz lab, Yale CRISP

Passive flow microfluidic device

Stamp free single cell mechanical docking tool for long term analysis

OCR #6490 Patent application

Microfluidics manufacturing bot

A simple, fast and plasma-free method of fabricating pdms microstructures on glass by 'pop slide patterning', also optical tweezers coverslip patterning to 3 micron, high throughput or benchtop tool.

OCR #6489 Patent application

Team: Kathryn Miller-Jensen lab

High Throughput Imaging Cytometry kit

A minor modification to the standard slide allows a microarray scanner to perform cellomic assays and high throughput screening as effectively as a high throughput laser scanner.

OCR #6013 Know-how

Team: Rong Fan lab

Mass Accurate mass spectrometry

Next generation mass spectrometry software offers greater yield, faster turnaround and mobility. 'Mass Accurate Databasing Identification and Confirmation' (MADIC).

OCR #5969 Patent

Team: Yale KECK center

Numerical Rocks

Non-destructive MRI imaging of solids and MR image reconstruction algorithms.

OCR #5854 Software OCR #4773 Know-how

Team: Sean Barrett lab

Uniform electrospray

Corona assisted cone-jet mode of electrospray operation enables ejected fluid to be dispersed with highly uniform particle size.

OCR 745 Patent 5,873,523

Team: Alessandro Gomez lab

Super Resolution STORM Microscope

3D Fluorescence Nanoscopy Reveals Sub-20 nm Nanoarchitecture throughout Thick Cells

OCR #6735 Patent

Team: Joerg Bewersdorf lab, YEI team in formation

Liquid Xenon Gamma ray imager

High energy and angular resolution imager for imaging radiation sources. Two orders of magnitude improvement in Compton imaging for medical applications.

OCR #5186 Pat. 8,476,595

Team: Daniel McKinsey lab

Interview Style Eye tracking system

Camera gaze tracking system without headgear and screen free for 3D observation applications.

OCR #6647

Team: Yale Child Study Center

19. AG-BIO

Genotyping-by-sequencing

Flexible and scalable reduced representation genotyping-by-sequencing methods for population studies and trait mapping analysis.

OCR #6638

Control of Plant sexuality and its reversal by chemical treatments

Control of maize flower development for hybrid seed production, the plant does not have to be fully developed.

OCR #5025 13/142,819

Male and Female Sterility lines used to make hybrids in GMO plants

OCR #5331 Patent 61/290,592 (CA,EP, AU, US)

The use of GMO plants for recovery of non-GMO hybrids from wide crosses

OCR #6441 Patent 61/922,454

Team: Stephen Dellaporta lab, Transgenomics LLC

Drought-stress resistant Biostimulant.

Low cost organic drought tolerance foliant increases yield. Product combination with amino acid based green fertilizer SHOOTZ™ and compatible with most liquid fertigation systems.

Team: Graeme Berlyn, Greeley lab

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