Week 6: Organ & human on a chip

The Coming Human Body On A Chip That Will Change How We Make Drugs

<http://www.fastcoexist.com/3033574/the-coming-human-body-on-a-chip-that-will-change-how-we-make-drugs?partner=rss>

Malaria vaccine & casual ref. To difficulties testing with mice

<http://www.frogheart.ca/?p=14521>

Biosensing devices used in the ocean

<http://www.eurekalert.org/pub_releases/2014-09/nsf-sab090814.php>

Knowledge Network: How to build a beating heart (National Geo special available ‘til Oct. 14, 2014; documentary for 2011)

<https://www.knowledge.ca/program/national-geographic-specials-how-build-beating-heart>

KN: skin cell gun

<http://mariamd.com/services/skin-cell-gun-therapy/>

<http://en.wikipedia.org/wiki/Skin_cell_gun>

Shorter beating heart videos

<http://channel.nationalgeographic.com/channel/explorer/episodes/how-to-build-a-beating-heart/>

Tumour on a chip

<http://www.azonano.com/news.aspx?newsID=31123>

Asthma on a chip

http://www.frogheart.ca/?p=14683

Skin regeneration (A\*STAR)

[http://www.nanowerk.com/nanotechnology-news/newsid=37497.php](http://www.nanowerk.com/nanotechnology-news/newsid%3D37497.php)

Bioengineered ear at Cornell

<http://www.frogheart.ca/?p=9310>

Brain on a chip 2014 survey (neuromorphic?)

<http://www.frogheart.ca/?p=13001>

University of Pittsburgh liver-on-a-chip (Dan Tagle project?)

<http://www.azonano.com/news.aspx?newsID=31154>

Regenerative medicine (Cdn commercialization non-profit)

<http://www.ccrm.ca/>

Tissue engineering: how to build a heart (nature mag)

<http://www.nature.com/news/tissue-engineering-how-to-build-a-heart-1.13327>

Decellularized mouse heart beats again

http://www.sciencedaily.com/releases/2013/08/130813112301.htm

Wikipedia – decellularization

<http://en.wikipedia.org/wiki/Decellularization>

Ghost heart (TED)

<http://blog.ted.com/2014/02/14/a-ghost-heart/>

How stuff works (finger regrown)

<http://health.howstuffworks.com/human-body/systems/musculoskeletal/extracellular-matrix.htm>

Badylak talking about how to regrow limbs, organs, etc.

<http://www.youtube.com/watch?v=gwR8rEcVu7c>

Stem cells, nail beds, and regenerating fingers

<http://www.livescience.com/37380-nail-cells-regenerate-lost-fingers.html>)

Badylak & regrowing muscles

<http://news.yahoo.com/experiment-grows-muscle-mens-injured-legs-182506509--politics.html>

Stem cell definitions:

<http://www.stemcellnetwork.ca/index.php?page=what-are-stem-cells>

<https://en.wikipedia.org/wiki/Stem_cell>

<http://stemcells.nih.gov/info/basics/pages/basics1.aspx>

Organ-on-a-chip definition

<https://en.wikipedia.org/wiki/Organ-on-a-chip>

TissUse

<http://www.tissuse.com/about.html>

<http://www.tissuse.com/index.html>

<http://www.tissuse.com/news_events.html>

<http://www.youtube.com/watch?v=whsqNvj9vdU>

Hanging drop culture

<http://embryo.asu.edu/pages/hanging-drop-tissue-culture>

<http://www.insphero.com/company/hanging-drop-technology>

Stem cells and organ-on-a-chip

<http://www.medicaldelta.nl/uploads/media_items/organ-on-a-chip-information.original.pdf>

University of Southampton and stem cells in eyes

<http://www.eurekalert.org/pub_releases/2014-10/uos-scd093014.php>

Microfluidics, cancer cells, and testing

<http://www.azonano.com/news.aspx?newsID=31215>

Dan Tagle (description of organ-on-a-chip project omits mention of universities)

<http://www.sciencealert.com/news/20143007-25950.html>

Mice and micro-organs on a chip

http://www.newyorker.com/tech/elements/of-mice-and-micro-organs

Barcoding stem cells

<http://www.eurekalert.org/pub_releases/2014-10/hu-sdb100314.php>

http://phys.org/news/2014-10-barcoding-tool-stem-cells-technology.html

Guinea-pigging and human clinical trials

http://www.newyorker.com/magazine/2008/01/07/guinea-pigging