



Animal research news archive July – September 2015

30/09/15

A big story yesterday on the stem cell trial for treating age-related macular degeneration in humans. Ten patients are undergoing surgery to insert specialised eye cells directly on to the back of the retina. What many people will be unaware of will be decades of pre-clinical work in rodent models which made this possible. So far the results of the clinical trial look promising, but the results won't be known until at least the end of the year.

New Stem cell trial: <http://www.bbc.co.uk/news/health-34384073>

Animal studies underpinning it: <http://speakingofresearch.com/2014/10/15/stem-cells-restore-vision-thanks-mice/>

29/09/15

Today the first annual report on the Concordat on Openness on Animal Research in the UK has been published. The report details how signatories have fulfilled their commitments to improving openness and transparency and examples include media interviews and documentaries, the development of websites and videos, public engagement events and mention of animals in staff recruitment processes.

<http://www.understandinganimalresearch.org.uk/index.php?cID=1566>

Chair of the Steering Group for the Concordat on Openness on Animal Research, Dr Geoff Watts has written a blog post for the [Nuffield Council on Bioethics](http://www.nuffieldbioethics.org) about the development and success of the Concordat. He comments on how signatories have fulfilled their commitments and in some cases gone well beyond the minimum requirements.

<http://nuffieldbioethics.org/blog/2015/opening-animal-house/>

Researchers from Bristol's School of Physiology and Pharmacology has demonstrated a new handling technique that reduces stress in rats. During pre-clinical studies laboratory animals are often physically restrained which causes them stress, however when the team of researchers compared the physiological, behavioural and emotional impacts of restrained versus non-restrained injection procedures in the rodents they found that the new handling method resulted in the rodents being in a more positive state, lowering their stress hormone levels by around 50 per cent. This is an important implication in terms of animal welfare as the release of stress hormones can alter an animal's physiological, neurochemical and psychological state as well as its response to drug treatments.

<http://bristol.ac.uk/news/2015/september/animal-welfare.html>

Chimpanzees have been listed under the Endangered Species Act which effectively bans the use of the captive ape in human biomedical research. However, this could actually lead to further decline of the species as efforts to develop vaccines against Ebola and other infectious diseases such as anthrax, malaria and the ancestor of H.I.V. that are ravaging these animals could grind to a halt. A solution to infection is oral vaccination but this would require several additional trial rounds which must use captive apes - authorities in Africa will only risk vaccinating endangered chimpanzees in the wild once the vaccine has been found to be safe and effective in captive animals.

<http://www.nytimes.com/2015/09/27/opinion/sunday/protecting-apes-could-backfire.html>

Researchers at Harvard University have developed a tool for delivering glue to internal organs via keyhole incisions thus making it possible to repair tissue defects with minimal trauma. The tool uses biodegradable glue that rapidly solidifies when exposed to UV light. The technique was successfully demonstrated by repairing wounds in the stomach, abdominal wall and heart of rodents and pigs. In a live pig, the researchers also used the technique to close a hole between the left and right ventricles of the heart as it was beating.

<https://www.newscientist.com/article/dn28234-surgical-device-repairs-damaged-still-beating-heart-with-glue/>

When it comes to recognising pain in laboratory animals the current methods may not be the most effective i.e. assessing behavioural and clinical signs such as weight loss. Research has demonstrated that changes in facial expression provide a reliable and rapid means of assessing pain in mice and rats. Therefore a 'grimace scale' have been developed for these species, based on changes in a number of 'facial action units'. The [National Centre for the 3Rs](http://www.nc3rs.org.uk) has produced posters of the mouse and rat grimace scales for display in animal facilities to help raise awareness about the scales and familiarise staff with the specific facial action units. A poster on the rabbit grimace scale under development

http://www.nc3rs.org.uk/grimacescales?utm_source=newsletter&utm_medium=email&utm_campaign=September+2015

28/09/15

Howler monkeys have been reintroduced to the Tijuca National Park in Rio de Janeiro. Deforestation has seen many animals in the park disappearing, further damaging the ecology that relies on animals to spread seeds, crucial to tree reproduction.

<http://www.bbc.co.uk/news/world-latin-america-34335218>

The public health threat presented by snakes in West Africa has been understated, according to a new paper in PLOS. Around 4,000 people die every year in West Africa from snakebites, with many more seriously debilitated.

<http://news.sciencemag.org/health/2015/09/snakebites-deadly-other-diseases-west-africa>

Bats use a tongue-pump trick to draw water up into their mouth when they drink.

<http://www.nature.com/news/bat-drinks-using-tongue-pump-trick-1.18434>

24/09/15

Cow virus now a risk factor for breast cancer

So far, viruses have been implicated in six different human cancers and now a recent study link between the commonest cancer causing virus of cattle – bovine leukaemia virus - and breast cancer. The virus predominantly targets blood cells, but it can also infect mammary cells and be detected in cow's milk. Although pasteurization renders the virus harmless, scientists were worried that exposure to food products could lead to human infection, but it wasn't until last year that we know they can actually be transmitted to humans. If future, more in-depth studies bolster these findings and manage to establish a causal role for this virus, then it could have significant implications for breast cancer research and control, which presently focuses on treatment rather than prevention.

<http://www.iflscience.com/health-and-medicine/cow-virus-now-risk-factor-breast-cancer>

The worm sense of smell can predict when it dies

Researchers have found a correlation between declining ability to smell and lifespan in worms. The worm has 12 pairs of specialized neurons in its brain that detect stimuli in the environment and researchers looked at how this circuitry of neurons changes with age as they lose their sense of smell. They found that communication between neurons become less active with age. If the signalling between neurons ends up being important in how organisms age then manipulating the nervous system may prove a fruitful way to minimize the effects of aging or rejuvenate brain functions.

http://www.sciencedaily.com/releases/2015/09/150918132611.htm?utm_source=dlvr.it&utm_medium=facebook

Floating poop reveals the surprising bacterial partners of whales

The floating faeces of whales have revealed a surprise about microbes living in these giant marine mammals' guts. Although baleen whales are carnivores, filter-feeding on fish, krill, and other crustaceans, some of the microbes in their bellies look more like those of a vegetarian. Researchers isolated and sequenced DNA from humpback and right whale faeces, and found the genetic signatures of protein-digesting microbes like those in a lion or a tiger but also quite a few microbes commonly found in cows. These cowlike microbes may have a functional role, digesting the carbohydrates in whales' diets - the chitin that makes up the shells and other body parts of crustaceans. From the gut's perspective, digesting chitin is as big a challenge as cellulose.

<http://news.sciencemag.org/biology/2015/09/floating-poop-reveals-surprising-bacterial-partners-whales>

Original paper: <http://www.nature.com/ncomms/2015/150922/ncomms9285/full/ncomms9285.html>

23/09/15

Researchers at the Stanford University School of Medicine have effectively shrunk pancreatic tumors in laboratory mice using a combination of the two drugs, JQ1 and vorinostat. Whilst JQ1 was able to shrink pancreatic tumors in mice when tested independently it did not affect likelihood of survival, however when tested in combination with vorinostat, an FDA approved drugs used to treat cutaneous T cell lymphoma, mice displayed a significant reduction in tumor size, increase in survival time and no noticeable side effects. Because vorinostat is already FDA approved the researchers hope that trials in humans with pancreatic cancer can begin soon and that the drug combination will be successful at treating one of the most deadly of all human cancers.

http://www.eurekalert.org/pub_releases/2015-09/sumc-cd091715.php

Researchers from Imperial College London and Newcastle University have found a new way to target cholinergic neurons in the brain that are affected by Parkinson's disease. Current treatment for the disease includes severe side effect inducing drugs or deep brain stimulation, however this new technique is a relatively non-invasive and more precise alternative, designed to target and stimulate the cholinergic neurons. Rats displaying symptoms of Parkinson's disease were given a drug designed to activate these target neurons which allowed them to make an almost complete recovery and move normally. The researchers are hoping the treatment can be transferred into people within ten years.

http://www3.imperial.ac.uk/newsandeventspggrp/imperialcollege/newssummary/news_22-9-2015-10-43-26

Lymphoma is the most commonly diagnosed cancer in dogs and researchers have identified similarities when compared to the same cancer in humans. When tumor DNA from three dog breeds; golden retrievers, cocker

spaniels and boxers was investigated, genes with known involvement in human lymphoma were identified. These findings will help increase the understanding of the cancer in humans and canines.

<http://www.akcchf.org/research/success-stories/spontaneously-occurring-cancer-in-dogs-informs-human-disease.html>

22/09/15

Researchers at the Gladstone Institutes have found that the painkiller salsalate, which is used to treat rheumatoid arthritis, has reversed the symptoms of dementia in mice. Memory loss in Alzheimer's disease is characterized by neurofibrillary tangles, which are due to an accumulation of tau protein in the brain. When the painkiller was given to mice suffering from another form of dementia the chemical changes (acetylation) relating to tau protein reversed, causing the mice to regain their memory abilities and have reduced levels of the damaging tau protein in their brains. With more research it is hoped that salsalate will provide an effective treating for Alzheimer's disease.

<http://www.independent.co.uk/news/science/arthritis-drug-could-soon-reverse-alzheimers-symptoms-after-successful-tests-on-mice-say-scientists-10511346.html>

In the UK more than 6,000 people are waiting for a kidney but due to a lack in donors at least half of these will not receive a transplant and approximately 1 patient a day will die because of this. Fortunately, scientists have been able to grow kidneys in the lab using human stem cells and when transplanted into pigs and rats, they have worked, passing urine, like natural ones. Whilst more research is needed before human trials can commence, the end result of creating organs suitable for transplantation into people is a step closer.

<http://www.bbc.co.uk/news/health-34312125>

Scientists have just released a **new tree of life** which illustrates how 2.3 million species are related. However, this is a work in progress as it's believed that there are actually 8.7 million species on earth today. This tree is based on almost 500 previously published, smaller trees, however it still took the team three years to complete and it'll take much longer to fill in all the blanks which is why the model is open-sourced and free to download in the hope that others will help with revisions.

<http://www.independent.co.uk/news/science/scientists-release-complete-tree-of-life-which-shows-how-23-million-species-are-related-10511433.html>

21/09/15

Four northern bald ibis chicks have been transferred from their home in Chester Zoo to Jerez in Spain where they will be set free. The animal, once common in North Africa and Central Europe, is almost extinct. Currently there are only around 500 of the birds left. Chester Zoo currently houses 28 of the birds as a "safety net population".

<http://www.bbc.co.uk/news/science-environment-34289174>

Researchers at the University of Michigan have created an implantable cancer detector which attracts cancer cells to it by mimicking a patient's immune natural response to the disease. The device was implanted just beneath the skin of mice and allowed the researchers to detect cancers in other parts of the body.

<http://www.alnmag.com/news/2015/09/implantable-device-attracts-captures-cancer-cells-mice>

Naomi Stuleanu of the University of Toronto, explains why we should be cautious not to categorically condemn all animal studies. She explains some of the regulations that exist in Canada, as well as how the 3Rs – Replacement, Refinement and Reduction of animals in research – are implemented. A worthwhile read.

<http://thevarsity.ca/2015/09/20/animal-testing-is-often-an-unfortunate-necessity/>

17/09/15

Sound waves used to activate brain cells in a worm.

For the first time, scientists have directly controlled brain cells using sound waves, in a laboratory worm. Ultrasounds triggered activity in specific neurons, causing the worm to change direction. However, the technique requires a particular gene to be expressed in the brain cells, and the animals to be bathed in bubbles to amplify the sound waves – unlikely to be developed in a non-invasive form. The researchers argue that their new method for controlling brain cells could improve on "optogenetics", a technique that uses light rather than sound. Light cannot penetrate through tissues - it is scattered very quickly. Consequently, using optogenetics to control brain circuits in a mammal currently requires a fibre-optic implant. By contrast, ultrasound travels relatively unimpeded through the body; this is the property that makes it useful for medical sonograms. The researchers Hope to capitalise on this advantage, and their next aim is experiments in mice.

<http://www.bbc.co.uk/news/science-environment-34256955>

Female mice sing for sex, just like males.

Scientists have known for a long time that male mice sing love songs to females when the time seems right to them – and now they know females do to. Female mice aren't just listening to male voices, they sing back. These songs may be communicating important social information. According to the researchers, the work could lead to advances in understanding autism, for example, and deficits that may exist in the neural circuits of the brain that underlie social communication. Studying mouse communication and behaviour can produce great insight into brain mechanics and systems and possibly give researchers valuable insight into how human brains work.

<http://www.alnmag.com/news/2015/09/female-mice-sing-sex-just-males>

Elephants born to stressed mothers age faster.

Asian elephants born to stressed mothers feel the impact for the rest of their lives. New research has shown how elephants born into stressful situations not only have fewer offspring over their lives, but they also age faster. They found that the female calves born during the high-stress period of the year had a lower chance of survival. But even those that did survive were then impacted for the rest of their lives. While these offspring were found to have higher rates of reproduction at an early age, overall they produced significantly fewer offspring over their entire lifetime. This is probably due to the fact that these elephants declined much more rapidly in older age.

<http://www.iflscience.com/plants-and-animals/elephants-born-stressed-mothers-age-faster>

16/09/15

Prosthetic technologies have been quick to improve in the last few years. Research in monkeys has led to advances whereby humans can now control a prosthetic hand with their mind. Now scientists have managed to make the signals go the other way - allowing the user to feel what the prosthetic hand touches.

<http://www.independent.co.uk/life-style/gadgets-and-tech/news/prosthetic-hand-lets-man-actually-feel-what-he-touches-for-the-first-time-10499870.html>

A few decades ago blood transfusions were not widely used as the risk of rejection was high. By studying the process in dogs, scientists were able to perfect the technique. Now scientists are trying to use worms to create artificial blood which can be transplanted safely into humans.

http://www.huffingtonpost.co.uk/mia-rozenbaum/dog-blood-worm-blood_b_8134616.html

15/09/15

Dogs play a key role in medical research and have been used to research heart disease, the cause of diabetes and are involved in the development of asthma medication. Today The Sun have published an article about the new dog breeding facility in Yorkshire, and Harlan welcomed them into their current beagle research labs which is a great step in being more open about this type of research.

If you have an account on the sun website it would be worthwhile leaving a positive comment, it is a shame that the majority of comments left so far have mentioned that drugs should be tested on prisoners, not animals.

<http://www.thesun.co.uk/sol/homepage/features/6639556/Inside-the-secretive-farm-where-beagles-are-bred-to-die.html>

A pill has been developed that prevents type 1 diabetes developing in mice by inhibiting the production of hyaluronic acid, which prevents insulin producing beta cells in the pancreas being destroyed by the body's immune system. The pill contains hymecromone which is used to treat complications associated with gallstones, but shuts down hyaluronic acid production as a side effect. Clinical trials will commence soon as it is hoped a pill can be developed to stop at risk patients developing the disease and thus prevent them from daily injections of insulin for the rest of their lives.

<http://www.theverge.com/2015/9/14/9326233/this-pill-prevents-type-1-diabetes-from-developing-in-mice>

Dengue is a tropical virus that infects 390 million people annually and currently has no treatment. Infections can lead to dengue fever or the more severe hemorrhagic fever and dengue shock syndrome where fatalities are the result of vascular leakage i.e. the leakage of essential bodily fluids from blood vessels that leads to abnormally low blood pressure.

Experiments with mice have identified that the protein NS1 instigates these leakages and therefore suggests that targeting the protein with therapeutic drugs could reduce this, thus providing an opportunity for a vaccine to be developed.

http://www.dailycal.org/2015/09/10/campus-researchers-identify-important-dengue-virus-molecule/?utm_medium=email&utm_source=Today-s-Headlines-Melatonin-Dengue-and-Bat-Researc&utm_campaign=eclips091115

Melatonin, the 'sleep hormone' may play a role in multiple sclerosis due to its peak production during winter, which corresponds with fewer MS flare ups. Scientists believe that increased melatonin production leads to an increase in defensive T cells, which secrete protective proteins that block production of the harmful T cells. This hypothesis was confirmed in mice who were dosed with melatonin.

[http://www.cell.com/cell/abstract/S0092-8674\(15\)01038-7](http://www.cell.com/cell/abstract/S0092-8674(15)01038-7)

The University researchers, in collaboration with a team from the University of Lund in Sweden, used a new technique called ex-vivo lung perfusion (EVL) where the lung is kept alive, breathing outside the body and supported by a supply of blood and nutrients. This can repair an organ that would normally be turned down for transplant. Given that 80% of donor lungs are

currently not used, the technique is expected to significantly shorten waiting list times and increase access to transplantation.

The Manchester and Sweden team took lungs from pigs and transplanted them either using the normal transplant method or after three hours of EVLP, and the recipients were monitored for 24 hours. In the EVLP lungs there was little evidence of rejection, whereas in the normal transplant method, all the lungs showed signs of severe rejection.

Altered immunogenicity of donor lungs via removal of passenger leukocytes using ex-vivo lung perfusion', Fildes et al. (2015) American Journal of Transplantation. DOI: 10.1111/ajt.13446

11/09/15

Apple and tomato compounds keep older muscles strong in mice.

Scientists have discovered the first example of a protein that causes muscle weakness and loss during aging. It alters gene expression in skeletal muscle, causing reduction of muscle protein synthesis, strength, and mass. The researchers have also identified two compounds, one in green tomatoes and the other in apples that reduces the acute muscle wasting caused by starvation and inactivity due to the protein in aged skeletal muscle. The study could lead to new therapies for age-related muscle weakness and atrophy.

<http://www.alnmag.com/news/2015/09/keeping-older-muscles-strong-mice>

10/09/15

World's deadliest scorpion helps identify cancerous tissue.

The differences between cancerous and normal cells are often so minimal that they are extremely hard to tell apart during surgery. There are several imaging technologies that help surgeons see inside the body before they cut, many of which were developed to help diagnose cancer, but they are still not precise enough, especially when it comes to brain tumours. One new technique promises to make a major difference in this field of operation: tumour paint. Researchers found that a neurotoxin – chlorotoxin – extracted from the venom of one of the deadliest scorpions in the world, the deathstalker, accumulates in tumours, and only tumours, in the brains of mice. It also showed a remarkable ability to pass into the brain, unobstructed by the blood-brain barrier. By using a synthetic version of the chlorotoxin and attaching a fluorescent molecule, they produced a substance that could light up tumour cells. During preclinical trials with mice and dogs that took place between 2005 and 2011, tumour paint proved to be more than 5,000 times more sensitive than MRI and is currently undergoing clinical trials.

<http://www.theguardian.com/science/2015/sep/10/how-to-light-up-a-tumour>

Studying kangaroo cartilage could help human treatment.

Cartilage promotes low-friction movement and helps bones glide pain-free through a wide range of motion and many functions. When cartilage degrades, a host of problems can emerge because of its limited ability for self-healing or repair. Understanding the biomechanics of natural cartilage could lead to the development of better artificial joint implants. The team studied kangaroo cartilage as an analogue for human tissue, and found that a network of collagen protein close to the surface played an important role in helping the cartilage absorb forces without damaging – a finding that could help improve joint implants. The kangaroo is a suitable alternative animal model for the study of human shoulder cartilage biomechanics because the kangaroo has a bipedal posture, is similar in size to a human and the kangaroo's grabbing, punching and lifting limb action resembles human shoulder-mediated movements. Sheep, certain rats or mice species, or non-human primates are typically studied as animal models, but lack many of these human-like characteristics.

<http://www.alnmag.com/news/2015/09/studying-kangaroo-cartilage-could-help-human-treatment>

‘ Transmissible Alzheimer’s ‘ theory supported by animal research.

People may have contracted Alzheimer’s disease during certain medical procedures, the same way as mad-cow disease. Animal studies support the idea that amyloid plaques - a tell-tale sign of the disease - could be spread accidentally during medical and surgical procedures in the same way as CJD, via contaminating protein "seeds" or prions that grow in the brain. One of these treatments called human growth hormone injections was withdrawn in the UK in 1985 once the risk of Creutzfeldt-Jakob disease infection became clear. However, there still needs more proof to assess where these results are accurate and universal – Alzheimer’s remains a disease that is not ‘caught’ like a cold.

<http://www.bbc.co.uk/news/health-34184470>

09/09/15

Implant ‘traps’ spreading cancer cells.

Today 9 in 10 cancer deaths are caused by the disease spreading – or metastasis - to other areas of the body. However, a new small sponge-like implant can mop up cancer cells as they move through the body, according to a study in mice. The device could act as an early warning system in patients, alerting doctors to cancer spread. The implant also seems to stop rogue cancer cells reaching other areas where new tumours could grow.

<http://www.bbc.co.uk/news/health-34191325>

Hummingbirds use hawks as bodyguards.

Hawks employ a swooping on prey approach to hunting like jays horizontally or from higher up. As a result, jays stay away from a zone spreading out and down from the top of any tree where hawks are nesting. Jays are agile and can hop around in foliage to rob hummingbird nests, so the hawks’ presence effectively envelops the hummingbirds in a cone-shaped force field that keeps their eggs safe.

<https://www.newscientist.com/article/dn28130-hawks-invisible-force-shield-protects-hummingbird-from-jays/>

02/09/15

A former athlete has been able to regain enough movement in his legs to control an exoskeleton. The research into electrostimulation has previously been pioneered in rats. The research into exoskeletons owes much of its discovery to work getting primates to “mind control” robotic arms.

<http://www.dailymail.co.uk/sciencetech/article-3218965/A-paralysis-breakthrough-Former-athlete-spinal-injury-voluntarily-moves-legs-time-control-exoskeleton.html>

Scientists at the University of Liverpool are studying the immune system of wild forest rodents to understand environmental triggers for conditions such as asthma and allergies. They trap, chip and take samples from the animals in order to understand the genes which may contribute to environmental immunity. Watch the Video in the link below:

<http://www.bbc.co.uk/news/science-environment-33967988>

The toxin in the sting of a Brazilian wasp, polybia paulista, appears to kill cancer cells without harming normal cells according to studies in mice. The MP1 toxin is used by the wasp to paralyze its prey, but studies say it

could be used to target and destroy cancer cells by targeting the fat molecules found on the outside of cancerous cells.

<http://www.bbc.co.uk/news/health-34115112>

Original Paper: <http://www.cell.com/biophysj/abstract/S0006-3495%2815%2900768-7>

The NC3Rs has invested £1.65 million in six new project grants aimed at the replacement, refinement and reduction of animals in research

<https://www.nc3rs.org.uk/news/continued-investment-3rs-research-six-new-nc3rs-project-grants-announced>

25/08/15

Scientists are a step closer to creating a flu vaccine that will protect against multiple strains of the virus after successfully experimenting in mice, ferrets and monkeys. Animals were infected with different strains of the flu; the vaccine reduced symptoms and prevented death. This could protect the public from dangerous strains of the flu which are not covered in the current seasonal vaccine.

<http://www.theguardian.com/science/2015/aug/24/universal-flu-vaccine-step-closer-as-scientists-create-experimental-jabs>

Scientists from Johns Hopkins University have developed a screening technique that has identified 24 possible candidates for type 1 diabetes medicines. Using colour-coded zebrafish embryos, researchers found 24 compounds that increased the number of insulin-producing beta cells in the pancreas. It is hoped that this research will lead to the development of new drugs capable of increasing the production of insulin-producing beta cells in the pancreas of type 1 diabetes patients.

http://www.diabetes.co.uk/news/2015/aug/zebrafish-embryos-used-to-identify-potential-type-1-diabetes-drugs-95530698.html?utm_medium=email&utm_source=Today-s-Headlines-New-Op-Ed-Flu-Vaccine-and-Nanotu&utm_campaign=august24th2015

Scientists from McGill University in Toronto, Canada have found that male and female mice process pain using different cells. They discovered that microglia transmission through the nervous system is only true for male mice and that female mice likely use T lymphocytes. These findings will have an impact on biomedical research into pain medication as it would be beneficial to use female mice in preclinical research.

http://www.hcplive.com/medical-news/observed-differences-in-female-and-male-mices-pain?utm_medium=email&utm_source=Today-s-Headlines-New-Op-Ed-Flu-Vaccine-and-Nanotu&utm_campaign=august24th2015

Russian MPs, backed by animal rights activists, have prepared a bill that aims to replace the testing of cosmetics on animals with alternative methods.

<https://www.rt.com/politics/313203-animal-cruelty-in-cosmetics-testing/>

24/08/15

Number of Chimpanzees used in research in the US are in decline. New laws which make chimps an endangered species in the US mean that research institutes must apply for a licence to use them. So far no institute has. This could be the beginning of the end for chimp research in the US.

<http://www.iflscience.com/plants-and-animals/number-chimpanzees-used-biomedical-research-declining>

Implantable sensors have always had problems due to the bodies temptation to reject them. However, experiments in mice show that carbon nanotubes can be used to detect biologically important compounds like insulin or blood-clotting agents. The nanotubes can fluoresce when hit by light – with the amounts depending on the molecules that bind to it.

<http://www.nature.com/news/nanotube-implants-show-diagnostic-potential-1.18219>

Scientists at the University of Helsinki, Finland, discovered that ants infected with the *Beauveria bassiana* fungus would choose to eat toxic doses of hydrogen peroxide, which could lower their chances of dying from the fungus. Healthy ants would avoid the hydrogen peroxide which usually has a 20% mortality rate among the ants.

<http://www.independent.co.uk/news/science/ants-are-able-to-selfmedicate-by-changing-diet-when-they-are-unwell-in-first-for-insectkind-10467040.html>

Last week there was a big story about lab-grown brains, which might be used to study disease. New Scientist has thrown questioned these results – none of which have been either published or subjected to peer review. The scientific community will have to wait and see if these lab grown brains make good on their press release promises.

<https://www.newscientist.com/article/dn28075-scientists-reject-claims-of-lab-grown-mini-human-brain/>

14/08/15

Oxford University researchers [have announced the successful completion](#) of the first trial of a vaccine against RSV in adult humans, which indicated that the vaccine was safe and could induce a robust immune response (though this Phase 1 study did not evaluate its ability to protect against RSV).

<http://speakingofresearch.com/2015/08/13/cotton-rats-calves-clinical-trials-rsv-vaccine/>

13/08/15

By turning on a single gene in specific neural cells in the embryonic mouse brain, researchers have made more neurons grow in the neocortex — a region that evolved to be much larger in primates than in other mammals.

<http://www.nature.com/nature/journal/v524/n7564/full/524138c.html>

Video: **Unique octopus sex** caught on camera: <https://youtu.be/HbUKu1lz9pQ>

What has 16 legs, two beaks and has been caught on camera for the first time? Two octopuses having face-to-face sex. This is just one of the unusual behaviours of the larger Pacific striped octopus that have now been documented. These creatures also have some strange hunting tactics, such as capturing shrimp by tapping them on the back, as shown in the video above.

<https://www.newscientist.com/article/dn28045-see-this-odd-octopus-mate-beak-to-beak-and-hunt-like-no-other/>

12/08/13

Two Brazilian frog species use sharp spines protruding from around their noses and mouths to deliver toxins in their skin to predators — the first evidence of a venomous frog.

<http://www.nature.com/nature/journal/v524/n7564/full/524139c.html>

Video: Footage of **neurons firing in fruit fly**:

The video shows neural activity not just in the brain, but throughout the entire central nervous system (CNS), including the fruit-fly equivalent of a mammalian spinal cord.

<http://www.nature.com/news/fruit-fly-brains-filmed-in-action-1.18164>

11/08/15

Researchers have found that sedated rats that slept on their side were able to clear amyloid beta – which is believed to be linked to Alzheimer’s disease – 25% faster than those that slept on their back or stomach. The protein levels were measured through non-invasive MRI scans of the animals.

<http://www.dailymail.co.uk/news/article-3191826/Lying-sleeping-improve-waste-clearance-brain-study-reveals.html>

A parasitic disease, caused by protist microbes, has been found in the liver of tadpoles in three continents. With frog populations in decline, scientists are trying to find out what is causing the fast extinction of many amphibians. In 2008, 32% of frog species were categorised as threatened or extinct.

<http://www.theguardian.com/science/2015/aug/10/tadpoles-under-threat-disease-scientists>

A new species of monkey has been discovered in Amazonian Peru. The Urumbamba brown titi is one of 34 known species of Titi monkeys (the largest group of Southern American monkey). Thankfully, unlike many new species which are discovered, the brown titi is not (currently) at risk of extinction.

<https://www.newscientist.com/article/dn28017-new-species-of-titi-monkey-discovered-in-remote-peruvian-forest/>

10/08/15

"Frances Oldham Kelsey, the Canadian doctor who played a central role in preventing the drug thalidomide being distributed in the US, has died at 101."

<http://www.bbc.co.uk/news/world-us-canada-33831451>

9/09/15

New hope for the endangered Isfahan mouflon : cloning. Poaching has driven Isfahan mouflon close to extinction in Iran, but interspecies cloning might save the day. A domestic sheep has given birth to a baby mouflon in a rare successful example of interspecies cloning.

<http://www.theguardian.com/science/2015/aug/05/iran-scientists-clone-endangered-mouflon-domestic-sheep>

07/08/15

Dogs process faces in a specialized brain area. The response to human faces in dogs is innate and not learnt. This is the first evidence for a face-selective region in the temporal cortex of dogs, only previously identified in humans and primates. Having a neural machinery dedicated to face-processing suggests that this ability is hard-wired through cognitive evolution and might explain why dog’s are so sensitive to human facial cues.

[Dogs Process Faces in Specialized Brain Area](#)

06/08/15

Lab experiments have identified the common characteristics of fish most likely to be caught. They found that fish less able to produce fast burst-type swimming to evade capture were more likely to end up in trawler's nets – the ones that are really good anaerobic athletes. The data could help understand fisheries-induced evolutionary changes in fish populations – which probably represents one of the strongest drivers of evolutionary change for wild animals. Fish populations that have experienced a lot of fishing pressure seem to be maturing earlier and smaller.

<http://www.bbc.co.uk/news/science-environment-33771553>

Weight loss surgery causes bacteria in the intestines to extract fewer calories from food. These changes to the gut microbiome last at least nine years. Researchers transplanted bacteria from obese women and women who had the surgeries into mice raised without gut microbes. Mice with gut bacteria from the surgery groups gained less body fat than did rodents with microbes transplanted from obese women. The metabolism of the microbes switched so they burned fewer carbohydrates and more fat.

<https://www.sciencenews.org/.../gastric-bypass-surgery-change...>

05/08/15

A study has shown that tape worms may improve cognitive function in rats. Researchers divided 30 rats into two main groups: those infected with the rat tapeworm *Hymenolepis diminuta*, and those with clean guts. To test the potential protection offered by *H. diminuta*, the team infected both groups of rodents with a one-two punch: a mild case of *Escherichia coli* shortly after birth to stimulate an immune response, and an injection of lipopolysaccharide (LPS) after they had been "wormed" as adults. LPS is a non-infectious component of bacteria that trips the immune system's alarm, leading to a potentially over-active response in the brain that can include swelling and confusion.

The results showed that the rats with the tapeworm exhibited improved brain functions including memory. Co-author Staci Bilbo, a neuroscientist at Duke University in Durham, North Carolina states. "The theory suggests immune systems that evolve without enough exposure to infections (like the wormless rats) overreact when exposed to even milder forms of infection (like *E.coli* or the LPS injections). Following that theory, more exposure to microbes may help mammals avoid the over-sensitive responses, which in the rats' case could help prevent memory loss"

<http://news.sciencemag.org/.../tapeworms-may-be-good-your-bra...>

04/08/15

Françoise Barré-Sinoussi, a Nobel Prize winner for her research into HIV, Xavier Montagutelli, head of the Central Animal Facility of the Institut Pasteur explain why animal studies continue to be essential for biomedical research in an article for Future Science OA.

"Research on relevant, carefully designed, well-characterized and controlled animal models will remain for a long time an essential step for fundamental discoveries, for testing hypotheses at the organism level and for the validation of human data"

<http://www.future-science.com/doi/full/10.4155/fso.15.63>

Scientists believe a gene that is involved with helping people breathe in low-oxygen environments might be a useful target for novel drugs aimed at treating heart disease. Mice that were genetically modified to carry a variant of the endothelin receptor type B (EDNRB) were able to survive better in low-oxygen conditions.

<http://www.independent.co.uk/life-style/health-and-families/health-news/gene-which-helps-people-cope-with-low-oxygen-levels-at-high-altitudes-could-become-target-for-new-drugs-to-treat-heart-disease-10436227.html>

Could injections of young blood provide a rejuvenating effect on older people? Ian Sample takes a look at the history of research into reversing the ageing process (and associated age-related diseases). Saul Villeda's incredible results transfusing blood from younger mice to older ones showed brain cell growth in the older

mice. Prof Wyss-Coray has been trying to find out how these results translate to humans. This (long) article is a fantastic look at some of the research going on in ageing.

<http://www.theguardian.com/science/2015/aug/04/can-we-reverse-ageing-process-young-blood-older-people>

03/08/15

The ebola vaccine VSV-EBOV has been found to be 100% safe in 7,500 people. The vaccine, which was initially tested safe and effective in primates, has now shown extremely promising results in humans who have been in close proximity to Ebola patients. It is estimated that overall the effectiveness of the vaccine will be 80-100%. Jeremy Farrar, Director of the Wellcome Trust, said: "This is a remarkable result which shows the power of equitable international partnerships and flexibility. This partnership also shows that such critical work is possible in the midst of a terrible epidemic. It should change how the world responds to such emerging infectious disease threats."

<http://www.telegraph.co.uk/.../Remarkable-Ebola-vaccine-creat...>

See more about the animal research behind the vaccine

here: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2704787/>

30/07/15

First MERS vaccine shows promise in mice and monkeys. There is currently no treatment for MERS (Middle East Respiratory syndrome) which can cause shortness of breath, fever and sometimes gastrointestinal problems. Vaccinated mice produced antibodies capable of neutralizing several strains of the pathogen. Similarly, 12 macaques received the experimental vaccine and were protected against a severe lung infection. However, it is difficult to tell how effective the vaccine really was as the coronavirus only triggers mild symptoms in animals.

<https://www.newscientist.com/article/dn27970-first-mers-vaccine-to-be-tested-in-monkeys-shows-promise/>

Rett Syndrome symptoms have been reversed in mice using an experimental treatment. Rett syndrome is a rare genetic disorder that stops the nerve cells in the brain from developing properly and is often labelled as an autism spectrum disorder. Researchers believe they have developed a drug that can improve the symptoms of the disease in mice. By inhibiting a particular enzyme, they were able to improve the symptoms in behavioural tests of mice modelling the disease. The enzyme showed abnormal levels in patients with Rett syndrome, this interferes with neural growth factors which lead to the stunted development of nerve cells.

<http://www.iflscience.com/health-and-medicine/experimental-treatment-shown-reverse-behavioral-symptoms-rett-syndrome-mice>

New molecule that mimics exercise could help treat obesity and type II diabetes. The molecule inhibits the function of a cellular enzyme involved in metabolism. This tricks the cells into acting as if they are running out of energy. The cell's central energy sensor is activated, causing the cells to compensate for the supposed lack of energy by increasing their glucose uptake and metabolism – which is what usually occurs when we exercise. This compound reduced the weight of obese mice, while didn't seem to affect the mice on a normal diet. While a workout pill isn't exactly around the corner, researchers do think that this molecule could play an important role in tackling obesity and type II diabetes.

<http://www.iflscience.com/health-and-medicine/new-molecule-mimics-exercise-could-help-treat-obesity-and-diabetes>

Running and playing boosts the mood of rodents. In enriched environments, hamsters showed a similar state to happy people. Researchers monitored 'judgment bias' of the animals – the way that mood affects behaviour and decision-making and found that cages with extra toys, ramps, bedding and hammocks increased the

animals' general mood.. The researchers believe that a better understanding of hamsters' emotional lives should help make research and pet care more humane.

<http://news.sciencemag.org/biology/2015/07/how-tell-if-your-hamster-happy>

23/07/15

Eye drops that reduce cataracts have been developed using dogs and rabbits. Scientists have identified a compound – lanosterol, the main molecule in steroids - that reduces the clouding that appears over the eye when a cataract develops. The lanosterol eye drops improved vision within 6 weeks of elderly dogs and rabbits. Cataracts are the world's main cause of blindness and affect the vision of more than half of elderly people and there are currently no medications to prevent or reverse them. The drops could be available within 5 years and would replace complicated surgery for patients losing their vision.

<http://www.telegraph.co.uk/news/health/11757320/Eye-drops-that-reduce-cataracts-are-developed.html>

Gene linked to compulsive drinking found in mice. The gene variant reduces the release of a specific brain protein that plays a role in the survival of existing neurons and the growth of new ones. This alteration leads to excessive consumption of alcohol, despite negative consequences. The scientists were able to reverse the compulsive alcohol drinking in the mice by returning the levels of the related protein to normal using gene delivery and pharmacology.

"Genetic factors play a role in determining who develops alcohol problems," said Dr. George Koob, NIAAA Director. "By understanding the genetic underpinnings of alcohol use disorder, we will be better able to develop targeted treatment and prevention strategies."

<http://www.alnmag.com/news/2015/07/gene-variant-linked-compulsive-drinking-found-mice>

Cell transplant has the potential to completely 'regenerate' liver. A study published in Nature Cell Biology showed severely damaged organs in mice could be restored to near-normal function. The main type of cell in the liver is able to restore the organ. These findings could eventually help people stuck on the waiting list for a transplant – further tests are now taking place with human tissue.

One of the researchers, Prof Stuart Forbes, said: "The big aim would be to develop a clinically applicable cell therapy for patients with severe liver failure where transplantation is not an option."

<http://www.bbc.co.uk/news/health-33610569>

Deep-diving dolphins avoid 'Bends' with strong lungs. When dolphins dive deep below the water's surface, they avoid succumbing to decompression sickness, or "the bends," because they have collapsible lungs. These lungs allow dolphins to inhale and exhale two to three times quicker than humans - dolphins can replace as much as 95 percent of the air in their lungs in a single breath compared to 65% in humans. Understanding how dolphins breathe rapidly and maintain lung functionality under immense pressure could help scientists keep humans safe when they are in similarly extreme situations, such as under anaesthesia and better understand respiratory disease in marine animals.

<http://news.discovery.com/animals/whales-dolphins/deep-diving-dolphins-avoid-bends-with-powerful-lungs-1507201.htm>

20/07/15

Ireland has released its national statistics showing that 224,249 animals were used for the first time in 2014. The most common species used were mice (89%) and Rats (5%). 64% of procedures were to meet regulatory requirements (primarily toxicity and other safety testing). Only 4% of experiments were done using genetically

modified animals, which likely reflects the relatively small proportion (15% of total) of "basic research" done in Ireland.

<http://www.irishtimes.com/news/science/nearly-225-000-animals-used-for-scientific-tests-in-2014-1.2290257>

A study in Nature Neuroscience shows that research conducted on male mice may not hold value when applied to their female counterpart. The paper shows that the cells involved in hypersensitivity are different in male mice (microglia) than female mice - meaning drugs targeting the same cells would not work across the sex divide. This may be righted by new legislation which pushes researchers in the US to use both sexes of animals.

http://www.nytimes.com/2015/07/19/opinion/sunday/why-science-needs-female-mice.html?_r=1

Original Study: <http://www.nature.com/neuro/journal/vaop/ncurrent/full/nn.4053.html>

A new drug for neuro-degenerative diseases like Alzheimer's and Parkinson's is showing promise in mice. The drug shows the ability to break up the many types of plaques, which are hallmarks of several diseases. It does so by targeting the kinks found in the misfolded plaques common to Alzheimer's, Parkinson's and CJD patients.

<https://www.newscientist.com/article/dn27921-universal-plaque-busting-drug-could-treat-various-brain-diseases/>

09/03/15

Scientists found three brain regions associated with anxiety that could be inherited in monkeys, and that are supersensitive to normal threats. About 35% of the variation in early anxiety is explained by family history, which leaves room for the environment to shape the brain to be less anxious later on in life. Scientists are next looking at understanding the brain systems and molecular interactions that lead to hyperactive fear regions which could lead to a better understanding of mental disorders.

<http://www.livescience.com/51477-anxious-brains-are-inherited.html>

Scientists have discovered the enzyme that gives you that little extra boost you need when you are completely exhausted. The enzyme in our mitochondria helps tap energy reserves from these cellular powerhouses. The mice lacking the enzyme could only run about 70% as far as normal mice before they were exhausted. On the contrary, mice with extra enzyme could run 27% farther than they would before. Human athletes present more of the enzyme than the average person.

<http://news.sciencemag.org/biology/2015/07/need-energy-boost-enzyme-may-help>

Nerves found in spider sex organ; Spiders rely on modified appendages to transfer sperm during reproduction. It was thought that these appendages derived from modified arms coming out of the animal's head with no neurons to convey a sense of touch. However, new research has identified neurons in the spider 'penis'. Researchers believe that the sense of touch may enable the males to stimulate the females, provide feedback about the quality of their mate and control the quality and volume of their ejaculate.

<http://news.sciencemag.org/biology/2015/07/nerves-found-spider-sex-organ>

03/07/15

A study in mice suggests antibiotics could harm and alter children's gut bacteria leaving them prone to obesity and diabetes. A study mimicking use of the drugs in babies found mouse pups put on weight and developed

bigger bones. The average child in the UK has taken ten courses of the drugs by the age of 16. Antibiotic exposure during a critical window of early development disrupts the bacterial landscape of the gut and permanently reprograms the body's metabolism, setting up a predisposition for obesity. The cumulative data could help shape guidelines governing the duration and type of paediatric prescriptions.

<http://www.telegraph.co.uk/news/science/science-news/11708762/Giving-children-antibiotics-may-cause-obesity-and-diabetes.html>

An Australian lizard's eggs change sex with temperatures. Wild populations of the animal are the first to have both sex chromosomes but also show temperature-dependant sexual development, providing insight on how these 2 sex-determining mechanisms are alternatively used. Both chromosomal and environmental sex determination can be highly functional, adaptive systems and are alternative states that could evolve back and forth. Genetically, male lizards are ZZ and female lizards are ZW, but male ZZ lizards can develop as female in warm temperatures. Surprisingly ZZ females have a higher fertility. The answer to why that may be the case may shed light on the selective advantage of temperature-dependant sex determination. The equilibrium between genetically and environmentally determined sex in these lizards should respond quickly to climate change.

<http://www.nature.com/nature/journal/v523/n7558/full/nature14574.html>

A new AIDS vaccine protects Monkeys against SIV. With a 50% success rate in monkeys with SIV, the vaccine is already being trialled in humans. The researchers hope that the vaccine will work better in humans than in monkeys, given that the monkeys had been given a gigantic dose of SIV, much more than average people get in an average sexual exposure to HIV. HIV vaccines have been proven many times unsuccessful because the virus infects the same cell the body uses to fight against the infection, it changes a lot so becomes hard to recognise and the human body doesn't seem to create powerful broadly neutralizing antibodies against the virus. This new vaccine uses a common cold virus called adenovirus 26 that activates an immune response. Then a second vaccine is given with bits of HIV attached. The immune system cells will also "see" the attached bit of HIV and, the researchers hope, react against any HIV virus should the vaccinated person ever be exposed.

<http://www.nbcnews.com/health/health-news/new-aids-vaccine-protects-monkeys-n385751>

Dwarf cows have a 'thermometer gene' that makes them more resistant to high temperatures. The animals which are also more resistant to diseases such as mastitis could help farmers cope with the effect of climate change.

<http://www.dailymail.co.uk/sciencetech/article-3144667/Could-DWARF-COW-beat-climate-change-Animal-small-thermometer-genes-help-withstand-heatwaves.html>

3D models of seahorse's tails are inspiring robotic surgery. Experiments with plastic 3-D printed tails of the seahorse have revealed that its 36 very unusual square segments not only provide a better grip on seaweed and corals, they are stronger and more robust than the more common rounded tails of other creatures. Square components make the tail mechanically stiffer, stronger and more strain-resistant compared to more normal cylindrical tails. The findings are already being used as the basis for new designs in robotics and medical devices that have to move around organs and bones but still have the strength to accomplish a surgical operation.

<http://www.independent.co.uk/news/science/experiments-with-3d-models-of-seahorses-tail-advances-robotic-surgery-10362099.html>

Ocean gliding spiders can use their legs to windsurf across water. Spiders are known to use ballooning silk to travel long distances but this is the first time sailing spiders are studied. These spiders that can be found in everyone's garden in the UK, are capable of standing on water thanks to their water-repellent legs and try to catch the wind and cruise forward by making sails from body parts. Some spiders use their forelimbs in a V-

shape while others use their abdomens to scoop up the wind. This adds to many different ways the spiders use to disperse, which may explain why spiders are among the first species to colonise new habitats like islands.

<http://www.newscientist.com/article/dn27827-oceangoing-spiders-can-use-their-legs-to-windsurf-across-water.html#.VZZb4vIVhBc>

Researchers are looking into how the world's tallest mammals can walk so gracefully. They are measuring the forces the giraffes use when they are walking to try and pick apart how the limbs are working, down to the individual muscle and joint. Their height gives them an advantage when it comes to feeding but scientists are trying to see if it also gives them an advantage when it comes to simply moving around. From a veterinary point of view, this information could also be useful in diagnosing and treating illnesses.

<http://www.bbc.co.uk/news/science-environment-33263428>

02/07/15

Our memories are stored in brain connections called synapses that last as long as the memory they store. The hippocampus stores episodic memories – events that we might forget over time if not recalled. These memories are stored in mice for about a month to be then sent to the neocortex, where only some of the memories become permanent. Half of the spines on dendrites in the neocortex are long term repositories for memories while the others retain malleability for new memories of forgetting. Scientists found that the connections between the hippocampal neurone in live mice last for about 30 days – the duration of episodic memories in mice - whereas the spine turnover is 3 to 6 weeks. They concluded that the memories were stored in the synapses and not the spines of the hippocampal neurones.

<http://www.iflscience.com/brain/brain-synapses-last-long-memories-do>

Study in mice finds drugs that halt brain degeneration in Alzheimer's patients. The latest research suggests that the build-up of abnormal amyloid proteins seen in Alzheimer's, Parkinson's and CJD are simply a visible symptom of neurodegeneration. The damage really occurs when a natural defence mechanism in the brain responds to the accumulation of plaques by switching off the production of all new proteins, wrecking the brain's ability to carry out essential repairs. The drugs work by inhibiting an enzyme, called Perk, that reactivates the defence mechanism. Two licensed drugs could help restore protein production in brain, stop brain cells from dying and prevent memory loss, raising hope of a rapid acceleration in a cure for Alzheimer's disease.

Clare Walton, research manager at the Alzheimer's Society, said: "The new results are hugely promising because the drugs are already given to people and we know they're safe."

<http://www.theguardian.com/society/2015/jun/30/alzheimers-treatment-researchers-licensed-drugs-halt-brain-degeneration>

Flatworm uses 'hypodermic penis' to inject sperm into its own head. Hermaphrodite flatworms are able to self-fertilise by injecting sperm into their own head thanks to a needle-like penis. The sperm then swim down the creature's transparent body to fertilise eggs in the tail region. Although they prefer to reproduce with other flatworms, they evolved to have the ability for "hypodermic insemination" to allow individuals to enforce mating and take control over sperm transfer.

<http://www.theguardian.com/science/2015/jul/01/flatworm-uses-hypodermic-penis-to-inject-sperm-into-own-head>

01/07/15

Male and female mice process pain differently which could have implications for how chronic pain is treated in humans. The study looked at immune cells called microglia which help kick the feeling of pain into gear and regulate how severe the pain is, depending on the type of injury. It showed that microglia play a more important role in the processing of pain for male mice than for female mice. Some drugs that aim at relieving pain, target the microglia, but the study shows that this relief is only visible in male mice. This study suggests that a crucial biological process is being governed in an entirely different way in males and females and more often than not, medications and treatments are being tested on male mice, not female mice. (Click here if you want more information on female mice in the lab http://www.huffingtonpost.co.uk/mia-rozenbaum/females-in-medical-research_b_6800028.html)

<http://www.sciencealert.com/male-and-female-mice-process-pain-differently-study-finds>

Using magnets, scientists have managed to make living cells hover. The technique which measures the density of individual cells may be useful for testing new drugs or monitoring diseases. The scientists had already levitated objects such as frogs, mice and strawberries using magnets before, but hadn't mastered the delicate touch required to control magnetic fields precisely enough to levitate smaller objects. Their device suspends cells soaked in a magnetic solution between two magnets. Each cell floats up to a height specific to its density – a fundamental property that can help tell cells apart. The scientists can then tell apart breast cancer cells from lung cancer cells, and even how close they are to apoptosis. Understanding the varied responses of cells could be a great boon to testing out new drugs and diagnosing diseases.

<http://www.newscientist.com/article/dn27799-single-cells-made-to-levitate-just-like-frogs-and-mice.html#.VZJsNflVhBc>

Monkeys become more aggressive and scratch themselves if they are being watched. A study shows that being stared at by a stranger can be unnerving for monkeys. They tend to react badly – get stressed and become more aggressive – if they are being watched at a zoo. Eye contact seems to be the main cause of this behaviour. When the primates were prevented from seeing the visitors, they were 68% less likely to show signs of aggression and spent 38% less time displaying abnormal behaviours and chemicals linked to stress were 1/3 lower. Reducing visual contact with visitors improves animal welfare for primates. It also has the drawback of dropping the numbers of visitors to a zoo.

<http://www.dailymail.co.uk/sciencetech/article-3141186/Being-watched-zoo-makes-monkeys-stressed-Apes-aggressive-people-staring-study-finds.html>