What plants can teach us about oil spill clean-up

A new University of Southern California study takes a cue from leaf structure to fabricate material that can separate oil and water, which could lead to safer and more efficient oil spill clean-up methods. The material is capable of "microdroplet manipulation," Droplet-based microfluidics is a tool used in various applications like cell cultures, chemical synthesis and DNA sequencing.

Treating oily water: Efficiency exceeds requirements 10 times

Wastewater cleaning technology efficiently cleans water from oil products created at Kaunas University of Technology leaving it virtually pollution-free (the concentration of oil discharge in treated water is about 0.2 mg/L). Given the efficiency, the technology is much cheaper than the alternatives currently known in the market.

How to suck carbon dioxide from the sky for fuels and more

By removing emitted carbon dioxide from the atmosphere and turning it into fresh fuels, Carbon Engineering's facility in British Columbia have demonstrated a scalable and cost-effective way to make deep cuts in the carbon footprint of transportation with minimal disruption to existing vehicles.

New method makes weather forecasts right as rain

Meteorologists have known for some time that rainfall forecasts have flaws, as failure to take into account factors such as evaporation can affect their accuracy. Now, researchers from the University of Missouri have developed a system that improves the precision of forecasts by accounting for evaporation in rainfall estimates, particularly for locations 30 miles or more from the nearest National Weather Service radar.

How eating seaweed can help cows to belch less methane

A graduate in animal science at the University of California, Davis, Roque monitors animals' food rations to the somatic cells in their milk, indicators of inflammation or stress. Numbers found motivated California lawmakers to pass a law to reduce methane emissions and other short-lived "climate pollutants" by 40 percent below 2013 levels by 2030.

Nanomaterials could mean more algae outbreaks for wetlands, waterways

A surge has been seen in the past years in the use of tiny substances called nanomaterials in agrochemicals. The idea is to provide more disease protection and better yields for crops, while decreasing the amount of toxins sprayed on agricultural fields. However, according to experiments led by Marie Simonin, a postdoctoral associate with biology professor Emily Bernhardt at Duke University. Combined with nutrient runoff from fertilized cropland and manure-filled pastures, these 'nanopesticides' could also mean more toxic algae outbreaks for nearby streams, lakes and wetlands.

New testing finds synergistic combination leads to toxicity in nanomaterials

In a discovery, University of Oregon chemists and Oregon State University toxicologists found that biocompatible gold nanoparticles and widely used surfactants each previously considered safe as individual components become toxic to zebrafish embryos as they combine in a synergistic way.