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| http://images.magnetmail.net/images/clients/ACS/011112CoffeeIstock_thumb.jpgWhy coffee drinking reduces the risk of Type 2 diabetesCredit: iStock |

Why do heavy coffee drinkers have a lower risk of developing Type 2 diabetes, a disease on the increase around the world that can lead to serious health problems? Scientists are offering a new solution to that long-standing mystery in a report in ACS’ Journal of Agricultural & Food Chemistry.Ling Zheng, Kun Huang and colleagues explain that previous studies show that coffee drinkers are at a lower risk for developing Type 2 diabetes, which accounts for 90-95 percent of diabetes cases in the world. Those studies show that people who drink four or more cups of coffee daily have a 50 percent lower risk of Type 2 diabetes. And every additional cup of coffee brings another decrease in risk of almost 7 percent. Scientists have implicated the misfolding of a substance called human islet amyloid polypeptide (hIAPP) in causing Type 2 diabetes, and some are seeking ways to block that process. Zheng and Huang decided to see if coffee’s beneficial effects might be due to substances that block hIAPP.Indeed, they identified two categories of compounds in coffee that significantly inhibited hIAPP. They suggest that this effect explains why coffee drinkers show a lower risk for developing diabetes. “A beneficial effect may thus be expected for a regular coffee drinker,” the researchers conclude.The authors acknowledge funding from the [National Natural Science Foundation of China](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058826&m=1700028&u=ACS&j=8563493&s=http://www.nsfc.gov.cn/e_nsfc/desktop/zn/0101.htm), the [National Basic Research Program of China](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058827&m=1700028&u=ACS&j=8563493&s=http://www.973.gov.cn/English/Index.aspx) and the [Chinese Ministry of Education](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058828&m=1700028&u=ACS&j=8563493&s=http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/moe_2792/index.html).

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ARTICLE #1 **FOR IMMEDIATE RELEASE**“Coffee Components Inhibit Amyloid Formation of Human Islet Amyloid Polypeptide in Vitro: Possible Link between Coffee Consumption and Diabetes Mellitus”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058831&m=1700028&u=ACS&j=8563493&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/jf201702h) CONTACT:Ling Zheng, Ph.D.College of Life SciencesWuhan UniversityHubei, ChinaPhone: +86-27-687-55559Email: lzheng217@hotmail.comorKun Huang, Ph.D.Tongji School of PharmacyHuazhong University of Science and TechnologyHubei, ChinaEmail: kunhuang2008@hotmail.com[To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gifARTICLE #2 **FOR IMMEDIATE RELEASE****Why do dew drops do what they do on leaves?**Langmuir

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| http://images.magnetmail.net/images/clients/ACS/011112DewIstock_thumb.jpgWhy do dew drops do what they do on leaves?Credit: iStock |

Nobel laureate poet Rabindranath Tagore once wrote, “Let your life lightly dance on the edges of time like dew on the tip of a leaf.” Now, a new study is finally offering an explanation for why small dew drops do as Tagore advised and form on the tips, rather than the flat surfaces, of leaves. It appears in ACS’ journal Langmuir.In the study, Martin E. R. Shanahan observes that drops of water have a preference for exactly where they collect on leaves as their surfaces cool in the morning and afternoon. Those droplets, which condense from water vapor — moisture — in the air, collect randomly across the surfaces of flat leaves. However, dew drops tend to accumulate at the tips of spindly leaves, even if that means defying gravity by moving upwards. He explains that an inherent “unwillingness” or “lack of necessity” of water drops to move on a dry surface governs their positioning on flat leaves, causing them to stay where they form. Dew’s tendency to head to the end of finely pointed leaves, however, sent Shanahan looking for a different explanation.The answer is based on the fundamental principle of free energy, that everything in nature seeks the lowest possible energy state. Shanahan modeled two types of dew drops on a theoretical (simplified) cone-shaped leaf: a thin, cylindrical sheath of water and a spherical drop centered on the cone’s axis. In both cases, he found that the drop lowered its energy by moving toward the point of the leaf.

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| http://images.magnetmail.net/images/clients/ACS/011112Langmuir_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058832&m=1700028&u=ACS&j=8563493&s=http://web.1.c2.audiovideoweb.com/1c2web3536/011112langmuir.jpg) for high-resolution image. |

ARTICLE #2 **FOR IMMEDIATE RELEASE**“On the Behavior of Dew Drops”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058833&m=1700028&u=ACS&j=8563493&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/la203316k) CONTACT:Martin E. R. Shanahan, Ph.D.Institut de Mécanique et Ingénierie de BordeauxUniversité de Bordeaux33405 TALENCE CedexFranceEmail: martin.shanahan@u-bordeaux1.fr [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gif ARTICLE #3 **FOR IMMEDIATE RELEASEAdvance toward an imaging agent for diagnosing Alzheimer’s disease**ACS Medicinal Chemistry Letters

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| http://images.magnetmail.net/images/clients/ACS/011112ADIstock_thumb.jpgAdvance toward an imaging agent for diagnosing Alzheimer’s diseaseCredit: iStock |

Scientists are reporting development and initial laboratory tests of an imaging agent that shows promise for detecting the tell-tale signs of Alzheimer’s disease (AD) in the brain — signs that now can’t confirm a diagnosis until after patients have died. Their report appears in the journal ACS Medicinal Chemistry Letters.Masahiro Ono and colleagues explain that no proven laboratory test or medical scan now exists for AD, which is claiming an increasingly heavy toll with the graying of the world’s population. Patients now get a diagnosis of AD based on their medical history and symptoms, and symptoms like memory loss often are identical to those of normal aging. Currently, the only definitive way to diagnose AD involves an autopsy with examination of brain samples for the presence of the clumps and tangles of abnormal protein that occur in the disease.The scientists describe the synthesis and lab testing of a new imaging agent (called FPPDB), which bound tightly to ß-amyloid plaques and neurofibrillary tangles — signs of AD — in human brain samples. In normal laboratory mice, which served as stand-ins for humans, FPPDB stayed in the body long enough for a PET scan (a sophisticated medical imaging technique). With further development, the imaging agent may allow early AD diagnosis in humans, the scientists indicate.The authors acknowledge funding from the [Japan Society for the Promotion of Science](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058834&m=1700028&u=ACS&j=8563493&s=http://www.jsps.go.jp/english/e-jisedai/) and the [Ministry of Education, Culture, Sports, Science and Technology, Japan](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058835&m=1700028&u=ACS&j=8563493&s=http://www.mext.go.jp/english/).

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| http://images.magnetmail.net/images/clients/ACS/011112ACSMedChemLtrs_thumb(1).jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058836&m=1700028&u=ACS&j=8563493&s=http://web.1.c2.audiovideoweb.com/1c2web3536/011112Acsmedchemltrs.jpg) for high-resolution image. |

ARTICLE #3 **FOR IMMEDIATE RELEASE**“18F-Labeled Phenyldiazenyl Benzothiazole for in Vivo Imaging of Neurofibrillary Tangles in Alzheimer’s Disease Brains”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058837&m=1700028&u=ACS&j=8563493&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/ml200230e) CONTACT:Masahiro Ono, Ph.D.Department of Patho-Functional BioanalysisGraduate School of Pharmaceutical SciencesKyoto UniversityKyoto, JapanPhone: +81-75-753-4608Fax: + 81-75-753-4568Email: ono@pharm.kyoto-u.ac.jp[To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gif ARTICLE #4 **FOR IMMEDIATE RELEASE: A PressPac Instant Replay\*Tear drops may rival blood drops in testing blood sugar in diabetes**Analytical Chemistry

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| http://images.magnetmail.net/images/clients/ACS/011112BloodIstock_thumb(1).jpgTear drops may rival blood drops in testing blood sugar in diabetesCredit: iStock |

Scientists are reporting development and successful laboratory testing of an electrochemical sensor device that has the potential to measure blood sugar levels from tears instead of blood — an advance that could save the world’s 350 million diabetes patients the discomfort of pricking their fingers for droplets of blood used in traditional blood sugar tests. Their report appears in ACS’ journal Analytical Chemistry.Mark Meyerhoff and colleagues explain that about 5 percent of the world’s population (and about 26 million people in the U.S. alone) have diabetes. The disease is a fast-growing public health problem because of a sharp global increase in obesity, which makes people susceptible to developing type 2 diabetes. People with diabetes must monitor their blood glucose levels several times a day to make sure they are within a safe range. Current handheld glucose meters require a drop of blood, which patients draw by pricking their fingers with a small pin or lancet. However, some patients regard that pinprick as painful enough to discourage regular testing. That’s why Meyerhoff’s team is working to develop a new, pain-free device that can use tear glucose levels as an accurate reflection of blood sugar levels.Tests of their approach in laboratory rabbits, used as surrogates for humans in such experiments, showed that levels of glucose in tears track the amounts of glucose in the blood. “Thus, it may be possible to measure tear glucose levels multiple times per day to monitor blood glucose changes without the potential pain from the repeated invasive blood drawing method,” say the researchers.

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| http://images.magnetmail.net/images/clients/ACS/011112AnalyticalChem_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058838&m=1700028&u=ACS&j=8563493&s=http://web.1.c2.audiovideoweb.com/1c2web3536/011112AnalyticalChem.jpg) for high-resolution image. |

ARTICLE #4 **FOR IMMEDIATE RELEASE**“Measurement of Tear Glucose Levels with Amperometric Glucose Biosensor/Capillary Tube Configuration”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058839&m=1700028&u=ACS&j=8563493&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/ac201700c) CONTACT:Mark E. Meyerhoff, Ph.D.Philip J. Elving Professor of ChemistryThe University of MichiganAnn Arbor, Mich. 48109-1055Phone: 734-763-5916Email: mmeyerho@umich.edu**\* A previous PressPac item that you may have missed** [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gifARTICLE #5 **FOR IMMEDIATE RELEASE****Outlook for an industry that touches 96 percent of all manufactured goods** Chemical & Engineering News

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| http://images.magnetmail.net/images/clients/ACS/011112CEN_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058840&m=1700028&u=ACS&j=8563493&s=http://web.1.c2.audiovideoweb.com/1c2web3536/011112cen.jpg) for high-resolution image. |

The chemical industry, which touches 96 percent of all manufactured goods, is seeing some positive signs for 2012, although the overall outlook is not very rosy. Growing demand for chemicals used in agriculture, electronics, cars and airplanes will boost an industry that generates $674 billion in sales in the U.S. alone, but expiring patents and global economic woes will take a toll. These forecasts and others are in the cover story in the current issue of Chemical & Engineering News (C&EN), the weekly newsmagazine of the American Chemical Society, the world’s largest scientific society.C&EN points to positive developments for some chemical manufacturers, like Boeing ramping up production of its Dreamliner planes, a boon for makers of high-tech glues and carbon fiber. The article explains U.S. chemical firms will be more competitive globally due to low prices of natural gas and other raw materials and good opportunities for exports. Petrochemical producers are looking past 2012, according to the article, and several companies plan to build new manufacturing plants to take advantage of the growing supply of natural gas in the U.S.At the same time, the pharmaceutical industry is facing the challenge of expiring patents on some of its most popular drugs, which will allow generic manufacturers to grab profits from big-name companies like AstraZeneca. The story also predicts slowing growth in Asia will hurt a number of chemical industries, especially makers of paint and other construction materials. For chemical makers, the article says, “2012 is likely to be a year to endure rather than enjoy.”ARTICLE #5 **FOR IMMEDIATE RELEASE**“World Chemical Outlook”This story is available at:[http://cen.acs.org/articles/90/i2/World-Chemical-Outlook.html](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058841&m=1700028&u=ACS&j=8563493&s=http://cen.acs.org/articles/90/i2/World-Chemical-Outlook.html)[To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gif **Journalists’ Resources****News media registration for ACS’ 243rd National Meeting & Exposition in San Diego**News media [registration](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058842&m=1700028&u=ACS&j=8563493&s=https://www.xpressreg.net/register/acsa032/media/start.asp) is now open for the American Chemical Society’s (ACS) 243rd National Meeting & Exposition in San Diego, March 25-29, 2012. The event will include more than 11,500 reports on new discoveries in medicine and health, food and nutrition, energy, the environment and other fields where chemistry plays a central role. One of the largest scientific conferences of 2012, the meeting will take place at the San Diego Convention Center and area hotels. To view full news release about meeting registration, click [here](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058843&m=1700028&u=ACS&j=8563493&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=222&content_id=CNBP_028895&use_sec=true&sec_url_var=region1&__uuid=077ccb29-4a64-4924-98b7-ed219e050a6d).**Press releases, briefings, and more from ACS’ 242nd National Meeting**[www.eurekalert.org/acsmeet.php](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058844&m=1700028&u=ACS&j=8563493&s=http://www.eurekalert.org/acsmeet.php) [http://www.ustream.tv/channel/acslive](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058845&m=1700028&u=ACS&j=8563493&s=http://www.ustream.tv/channel/acslive%20) **Inside Science News Service**For thoroughly enjoyable multimedia coverage of the science behind the news — a valuable resource for journalists and news media organizations everywhere. [Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058846&m=1700028&u=ACS&j=8563493&s=http://www.insidescience.org/) to visit the Inside Science News website.**Must Reads From C&EN: Chemical Company of the Year for 2011**ACS’ weekly newsmagazine describes its pick for that honor — Japan’s Shin-Etsu Chemical. The firm has plants in Shirakawa and Kashima that make components for fiberoptic cable and semiconductor chips and showed remarkable tenacity in resuming production after the March 11 earthquake. For the full story, contact Michael Bernstein at m\_bernstein@acs.org.**ACS Pressroom Blog** The ACS Office of Public Affairs' [pressroom blog](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058847&m=1700028&u=ACS&j=8563493&s=http://www.acspressblog.com) highlights research from ACS’ 43 peer-reviewed journals and National Meetings. **Bytesize Science Blog** Educators and kids, put on your thinking caps: The American Chemical Society has [a blog for Bytesize Science](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058848&m=1700028&u=ACS&j=8563493&s=http://www.bytesizescience.com), a science podcast for kids of all ages.  **ACS Satellite Pressroom: Daily news blasts on Twitter** The satellite press room has become one of the most popular science news sites on Twitter. To get our news blasts and updates, create a free account at [https://twitter.com/signup](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058849&m=1700028&u=ACS&j=8563493&s=https://twitter.com/signup). Then visit [http://twitter.com/ACSpressroom](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058850&m=1700028&u=ACS&j=8563493&s=http://twitter.com/ACSpressroom) and click the ‘join’ button beneath the press room logo. **C&EN on Twitter**Follow @cenmag <[http://twitter.com/cenmag](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058851&m=1700028&u=ACS&j=8563493&s=http://twitter.com/cenmag)> for the latest news in chemistry and dispatches from our blog, C&ENtral Science <[http://centralscience.org](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058852&m=1700028&u=ACS&j=8563493&s=http://centralscience.org)>.**ACS Press Releases** [Press releases](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058853&m=1700028&u=ACS&j=8563493&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_NEWSRELEASES&node_id=222&use_sec=false&sec_url_var=region1&__uuid=50b5ab93-801d-4d0d-868f-b9507ff9d709) on a variety of chemistry-related topics.[To Top](#top)http://images.magnetmail.net/images/clients/acs/goldline.gif**ACS Videos**The American Chemical Society encourages news organizations, museums, educational organizations, and other web sites to embed links to these videos.**Spellbound: How Kids Became Scientists**

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| http://images.magnetmail.net/images/clients/ACS/Spellbound3.jpg |

The road to a Nobel Prize began for one scientist in elementary school when his father placed a sign on his bedroom door proclaiming him to be a “doctor.” This is just one of the many experiences that helped launch the careers of scientists from diverse backgrounds who are featured in a new ACS video series called [Spellbound: How Kids Became Scientists](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058854&m=1700028&u=ACS&j=8563493&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=1355&content_id=CNBP_028033&use_sec=true&sec_url_var=region1&__uuid=e8e6ee76-0abe-4e78-84c4-3717c995c65e). **Prized Science video series**

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Prized Science: How the Science Behind ACS Awards Impacts Your Life video series is new for 2011! In the first episode, see how Ahmed Zewail, Ph.D., developed a technology that's paving the way for new medicines, new fuels and new materials that will give people longer, healthier, happier lives. Zewail is the winner of the 2011 Priestley Medal. The second episode features the work of David Craik, Ph.D., who made advances toward new drugs for treating health problems that affect millions of people around the world, including antibiotic-resistant bacteria and AIDS. Craik is the winner of the ACS 2011 Ralph F. Hirschmann Award in Peptide Chemistry, sponsored by Merck Research Laboratories. More episodes will appear later in the year. The series is available at the [Prized Science](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058855&m=1700028&u=ACS&j=8563493&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=446&content_id=CTD1_018821&use_sec=true&sec_url_var=region1&__uuid=594bce97-0b05-4df7-b759-1a0f9156c5d8) website and on DVD. **First Living, Dancing Periodic Table of the Elements**

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That famous chart displaying the chemical elements that make up everything on Earth — a fixture on the walls of classrooms and labs — literally comes alive in this new video from the American Chemical Society (ACS). [Chemists Can Dance!](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058856&m=1700028&u=ACS&j=8563493&s=http://bytesizescience.com/index.cfm/2011/3/29/The-Chemistry-Dance) features scores of chemists wearing symbols representing the elements, kicking up their heels to the tune of an original rap song. It's all part of ACS's celebration of the International Year of Chemistry. Check out the fun and share the link.**A Day Without Chemistry** Imagine a day without cars, electric lights, TV, telephones, safe food, and water, medicine, clothing, your house, and thousands of other familiar objects that make up modern society. Do it, and you are imagining a day in a world without chemistry. ACS explores that thought-provoking premise in a new high-definition video released as part of the celebration of the International Year of Chemistry. [A Day Without Chemistry](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058857&m=1700028&u=ACS&j=8563493&s=http://www.youtube.com/watch?v=AbfW_CMMe48) follows a person who sees more and more everyday necessities and conveniences disappear before his widening eyes.[The Chemistry of Sourdough Bread](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058858&m=1700028&u=ACS&j=8563493&s=http://www.bytesizescience.com/index.cfm/2010/9/27/Chemistry-of-Sourdough)[The Chemistry of Fireworks](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058859&m=1700028&u=ACS&j=8563493&s=http://www.bytesizescience.com/index.cfm/2010/6/25/Bytesize-Science-Presents-The-Chemistry-of-Fireworks)[The Chemistry of Grilling and Barbecuing](http://www.mmsend88.com/link.cfm?r=800557068&sid=17058860&m=1700028&u=ACS&j=8563493&s=http://www.bytesizescience.com/index.cfm/2010/6/15/Chemistry-of-Barbeque) [To Top](#top)  http://images.magnetmail.net/images/clients/ACS/goldline.gif**ACS Podcasts**

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