



Cylchlythyr 13



PENNAL YN ARWAIN Y BYD Â PHROSIECT SYNHWYRYDD O BELL



MAE Pennial 2050 yn cefnogi prosiect ymchwil blaengar gwerth £1.3m. Bydd SENSUM (Smart SENSing tirweddau fgygythir gan symudiadau hydroddaearegol peryglus), arweinir gan Brifysgol Caerwysg mewn cydweithrediad â Phrifysgolion Plymouth ac East Anglia, yn datblygu technolegau monitro newydd i leihau y bygythiadau sy'n gysylltiedig â pheryglon hydroddaearegol. Effeithir sawl rhan o'r byd gan lifogydd a thirlithriadau yn flynyddol, yn fewndirol ac arfordirol gan achosi problemau gan gynnwys marwolaethau yn achlysurol ynghyd â cholled economaidd arw. Mae SENSUM yn cynnig ffordd newydd integredig i fynd i'r afael â'r peryglon hyn gan gymryd mantais o'r datblygiadau yn Rhwydwaith Synhwyrddion Di-wifr (RhSD/WSN) a thechnolegau'r 'Internet of Things' (IoT), mânelectroneg a dysgu peiranyddol. Mae Pennial 2050 eisoes wedi cydweithio ag ymchwilwyr o Brifysgol Bangor sy'n astudio amsugniad glaw gan ganopi'r goedwig ac felly mae rhwydwaith leol yn bodoli yn barod. Mae'r RhSD yn dangos potensial monitro a rhybydd cynnar o'r peryglon hyn. Y fantais fwyaf o ddefnyddio synhwyrddion ynni isel, hawdd i'w lleoli fydd galluogi monitro hirdymor, rhad a pharhaus o'r amgylchedd. Bu ymchwilwyr Caerwysg ym Mhennal yn gosod y synhwyrddion yma ar weddillion pren sy'n rhan o raglen 'Slo Flo' Pennial 2050. Gobeithir mireinio'r tracio symudiad er mwyn datblygu'r dull hwn o fesur i'w ddefnyddio'n fyd-eang. Uchod, o'r chwith: Martina Egedusevic, Georgie Bennett a Robin Curtis o Brifysgol Caerwysg, Jane Morgan o Gyfoeth Naturiol Cymru, James Brunton Cadeirydd Pwyllgor Llywio Pennial 2050 a Huw Thomas o 'Forest Research'.



GWERSI ECOLEG GYDA GWYFYNOD

TRAPIAU gwyfynod adawyd dros nos yn Ysgol Pennial alluogodd i'r plant adnabod amrywiaeth o bryfed. Bu ecolegwyr Pennial 2050 yna'n eu dysgu am eu darganfyddiadau ac esbonio sut y gallwn blannu coed a gwarchod cynefin i roi cymorth iddynt oroesi effeithiau newid hinsawdd.



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Rustyback fern
(*Ceterach officinarum*)
on school wall.



2050 PENNAL 2050

Newsletter 13



PENNAL IN WORLD-LEADING REMOTE SENSOR PROJECT



THE Pennal 2050 project is supporting a ground-breaking £1.3m research project. SENSUM (Smart SENSing of landscapes Undergoing hazardous hydrogeological Movement), led by the University of Exeter in collaboration with the Universities of Plymouth and East Anglia, will develop new monitoring technologies to reduce the risks associated with hydro-geological hazards. Floods and landslides affect various parts of the world every year, both inland and along coastlines, causing disruption, occasional fatalities and severe economic loss. SENSUM proposes a new integrated way to tackle these hazards, taking advantage of advances in Wireless Sensor Network (WSN) and Internet of Things (IoT) technologies, microelectronics and machine learning. Pennal 2050 has already co-operated with researchers from Bangor University looking at tree canopy absorption of rain and so a local area network is already in situ. WSNs show great potential for monitoring and early warning of these hazards. Their main advantage is in the use of easily deployable, low-power sensors that enable continuous, long-term, low-cost monitoring of the environment. Exeter researchers have visited Pennal to install these sensors on the woody debris which is part of Pennal 2050's Slo Flo programme. It is hoped this will help refine the movement measurement technique for use around the world. Above, from left: Martina Egedusevic, Georgie Bennett and Robin Curtis of Exeter University, Jane Morgan of Natural Resources Wales, James Brunton Chair of Pennal 2050 Steering Group and Huw Thomas of Forest Research.



MOTHS FLY IN FOR ECOLOGY LESSON

MOTH traps left overnight at Pennal School allowed children to identify a range of insects. The Pennal 2050 ecologist helped the children learn about their finds and explained how we can plant trees and protect habitat to help them survive the effects of climate change.



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