



2019年第23期总190期

# 农业与资源环境信息工程专题

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更多资讯 尽在农业专业知识服务系统：<http://agri.ckcest.cn/>

## ▶ 前沿资讯

### 1 . UK-led mission to improve climate change forecasts added to European Space Agency programme (英国主导的改善气候变化预测的任务现已加入欧洲宇航局计划中)

简介: A mission proposed by the UK Space Agency has been added to the European Space Agency's Earth Watch programme, as the UK bids to host United Nations climate talks next year. Space offers a unique vantage point from which to observe, measure and monitor the Earth's climate. At the EU Competitiveness Council and EU-ESA Space Council on 28 May, Science Minister Chris Skidmore highlighted the importance of space as a green technology to tackle climate change and restated the UK's desire to host the critical COP26 climate conference in 2020.

来源: UK space agency

发布日期: 2019-05-29

全文链接: <https://www.gov.uk/government/news/uk-led-mission-to-improve-climate-change-forecasts-added-to-european-space-agency-programme>

## ▶ 学术文献

### 1 . AgriPrediction: A proactive internet of things model to anticipate problems and improve production in agricultural crops (AgriPrediction: 用来预测问题并提高农作物产量的主动物联网模型)

简介: One of the significant challenges for the future is to guarantee food for all inhabitants of the planet. One of the alternatives for this issue consists in increasing the production, but to accomplish this, it is necessary that innovative options be applied to enhance the soil capacity and the protection of environmental resources. In this context, Internet of Things (IoT) is gaining more and more attention, with a lot of alternatives to aid farmers with smart sensors and visualization systems. However, the state-of-the-art still presents no other options of IoT applications in the rural environment that assist the agricultural producer in the decision making about when to act, or to anticipate problems, in the crops. This article presents a model named AgriPrediction, which combines a short and medium wireless network range system with a prediction engine to anticipate potential crop dysfunctions proactively, so notifying the farmer for remedial actions as soon as possible. To achieve this, AgriPrediction presents a framework whose components are based on both LoRa IoT technology and ARIMA prediction model. Our results demonstrated the feasibility of using LoRa in rural places, besides providing the advantages of having a prediction system to observe troubles related to soil humidity and temperature. In particular, when using AgriPrediction in arugula cultivation, gains of 17.94% were obtained concerning leaf development and 14.29% terms of weight in comparison with a standard cultivation procedure.

更多资讯 尽在农业专业知识服务系统: <http://agri.ckcest.cn/>

来源: Computers and Electronics in Agriculture

发布日期: 2019-06-14

全文链接: <https://www.sciencedirect.com/science/article/pii/S0168169917313856/>

## ➤ 科技报告

### 1 . The State of Open Data and Agriculture (农业开放数据现状)

简介: The State of Open Data is an ambitious 18-month research project designed to reflect on 10 years of community action and review the capacity of open data to address social and economic challenges across a variety of sectors, regions, and communities. The project has been funded by the International Research Centre with the support of the Open Data for Development (OD4D) Network. The main goal of this project is to learn in order to help shape the future of open data based on information and evidence gathered from the community. With over 65 authors, an Editorial Board, and a development methodology that allows for flexibility and community feedback, The State of Open Data - Histories and Horizons brings a myriad of perspectives to the task of reviewing the state of open data.

来源: 全球农业与营养开放数据网 (GODAN)

发布日期: 2019-05-17

全文链接: <https://stateofopendata.od4d.net/chapters/sectors/agriculture.html>

### 2 . EU Member States join forces on digitalisation for European agriculture and rural areas (欧盟成员国共同致力于推进欧洲农业农村数字化)

简介: 2019年4月9日, 24个欧洲国家签署了“欧洲农业和农村地区智能和可持续数字化未来”合作宣言, 采取了一系列行动, 支持欧洲农业和农村地区的数字化取得成功。这项工作充分认识到数字技术的潜力, 有助于解决欧盟农业食品部门和农村地区面临的重要和紧迫的经济, 社会, 气候和环境挑战。

来源: 欧盟

发布日期: 2019-04-09

全文链接: <https://ec.europa.eu/digital-single-market/en/news/eu-member-states-join-forces-digitalisation-european-agriculture-and-rural-areas>

## ➤ 科技图书

### 1 . Agroecological Transitions: From Theory to Practice in Local Participatory Design (信息通信技术 (ICT) 和农业生态转型)

简介: The development of information and communication technologies (ICT) has to meet the needs of farmers and sustainably support the competitiveness of agriculture in a rapidly changing digital world. Under certain conditions of use, digital tools could facilitate the

更多资讯 尽在农业专业知识服务系统: <http://agri.ckcest.cn/>

application to agriculture of the historical, methodological and socio-economic principles defining agroecology. This chapter is composed of four sections. In the first section we define a framework to study agricultural IC tools. The second section considers how ICT should be used during the design phase of the territorial agroecological transition an example of which is the TATA-BOX project , before its actual implementation. The third section sets out the four types of IC tools that can usefully be applied during this transition, and provides several examples. Finally, the last section shows the various barriers that ICT specialists will have to overcome in order to provide effective support to food systems. It also discusses the contradiction that can exist between high energy-consuming technologies and an agroecological production paradigm in which a drastic reduction of the reliance on fossil energy is essential.

来源: Agroecological Transitions: From Theory to Practice in Local Participatory Design

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全文链接:<https://link.springer.com/content/pdf/10.1007%2F978-3-030-01953-2.pdf>