



中央研究院 週報

中央研究院 發行 73年11月1日創刊 104年8月20日出版 院內刊物/非賣品 第1530期

本院要聞

發現全新的植物抗旱分子機制 深具學術與生物科技啟發效果

本院植物暨微生物學研究所韋保羅副研究員研究團隊，日前以阿拉伯芥模式植物為研究對象，證實一種名為AFL1的膜相關蛋白，對植物乾旱抗性表現具有影響力。由於AFL1的結構、位置以及與內膜蛋白間的交互作用在植物的乾旱訊息傳遞研究中是一個全新的分子機制，對於學術研究與未來生物科技深具啟發效果，2015年8月3日全球領導期刊《美國國家科學院期刊》（*Proceedings of the National Academy of Sciences of the United States of America, PNA*）於網站刊登這篇論文。

目前乾旱已經嚴重影響全球的農業生產力，研究植物感測乾旱以及找到讓植物在逆境下可以生長的調控機制，成為植物學家的重要使命。以往學術界已經知曉對許多以膜為基礎的機制，對細胞感測乾旱與初始訊息傳遞具有重要性，不過所知仍有限。

此次韋保羅副研究員研究團隊首度證實，植物內的AFL1是少數膜相關蛋白中對乾旱抗性的表現具有影響力。這項花費5年時間才獲得具體證據的研究成果，揭露AFL1的結構、位置以及與內膜蛋白間的交互作用，在植物內乾旱訊息傳遞是一個全新的機制。同時，AFL1與2個對生長與脯胺酸累積有負調控作用的內膜蛋白PDI5及NAI2有交互作用。

韋保羅博士指出，「AFL1相較於植物內的其他蛋白，還有一個極為特殊之處。植物內的其他蛋白在逆境下（例如乾旱）表現過量，可促進植物的生長；若在非逆境下（例如水充足），這些蛋白卻可能妨害植物生長。而AFL1與這些蛋白表現不同，在逆境下AFL1過量表現，植物會增加生長；在非逆境下AFL1則對植

物沒有負向的影響。這使得AFL1在未來將可望成為生物科技或農業應用領域中全新的研究題材。」獲得這項令人振奮的研究成果後，他們實驗室未來將嘗試應用於番茄、種子的抗旱機制，以及再深入釐清AFL1蛋白與其它蛋白之間的相互作用。

本論文有2位共同第一作者，分別是本院植微所研究助理謝宜芳與拿格拉博士（Dr. M. Nagaraj Kumar），拿格拉博士甫獲得本院國際研究生學程分子與生物農業科學學程學位。本研究主要由植微所支持，並曾經獲得本院前瞻計畫和博士後學術獎助計畫經費挹注。

論文參考網站：<http://www.pnas.org/content/early/2015/07/29/1510140112.full.pdf>

人事動態

李國偉先生奉核定為數學研究所兼任研究員，聘期自2015年9月1日起至2017年7月31日止。

黃馥女士奉核定為生物化學研究所助研究員，聘期自2015年11月1日起至2021年7月31日止。

學術活動

Workshop on Renewable Energies: Thermoelectrics and Photovoltaics

日期：2015年8月27日至28日

地點：本院原分所浦大邦講堂

（臺大院區）

主辦單位：中央研究院原子與分子科學研究所

參考網址：<http://www.iams.sinica.edu.tw/wretp2015>



本期要目

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| 2 知識天地 | 4 學術演講 |

編輯委員：劉鏞、徐麗芬、譚婉玉、范毅軍、汪中和

排版：吳宗訓 捷騰數位科技有限公司

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《週報》為同仁溝通橋樑，如有意見或文章，歡迎惠賜中、英文稿。本報於每週四出刊，前一週的週三下午5:00為投稿截止時間，逾期稿件由本刊視版面彈性處理。投稿請儘可能使用E-mail，或送院本部秘書處公關科。

「中國哲學史經典的正反批判和交錯」國際學術研討會

時間：2015年9月10日（星期四）

地點：本院文哲所2樓會議室

主辦單位：中央研究院中國文哲研究所

報名網址：<https://docs.google.com/forms/d/1Vjhogy823nWpwm6hCG5Zwc7xxT-nnZN2jlCqDsgl2E/viewform>

備註：報名截止日為9月6日（星期日）。主辦單位將保留審查報名資格之權利，報名成功名單將於9月7日（星期一）公布於文哲所網站首頁及中國哲學研究室網站首頁。

民族學研究所60週年所慶「跨・文化」學術研討會訂9月17日至19日舉行

時間：2015年9月17日至19日（星期四至星期六）

地點：本院民族學研究所

報名網址：<http://www.ioe.sinica.edu.tw/>（8月31日報名截止）

主辦單位：本院民族學研究所

參考網址：<http://60year.ioe.sinica.edu.tw/>

知識天地

Governing a Social Volcano?

Prospects for CCP Rule over Chinese Society in Transition

鄭有善助研究員（政治學研究所）

Resilience and Sustainability of Authoritarianism

Many scholars have turned their attention to the question of how an authoritarian regime such as China's can survive and even thrive. This question is connected to the task of understanding and interpreting the changes currently going on within China. China in 2015 is very different from the China we knew in 1949 or 1978. What has occurred in the country over the past few decades may truly be termed a "great transformation."

In particular, China is on the verge of a transformation from quantitative growth to qualitative growth. Diverse socioeconomic issues are constantly arising, and Chinese society is so volatile and turbulent that it might well be described as a "social volcano." It is conjectured that how the Chinese state copes with the emerging socioeconomic issues will decide the sustainability of the Chinese Communist Party's rule.

Against this backdrop, this article discusses the rise of middle-class homeowners in urban China, their claims to private property, and the political implications of this development. By "homeowners" we mean people who have purchased their own housing. Having acquired private property and needing to protect their economic interests, these actors are now seeking to participate in public governance. This suggests that homeownership is bringing about a meaningful change in state-society relations.

Housing Reform and the Emergence of Homeownership

Housing reform—which in China means the commodification of housing—started in urban areas in the late 1990s. This is a major transformation for a socialist country, and it has been combined with retrenchment of the welfare state and the creation of private property rights. Having previously been a form of welfare goods distributed by the state, housing has now become a commodity that can be purchased in the market.

Once they became aware of their legal rights over their property, urban middle-class homeowners started to mobilize and find ways to defend their interests, through such means as petitions, litigation, and even collective action. Since property rights—as a newly emerged institution in China—have yet to be clearly defined, homeowners often feel that they have been cheated by developers and management providers, and they seek to defend their rights by fighting housing entrepreneurs or pressing the government to act on their behalf.



“Nail house” in Chongqing



Homeowners protesting against a developer whose housing did not come up to standard

One example of homeowners defending their interests is the case of the “nail house” (釘子戶) in Chongqing city, so called because the owner refused to let it be hammered down. Around the time when the property law was passed in 2007, the owner of the house refused to sell it to a developer, resulting in the property being left on an “island” in the midst of a redevelopment project. This image received a lot of exposure on the internet, and the homeowner became a symbol of citizens defending their legal property rights.

In its early phase, homeowner activism was a form of consumer activism that had its roots in the newly built residential complexes; the neighborhood homeowner committees (小區業主委員會) were at the center of these rights protection (維權) activities. One new development is the emergence of horizontal linkages between homeowners that transcend the boundaries of individual neighborhoods (or even operate across different localities) .

How has this horizontal mobilization been made possible and what changes has it brought to politics within neighborhoods and beyond? In order to answer these questions one has to understand the diversified modes of interaction between state and society in a newly created social space.

Horizontal Linkages in Homeowner Activism

The concepts of internal diversity and external engagement would be helpful in explaining the modus operandi of homeowner activism. Internal diversity concerns the endogenous evolution or diversification that takes place within a social group. Homeowner activism had a relatively simple common goal at the outset, but as time went on, the activists developed different ideas regarding the direction they thought it should take. In other words, a spectrum of collective interest representation has emerged among homeowners. External engagement is the term used to describe social actors’ strategic interaction with the state for the purpose of achieving their goals. Through this interaction, social forces make use of existing limited institutional arrangements to make their voices heard by the state authority. Rather than confronting or being insulated from state power, social actors strive to find more ingenious ways to interact with the state. This kind of interaction may be expected to bring about incremental political change in China.

There are two representative homeowner organizations in Beijing that act as horizontal linkages between groups of

homeowner activists. One is the Governance and Community Institute (和諧社區發展中心) and the other is the Bidding Committee of the Beijing Association of Homeowners' Committees (北京市業主委員會協會申辦委員會). The former is a legally registered organization that started out as a research team at Renmin University in Beijing, hence it has scholars and professionals at its core. By organizing what purport to be research-oriented activities (forums, seminars, and conferences), it has been able to expand horizontal connections between groups of homeowners and avoid manifest tension with the state authority. The latter is a de facto organization which has yet to be granted formal legal status, although it works with the connivance of the state authority. Composed of the leaders of homeowner groups from various neighborhoods, this organization claims to represent homeowner interests more directly. By adopting more aggressive behavioral strategies (including providing help to neighborhoods fighting against developers or management providers), it has established a contentious image.

Despite some differences in their behavioral strategies, these two organizations exhibit some commonalities in their efforts to engage with the state, in particular through existing institutional channels of representation and participation. They have made numerous proposals regarding forthcoming laws and regulations on property management and grassroots governance, and have exerted pressure on local people's congress delegates and local governments in an effort to indirectly influence legislation.

State-Society Relations in Transition

Homeowner activism started from within neighborhoods and has now developed beyond neighborhood boundaries while seeking more representation and participation. What is notable in this process is that the state is not necessarily seen as the target of contention, but rather as an entity that can be utilized or cooperated with. Thus, we find a complex interplay between the state and society that goes beyond the usual confrontation or lopsided relationship.

With regard to authoritarian resilience—the big question posed at the beginning of this article—and authoritarian governance more broadly, the relationship between state and society in contemporary China may be seen as one of strategic interaction. The Chinese state has become more responsive to the demands of society and the space available for citizens to influence public governance is gradually expanding.

This is part of a process of negotiating and exchanging interest representation and regime legitimacy. Even without an effective representative body and competing political parties, the Chinese state still needs to be versatile in dealing with the diverse interests of its constituencies. That is how the Chinese state reconfirms the legitimacy of its rule. We need to examine more extensively the ways in which social actors participate in public governance as an advanced form of communication between the state and society, and how this participation facilitates and undergirds authoritarian governance. Understanding of authoritarian governance in transition could be enriched by studying other important socioeconomic issues as well as the issue of private property rights.

學術演講

日期	時間	地點	講員	講題	主持人
數理科學組					
9/2(三)	14:30	Room 1203 of the Astronomy-Mathematics Building (NTU Campus)	Dr. Edward Tong (Smithsonian Astrophysical Observatory, USA)	Next Generation Receiver System for the SMA	Dr. Henry Hsieh ----- Dr. Sherry Suyu

生 命 科 學 組

8/20(四)	11:00	生化所114室	徐嘉琳助理教授 (國立陽明大學)	Metabolism and Immunity: How Metabolism Contributes to the Maintenance of Immune Response	林俊宏 研究員
8/21(五)	15:30	跨領域科技研究大樓 1樓演講廳	萬民濤博士 (多樣中心)	Livestock-associated Methicillin-resistant <i>S. aureus</i> : An Emerging Issue?	湯森林 副研究員
8/24(一)	11:00	分生所1樓演講廳	Dr. Tony Ip (Univ. of Massachusetts Medical School, USA)	The Conserved Misshapen-Yorkie Pathway Regulates Intestinal Stem-Cell-Mediated Homeostasis in <i>Drosophila</i>	孫以瀚 特聘研究員
8/25(二)	10:30	細生所1樓演講廳	Dr. Kai-ming Chou (Indiana Univ. School of Medicine, USA)	From Tumor Suppression to Metabolic Syndrome: Lessons from a DNA Polymerase h ^{-/-} Mouse	謝道時 特聘研究員
8/25(二)	11:00	生化所114室	Prof. Ji-Long Liu (Univ. of Oxford, UK)	Cytoophidia and its Kinds: Filamentation and Compartmentation of Metabolic Enzymes	姚季光 助研究員
8/26(三)	11:00	跨領域科技研究大樓1 樓演講廳	Dr. Shan-hui Hsu (National Taiwan Univ.)	Biodegradable Elastomers as Ink for 3D Printing	陳儀莊 特聘研究員
8/27(四)	11:00	生醫所B1B會議室	劉承漢博士 (Johns Hopkins Univ., USA)	Reinforcement Learning of Temporal Intervals in Primary Visual Cortex	蘇俊魁 副研究員
8/31(一)	11:00	細生所1樓演講廳	Dr. Yimin Zou (Univ. of California, San Diego, USA)	Development and Repair of Central Nervous System Circuits	周申如 助研究員
9/1(二)	11:00	生化所114室	區詠娥副教授 (香港中文大學)	Diversity of Bacterial Flagellar Motors: from Structure to Regulation	史有伶 副研究員
9/3(四)	11:00	生醫所B1B會議室	Dr. John E. Harris (Univ. of Massachusetts, USA)	Translational Research in Vitiligo: Launching a New Era of Targeted Treatment	劉扶東 特聘研究員

人 文 及 社 會 科 學 組

8/20(四)	14:00	政治所會議室B	蔡文軒助研究員 (政治所)	中共文件「批示」制度的運作與後極權國家能力的展現
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8/21(五)	14:00	人社中心第1會議室	許家馨助研究員 (法律所)	良言一句三冬暖，惡語傷人賠多少？臺灣民事誹謗案件之實證研究	
8/25(二)	10:00	法律所第2會議室	何彥陞訪問學人 (法律所)	我國都市更新制度之檢討：一個人權的觀點	
8/25(二)	14:30	經濟所B110會議室	Prof. Chun-Ting Chen (National Taiwan Univ.)	Coordination in Social Networks: Communication by Actions	莊委桐 副研究員
8/27(四)	14:30	近史所檔案館1樓中型會議室	連玲玲副研究員 (近史所)	打造消費天堂：百貨公司與近代上海城市文化	余敏玲 副研究員
9/2(三)	12:00	民族所第1會議室	蔡適任博士 (法國社會科學高等研究院)	「天堂島嶼」：撒哈拉召喚下的生態旅遊實驗	彭仁郁 助研究員

最新演講訊息請逕於本院網頁：<http://www.sinica.edu.tw/>「近期重要演講」項下瀏覽。

✍️ 《週報》投稿須知暨審稿原則 ✍️

《週報》為院內學術活動宣傳、學術成果報導及本院同仁溝通橋樑，每週四出刊，如該日適逢國定假日，則停刊一週；春節假期，停刊二週。除特約稿件外，不致稿酬，稿件若經採用，將致贈禮物一份。

- 一、週報現有〈本院要聞〉、〈學術活動〉、〈公布欄〉、〈知識天地〉、〈學術演講〉、〈院內人物側寫〉、〈輕鬆一下〉、〈同仁來函〉、〈活動迴響〉等專欄。其中〈本院要聞〉、〈學術活動〉、〈公布欄〉係供院內各單位刊登訊息，來稿需經各單位主管核可。〈知識天地〉刊載特約稿件，由各所（中心）輪流提供，稿費最高以篇幅3000字、圖表2張計酬。
- 二、〈輕鬆一下〉、〈同仁來函〉、〈活動迴響〉供院內同仁投稿，文稿一律以真名發表，來稿篇幅以800字、圖表以2張為原則。為免內容涉及人身攻擊或不實描述，以致造成不必要的困擾與爭議，編輯委員會對來稿有刪改權。
- 三、來稿之審查結果將以電子郵件通知。
- 四、為平衡且有效率的報導，凡投書內容涉及院內單位之業務，得知會該單位並約定答覆期限。後者若未能於期限內回覆，則先刊登來文。若有多篇稿件內容相似時，「編輯委員會」可擇1至2篇刊登。文稿遇有爭議議題，以一次答辯為限。
- 五、投稿方式：來稿請提供*.doc檔，圖表請提供*.jpg檔，逕寄：wknews@gate.sinica.edu.tw 或送院本部秘書處公關科或傳真至2789-8708《週報》收；歡迎惠賜英文稿件。
- 六、截稿時間：出刊日前一週的週三下午5:00為投稿截止時間，若逢連續假期則提前一天（週二）截稿。〈學術演講〉訊息則於前述時間由院內「重要活動行事曆」中標示「本訊息與週報同步刊出」中擷取。
- 七、凡擬轉載週報內容者，請以書面申請。