

English abstract).

ZHANG Guang-hui, FEI Yu-hong, LIU Chun-hua, YAN Ming-jiang, WANG Jin-zhe. 2013a. Adaptation between irrigation intensity and groundwater carrying capacity in North China Plain[J]. Transactions of the Chinese Society of Agricultural Engineering, 29(1): 1-10(in Chinese with English abstract).

ZHANG Guang-hui, FEI Yu-hong, LIU Ke-yan, WANG Jin-zhe. 2006. Regional groundwater pumpage for agriculture responding to precipitation in North China Plain[J]. Advances in Water Science, 17(1): 43-48(in Chinese with English abstract).

ZHANG Guang-hui, FEI Yu-hong, TIAN Yan-liang, WANG Qian, YAN Ming-jiang. 2015a. Characteristics of alleviating the over-exploitation and its recharge on the rainstorm flood to the shallow groundwater in the southern plain of Haihe River basin[J]. Journal of Hydraulic Engineering, 46(5): 594-601(in Chinese with English abstract).

ZHANG Guang-hui, FEI Yu-hong, WANG Jin-zhe, YAN Ming-jiang. 2012. Irrigated agriculture and Adaptability of groundwater in north China[M]. Beijing: Science Press(in

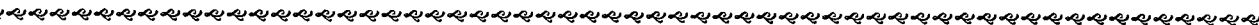
Chinese).

ZHANG Guang-hui, LIU Zhong-pei, FEI Yu-hong, LIAN Ying-li, YAN Ming-jiang, WANG Jin-zhe. 2010. The Relationship between the Distribution of Irrigated Crops and the Supply Capability of Regional Water Resources in North China Plain[J]. Acta Geoscientica Sinica, 31(1): 17-22(in Chinese with English abstract).

ZHANG Guang-hui, TIAN Yan-liang, WANG Dian-long, YAN Ming-jiang, WANG Jin-zhe. 2015b. Sharp decline and sluggish rise of shallow groundwater level in the Central Hebei piedmont agricultural region[J]. Journal of Hydraulic Engineering, 26(2): 227-232(in Chinese with English abstract).

ZHANG Guang-hui, YANG Li-zhi, NIE Zhen-long, SHEN Jian-mei, WANG Jin-zhe, YAN Ming-jiang. 2009. Assessment of Groundwater Function in North China Plain[J]. Resources Science, 31(3): 368-374(in Chinese with English abstract).

ZHOU Wan-mu, QI Quan, XU Min, FU Xiao-gang. 2007. The Impact of Excessive Ground Water Development on Agricultural Irrigation and the Countermeasures[J]. Ground Water, 29(4): 17-19(in Chinese with English abstract).



自主知识产权原子荧光光谱仪再获 7 项国家专利

Atomic Fluorescence Spectrometer, with Independent Intellectual Property, Gained Another Seven National Patents

2016 年,中国地质科学院地球物理地球化学勘查研究所所属廊坊开元高技术开发公司以张勤研究员、李可高级工程师为学科带头人的原子荧光光谱仪研发团队,在“全自动间歇式气体发生氢火焰双通道原子荧光光谱仪”的研发与产品化进程中,又获得 7 项国家实用新型专利。

7 项专利分别为:一种双通道原子荧光光谱仪实时记录和扣背景系统;一种应用于双通道原子荧光光谱仪的全反射降噪装置;一种双通道原子荧光光谱仪高精度测量和数据处理技术;一种双通道原子荧光光谱仪同时扣背景系统;一种非接触式自动液位检测的加液装置;一种气体发生全自动气液分离装置;一种气动式流动注射气体发生自动装置。

7 项专利创新实现了原子荧光光谱仪实时记录和扣背景、全反射降噪、高精度测量和数据处理等系列新技术,将大幅提升“全自动间歇式气体发生氢火焰双通道原子荧光光谱仪”的自动化水平和性能指标,使具有完全自主知识产权的仪器系统技术创新又上新台阶。

2014 年至今,“全自动间歇式气体发生氢火焰双通道原子荧光光谱仪”在新产品研发推广过程中共取得 25 项专利技术,显著提高了仪器的技术性能,在国内外创新推出了具有完全自主知识产权的全自动间歇式气体发生-原子荧光光谱仪,能广泛应用于地质、冶金、环境、质检、生命科学、食品卫生等多个检测领域。

本刊编辑部 采编

- Acta Geoscientica Sinica, 36(3): 257-269(in Chinese with English abstract).
- WANG Qi, QIAO Xue-jun, LAN Qi-gui, JEFFREY F, YANG Shao-min, XU Cai-jun, YANG Yong-lin, YOU Xin-zhao, TAN Kai, CHEN Gang. 2011. Rupture of deep faults in the 2008 Wenchuan earthquake and uplift of the Longmen Shan[J]. Nature Geoscience, 4(9): 634-640.
- WANG Shuai, ZHANG Yong-zhi, JIANG Yong-tao, LIU Ning. 2014. Slip velocity of fault induced by pso algorithm with dynamical inertial weight and dimension mutation[J]. Progress in Geophysics, 29(4): 1766-1771(in Chinese with English abstract).
- WANG Wei-min, ZHAO Lian-feng, LI Juan, YAO Zhen-xing. 2008. Rupture process of the Ms8.0 Wenchuan earthquake of Sichuan, China[J]. Chinese Journal of Geophysics, 51(5): 1403-1410(in Chinese with English abstract).
- XU Xi-wei, WEN Xue-ze, YE Jian-qing, MA Bao-qi, CHEN Jie, ZHOU Rong-jun, HE Hong-lin, TIAN Qin-jian, HE Yu-lin, WANG Zhi-cai, SUN Zhao-min, FENG Xi-jie, YU Gui-hua, CHEN Li-chun, CHEN Gui-hua, YU Shen-e, RAN Yong-kang, LI Xi-guang, LI Chen-xia, AN Yan-fen. 2008. The Ms8.0 wenchuan earthquake surface ruptures and its seismogenic structure[J]. Seismology and Geology, 30(3): 597-629(in Chinese with English abstract).
- YANG Nong, ZANG Yue-qiao. 2010. Longmenshan fault activities and he ethnoniedicinal uplift history of fission track dating in western region of Sichuan[J]. Journal of Geodynamics, 16(4): 359-370(in Chinese with English abstract).
- YANG Shun-hua, DING Di-hua. 1998. Crystal dislocation theory basis[M]. Beijing: Science Press(in Chinese).
- YAO Xin, ZHANG Yong-shuang. 2009. Co-seismic deformation of "5.12" Wenchuan earthquake based on D-InSAR[J]. Journal of Geodynamics, 15(2): 151-161(in Chinese with English abstract).
- ZHANG Xi, WANG Qing-liang, TANG Hong-tao, JIA Peng. 2011. The Simulation on Listric-fault Dislocation Background and Co-seismic Deformation of the Wenchuan Earthquake[J]. Acta Geoscientica Sinica, 32(2): 189-194(in Chinese with English abstract).
- ZHANG Xiu-xia, ZHANG Yong-zhi. 2011. The inversion of three-dimensional sliding parameters of longmenshan fault by genetic algorithm[J]. Journal of Geosciences and Environment, 33(2): 217-220(in Chinese with English abstract).
- ZHANG Yong-zhi, ZHANG Yong, WU Yan-jun, ZHANG Ben-ping. 2013. Study on the relationship between the fault rotation and surface deformation[J]. Journal of Geodesy and Geodynamics, 33(2): 8-12(in Chinese with English abstract).
- ЛИХАЧЕВ В А, ХАЙРОВ Р Ю. 1989. Introduction of disclination theory[M]. Translated by DING Di-hua, ZHOU Ru-song. Wuhan: Wuhan University Press(in Chinese).

## 中国地质科学院刘敦一研究员入选汤森路透 “2015 年全球最具影响力的科研精英”

### Professor LIU Dun-yi of Chinese Academy of Geological Sciences Enters Thomson Reuters “The World’s Most Influential Scientific Minds 2015”

在汤森路透 2016 年 3 月发布的《2015 年全球最具影响力的科研精英报告》所列出的全球高被引科学家名录中,中国地质科学院地质研究所离子探针中心刘敦一研究员再次入选。这是刘敦一研究员继 2014 年 10 月荣获首届“汤森路透中国引文桂冠奖——高被引科学家(Thomson Reuters Highly Cited Researchers)奖”之后,第二次入选该名录。

地球科学领域共有 149 人入选“2015 年全球最具影响力的科研精英”名录,其中中国内地科学家 9 人,刘敦一是中国地质科学院唯一入选的科学家。

汤森路透集团是全球领先的专业信息服务提供商。每年,汤森路透都会利用其 Web of Knowledge 的数据,对科研产出进行定量分析,长期关注被科学界所普遍认可的引文与学术影响力之间的联系,评估并甄选出学术研究领域的科研精英。对“高被引科学家”的甄选旨在全球范围内凸显出正在推动最前沿科学研究的科学家、机构和国家。为甄选出高被引科学家,汤森路透的分析师评估了 Web of Science 中所收录的 2003 至 2013 年间 21 个学科领域的论文,并跟踪了同年度同学科领域中引文影响力排在前 1% 的高被引论文的作者。

- concentration method, China: 201410662319.0[P](in Chinese).
- SANG Shi-hua, BU Ling-zhong, HONG Cai-hong, GAN Tian. 2010. 0℃ Isothermal Evaporation Experiments after Freezing at -10℃ on Zabuye salt Lake brines in Tibet[J]. Journal of chendu university of Technology (Science & Technology Edition), 37(5): 518-521(in Chinese with English abstract)
- WANG Yong-sheng, ZHENG Mian-ping, NIE Zhen, BU Ling-zhong, GAO Feng. 2011. 5℃-Isothermal Evaporation Experiment of Autumn Brines from the Sodium Sulfate Sub-type Zhabei Salt Lake in Tibet[J]. Acta Geoscientica Sinica, 32(4): 477-482(in Chinese with English abstract).
- YANG Zao-juan, XIANG Lan. 2005. Progress on the Extraction of Lithium from the Salt Lake Brine[J]. Journal of Salt and Chemical Industry, 234(6): 27-29(in Chinese with English abstract).
- ZHENG Xi-yu. 1988. Distribution of Trace Elements in Salt Lakes of Xizang(Tibet)[J]. Oceanologia et Limnologia Sinica, 19(1): 52-63(in Chinese).
- ZHENG Yu-xi, YU Sheng-song. 1981. Formation of the Salt Lakes Resources and its Utilization on the Xizang Plateau[J]. Scientia Geographica Sinica, 1(1): 66-76(in Chinese).

## 中国地质科学院地质研究所入选 国家创新人才培养示范基地

### Institute of Geology, Chinese Academy of Geological Sciences, Chosen as National Demonstration Base of Innovation Talent Cultivation

近日,科技部对2015年创新人才推进计划入选对象进行了公示。中国地质科学院地质研究所成功入选,是国土资源部系统首家入选的单位。

创新人才培养示范基地是科技部创新人才推进计划的重要组成部分,是打造人才培养政策、体制机制“先行先试”的人才特区。创新人才培养示范基地以高等学校、科研院所和科技园区为依托建设,营造培养科技创新人才的政策环境,突破人才培养体制机制难点,形成各具特色的人才培养模式。自2012年以来,89家单位先后入选创新人才培养示范基地。

近年来,中国地质科学院地质研究所深入贯彻落实《国家中长期人才发展规划纲要(2010—2020年)》及《国土资源部关于加强科技创新人才培养、引进的若干意见》,始终坚持将人才队伍建设作为研究所发展的重中之重,立足长远、统筹谋划、合理布局,以培养高层次人才、高技能人才为重点,开展人才战略研究,创新人才引进方式,完善人才培养政策,加大考核激励力度,深化国际合作交流,重视后备人才培养,多措并举推进人才队伍建设,充分调动中青年科技人才的积极性和能动性,让优秀人才引得进、留得住、用得好。

人才队伍建设的“组合拳”转化为强大的推动力,使中国地质科学院地质研究所各层次优秀人才不断涌现,呈现出百花齐放的势头:高锐成功当选中国科学院院士,打破了国土资源部院士增选10年青黄不接的局面;刘敦一连续两年获得“汤森路透中国引文桂冠奖——高被引科学家奖”;杨经绥等7人入围2015年中国高被引学者榜单;侯增谦获第14次李四光地质科学奖科研奖;刘福来、李海兵、曾令森入选国家百千万人才工程;曾令森获国家自然科学基金杰出青年基金资助,并入选创新人才推进计划“中青年科技创新领军人才”;翟庆国获国家自然科学基金优秀青年基金资助;董昕、翟庆国获得中国地质学会银锤奖;作为“黄汲清人才”引进的李忠海入选国家青年千人计划;先后6人入选中国地质调查局“青年地质英才”;14名科研人员在20家国际地学机构任职。目前,地质研究所共有7位中国科学院院士、5位“杰出青年基金”获得者、5位“百千万人才工程”入选者、4位“国家有突出贡献中青年专家”、1个基金委创新研究群体,人才队伍竞争力和创新实力在国内地学机构和国土资源部系统均处于先进行列。

- TAO Wen-quan. 2015a. Permeability prediction of shale matrix reconstructed using the elementary building block model[J]. *Fuel*, 160: 346-356.
- CHEN Lei, LU Yong-chao, JIANG Shu, LI Jian-qing, GUO Tong-lou, LUO Chan. 2015b. Heterogeneity of the Lower Silurian Longmaxi marine shale in the southeast Sichuan Basin of China[J]. *Marine & Petroleum Geology*, 65: 232-246.
- CHEN Shang-bin, XIA Xiao-hong, QIN Yong, FU Chang-qing, HU Lin. 2013. Classification of pore structures in shale gas reservoir at the Longmaxi Formation in the south of Sichuan Basin[D]. *Journal of China Coal Society*, 38(5): 760-765(in Chinese with English abstract).
- FANG Shao-xian, HOU Fang-hao. 2006. *Geology of petroleum and natural gas reservoir*[M]. Dongying: China University of Petroleum Press: 168-180(in Chinese).
- HU Bin, SHANG Yong-guo, NIU Yong-bin, SONG Hui-bo, LIU Shun-xi, ZHANG Lu. 2012. Sequence stratigraphic framework of Late Paleozoic coal measures and their sedimentary evolution in Henan province[J]. *Coal Geology and Exploration*, 40(2): 1-8(in Chinese with English abstract).
- JIANG Zai-xing, LIANG Chao, WU Jing, ZHANG Jian-guo, ZHANG Wen-zhao, WANG Yong-shi, LIU Hui-min, CHEN Xiang. 2013. Several issues in sedimentological studies on hydrocarbon-bearing fine-grained sedimentary rocks[J]. *Acta Petroleologica Sinica*, 34(6): 1031-1039(in Chinese with English abstract).
- JU Yi-wen, BU Hong-ling, WANG Guo-chang. 2014. Main Characteristics of Shale Gas Reservoir and Its Effect on the Reservoir Reconstruction[J]. *Advances in Earth Science*, 29(4): 492-506(in Chinese with English abstract).
- QIU Yi-nan, XUE Shu-hao. 2001. *Reservoir evaluation techniques*[M]. Beijing: Petroleum Industry Press(in Chinese).
- SHEN Jin-song, ZHANG Chen-kai. 2008. Study on the heterogeneity of the pore structure of Chang 6 reservoir in ZJ oilfield, Erdos Basin using fractal theory[J]. *Journal of Xi'an Shiyou University(Natural Science Edition)*, 23(6): 19-28(in Chinese with English abstract).
- WANG Zhi-gang. 2015. Practice and cognition of shale gas horizontal stimulation in Jiaoshiba of Fuling well fracturing area[J]. *Oil & Gas Geology*, 36(1): 1-6(in Chinese with English abstract).
- XIONG Feng-yang, JIANG Zhen-xue, TANG Xiang-lu. 2015. Characteristics and origin of the heterogeneity of the Lower Silurian Longmaxi marine shale in southeastern Chongqing, SW China[J]. *Journal of Natural Gas Science and Engineering*, 27: 1389-1399.
- YU Cui-ling. 2007. Study on the Impact of Reservoir Heterogeneity on Hydrocarbon Accumulation and Distribution[D]. Dongying: China University of Petroleum(in Chinese with English abstract).
- YU Bing-song. 2013. Classification and characterization of gas shale pore system[J]. *Earth Science Frontiers*, 20(4): 211-220(in Chinese with English abstract).

## 中国地质科学院曾令森研究员入选 2015 年国家百千万人才工程并被授予“有突出贡献中青年专家”称号

### Professor ZENG Ling-sen of Chinese Academy of Geological Sciences Chosen into National Talents Engineering of 2015 and Awarded the “Young and Middle-aged Experts with Outstanding Contributions”

近日,人力资源社会保障部公布了 2015 年国家百千万人才工程入选人员名单(人社部发[2015]91 号),中国地质科学院地质研究所曾令森研究员入选,并被授予“有突出贡献中青年专家”称号。曾令森研究员是地质研究所第 5 位获此殊荣的专家,也是国土资源部系统 2015 年唯一入选的人选。这是地质研究所人才队伍建设的又一项突破,是建设高素质、高水平、具有国际化视野的科技人才队伍的标志。

国家“百千万人才工程”是由人力资源社会保障部发起,会同科技部、教育部、财政部、发展改革委、自然科学基金会、中国科协等为加强高层次专业技术人才队伍建设,提高自主创新能力,选拔培养中青年学术技术领军人才的重大人才工程,是改革开放以来建立起来的一项中青年高层次人才培养工程。其培养目标是,根据国家科技发展和经济社会发展的需要,造就一批不同层次的跨世纪学术技术带头人及后备人选,即上百名能进入世界科技前沿,在世界科技界有较大影响的杰出青年科学家;上千名具有国内领先水平,保持学科优势的学术和技术带头人;上万名在各学科领域里有较高学术造诣、成绩显著、起骨干或核心作用的学术和技术带头人后备人选。2015 年全国共 395 人入选“百千万人才工程”。