

# 人居科学的未来

## 第三届人居科学国际研讨会论集

吴良镛 等 著



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2013年10月27日

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人居科学的未来

第三届人居科学国际研讨会论集

**FUTURE OF SCIENCES OF HUMAN SETTLEMENTS**

PROCEEDINGS OF 3<sup>rd</sup> INTERNATIONAL SYMPOSIUM  
ON SCIENCES OF HUMAN SETTLEMENTS

吴良镛 等 著

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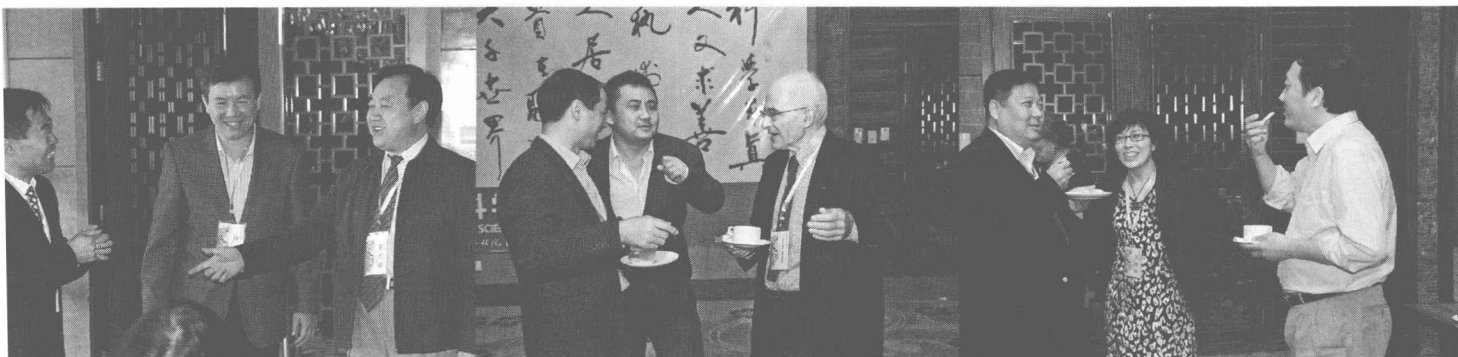
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# 前言

2013年10月27日,由清华大学、中国科学院和中国工程院联合主办的“人居科学的未来——第三届人居科学国际论坛”在清华大学举行。

开幕式上,中国工程院副院长樊代明、清华大学副校长薛其坤、中国科学院学部工作局副局长王敬泽分别致辞。清华大学建筑学院院长庄惟敏教授主持开幕式。开幕式后,中国工程院院士、中国科学院院士、清华大学建筑学院教授吴良镛首先作了题为“新型城镇化与中国人居科学发展”的主题报告。报告指出:如何实现健康的新型城镇化,是我国在转型过程中面对的重大战略挑战,要采用“复杂问题有限求解”的科学方法,以人为本,关怀人居;将人居文明建立在生态文明的基础之上;以县域为单元推进农村发展;发挥决策者、智库的作用,改进管理体制。要从科学转型角度认识人居科学,期待新的创举和大时代的来临。

随后,清华大学建筑学院党委书记边兰春教授主持了第一板块的研讨。国际建协(UIA)前任主席斯古塔司,中国工程院院士、北京大学环境科学与工程学院唐孝炎教授,和清华大学建筑学院城市规划系主任吴唯佳教授就“人本关怀与生态文明中的人居建设”的议题发表演讲。住房和城乡建设部原总规划师陈为邦就“发展转型、城镇化与人居建设的国家战略和顶层设计”议题发表演讲。

下午的会议包括第二、第三板块的研讨。第二板块由清华大学教授、建筑学院学术委员会主任朱文一主持,中国科学院区域可持续发展分析与模拟重点实验室主任、中国城市规划学会副理事长樊杰研究员和中国城市规划设计研究院副院长王凯就“人居建设与城镇化质量关系”议题发表演讲;江苏省住房和城乡建设厅厅长周岚,重庆大学建筑城规学院院长赵万民教授,就“美好人居、和谐社会与五位一体总体布局”议题发表演讲。

第三板块由清华大学建筑与城市研究所副所长毛其智教授主持,就吴良镛院士创立的人居科学及其未来发展进行了广泛的讨论。在讨论会上,住房和城乡建设部计划财务与外事司司长何兴华,中国城市规划学会副理事长兼秘书长、国际城市与区域规划学会副主席石楠,北京市规划委员会总规划师、北京市城市规划设计研究院院长施卫良,武汉大学城市设计学院院长张明教授,中国科学院区域可持续发展分析与模拟重点实验室副主任高晓路研究员,清华大学土木水利学院副院长王忠静教授,清华大学环境学院党委书记杜鹏飞教授,清华大学建筑学院学术委员会主任朱文一教授,清控人居建设集团专务副总裁袁昕等,分别发表了自己的观点。

到会的国内外专家学者,以及来自中国科学院、中国工程院和清华大学的代表近百人参加了会议。

据悉,2011年、2012年中国科学院、中国工程院和清华大学以“人居科学研究进展”、“人居科学理论与实践”为主题,联合举办了两届人居科学国际论坛,众多国内外专家集聚一堂,进行了高端学术研讨。本次论坛秉承前两届的宗旨和精神,在中国快速城镇化和发展方式转型的背景下,以“人居科学的未来”为主题,汇聚国内外著名专家学者,针对人本关怀与生态文明中的

人居建设，发展转型、城镇化与人居建设的国家战略和顶层设计，人居建设与城镇化质量关系，美好人居、和谐社会与五位一体总体布局问题等，开展深入而广泛的学术研讨，为建设有序空间和宜居环境出谋划策。

“人居科学”是以建筑、城市规划与园林为核心，整合工程、社会、地理、生态等相关学科形成的科学体系，以科学的方法解决中国城市化发展的复杂问题，是中国学者在城乡建设领域作出的重大理论贡献。人居科学在中国提出已经有 20 年的时间。在 1993 年 8 月，清华大学教授、中国科学院院士、中国工程院院士吴良镛会同周干峙、林志群在中国科学院技术科学部学部大会的学术报告上，首次提出“人居环境学”这一新的学术观念，阐释人居环境的学术体系，演讲引起科学界的广泛关注。此后，清华大学吴良镛院士率领的清华大学团队，以一系列国家重大科研项目为载体，组织科学共同体，积极开展了长三角、京津冀等地人居环境的跨学科研究，取得了丰硕的成果，对于我国城乡规划事业产生了巨大的影响。吴良镛院士倡导的人居科学，构建的科学研究框架、方法和典型实践，推动了中国人居环境建设和研究的持续开展，得到国内科学界的普遍认可，并于 2010 年获得陈嘉庚科学奖，2011 年获得国家最高科学技术奖。

2011 年以来，吴良镛院士论人居科学发展的论文集《明日之人居》，以及吴良镛院士领衔主持的《京津冀城乡空间发展战略研究三期报告》也在本次论坛上发布。





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# Preface

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On October 27, 2013, “Future of Sciences of Human Settlements: 3<sup>rd</sup> International Symposium on Sciences of Human Settlements”, co-organized by Tsinghua University, Chinese Academy of Sciences (CAS) and Chinese Academy of Engineering (CAE), was held in Tsinghua University.

At the opening ceremony, Fan Daiming, Vice President of CAE, Xue Qikun, Vice President of Tsinghua University, and Wang Jingze, Deputy Director General of Bureau of CAS Academic Divisions, respectively made an address. Prof. Zhuang Weimin, Dean of School of Architecture, Tsinghua University, presided over the opening ceremony. After the opening ceremony, Mr. Wu Liangyong, Academician of CAE and CAS and Professor of School of Architecture, Tsinghua University, gave the keynote speech on the topic of “new-type urbanization and the development of Sciences of Human Settlements in China”, which pointed out that: it is a challenge of strategic importance in the course of transformation in China with regard to how to realize a healthy new-type urbanization. The scientific approach of “limited solutions to complex questions” should be adopted to make people-oriented settlements come true; a human settlements civilization should be cultivated on the basis of ecological civilization; rural development should be promoted in units of county; it should encourage the decision-makers and think tanks to improve the management mechanism. In a word, the Sciences of Human Settlements shall be understood from the angle of scientific transformation, from which perspective of view new pioneering undertakings and the arrival of a great era can be expected.

Subsequently, Prof. Bian Lanchun, Chairman of Faculty Council of School of Architecture, Tsinghua University, took charge of the discussion on the 1st section. Sgoutas, past President of International Union of Architects (UIA), Prof. Tang Xiaoyan, Academician of CAE, Professor of College of Environmental Sciences and Engineering, Peking University, and Prof. Wu Weijia, Director of Urban Planning Department of School of Architecture, Tsinghua University, gave speeches on the topic of “construction of human settlements in human-oriented care and ecological civilization”. Chen Weibang, the former Chief Planner of the Ministry of Housing and Urban-Rural Development, gave a speech on the topic of “the national strategy and top-level design on development transformation, urbanization and human settlements construction”.

The meeting in the afternoon comprised the discussion on the 2nd and 3rd section. Prof. Zhu Wenyi, Director of Academic Board of School of Architecture, Tsinghua University, took charge of the discussion on the 2nd section. Prof. Fan Jie, Director of Key Laboratory of Regional Sustainable Development Modeling of CAS and Vice Council President of Urban Planning Society of China, and Wang Kai, Vice President of China Academy of Urban Planning & Design, gave speeches on the topic of “relationship of human settlements construction and urbanization quality”; Zhou Lan, Director-General of Jiangsu Provincial Department of Housing and Urban-Rural Development, and Prof. Zhao Wanmin, Dean of Faculty of Architecture and Urban Planning, Chongqing University, gave speeches on the topic of “nice human settlements, harmonious society and ‘Five in One’ general layout”.

Prof. Mao Qizhi, Deputy Director of Institute of Architectural and Urban Studies, Tsinghua University, took charge of the 3rd section, on which a wide-ranging discussion on the Sciences of Human Settlements initiated by Academician Wu Liangyong and its future development was conducted. At the meeting, He Xinghua, Head of Department of Planning, Finance and Foreign Affairs, Ministry of Housing and Urban-Rural Development, Shi Nan, Vice Council President and Secretary-general of Urban Planning Society of China, and Vice President of the International Society of City and Regional Planners (ISOCARP), Shi Weiliang, Chief Planner of Beijing Municipal Commission of Urban Planning, President of Beijing Municipal Institute of City Planning & Design, Prof. Zhang Ming, Dean of School of Urban Design, Wuhan University, Researcher Gao Xiaolu, Deputy Director of Key Laboratory of Regional Sustainable Development Modeling of CAS, Prof. Wang Zhongjing, Vice Dean of School of Civil Engineering, Tsinghua University, Prof. Du Pengfei, Chairman of Faculty Council of School of Environment, Tsinghua University, Prof. Zhu Wenyi, Director of Academic Board of School of Archi-

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ecture, Tsinghua University, and Yuan Xin, Executive Vice President of Tsinghua Holdings Human Settlements Construction (Group) Co., Ltd. (THHSCG), respectively expressed their own viewpoints.

The meeting has drawn approximately one hundred participants, including experts and scholars at home and abroad as well as the representatives of the Chinese Academy of Sciences, the Chinese Academy of Engineering and Tsinghua University.

It is learnt that the Chinese Academy of Sciences, the Chinese Academy of Engineering and Tsinghua University jointly held two sessions of International Symposium on Sciences of Human Settlements in 2011 and 2012 respectively titled "Progress in Sciences of Human Settlements" and "Theory and Practice on the Sciences of Human Settlements". Numerous experts from home and abroad gathered together to have high-end academic discussions. Following the mission and spirit of the previous two symposiums, this symposium is themed with "Future of Sciences of Human Settlements" in the context of rapid urbanization and transformation of development mode in China; well-known experts and scholars from home and abroad had undertaken profound and extensive academic discussions aiming at the human settlements construction in human-oriented care and ecological civilization, the national strategy and top-level design on development transformation, urbanization and human settlements construction, relationship of human settlements construction and urbanization quality, nice human settlements, harmonious society and "Five in One" general layout, etc, and given their advice and suggestions for the construction of ordered space and agreeable living environment.

"The sciences of human settlements" are an scientific system on human settlements which is formed with architecture, urban planning and landscape as the core and through the integration of such disciplines as engineering, sociology, geography and ecology, so as to address the challenges in China's urbanization progress in a scientific manner and thus itself constitutes a significant theoretical contribution to the field of urban and rural construction by the Chinese scholars. It has been two decades since human settlements sciences were proposed in China. In August, 1993, jointly with Zhou Ganzhi and Lin Zhiquan, Wu Liangyong, Professor of Tsinghua University and Academician of the Chinese Academy of Sciences and the Chinese Academy of Engineering, proposed this brand-new academic idea during the academic reporting of the academy board meeting of CAS Technological Sciences Division for the first time, which aroused widespread attention in the scientific community. Thereafter, with the effort of organizing the scientific community and employing a series of national key scientific research projects as the carrier, the team of Tsinghua University led by Academician Wu Liangyong has proactively conducted various interdisciplinary researches on human settlements in the Yangtze River Delta, Beijing-Tianjin-Hebei Region, etc., from which fruitful results were yielded and enormous influence was exerted on China's urban and rural planning. The sciences of human settlements initiated by Academician Wu Liangyong, as well as the scientific research framework constructed, methodology and typical practices carried out by him have pushed forward the sustainable development of China's human settlements construction and research and have gain wide recognition from the scientific community in China. In addition, Tan Kah Kee Science Award and State Science and Technology Top Award were granted to him respectively in 2010 and 2011.

Since 2011, the collected papers of Academician Wu Lingyong concerning the development of the sciences of human settlements "Future Human Settlements" and "The Third Report on the Rural and Urban Spatial Development Planning Study for the Capital Region (Beijing-Tianjin-Hebei)" led by Academician Wu Liangyong have also been released on this Symposium.

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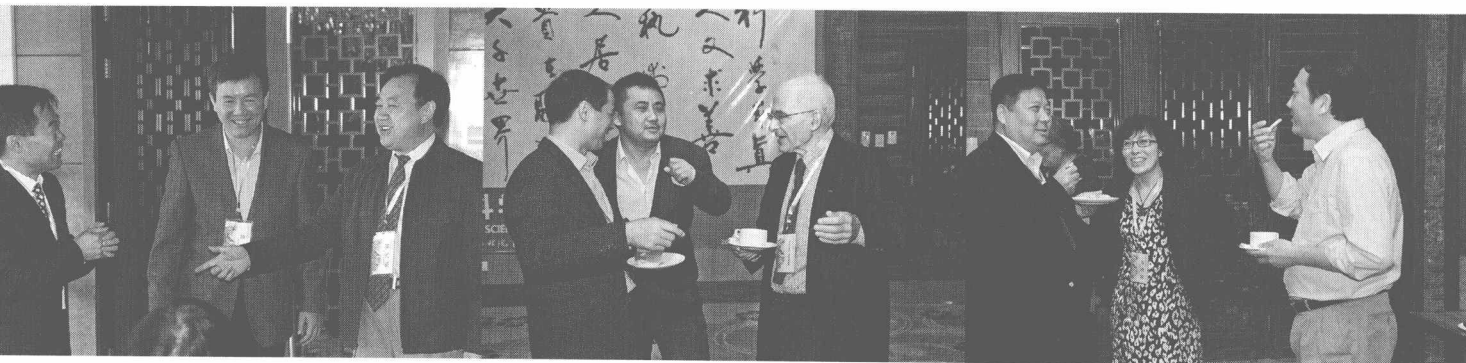
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3<sup>rd</sup> International Symposium on Sciences of Human Settlements Program



樊代明 / *FAN Daiming*

薛其坤 / *XUE Qikun*

王敬泽 / *WANG Jingze*

吴良镛 / *WU Liangyong*

瓦西里斯·斯古塔司 / *Vassilis Sgoutas*

唐孝炎 / *TANG Xiaoyan*

吴唯佳 / *WU Weijia*

陈为邦 / *CHEN Weibang*

樊 杰 / *FAN Jie*

王 凯 / *WANG Kai*

赵万民 / *ZHAO Wanmin*

周 岚 / *ZHOU Lan*

李善同 / *LI Shantong*

何兴华 / *HE Xinghua*

石 楠 / *SHI Nan*

施卫良 / *SHI Weiliang*

高晓路 / *GAO Xiaolu*

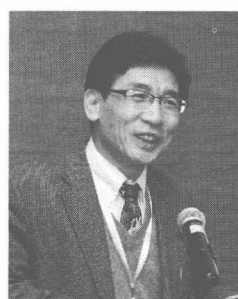
王忠静 / *WANG Zhongjing*

杜鹏飞 / *DU Pengfei*

朱文一 / *ZHU Wenyi*

袁 昕 / *YUAN Xin*





## 嘉 宾 致 辞



## 樊代明

FAN Daiming

## 居住宿的进步

中国工程院副院长  
中国工程院院士

我不懂城市规划，也不懂建筑，我不懂你们专业。我是一名医生，我知道人居环境对人体健康影响之大，对医疗卫生影响之大。目前我们医学上有两个 1/5 的严峻挑战：一是 1/5 的育龄夫妇该生生不出来；二是中国人的死因 1/5 是癌症，远远高于过去的比例，即不该死的死了。这是为什么？这是因为自然界的變化正在加速和加剧，有些突出的自然灾害，比如地震、台风、雾霾、SARS，本来应该几千年或几百年才出现一回，现在在几十年或几年中就见过了几次。显然，光靠人的力量去改变这种自然现象是不容易的，或者说根本不可能，但我们可以做一些事情来帮助人类渡过这个难关。其中，改善或增进人居环境就是一个很好的办法。

说到人居，我认为人类经历了三个时代：

第一个时代是自然时代，可以用一个“居”字来表示。这个时代最为漫长，可以从人类起源开始，历经了几百万年。那时只能靠寻找岩洞来遮风避雨，由于生产力低下，只能靠人的一些本能来解决人居问题。这个居字，“尸”代表岩洞，下面那个“十”代表生产工具，“口”代表捡来的自然的生活器皿。

第二个时代是经验时代，可以用一个“住”字来表示。这个时代横跨了上下数千年。经过岩洞时期，人们逐渐找到了适于人类生存和健康的经验，于是根据这些经验，加之生产力提高，逐渐地开始建造自己的住宅。这个时代是以人为本，以人的意愿和智慧，以人的主见来实现人居，所以“亻”和“主”的结合为住。比如，南方的民宅多为坐东朝西，但北方多为坐北朝南；南方的屋顶是双面盖，北方的屋顶为半边盖……。经过漫长历史的体验，有的住宅成了长寿村，因此一代一代住下去，也就成了“江家湾”、“毛家巷”、“张家港”或“石家庄”。但有的地方成了癌症村，没住几代人或几个家族就住不下去了，早就成了遗址。

第三个时代叫科学时代，可以用一个“宿”字来表示。随着人类社会的发展及工业化经济，人类从单家独户、小村小落，逐渐地集聚到镇，乃至大中城市，“宿”字上面的那个“宀”意指一个范围，也许是一个宾馆，一个新区，乃至一个城市，在这个范围下住的不是一个人，也不是一家人，而是成百上千的人，即“佰”。这么多人住在一起，各种影响因素就增多。房子越建越高，人本来应该接地气，打个光脚板最舒服，后来穿草鞋、布鞋还可以，再后来穿皮鞋、皮靴。过去住平地，现在住到 40 ~ 50 层高楼上去了，那上面原本是鸟住的地方。同一个地方，几个人或少数人住是适居，但很多人住到一起就成问题了。因此，我们的人居国际论坛，不仅要考虑环境、气候、人文、文化，还要把影响健康的各种因素都考虑进去，这样才能是科学的居住。





## 薛其坤

XUE Qikun

清华大学副校长  
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尊敬的吴良镛先生，尊敬的各位来宾，老师们，同学们，大家上午好。今天，在这里召开第三届人居科学国际论坛，我谨代表学校对大会的召开表示热烈的祝贺。

众所周知，中国的城市化进程正处在快速发展阶段。2011 年的中国内地城市化率达到了 51.3%，这意味着中国城镇人口首次超过农村人口，城市化进入关键发展阶段。在此过程中，与人类发展、环境保护和城乡建设等息息相关的“人居科学”变得日益重要，已经成为关系国计民生的重要科研领域。

多年来，清华大学一直将人居科学作为学校学科发展的重点领域，1984 年创办清华大学建筑与城市研究所，1995 年创办清华大学人居环境研究中心。近年来，清华大学始终坚持以“人居科学”为指导，以“立足人居环境，探索中国特色，跻身世界一流”为目标，组织安排建筑与规划的教学与科研工作，在科学研究、人才培养和为国家城乡建设服务等方面都取得了突出的成就。

从吴良镛院士 1993 年 8 月在中国科学院技术科学学部大会上首次提出“人居环境学”至今，已经经历了 20 年的发展历程。吴良镛先生提倡的人居科学，通过开展战略性的跨学科系统研究，为建筑规划学科的整合和中国人居环境建设的健康发展提供了一种科学研究的框架和方法，是践行多学科交叉的典范，对推动我国人居环境建设实践作出了重要贡献。2011 年人居科学获得了国家最高科技奖，这表明了人居科学在国内科学界获得的普遍认可，以及对中国人人居环境建设的重要意义。

放眼未来，在中国的城市化进程中，构建人本关怀与生态文明中的人居环境，提高城镇化质量与整体社会福祉，实现转型发展及可持续发展——这是中国在关键时期所面临的重要时代任务，这是人居科学理论与实践的广泛领域。在此，我衷心祝愿各位学科同仁能够将人居科学进一步发扬光大，关注国家建设需要和世界学科发展的前沿，为中国建筑学与城乡规划学科的发展，以及有中国特色的城乡规划建设实践作出更大的贡献。

在此预祝大会取得圆满成功，谢谢大家！