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国际研讨会论文集

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序 言

二十一世纪将是科技腾飞的世纪。

新的世纪,文化工作者任重而道远:要用先进的科学技术,传播知识、传播信息、传播优秀的民族文化,最大限度地为社会公众提供服务。为满足这一需求,数字图书馆应运而生。作为评价一个国家信息基础设施水平的重要标志并成为各国文化科技竞争焦点之一的数字图书馆建设,不仅给图书馆业带来一场革命,而且为先进文化的传播提供了新的有效手段。

自2000年起,由中华人民共和国文化部主持实施的“中国数字图书馆工程”正式启动。“国家数字图书馆基础工程”项目也已经被中国政府正式批准立项实施,成为“中国国民经济和社会发展第十个五年计划”的重点建设项目,为加快中国数字信息资源基础设施建设、促进信息资源共享、实现信息产业跨越式发展迈出了坚实的一步。但是,作为一项宏大的民族文化工程,中国数字图书馆工程的建设还有许多问题需要解决。在这种情况下,广泛的、多层次、多渠道的国内外信息技术的交流与合作显得尤其重要。为了确保中国数字图书馆工程有一个较高的起点,由中华人民共和国文化部主办,教育部、科学技术部、对外贸易经济合作部、国家广播电影电视总局、国家新闻出版总署(国家版权局)和北京市人民政府作为支持单位,中国国家图书馆承办的“数字图书馆——新世纪信息技术的机遇与挑战国际研讨会”于2002年7月9~11日在北京隆重举行。本次会议是中国数字图书馆界的一次盛会,对于促进中国数字图书馆建设无疑是非常有意义的,对于世界各国的数字图书馆建设也将产生积极影响。可以说,本次会议是在数字图书馆这一领域搭建中国与世界各国交流平台的一次有益的探索,其意义已经超出了数字图书馆合作领域,而是不同国家、不同民族、不同文化之间的对话,将会对来自各国文化的发展产生不可估量的影响。本次会议的论文集共收录了中、外论100余篇,从不同的角度探讨并试图解决数字图书馆建设过程中出现的带有共性问题。这不仅对“中国数字图书馆工程”的实施具有重要的借鉴意义,而且更

有利于我们开阔视野、拓宽思路,从整体上保证中国数字图书馆工程建设的较高起点。中国大众通过数字图书馆将更加了解世界,世界也将通过数字图书馆更加了解中国。中国的图书馆有责任将人类文明的重要信息加以保存并共享,有责任架起一座连接中国与世界的桥梁,这不仅有利于中国的社会发展,也将有利于促进世界和平和共同发展。

中华文化源远流长、博大精深,无论过去和现在,都以其海纳百川的气魄展现出中华民族的宽厚胸怀。我们要以中国数字图书馆工程建设为契机,抓住机遇,努力弘扬和传播中华文化,推动中国走向世界,并在人类的文明进步中发挥应有的作用。

孙家正

Foreword

The 21st century shall be a century of scientific and technical take-off.

During this new century, the tasks entrusted to the cultural workers are heavy and the road ahead is long. They have to use advanced science and technology to disseminate knowledge, information and excellent national culture, and try their utmost to serve the whole population. To cater to this need, digital libraries have emerged at this critical moment. As an important yardstick for ensuring the level of the national information infrastructure and one of the focuses of competition between various countries in the fields of culture and science and technology, development of digital libraries has not only cause a revolution in the library community, but also provided a new and effective tool for dissemination of excellent cultures.

The China Digital Library Project was officially started in the year 2000 under the auspices of Ministry of Culture. The Basic National Digital Library Project has been approved by the Chinese Government and listed as a key construction project in China's 10th Five-Year Plan on National Economic and Social Development. This is a solid step forward to speed up China's construction of China's digital information resource infrastructure, to promote information resource sharing, and develop its information industry by leaps and bounds. As a huge national cultural project, however, there are many problems to be solved in the construction of the China Digital Library Project. Under such a circumstance, it is of vital importance to carry out an extensive, multi-echeloned and multi-channeled exchange and cooperation in information technology both at home and abroad. In order to start the project at a comparatively higher point, the International Conference of Digital Library—Opportunities and Challenges in the New Millennium, sponsored by the Ministry of Culture and hosted by the National Library of China with support from the Ministry of Education, the Ministry of Science and Technology, the Ministry of Foreign Trade and Economic Cooperation, the General Administration of Radio, Film and Television, the General Administration of Press and Publication (the National Copyright Administration), and the People's Government of Beijing Municipality,

will be solemnly held in Beijing between July 9 – 11, 2002. Undoubtedly, this grand gathering of China's digital library circle shall be of extraordinary significance to promoting development of digital libraries in China. It shall also produce an active influence upon the development of digital libraries in all countries of the world. It can be said that the conference shall be a beneficial exploration into the construction of a platform of exchanges between China and other countries in the world in the field of digital libraries. With its significance extending beyond the fields of cooperation in digital libraries, the conference offers a forum for dialogue between different countries, different nations, and different cultures. It shall produce an immeasurable influence upon future development of culture in various countries in the world. More than 100 papers have been collected in the proceedings. From different angles, these papers provide solutions to issues of common concern that may crop up during the process of construction of digital libraries. They shall not only be of referential importance to implementation of the China Digital Library Project, but also conducive to broaden our field of vision, widen our train of thought, and guarantee a comparatively high starting point of construction of the project in the overall terms. Via digital libraries, the China people shall extend their acquaintance of the world, and the world shall acquire a closer acquaintance with China. China's libraries shoulder the responsibility to preserve and share with others all important information about human civilization, and to build a bridge connecting China and the rest of the world. This will be beneficial not only to the social development in China, but also to the promotion of peace and common development in the world.

Being splendid, extensive and profound, the Chinese culture runs a long course and from a remote source, and it has always been a show, both in the past and at present, of the all-embracing mind of the Chinese nation. We should make use of the opportunity of construction of the China Digital Library Project to carry forward and disseminate the Chinese culture, to bring China closer to the world, and to play a due role in advancing human civilization.

Sun Jiazheng

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知识经济与中国的数字图书馆建设

在“数字图书馆——新世纪信息技术的机遇与挑战”国际研讨会的发言

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各位女士、各位先生:大家好!

由中华人民共和国文化部主办的“数字图书馆——新世纪信息技术的机遇与挑战”国际研讨会已经隆重开幕。300余位国内外专家学者齐聚一堂,就我们共同关心的数字图书馆议题切磋研讨,广泛交流,意义深远。我作为中国数字图书馆工程建设的顾问,对光临这次会议的各国专家学者,表示热烈的欢迎!对大家关心中国数字图书馆工程建设,即将提出的建设性意见与建议,表示衷心的感谢!相信经过我们的共同努力,研讨会将对我国数字图书馆工程的建设产生积极的影响,并对世界数字图书馆事业的进步起到促进作用。

由于科学技术的突飞猛进,特别是互联网在全球范围的普及,使知识产生、传播和应用的速度大大加快,世界正在走向知识经济时代。在这个迅速变化的世界上,中国是近20年来改变最大的国家之一。作为WTO的成员,中国正在进一步推进社会经济体制的改革,为迎接知识经济时代打好基础。数字图书馆与知识在全球的广泛传播以至知识经济的形成有着密不可分的关系,我在发言中将对世界与中国发生的重要变化稍加说明,然后介绍中国数字图书馆建设的基本情况。

一、转变中的世界与中国^{[1][2][3][4][5]}

当前,国际变化的一个新的主要因素是知识创造和传播的加速,这种加速是因为所有科学知识和技术领域里,特别是电子信息、基因和纳米科学与技术的突破性进步,造成了有利于知识加速传播、普遍应用所需要的前所未有的环境。对这一革命性的转变,各国有不同的提法:新经济、知识经济、信息与通信技术(ICT)革命、信息社会、知识社会、后工业社会等等。

信息技术的快速进步提高了信息加工和传输的速度,反之又加速了科技发展。不同地域研究者之间低成本的电子网络也加速了研究进程,并创造出许多更新的技术,所有这些进步改变了经济和社会相互作用的模式。高性能计算正在成为像自来水与电一样的无处不在、随手可得的资源——下一代互联网络将是知识资源的网,高性能计算的网(GRID)。研究手段的突破性进步导致创新加快、成本降低,例如:高性能计算在20世纪的最后25年中,100万次运算能力的成本从7500美元下降到20美分;互联网的普及化和高速化使传输1万亿比特数据(相当于12万册100万汉字的书)的成本从15万美元下降到10美分;互联网连接了全球的4亿人口,改变了人们生产和生活的方式,知识的传播和共享导致科学技术更快的进步,其组织和管理的新模式还创造出新的竞争。

为了强调知识的空前重要性,OECD(经济合作与发展组织)国家运用“知识经济”这一概