

# Agreement for Australia-China Project “3s technology Application to Research into Historical Sites of the Hanzhong Region”

中澳项目“3S技术在汉中地区历史古迹研究中应用”合作协议

## Partners(合作方)

Australia David Jupp

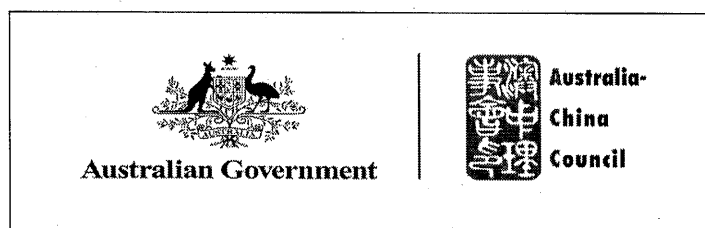
Australia UNSW Brian Lees

China Hanzhong Museum Feng Suiping (冯岁平)

China CAS ISWC Li Rui (李锐)

## 1. Initial Funding Agency

Initial enabling support for the project has been provided for the Project by the Australia-China Council. The Australia-China Council (ACC) was established by the Australian Government in 1978 to promote mutual understanding and foster people-to-people relations between Australia and China. Specially, the objectives of the ACC are to broaden and deepen relations between Australia and China by fostering in Australia a greater awareness and understanding of China and fostering in China a greater awareness and understanding of Australia as well as developing and expanding the areas of contact and exchange between Australia and China and their people.



More information can be found from the website managed by the Australian Department of Foreign Affairs and Trade at: <http://www.dfat.gov.au/acc/>

## 2. Background (合作背景)

- (1) **Hanzhong is one of the most important cities in Chinese history.** Hanzhong links the three valleys of the Wei river, the Han river and the Sichuan plain and has played a significant role in China's history. Through the Qin and Han dynasties to the Tang, the roads to Shu were built, destroyed, rebuilt and repaired but the traffic continued one way or another and still does today. Hanzhong lies at the crossroads of the Qinling traffic on the fertile plain surrounding the Han River. The upper Han River valley was home to Chinese civilization since Neolithic times and has maintained a central position down to the present day as a central area between north and south. In Hanzhong, the Hanzhong museum takes a very important place in historical research in western China and made many great

achievements especially into the Qinling traffic and the plank (or tressle) roads through the mountains. The Museum maintains an extensive collection of relics as well as managing many sites where relics are still to be found.

- (2) **3S technology can play an important role in research on historical site research.** There are many cases where an established geographic framework based on “3S” technology (remote sensing, GIS and GPS) for ancient relics and roads can help the task of conservation and preservation of relics as well as recording the paths taken by the plank roads. In addition, in these regions where the terrain and associated climates play such a dominant role in the record of history, the value of an accurate geographic framework to answer questions and resolve remaining mysteries concerning possible pathways and associations adds a new dimension to the pursuit of research into the Shu Roads and managing known relics. Developing geographic information of ancient texts, recent photographic records and available maps into a consistent modern mapping framework at the Hanzhong Museum can generate new ideas and better management of past relics. This project will therefore develop the capacity of the Hanzhong Museum to make use of the new technology in its programs of research and management of ancient relics as well as the management of the records and photographs that record past events. It aims to generate cultural interchange between Australian Museums and China as well as developing wider exchange and future tourism.

### **3. Objectives (合作目标)**

- (1) To provide an introduction to 3S technology appropriate to historical and archaeological studies at a workshop on the Shu Roads in Hanzhong held by the Hanzhong Museum;
- (2) To promote cooperation and research into applications of 3S technology to preservation and conservation for historical relics, photographs and records and the resolution of historical questions between Hanzhong Museum, ISWC and similar Australian academic groups and Museums;
- (3) To promote the application of Australian experience in 3S technology, historical research, conservation and preservation of history, historical records and environment as well as tourism at the practical level needed in China;
- (4) To organise specific meetings in China and Australia to help bring groups together to cooperate and build a sustainable support mechanism for the new technology in China and also to advertise and report on the progress of the project;
- (5) To promote the development of interactions and cooperation between the Hanzhong city government and people with Australian groups to promote development of ecological, historical and adventure tourism.

### **4. Workplan (工作计划)**

The Project will proceed in two Phases:

Phase 1 (September 2006 to May 2007) aims to develop a workshop on Shu Roads (with special emphasis on the Plank Roads) at which the opportunities and technologies provided by 3S technologies will have a specific focus.

Phase two (May 2007 to December 2007) will carry out a pilot project identified in Phase 1 to demonstrate the value of 3S technology to Plank Road research. The Australia-China Council in Australia will provide enabling support for the Phase 2 dependent on successful outcomes for Phase 1.

## **5. Contributions of each Partner (各方责任)**

### **(1) David Jupp (on behalf of the Australia-China Council Project)**

Project leader: His contribution includes project design, coordination, data collection and organization. Also he will manage the Australian side of the project, organise the travel between the countries, provide materials, information and support for the Workshop in the first Phase and the Pilot Project in the second as well as having responsibility for accounting and reporting to the ACC.

### **(2) University of NSW, Australia (Brian Lees)**

Prof Brian Lees will participate in all aspects of the project including design and technology development and training as a major collaborator. His University has agreed to provide 10% of his time to the project as well as the facilities of the University to support the visits by Chinese people to Australia to learn about the technology.


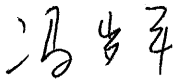
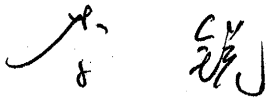
### **(3) Hanzhong Museum ( Director Feng Suiping)**

The Hanzhong Museum is the major focus of the Project. The Hanzhong activities will be led by Director Feng who will provide the primary definition of the scope, topics and application of the Pilot Project and provide the historical information needed for its successful conclusion. Staff from Hanzhong Museum will join the Project to undertake historical research and technology development. They will have responsibility for the local research facilities and work with the Australians to implement the pilot information system and its combination of remote sensing data, Geographic and Terrain data and GPS data of the sites of relics and tracks of the ancient roads.

### **(3) CAS ISWC (Li Rui)**

The ISWC have agreed to join the project and help develop the new application of technology involved and also to provide communications and help support the Australian experts in Yangling to undertake data processing and with field investigations. They will assist in the development of the pilot information system and its combination of remote sensing data, Geographic and Terrain data and GPS data of the sites of relics and tracks of the ancient roads.

**The dated signatures below will bring this agreement into effect:**

<p>David Jupp PO Box 531 Jamison Centre ACT 2614 Australia Phone: +61 2 6246 5895 Email: <a href="mailto:dlbjupp@ozemail.com.au">dlbjupp@ozemail.com.au</a></p>	<p>On behalf of the Australian side</p>  <p>Date: 3/12/2006</p>
<p>Feng Suiping (冯岁平) Director Hanzhong City Museum Hanzhong, Shaanxi, P.R. China Phone: +86 916 2231502 Email: <a href="mailto:fsping98765@sina.com">fsping98765@sina.com</a></p>	<p>On behalf of the Hanzhong Museum</p>  <p>Date: 2006. 12. 8</p>
<p>Prof Li Rui (李锐) Institute of Soil and Water Conservation Chinese Academy of Sciences &amp; Ministry of Water Resources Yangling, Shaanxi, P. R. China Phone: +86 29 8701 2061 Email: <a href="mailto:lirui@ms.iswc.ac.cn">lirui@ms.iswc.ac.cn</a></p>	<p>On behalf of the Institute of Soil and Water Conservation</p>  <p>Date: 2006. 12. 3</p>

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合作单位：

澳大利亚 David Jupp

澳大利亚 Brian Lees

中国汉中博物馆 冯岁平

中科院水保所 李锐

## 1. 经费资助

该项目的经费由澳中理事会（ACC）资助。澳中理事会由澳大利亚政府于 1978 年建立，其目的是加强两国的互相了解，增进两国人民的友谊。尤其是通过双方合作，加强已有领域的相互联系与交流，能够更为深入地了解、理解两国国情，进一步拓宽、全面加深两国的友好关系。通过澳大利亚外交事务与贸易局官方网站（<http://www.dfat.gov.au/acc/>）可以了解更详细的信息。



## 2. 合作背景

- (1) 汉中是中国历史上著名的重要地区之一。汉中市汉水环绕、土地肥沃，是秦岭的重要交通枢纽。从秦汉到唐朝，通往蜀国之路屡修屡坏，但始

终能保证道路畅通，并延用至今。汉水上游谷地自新石器时代就是中国文明的发源地，直至今日仍然保持着南北方交汇中心的重要位置。汉中博物馆在中国西部历史研究中占有极其重要的位置，取得了许多重要的研究成果，古代栈道研究更是引起国内外的广泛关注。

- (2) 基于 3S 技术建立的空间数据库可为历史古迹和古栈道的研究与保护提供很多支持和帮助。同时研究地区地形和气候对于古迹的保存具有特别重要的作用，空间数据库的意义在于发现古栈道及其相关的历史——地理踪迹，将古代的文字记载、现今的照片记录和已有地图等资料与现代遥感信息集成建立空间数据库，以便通过时间和空间的对比分析发现新的思路和线索。该项目目的在于加强汉中博物馆利用新技术的能力，以便更好的研究和管理大量以文献和照片记载的历史古迹资料。

### 3. 合作目标

- (1) 通过举办学术研讨会议，将 3S 技术引入汉中博物馆进行历史和考古学研究。
- (2) 促进汉中博物馆和澳大利亚有关方面的合作和交流，以便将 3S 技术能更好的应用于历史古迹保护和有关疑难问题的解决。
- (3) 促进将澳大利亚在利用 3S 技术进行历史研究、历史古迹保护、旅游环境保护等方面经验在中国的实际应用。
- (4) 在中国和澳大利亚组织专门的学术会议，交流项目进展并促使中方形成持续支持利用高新技术对文物进行保护和研究的机制。
- (5) 通过汉中市政府和公众与澳大利亚研究小组的交流与合作，更好促进生态旅游、历史古迹旅游和探险旅游事业发展。

### 4. 工作计划

目前执行的项目是开展本领域研究的预研究项目，研究工作分两个阶段。

第一阶段（2006.9——2007.5）：在相互访问和共同调查研究的基础上，举办学术研讨会议，主要目的是对利用 3S 技术进行古栈道研究的有关技术问题进行了研讨，确定典型研究的技术路线。

第二阶段（2007.5——2007.12）：根据第一阶段确定的目标，探索 3S 技术研究古栈道的可行性，建立服务于栈道研究的历史空间数据库。依据第一阶段的研

究进展，澳中理事会将为第二阶段的研究提供必要的支持。

## 5. 合作方的责任

### (1) David Jupp (代表澳洲-中国理事会)

项目负责人 David Jupp: 主要负责项目设计、收集资料、相互交流, 代表澳中理事会负责人员、经费和项目日常管理。

### (2) Brian Lees(代表澳大利亚 NSW 大学)

Brian Lees 教授 参与项目的总体设计、技术开发、培训与协调, 同时提供 GIS 和遥感技术等方面的设施和条件。


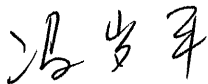
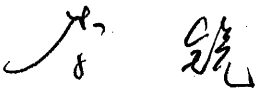
### (3) 冯岁平 (汉中博物馆)

汉中博物馆是本项目的主体, 其主要任务是提出研究的具体内容和要求 (包括时间、地点), 除主持完成有关栈道历史文献资料整编外, 还要直接参与 3S 技术应用研究。同时负责提供项目组在汉中的研究条件。

### (4) 李锐 (中国科学院水土保持研究所)

中国科学院水土保持研究所主要职责是参与 3S 技术开发, 负责项目的联络, 协助和参加澳方专家在杨凌的内业资料处理和研究区的野外调查工作。

本协议由下列各方代表签字生效:

David Jupp PO Box 531 Phone: +61 2 6246 5895 Email: <a href="mailto:dlbjupp@ozemail.com.au">dlbjupp@ozemail.com.au</a>	代表澳大利亚项目组签字 (David Jupp)  2006 年 12 月 3 日
冯岁平 汉中博物馆 Phone: +86 916 2231502 Email: <a href="mailto:fsping98765@sina.com">fsping98765@sina.com</a>	代表汉中博物馆签字 (冯岁平)  2006 年 12 月 8 日
李锐 中国科学院水土保持所 Phone: +86 29 8701 2061 Email: <a href="mailto:lirui@ms.iswc.ac.cn">lirui@ms.iswc.ac.cn</a>	代表中国科学院水土保持所签字 (李锐)  2006 年 12 月 3 日