

Signing Project of "2011 International R&D Institution Mission to Chongqing"

“2011 国际知名研发机构重庆行动” 签约项目

**Faculty of Urban Construction & Environmental Engineering,  
Chongqing University, China**

重庆大学城市建设与环境工程学院

**Europe Regional Centre for Ecohydrology u/a UNESCO, Polish**

**Academy of Sciences, Poland**

联合国教科文组织欧洲生态水文学研究中心

**Agreement on Joint Research Center on Ecohydrology**

# **共同成立“生态环境水文学联合 研究中心”合作协议**

October, 2011

二〇一一年十月



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# Agreement

on

**Joint Research Centre on Ecohydrology**

between

**Europe Regional Centre for Ecohydrology u/a UNESCO**

**Polish Academy of Sciences, Poland**

and

**Faculty of Urban Construction & Environmental Engineering,**

**Chongqing University, China**

**October 22, 2011. Chongqing • China**



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重庆大学城市建设与环境工程学院

与

联合国教科文组织欧洲生态水文学研究中心

共同成立

“生态环境水文学联合研究中心”

合作协议

中国·重庆·2011年10月22日



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The Europe Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences, Poland (hereinafter referred to as ERCE u/a UNESCO PAS) and Faculty of Urban Construction & Environmental Engineering, Chongqing University, China (hereinafter referred to as CQU-FUCEE), here and after referred to as "the Parties", have agreed upon establishing a Joint Research Centre (JRC). The JRC will be operated and developed as a joint effort between ERCE u/a UNESCO PAS and the CQU-FUCEE.

波兰国家科学院联合国教科文组织欧洲生态水文学研究中心（简称为“ERCE u/a UNESCO PAS”）与重庆大学城市建设与环境工程学院（简称为“CQU-FUCEE”），双方经友好协商一致同意成立联合研究中心（简称“中心”）。中心将由双方共同运作、共同发展。

This Agreement is promoting close and friendly relations between the Parties, and being aware of the rapid expansion of scientific knowledge, wishing to broaden the scope of scientific and technological cooperation through the creation of the JRC, and by this securing concrete cooperation within the below given fields.

本合作协议是在双方密切科研合作，以及对科技发展普遍共识的基础上签订的，力图通过成立联合研究中心以扩大双方的科学技术合作，进一步支持与保障双方在相关领域的深度合作。

The official name of the JRC will be:

### **“Joint Research Centre on Ecohydrology”**

中心名称正式定名为：

**生态环境水文学联合研究中心**

## **1. Background**

### **1. 背景**

In the face of global challenges such as changes in geopolitical and economic centres, as well as population increases, combined with progressive degradation of the natural resources and increasing climate stochasticity, there is an urgent need to formulate a





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new proactive strategy that harmonizes the humanity needs with water resources and ecosystem potential.

当今世界，政治格局、经济社会发展与人口数量剧增、环境资源枯竭、气候变化加剧等问题给人类生存发展带来了诸多挑战。如何制定一个具有前瞻性的策略以协调人类、水资源与生态系统的相互关系，已迫在眉睫。

Ecohydrology (EH) is defined as sub-discipline of hydrology that focuses on ecological processes occurring within the hydrological cycle and strives to utilize such processes for enhancing environmental sustainability. It has been developing in the framework of the International Hydrological Programme of UNESCO which is focused on regulation of water biota interplay from the top of the river basin to the bottom of the reservoirs and coastal zones, toward slowing down transfer of water from sky to the sea, enhance groundwater resources and maintain critical habitats for water, energy and nutrients circulation, which in turn maintain biodiversity. It also works for reduction of the input of excess nutrients and pollutants into the waters to reverse ecosystem degradation and improve human well-being.

生态水文学（EH）是水文学的分支学科，它关注于水文循环中的生态过程，致力于通过生态水文过程以提高环境的可持续性。欧洲生态水文学研究中心是在联合国教科文组织国际水文计划框架下成立起来的。她关注于研究江河、湖库及海洋等全水文循环过程下水生生物区系的生态作用机制，促进淡水资源保护，维持水中能量、物质循环的关键生境条件，保持生物多样性，并通过减缓过量营养物与污染物向水体输入以构建面向生态健康、提高人居环境质量的有效生态水文模式

There is no doubt that the change in hydrological processes as a critical response to the global climate change significantly regulate the related habitat of biota and impact the current features and future development of biosphere. Under this circumstance, ecohydrology plays a crucial role in facing the climate change, elucidating the interactions between climate change and response of biosphere, and providing various solutions for sustainable water resource management.

毫无疑问，作为对全球气候变化的响应，水文循环的改变将显著调控生态区系的生境条件，并将对生物圈的现状特征与未来发展产生深远影响。在此情境下，生态水文学在应对气候变化、阐明气候变化对生物圈的影响机制、提供可持续水资源管理方案等方面都扮演着至关重要的角色。



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ERCE u/a UNESCO PAS in Lodz, Poland has a high reputation as one of the most knowledgeable in ecohydrology. It has been established within the structure of the Polish Academy of Sciences. Scientific profile of the Centre includes in particular: ecohydrology of rivers/reservoirs, environmental chemistry, landscape processes, GIS, phytotechnology, ecotoxicology, molecular ecohydrology, and mathematical modelling of decision support systems. It aims to provide integrative systemic solution for implementation of environmental directives of European Commission and facilitates the communication in multi-stakeholder platform.

联合国教科文组织欧洲生态水文学研究中心位于波兰罗兹，因其丰富的生态水文学研究成果而在行内享有极高的声誉。联合国教科文组织欧洲生态水文学研究中心是波兰国家科学院的重要机构，该中心的研究领域包括：河流/水库生态水文学，环境化学，景观学，地理信息系统，光合作用技术，生态毒理学，分子生态水文学，决策支持系统的数学模型。她旨在为欧盟环境管理框架实施提供系统性的解决方案，为有关各方提供科学的交流沟通平台。

CQU-FUCEE owns the Key Laboratory of the Three Gorges Reservoir Region's Eco-environments, Ministry of Education, and offers related doctoral programs in both Environmental Science & Engineering, and Ecology. It covers the following research fields: water environmental science, aquatic ecology & ecotoxicology, environmental chemistry, environmental engineering, civil water engineering, and water environmental management. The faculties and staff in CQU-FUCEE have been dedicated to the eco-environmental research in the Three Gorges Reservoir Region for over 10 years in order to elucidate the ecological response and water environmental evolution of the Three Gorges Reservoir Region after the construction of the Three Gorges Dam, and to achieve sustainable water environmental management strategies in the region.

重庆大学城市建设与环境工程学院拥有三峡库区生态环境教育部重点实验室，拥有环境科学与工程、生态学两个一级学科博士点，主要研究领域包括水环境科学、淡水生态学与生态毒理学、环境化学、环境工程、城市水工程、以及水环境管理等。学院的研究团队已在三峡库区开展 10 余年的相关研究工作，研究致力于阐释三峡大坝修建后三峡库区生态响应与水环境演变过程，寻求可持续的库区水环境管理策略。

A new Joint Research Centre driven by ERCE u/a UNESCO PAS and CQU-FUCEE can therefore be a powerful construction which can contribute significantly to meeting top priority regional needs and global demands of critical nature.





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由双方共同成立的生态水文学联合研究中心将为区域生态发展，全球自然环境演化的科学研究需求创造坚实的基础。

The first contact within the area of ecohydrology was made between both Parties in 2009. The both parties achieved China-Poland Intergovernmental S&T Cooperation Program in 2010. Mutual visit between professors from both Parties has been successfully accomplished, laying a solid foundation for more concrete cooperation involving joint projects between both Parties.

双方在生态水文学领域的合作起始于 2009 年。2010 年双方共同申请中-波政府间科技合作协议获得批准通过，并在此基础上实现了双方教授与主要科研人员的互访交流，为开展更深入的联合研究奠定了基础。

The present Agreement for a JRC is therefore believed to be a necessary formal action in order to concretize joint research and educational issues. A step-up of the financing instruments and an even stronger focus on the research directions within Ecohydrology is needed to raise the present JRC to be of world-leading research in alignment with the two herein nations' thematic priorities.

本合作协定旨在使双方联合研究中心的日常运作、科研工作开展与学术交流正规化、细致化，并通过逐步的经费与设备投入，促进更高层次的生态水文学研究，使相关研究成果跻身于国际先进水平。

## 2. Objective

### 2. 发展目标

The Centre has the ambition to join the efforts and resources of the Parties to create a world-leading scientific collaborative research, innovation and education centre for ecohydrology.

合作双方将共同努力、共享资源，将联合研究中心建设成为集研发、创新、教育于一体的、具有世界先进水平的生态水文学研究机构。

## 3. Research Areas



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### 3. 研究领域

The following thematic research areas of mutual interest have been identified as the major working-areas:

基于双方共同的研究兴趣，双方确定该中心的主要科学研究领域如下：

**Ecohydrology:** the mechanisms of ecological response to hydrological processes in different levels and scales of anthropogenic perturbations

**生态水文学：**不同尺度与强度的人类活动胁迫下水文过程的生态响应机制

- The rules of ecohydrology in watershed and the hydro-ecological effect of large-scale hydropower project: Assessment of healthy rivers
- Ecological response of eutrophication and biogeochemical processes of nutrients from the point-of-view of ecohydrology in multiple scales
- Molecular ecohydrology on phytoplankton ecology and algal toxins in reservoirs
- Sustainable water resource utilization and ecological management in watershed
- Spatio-temporal distribution of environmental capacity, water pollution control and ecological restoration in watershed.
- Case and demo study on ecohydrology in the Three Gorges Reservoir Region
  
- 流域生态水文学原理与大型水利水电工程的水文生态效应：健康河流评价体系
- 基于生态水文学原理的水体富营养化生态响应机制以及多尺度的营养物生物地球化学循环
- 水库水域浮游植物生态与藻毒素的分子生态水文学
- 可持续水资源利用与流域生态管理
- 流域环境容量时空分配、水污染控制与流域生态修复
- 三峡库区生态水文学的案例研究与示范

### 4. Activities and Instruments

#### 4. 活动细则与硬件条件

The following activities will be part of the Centre:





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中心将开展以下学术活动:

- Development of Joint Research Centre strategy and annual action plans
  - Annual Centre meetings presenting achieved results and new plans for collaborative activities, and publishing annual Centre reports.
  - Align with the current national research policies and priorities of both nations
  - Arrange joint workshops and symposia
  - Exchange results obtained within the Centre Research Areas
  - Perform basic science and applied research.
  - Apply for joint funding of common research projects in China and in Poland.
  - Motivate and evaluate the possibilities for participation in EU Framework research programs
  - Recruit other research units for participation in the Center activities
  - Exchange of undergraduate, M.Sc. and Ph.D. students
  - Host summer or winter schools for students and young researchers
  - Stimulate and prepare the ground for young scientists to engage
  - Exchange guest lecturers and host guest researchers and professors; short visits or longer stays such as sabbaticals or postdoctoral assignments
  - Common research reports and joint publications in well-recognized international journals and joint presentations at national and international conferences
- 
- 拟定联合研究中心发展策略与年度活动计划
  - 召开年度总结会议，提交研究活动取得的成果并拟定新的计划，出版中心年报
  - 严格遵守各自国家的相关科研政策与法律
  - 定期举行工作座谈会与专题研讨会
  - 及时交流双方的学术研究成果
  - 开展基础科学与应用技术研究工作
  - 共同申请中国、波兰政府双边联合资助项目
  - 积极推动参与欧盟研究框架的相关研究项目
  - 吸纳其他研究团队参与中心各项学术活动
  - 促进双边本科生、硕士/博士研究生的交流
  - 组织相关研究人员、学生的寒暑期科研夏令营活动
  - 激励并提供必要条件以促进青年学者参与中心研究工作
  - 开展双边研究人员的交流学习、短期讲学与长期人员学术交流（如博士后研究）
  - 在国际公认的学术期刊共同出版相关联合研究成果，共同参加国际学术会议



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These activities may be facilitated by the following instruments:

上述的学术活动可基于以下的硬件条件:

- Economic support from each Party through their governmental and industry funding systems
- Free or low cost access to selected advanced laboratories and equipment within the Parties
- Formalizing student exchange agreements and providing information to potential exchange students regarding possibilities and economic support
- Jointly supervising Ph.D. students and post graduates
- Active communication through the internet and telecommunications
- Centre area with easy-access meeting room and work-places
- 通过双方政府与工业界的科研资助项目获取相关研究经费支持
- 双方有权免费或低价使用对方实验室及其先进的实验仪器设备
- 签订交换生协定并提供交换生职位信息，以及必要的经费资助
- 联合培养博士研究生与硕士研究生
- 通过电信、网络积极开展相关交流活动
- 为双方研究人员提供舒适的工作环境

## 5. Location

### 5. 中心地点

The Centre will be located at Field Research Centre (FRC) of the Faculty of Urban Construction and Environmental Engineering, Chongqing University. The FRC is located in Wanzhou District, Chongqing Municipality, and now operated by the research group of Prof. Jinsong Guo in CQU-FUCEE.

联合研究中心将位于重庆大学城市建设与环境工程学院三峡库区野外研究基地。该基地位于重庆市万州区，目前由郭劲松教授科研团队管理。



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The laboratories and instruments in FRC will have an open and free access status for the Centre activities. There will be work-places and offices available for visiting fellows in both institutions.

该研究基地的实验室与仪器设备将对联合研究中心的学术活动免费开放。同时，该研究基地将提供足够的办公、工作空间为双方研究人员开展研究工作提供便利。

## 6. Organization

### 6. 组织机构

The Centre leadership will have the following structure (4 persons):

联合研究中心的领导机构将由以下 4 人组成：

- Director: Pending between CQU-FUCEE and ERCE u/a UNESCO PAS every third year and appointed by the Board.
- Vice-directors to be appointed by the Board.
- Secretariat: Kept among both Parties with dedicated secretary assistance.
- 主任：重庆大学城市建设与环境工程学院与联合国教科文组织欧洲生态水文学研究中心组成的联合学术委员会每三年举行一次选举确定。
- 副主任：由联合学术委员会指定；
- 秘书处：由双方共同指派，进行日常秘书工作。

The Board is constituted by (7 persons):

联合学术委员会由以下 7 人组成：

- Professor Maciej Zalewski, director of the ERCE u/a UNESCO PAS
- Professor Jinsong Guo, deputy dean of the CQU-FUCEE
- Dr. Katarzyna Izydorczyk, vice director of the ERCE u/a UNESCO PAS
- Professor Xu Gao, Chongqing University
- Professor Joanna Mankiewicz-Boczek, ERCE u/a UNESCO PAS
- Professor Fang Fang, Chongqing University
- Associate Professor Zhe Li, Chongqing University.



