



**Call for Participation:**  
**The 2021 International Student Competition**  
**On Architectural Design and Digital Modelling**

With the aim to promote the academic and cultural exchanges among university students from various countries, and to cultivate the scientific and technological innovation spirits and practical abilities of university students, the 2021 International Student Competition on Architectural Design and Digital Modelling, along with the International Photography Competition on Historic Canal Towns Along the Belt and Road, is expected to be launched.

The details are notified as follows:

**I. Organizational structure**

**Initiated by:**

- Belt and Road Architectural University International Consortium (BRAUIC)

**Organized and hosted by:**

- Beijing University of Civil Engineering and Architecture (BUCEA)

**Co-organized by:**

- Beijing International Peace Culture Foundation (BIPCF)
- Beijing Peace Garden Museum (BPGM)

**Supported by:**



“一带一路”建筑类大学国际联盟  
Belt and Road Architectural University  
International Consortium

- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- Chinese Society for Geodesy Photogrammetry and Cartography (CSGPC)
- G-global
- China Silk Road Group Limited (CSRG)



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Website: [brauic.bucea.edu.cn](http://brauic.bucea.edu.cn)



“一带一路”建筑类大学国际联盟

Belt and Road Architectural University  
International Consortium

## II. Scientific Committee

Categories	Scientific Committee	Members
Architectural Design	Honorary Member	<ul style="list-style-type: none"> <li>• Cui Kai, Academician of Chinese Academy of Engineering and National Master of Engineering Survey and Design</li> </ul>
	Executive Member	<ul style="list-style-type: none"> <li>• Zhang Jie, Tsinghua University &amp; Beijing University of Civil Engineering and Architecture, China</li> </ul>
	Members (In alphabetical order)	<ul style="list-style-type: none"> <li>• Armen Shatvoryan, National University of Architecture and Construction of Armenia</li> <li>• Dong Lili, Chongqing Jiaotong University, China</li> <li>• Jin Qiuye, Beijing University of Civil Engineering and Architecture, China</li> <li>• Luca Maria Francesco Fabris, Politecnico di Milano, Italy</li> <li>• Marchwinski Janusz, University of Ecology and Management in Warsaw, Poland</li> <li>• Valerija Kopilas, University of Mostar, Bosnia and Herzegovina</li> </ul>

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<b>Structural Design</b>	Honorary Member	<ul style="list-style-type: none"> <li>• Giuliano Panza, Elected Member of: Academia Europaea, Accademia Nazionale Lincei, Italy, Russian Academy of Sciences, and the Academy of Sciences for the Developing World</li> </ul>
	Executive Member	<ul style="list-style-type: none"> <li>• David Tann, University of East London, the UK</li> </ul>
	Members (In alphabetical order)	<ul style="list-style-type: none"> <li>• Guo Tong, Southeast University, China</li> <li>• Liu Zhongxian, Tianjin Chengjian University, China</li> <li>• Qi Jilin, Beijing University of Civil Engineering and Architecture, China</li> <li>• Shi Qingxuan, Xi’an University of Architecture and Technology, China</li> <li>• Vladimir Filatov, Moscow State University of Civil Engineering, Russia</li> <li>• WANG Bo, Jilin Jianzhu University, China</li> </ul>
<b>Building and Space 3D Modelling</b>	Honorary Member	<ul style="list-style-type: none"> <li>• Sisi Zlatanova, SHARP (Strategic Hires and Retention Pathways) Professor at the University of New South Wales, Head of the Geospatial Research, Innovation and Development lab, and President of Technical Commission IV ‘Spatial Information Science’ of the International Society for Photogrammetry and Remote Sensing (ISPRS)</li> </ul>

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	Executive Member	<ul style="list-style-type: none"><li>• Wu Huayi, Wuhan University, China</li></ul>
	Members (In alphabetical order)	<ul style="list-style-type: none"><li>• Huang Guanwen, Chang' an University, China</li><li>• Hu Han, Southwest Jiaotong University, China</li><li>• Julien CHAMOIN, Junia Graduate School of Engineering, France</li><li>• Kang Zhizhong, China University of Geosciences, Beijing, China</li><li>• Liu Xianglei, Beijing University of Civil Engineering and Architecture, China</li><li>• Miro Govedarica, University of Novi Sad, Serbia</li></ul>

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### **III. Eligibility**

#### **(I) International Student Competition on Architectural Design and Digital Modelling**

Open to both graduate and undergraduate students enrolled in engineering programs.

#### **(II) International Photography Competition on Historic Canal Towns Along the Belt and Road**

Open to all photographers, pro and non pro, including students.

### **IV. Categories and guidelines**

#### **(I) International Student Competition on Architectural Design and Digital Modelling: *Resilience: To Recreate the Glamour of Canals***

Focusing on the sustainable development of the historic canal towns along the Belt and Road, the planning of the reconstruction of the old city, the architectural and structural design of restoring old buildings, and the digital modelling of urban landscapes.

The 3 categories of the competition are: Category A: Architectural Design; Category B: Structural Design, Category C: Building and Space 3D Modelling. See the *Annex 1: Competition Guidelines* for the specific requirements.



## **(II) International Photography Competition on Historic Canal Towns Along the Belt and Road: Light and Shadows in Ancient Water Towns by the Canal**

Focusing on capturing the characteristic architecture, geographical landscape, and cultural features of the historic canal towns along the Belt and Road, including but not limited to the cultural and historical symbols along the canal, regional cultural system and spiritual connotation, panoramic display of characteristic landscapes, etc.

The Photography Competition is open to all photographers, pro and non pro, including students, with a view to encouraging participants to record the canals and ancient canal towns along the Belt and Road, so as to promote mutual learning among civilizations through photographic art, and the development of a community of culture, ecology and economy.

### **V. Entry requirements**

#### **(I) International Student Competition on Architectural Design and Digital Modelling**

(1) Each participating university recommends no more than 4 teams with no more than 2 teams under each category.

(2) A participating team contains no more than 5 members and no





more than 2 supervisors. The supervisors shall be university teachers.

(3) The submissions shall not contain any words or patterns indicating the names of the participants or the university. Those who do not meet the requirements will be disqualified.

(4) The participants have the copyright of the entries, while the organizers have the right to exercise other copyright except the authorship of the entries, including the right to use the entries (without additional payment), and retain the right of post-processing of the entries, such as publishing books, photo albums, videos, model exhibitions, and technology promotion, etc.

(5) It is strictly prohibited to copy the existing design works. The participants shall be responsible for the similarity, plagiarism, and intellectual property disputes of the technical solutions.

(6) Submitted entries will not be returned.

(7) All submitted materials shall be in English.

## **(II) International Photography Competition on Historic Canal Towns Along the Belt and Road**

(1) Photos taken by cameras and phones are both eligible.

The time and date when the photos were taken is not limited.





Black-and-white, color, and picture stories are all eligible. Each participant may submit 3 photos at most.

(2) Photos are required to be in JPG format. Please name your photos “Photographer Name + Photo Title”. Submitted photos should be a loyal reflection of the original scenes.

## VI. Registration

### (I) Sign-up

1. Deadline: May 21, 2021
2. Please send the *Work Recommendation Form* (See Annex 2-1) to brauic@163.com with the email title of “university name + 2021 BRAUIC Competition Sign-up”.

### (II) Work submission

1. Deadline: July 16, 2021
2. Submission:
  - **International Student Competition On Architectural Design and Digital Modelling**

Please send the *Entry Information Form* (Annex 2-2) and work materials to brauic@163.com with the email title of “university name + 2021 BRAUIC Competition Work Submission”.



For each recommended work, you shall include drawings and relevant documents with the file title of “university name + work name + first author’s name”. Considering the difficulties in sending large files via email, you’re suggested to share the work documents through WeTransfer, and fill the WeTransfer Link in the *Entry Information Form*.

• **International Photography Competition on Historic Canal Towns Along the Belt and Road**

Please send the *International Photography Competition Entry Information Form (Annex 2-3)* and photos to brauic@163.com with the email title of “photographer name + 2021 Photography Competition Submission”.

The photo titles and descriptions should correspond to the submitted photo file names and be ordered by serial number.

**VII. Schedule**

S. N.	Time	Arrangement
1	March 2021	Call for participation
2	April-May, 2021	Competition Sign-up
3	June-July, 2021	Work Submission
4	August-September, 2021	Jury selection



5	October 2021	Award ceremony & work exhibition  (The 5th BRAUIC Conference,  Mostar, Bosnia and Herzegovina)
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### VIII. Awards

S.N.	Category	Awards	No. of Winners	Prizes	Remarks
1	<b>Architectural Design</b>	The First Prize	1	15000 yuan, Trophy & Certificate	There are other awards such as Organizational Achievement Award and Outstanding Supervisor Awards. Excellent works will be selected for the exhibition. The Jury Committee may add or omit any prizes according to the quality of the submissions.
		The Second Prize	2	10000 yuan, Trophy & Certificate	
		The Third Prize	7	5000 yuan, Trophy & Certificate	
		Honorable Mentions	10	Certificate	
2	<b>Structural Design</b>	The First Prize	1	15000 yuan, Trophy & Certificate	Excellent works will be selected for the exhibition. The Jury Committee may add or omit any prizes according to the quality of the submissions.
		The Second Prize	2	10000 yuan, Trophy & Certificate	
		The Third Prize	7	5000 yuan, Trophy & Certificate	
		Honorable Mentions	10	Certificate	



S.N.	Category	Awards	No. of Winners	Prizes	Remarks
3	<b>Building and Space 3D Modelling</b>	The First Prize	1	15000 yuan, Trophy & Certificate	
		The Second Prize	2	10000 yuan, Trophy & Certificate	
		The Third Prize	7	5000 yuan, Trophy & Certificate	
		Honorable Mentions	10	Certificate	
4	<b>Photography</b>	The First Prize	1	Trophy & Certificate	
		The Second Prize	2	Trophy & Certificate	
		The Third Prize	7	Trophy & Certificate	
		Honorable Mentions	10	Certificate	

## IX. Fundraising and other opportunities

### (I) Fundraising

### (II) Other opportunities

1. Media coverage of the stories of university students from various countries participating at the Competition.

2. For international students who are not Chinese citizens and have



won the First Prize, Beijing University of Civil Engineering and Architecture will award him/her International Students Freshman Scholarship for English-taught Master's Programs.

3. For universities winning the Organizational Achievement Award, Beijing University of Civil Engineering and Architecture will offer BUCEA International Summer School Scholarship (tuition-free) to one student from each winning university to participate the 2022 BUCEA International Summer School.

4. Other opportunities provided by member universities.

### **X. About the First Competition 2020**

Under the theme of *Build the Belt and Road, Build the Future*, the First BRAUIC University Student Architectural and Structural Design Competition is set in two categories: 1) Category A (architectural design): Future Library in A Historical Urban Area; and 2) Category B (building structure): Bridge Design. This competition has attracted 18 universities, 50 teams and more than 250 teachers and students from home and abroad. Cui Kai, Academician of Chinese Academy of Engineering and National Master of Engineering Survey and Design has served as the Honorary Member of the Competition Scientific Committee which consists of 16 established international experts in the fields of architecture and civil



engineering, having formed a jury and selected winning works. The competition has set a platform to share exchanges and cooperation fruits of the BRAUIC, and exhibit scientific and technological innovations of the youth.

### **XI. Contact information**

The Secretariat of the organizing committee is set at the Beijing University of Civil Engineering and Architecture.

**Contact Information:** Ms. LI Yang, Mr. HUANG He

**Tel:** 0086-10-68327443

**E-mail:** brauic@163.com

**Address:** No.1 Zhanlanguan Road, Xicheng District, Beijing, P. R.  
China 100044

The Secretariat of the BRAUIC

March 31, 2021



## **Annex 1: Competition Guidelines**

### **Category A: Architectural Design**

Canals are artificial waterways that provide important channels for goods and people to travel. Historically canals have not only been the lifeblood for economic development, but also cultural exchanges and communication. Qing Dynasty emperor Qian Long noted their importance when he wrote in his poem “Great is the canal that winds to Capital Beijing, faster than a galloping horse smooth as a breeze.”

The earliest recorded canal was the Xu Canal built by King Wu as early as 506 B. C. Since then, as human society progressed, canals have become an important bridge for cultural convergence. Famous examples include the Grand Canal connecting Beijing and Hangzhou in China, the Erie Canal in the United States, the Albert Canal in Belgium, the Suez Canal in Egypt, the Volga-Don Canal in Russia, the Panama Canal in Panama, and the Manchester Canal in the UK.

Today, the need to build a community of shared future for all mankind is more relevant and pressing than ever before. It is under this vision that the Belt and Road Initiative was proposed, aiming to connect





the world as the artery, while canals shall serve as major vessels that connect different economies and cultures. However, with advanced technological wonders such as the high-speed rail, and the explosion of highways and expressways, canals have been given a backseat. Other than a scattering of canals that connect to the sea, people nowadays travel mainly on land. Canals, on the other hand, have become tourist attractions, treasured for their historical and artistic values. And although they attract many visitors every year, their purpose as a transportation channel has decreased.

Now is the time to ask, is it possible to re-inject vitality into these ancient waterways? How can we revive canals? For this challenge, you may select any canal in the world, and design a method to revive its function. You must take into consideration the history, natural environment, and social purpose of the canal, and create a design that is both appropriate and imaginative.

### **I. Design Requirements**

1. You shall choose a historic town or village by the canal, and design a passenger port;
2. You shall design under a selected real-life site and its current



conditions;

3. Besides the passenger port's transportation functions, you shall also fully consider the local social, economic, and cultural needs. Therefore, you may propose additional functions or activities for the port together with your reasoning;

4. You shall also incorporate local cultural heritage into the design;

5. The suggested area of construction is about 4000 m<sup>2</sup>, which can be adjusted according to the demands and shall be explained accordingly.

## **II. Entry requirements**

1. Submit drawings including: a floor plan, elevations, plans & sections, perspectives drawn to scale, and additional drawings to convey the overall concept; a 200-word project description outlining why your concept demonstrates the best solution in Chinese or English.

2. The above drawings and design instructions shall be arranged in 2 drawings with A1 size (841mm x 594mm) and vertical composition. There is no limit to the representation method of drawings.



## Category B: Structural Design

### I. Design Requirements

1. Determine appropriate bridge site location for the selected canal, with due consideration of the canal's historical functions and its contemporary role in the local economy.

2. This is an open-ended design exercise to encourage well considered, innovative and creative solutions. All design parameters including load and site conditions are to be determined by the participants. These should include the bridge's design capacity, topography of the site, its groundwater, geological, geotechnical conditions as well as any potential long-term impact that the local climate change or earthquake history would have on the bridge's structural performance. The technical design standards to be used, the design load and all other relevant site conditions, are to be specified by the participants and should be clearly presented in the design scheme with narratives. Please use tabular form or sketches to illustrate where necessary.

3. Scale of the Bridge: the bridge length, width and span combination shall be determined by the designers to ensure it is fit for purpose and meets the design requirements for the selected canal.

4. Requirements for bridge types and design contents are as follows:



(1) Bridge types: Highway Bridge, Railway Bridge, Municipal Bridge, Landscape Bridge, Pedestrian Bridge, Cycling Bridge or bridge for blended use;

(2) Bridge structures: Suspension, Cable-stayed, Arch bridge, Beam bridge, Truss bridge or combined, mixed, new conceptual, futuristic designs etc.;

(3) Structural element: bridge towers, pylons, arch ribs, beams, abutments, stay cables, main cables, deck auxiliary facilities, etc.;

(4) Materials: steel, concrete, combination and mixed, FRP composites; new materials, etc.;

(5) Construction schemes: advanced, innovative and applicable construction schemes.

(6) Design concepts: safety, applicability, durability, innovation, aesthetic features, environmental sustainability, energy conservation, economy, constructability, easy maintenance, etc. Each work shall follow at least three of the above design concepts.

## II. Entry requirements

1. It is recommended that the participants prepare a design appraisal with (preferably hand) sketches in preparation for the selection of the



type of bridge. The appraisal should include two distinct and viable options for the proposed bridge structure, and how loading transfers from the main functioning frame to the substructure. Due consideration should be given to the bridge's serviceability and stability aspects. Review and critically appraise the two schemes (such as sustainability, functionality, construction and whole life costing) and identify the final chosen solution. Please specify the reasons for the choice before carrying out the final design.

2. The electronic version of the work description shall be submitted in Word format. If it's in Chinese, use Song font with 4-size characters, 28-point line spacing, no more than 20 pages and 15,000 words; For English submissions, use Times New Roman font with size 11, single line spacing, no more than 35 pages and 10,000 words;

3. The number of design drawings (design schemes, main structural drawings, construction schemes, etc.) shall not be more than 10 pages of A3;

4. Renderings: colour images with no more than 5 pages of A3. The electronic version should be submitted in JPG format.



## Category C: Building and Space 3D Modelling

### I. Modelling & Representation Requirements

1.You shall choose a landscape based on the history, culture, customs, and geography of your chosen region. The landscape shall be typical of canal towns along the Belt and Road, and reflect the characteristics and economic and cultural development of your chosen region.

2.You shall choose your data source, modelling tools, and representation platforms according to the features of your chosen landscape and the application scenarios of 3D modelling. We encourage participants to set their creativity free and complete the modelling and representation with their self-developed plug-ins. One principle is to be followed during the process of data collection, 3D modelling, and representation: You shall pay attention to the unity between fidelity and artistry, and between the model's functionality and application scenarios.

3.Coverage and accuracy of the model: it varies according to each participant's application scenarios. However, the following requirements must be met: the coverage area should be no less than 100m<sup>2</sup>, with the length of one side no less than 5m. There should be no obvious omissions in the main artificial surface features of the model. The geometric





accuracy should be no less than 5cm. The texture of the model should be able to represent the real-world landscape without obvious omissions.

4. Requirements for the town landscape models are as follows:

(1) Landscape features: mainly cultural landscapes such as cultural relics, buildings and structures, and squares, supported by natural landscapes such as vegetation and waters;

(2) Modelling data: including but not limited to point cloud and image data collected by drones and ground platforms;

(3) Model formats: osgb, obj, ifc, dae, dxf, kml, 3ds, etc.;

(4) Ways of representation: your 3D modelling data should be provided in formats that can be displayed and represented on the platforms given by competition organizers, including webGIS and uninpho. You can also construct your own 3D display platform through plug-in development, and display and represent your data on it after configuration in the given hardware environment;

(5) Implementation plan: it should be scientific, innovative and applicable;

(6) Modelling concepts: the 3D modelling, display, and representation should embody design concepts such as creativity, artistry, practicability,





science, etc.

## II. Entry Requirements

1. Your submission shall include a modelling and representation proposal, a 3D model, and renderings.

2. Your modelling and representation proposal shall be illustrated by text and graphics, and submitted in Word format. If it's in Chinese, use Song font with 4-size characters, 28-point line spacing, no more than 20 pages and 15,000 words; For English submissions, use Times New Roman font with size 11, single line spacing, no more than 35 pages and 10,000 words.

3. Your 3D model shall be submitted in the electronic format, where you shall also attach a version to be represented on given platforms, and indicate the theme of the digital town landscape you have constructed. If you have developed your own representation platform, a configuration file should also be submitted.

4. Your renderings should be color images with no more than 5 pages of A3. Electronic versions should be submitted in common formats such as jpg, png, and pdf.



**Annex 2-1:**

**Work Recommendation Form:  
2021 International Student Competition  
On Architectural Design and Digital Modelling**

<b>University/ College Name</b>		<b>Contact Person</b>	
<b>E-mail</b>		<b>Tel.</b>	
<b>Work Recommendation Information</b> (Each participating university recommends no more than 2 teams under each category except Photography. There is no limit to the number of photos you can recommend in the category of Photography)			
<b>Category</b>	<b>Work Name</b>	<b>Supervisor(s)</b>	<b>Participant(s)</b>
<b>Architectural Design</b>			
<b>Structural Design</b>			
<b>Building and Space 3D Modelling</b>			
<b>Photography</b>			



**Annex 2-2:**

**Entry Information Form:  
2021 International Student Competition  
On Architectural Design and Digital Modelling**

<b>University/College Name:</b>			
<b>Participant information (A participating team contains no more than 5 members)</b>			
<b>1</b>			
Full name		School/Department	
Gender		Major/Research Field	
Passport No		Undergraduate/Postgraduate	
Tel.		E-mail	
<b>2</b>			
Full name		School/Department	
Gender		Major/Research Field	
Passport No		Undergraduate/Postgraduate	
Tel.		E-mail	
<b>3</b>			
Full name		School/Department	
Gender		Major/Research Field	
Passport No		Undergraduate/Postgraduate	
Tel.		E-mail	
<b>4</b>			
Full name		School/Department	
Gender		Major/Research Field	
Passport No		Undergraduate/Postgraduate	
Tel.		E-mail	
<b>5</b>			
Full name		School/Department	
Gender		Major/Research Field	
Passport No		Undergraduate/Postgraduate	
Tel.		E-mail	
<b>Supervisor information (A participating team contains no more than 2 supervisors)</b>			



<b>1</b>			
Full name		Position	
Title		E-mail	
<b>2</b>			
Full name		Position	
Title		E-mail	
<b>Entry information</b>			
Title of entry	(name of entry + abbreviation of university + participant name)		
Category (Please tick ✓ in <input type="checkbox"/> )	<input type="checkbox"/> Architectural design <input type="checkbox"/> Structural design <input type="checkbox"/> Building and Space 3D Modelling		
Submission date			
WeTransfer Link			
<b>Design Description (Within 200 words)</b>			

**Notes:**

1. Fill in the form separately for each work.
2. If the work is awarded, the names of participants and supervisors on the trophies and certificates will be listed in the above-filled order.
3. In addition to this form, the submitted works shall be submitted with electronic design contributions. See *Competition Category* for specific requirements. The electronic contribution file name of the submitted work must be filled in according to the format requirements (example format in brackets) in the entry information form.
4. Please send the electronic design contributions by WeTransfer and fill in the WeTransfer link. See *Submission Guidelines* for the details. Please send this form to [brauic@163.com](mailto:brauic@163.com).



**Annex 2-3:**

**Entry Information Form:  
International Photography Competition on  
Canal Towns Along the Belt and Road**

Title of the photo:	
Date when the photo was taken:	Location where the photo was taken:
Name of the participant:	Occupation:
Employer/Agency/Agent Name/School:	
Mobile Number:	Email:
Photo description: (within 100 words)	



## 2021 国际大学生建筑设计与数字建模竞赛 二号通知

为增进各国大学生之间的学术文化交流，培养大学生科技创新精神和实践能力，现组办 2021 国际大学生建筑设计与数字建模竞赛，重点围绕“一带一路”沿线运河古镇的可持续发展进行旧城改造规划设计、“修旧如旧”建筑与土木结构设计、古镇景观数字化建模与表达技术设计等，同时附加“‘一带一路’运河古镇风情国际摄影大赛”。

现将有关事项通知如下：

### 一、组织架构

**发起单位：**“一带一路”建筑类大学国际联盟

**主办单位：**北京建筑大学

**协办单位：**北京国际和平文化基金会

北京和苑博物馆

**支持单位：**联合国教科文组织

国际摄影测量与遥感学会

中国测绘学会

G-global

中国丝路集团有限公司



“一带一路”建筑类大学国际联盟

Belt and Road Architectural University  
International Consortium

## 二、专家委员会

竞赛方向	专家类别	专家名单
建筑设计	特聘专家	• 崔 愷，中国工程院院士、国家工程勘察设计大师
	执行委员	• 张 杰，北京建筑大学
	委员 (按姓名英文首字母排序)	<ul style="list-style-type: none"> <li>• Armen Shatvoryan, 亚美尼亚国立建筑大学</li> <li>• 董莉莉, 重庆交通大学</li> <li>• 金秋野, 北京建筑大学</li> <li>• Luca Maria Francesco Fabris, 意大利米兰理工大学</li> <li>• Marchwinski Janusz, 波兰华沙生态与管理大学</li> <li>• Valerija Kopilas, 波黑莫斯塔尔大学</li> </ul>
土木工程	特聘专家	• Giuliano Panza, 欧洲科学院院士、意大利科学院院士、俄罗斯科学院外籍院士、发展中国家科学院外籍院士
	执行委员	• David Tann, 英国东伦敦大学

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“一带一路”建筑类大学国际联盟

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International Consortium

	<p>委员 (按姓名英文首字母排序)</p>	<ul style="list-style-type: none"> <li>• 郭 彤, 东南大学</li> <li>• 刘中宪, 天津城建大学</li> <li>• 齐吉琳, 北京建筑大学</li> <li>• 史庆轩, 西安建筑科技大学</li> <li>• Vladimir Filatov, 俄罗斯莫斯科国立建筑大学</li> <li>• 王 勃, 吉林建筑大学</li> </ul>
<p>建筑与场景数字建模</p>	<p>特聘专家</p>	<ul style="list-style-type: none"> <li>• Sisi Zlatanova, 澳大利亚新南威尔士大学特聘教授, 地理空间研究、创新与发展实验室主任, 国际摄影测量与遥感学会 (ISPRS) 第四技术委员会 (空间信息系统与数字测图) 主席</li> </ul>
	<p>执行委员</p>	<ul style="list-style-type: none"> <li>• 吴华意, 武汉大学</li> </ul>
	<p>委员 (按姓名英文首字母排序)</p>	<ul style="list-style-type: none"> <li>• 黄观文, 长安大学</li> <li>• 胡 翰, 西南交通大学</li> <li>• Julien CHAMOIN, 法国犹尼亚高等工程师学院</li> <li>• 康志忠, 中国地质大学 (北京)</li> <li>• 刘祥磊, 北京建筑大学</li> <li>• Miro Govedarica, 塞尔维亚诺维萨德大学</li> </ul>

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### 三、征集对象

#### (一) 2021 国际大学生建筑设计与数字建模竞赛

国内外院校相关专业在读学生。

#### (二) “一带一路”运河古镇风情国际摄影大赛

所有摄影人、策展人、机构以及社区、院校等。

### 四、竞赛方向及赛题

#### (一) 2021 国际大学生建筑设计与数字建模竞赛

主题为“韧—唤醒运河之魂”，围绕“一带一路”沿线运河古镇的可持续发展，开展旧城改造规划设计、“修旧如旧”建筑与土木结构设计、城镇景观数字化建模与表达。

竞赛开设以下三个方向：

- 建筑设计方向：运河边的码头
- 土木结构方向：运河桥梁设计
- 建筑与场景数字建模方向：运河城镇景观数字化建模与表达

具体要求详见附件1：竞赛任务书。

#### (二) 附加赛：“一带一路”运河古镇风情国际摄影大赛

主题为“水韵古镇、光影运河”，重点围绕“一带一路”区域运河沿线古镇的特色建筑、地理景观、人文风貌等进行拍摄，内容包括但不限于运河沿线人文历史记忆符号、地域文化体系及精神内涵、特色景观全景展示等。

摄影大赛参加人员不限于在校学生，旨在鼓励包括学生在内的参赛者用镜



头记录“一带一路”沿线运河及古镇的点点滴滴，以摄影艺术见证、记录和促进文明互鉴，推动文化共同体、生态共同体、经济共同体的构建。

## 五、参赛要求

### （一）2021 国际大学生建筑设计与数字建模竞赛

1、每校推荐参赛队伍不超过 6 个，建筑设计、土木工程、建筑与场景数字建模每个方向不超过 2 个。

2、每组参赛成员不超过 5 人，指导教师不超过 2 人，且为高校在职教师。

3、作品中不得出现任何有关作者姓名和所在院校的文字或图案，不符合规定者将被取消参赛资格。

4、参赛者拥有参赛作品的版权，但竞赛组织者有权行使参赛作品署名权以外的其他版权权利，包括参赛作品的使用权（不另付稿酬），保留对作品的后期技术处理权，使用方式包括出版图书、画册、视频、模型展览、技术推广等。

5、严禁抄袭既有作品，技术方案的雷同而导致的知识产权纠纷等，均由参赛成员自行负责。

6、参赛作品一经提交，不予返还。

7、所提交作品必须采用中英文双语。

### （二）“一带一路”运河古镇风情国际摄影大赛

1、作品不限拍摄工具，相机、手机作品均可投稿。

作品创作时间不限，单幅、组照、专题、彩色、黑白均可；每位作者投稿作品不超过 3 幅。

2、投稿摄影作品需为 JPG 文件格式，每幅作品请以“作者姓名+作品名称”



的形式进行命名，不接收电脑创意和改变原始场景的作品。

## 六、报名时间及方式

### （一）预报名

1、截止时间：2021年5月21日；

2、报名方式：各参赛高校统一提交电子版《参赛意向表》（见附件 2-1）至联盟秘书处邮箱 brauic@163.com，邮件标题为“学校+2021 年联盟竞赛预报名”。

### （二）作品提交

1、截止时间：2021年7月16日；

2、提交方式：

#### • 2021 国际大学生建筑设计与数字建模竞赛

各参赛高校统一提交《作品信息表》（见附件 2-2）及所推荐作品材料至 brauic@163.com，邮件主题为“学校+2021 年联盟竞赛作品提交”。所推荐作品材料需提交设计图等，文件夹标题为“学校+作品名称+第一作者姓名”。

为避免邮箱超大附件下载导致作品图片被压缩或显示不全的问题，作品材料以百度网盘传输，将下载链接及提取码填写至《作品信息表》即可。

#### • “一带一路”运河古镇风情国际摄影大赛

请填写《摄影大赛作品信息表》（见附件 2-3）与摄影作品一并提交至 brauic@163.com，邮件主题为“作者姓名+摄影大赛作品提交”。



照片标题和相关说明须与提交的照片文件名对应，并按序号排列。

## 七、赛程安排

序号	时间	事项
1	2021年3月	发布竞赛通知
2	2021年4月-5月	报送作品意向表
3	2021年6月-7月	报送作品信息表及作品资料
4	2021年8月-9月	专家评审
5	2021年10月	颁奖仪式暨作品展 (第五届联盟年会, 波黑莫斯塔尔)

## 八、奖项设置

序号	竞赛方向	奖项	名额	奖励	备注
1	建筑设计	一等奖	1	奖金1.5万元, 奖杯、证书	竞赛另设优秀组织奖、优秀指导教师奖等奖项。优秀作品将入选作品展。各奖项名额视参赛作品水准, 由评审委员会酌情予以调整(增减或空缺)。
		二等奖	2	奖金1万元, 奖杯、证书	
		三等奖	7	奖金5千元, 奖杯、证书	
		优秀奖	10	证书	
2	土木工程	一等奖	1	奖金1.5万元, 奖杯、证书	竞赛另设优秀组织奖、优秀指导教师奖等奖项。优秀作品将入选作品展。各奖项名额视参赛作品水准, 由评审委员会酌情予以调整(增减或空缺)。
		二等奖	2	奖金1万元, 奖杯、证书	
		三等奖	7	奖金5千元, 奖杯、证书	
		优秀奖	10	证书	
3	建筑与场景 数字建模	一等奖	1	奖金1.5万元, 奖杯、证书	竞赛另设优秀组织奖、优秀指导教师奖等奖项。优秀作品将入选作品展。各奖项名额视参赛作品水准, 由评审委员会酌情予以调整(增减或空缺)。
		二等奖	2	奖金1万元, 奖杯、证书	





序号	竞赛方向	奖项	名额	奖励	备注
		三等奖	7	奖金 5 千元, 奖杯、证书	
		优秀奖	10	证书	
4	摄影大赛	一等奖	1	奖杯、证书	
		二等奖	2	奖杯、证书	
		三等奖	7	奖杯、证书	
		优秀奖	10	证书	

## 九、公益募捐及机会

(一) 公益募捐

(二) 公益活动:

1、组委会报道各国大学生在参赛过程中的精彩故事。

2、对于获得竞赛一等奖的非中国籍小组成员，可以申请北京建筑大学全英文授课硕士项目新生奖学金。

3、获得优秀组织奖的院校，可推荐 1 名学生，免学费参加下一年度北京建筑大学国际暑期学校。

4、其他高校公益计划。

## 十、首届竞赛回顾

2020 年 10 月，北京建筑大学成功组办了首届“一带一路”建筑类大学国际联盟大学生建筑和结构设计竞赛。竞赛以“一带一路，建设未来”为主题，分为建筑设计、土木结构两个方向，分别聚焦历史城区中的未来图书馆设计及桥



梁设计。本次竞赛活动吸引了国内外 18 所高校、50 个参赛队伍、250 余名师生参与。组委会聘请中国工程院院士、全国工程勘察设计大师崔愷院士为特聘专家进行指导，邀请中外 16 名建筑、土木学科知名专家组成了竞赛作品评审专家委员会。竞赛为“一带一路”建筑类大学搭建了科技创新与教育交流平台，有效助力国际化创新型专业 人才的培养，同时也为参赛学生提供了良好的实践机会和沟通融合的平台，引导、促进了相关专业的教育教学改革。

## 十一、联系方式

本次竞赛组委会秘书处设在北京建筑大学。

联系人：李洋 黄鹤

联系电话：86-10-68327443 电子信箱 E-mail: [brauic@163.com](mailto:brauic@163.com)

地址：中国北京市西城区展览馆路 1 号,100044

“一带一路”建筑类大学国际联盟秘书处

2021 年 3 月 31





## 附件 1：2021 国际大学生建筑设计与数字建模竞赛任务书

### （一）建筑设计方向

“运河转漕达都京，策马春风堤上行。”运河一般由人工开凿，为货物、人员的沟通提供重要经济枢纽和命脉，同时也是传播文化及交流的纽带。

早在公元前 506 年，吴王阖闾修筑胥河，这是人类最早修建运河的记录。此后，随着人类的发展，运河成为文化沟通和交汇的重要桥梁：例如中国的京杭大运河、美国的伊利运河、比利时的阿尔伯特运河、埃及的苏伊士运河、俄罗斯的伏尔加河-顿河运河、巴拿马运河、英国曼彻斯特运河，等等。

人们在构建人类命运共同体的美好愿景之下，“一带一路”的倡议如同大动脉，而各国的运河就像其中的血管，成为人类经济生活和文化传播的重要通道。然而，随着铁路高速公路等现代交通工具的普及以及科技的创新，除了少数连通海洋的运河，航运已经不再是人们陆路出行的主要交通方式。由于运河沿岸常有风景名胜和人文景点，现今的运河常常可以吸引大量的游客。运河成为了人们体验生活、了解历史的重要途径。

那么，如何让古运河重获新生呢？基于此，我们鼓励学生在任意运河边选址，综合考虑运河的历史文脉、自然环境以及社会功能，为之提出恰当的、富有想象力的策略和设计介入手段。

#### 一、设计要求

- 1、参赛者需选择一座运河边的历史城镇或村落，为其设计一座客运码头；
- 2、所选场地及其现状条件必须是真实存在的；
- 3、码头除客运功能外，需充分考虑并响应当地对社会、经济、文化等方面



的需求。因此，参赛者可以对码头内的功能或活动类型进行提议，并阐述理由；

4、参赛者需将场地文脉纳入码头设计的考虑因素中；

5、建筑规模为 4000 m<sup>2</sup>左右，可根据需求做适当调整，并做相应说明。

## 二、作品要求

1、提交图纸：总平面图、平立剖面、透视图（图纸比例自定），及作者认为必要的表达设计理念和策略的分析或示意图；200 字以内的中文或英文设计概念说明。

2、以上各图及设计说明均须安排在 2 张 A1 尺寸（841mm x 594mm）、竖构图的图纸之内，图面表现方法不限。

## （二）土木工程方向

### 一、设计要求

1、根据所选择的运河的历史功能及其在当今社会经济活动中所发挥的作用，确定适当的跨越运河的桥址。

2、这是一个开放型的设计构想，鼓励参赛者结合实际，发挥创造及创新能力。桥址区地形、地貌、水文、地质、地震、气候、气温变化、荷载等条件及执行的技术标准由参赛者自行确定，与设计参数和设计结果等一并在设计方案、说明中使用图文及表格明确阐述。

3、桥梁规模：桥长、桥宽和跨径组合等参数由设计者根据所选运河桥梁的功能及设计目标自定。

4、参赛桥梁主要桥型和设计内容要求如下：



- (1) 桥梁种类：公路桥、铁路桥、市政桥、景观桥、人行桥、自行车桥、综合桥等；
- (2) 桥型方案：悬索、斜拉、拱桥、梁桥及组合、混合、以及新概念、未来之桥等；
- (3) 构件设计：桥塔、拱肋、梁、墩台、索、缆、桥面附属设施的设计及组合等；
- (4) 材料设计：钢、混凝土、组合与混合、钎维复合材料，新材料等；
- (5) 施工方案：先进、创新、适用的施工方案；
- (6) 设计理念：需遵循安全、适用、耐久、创新、美观、环保、节能、节约、可施工、可管养等，每个作品须体现至少 3 种设计理念。

## 二、 作品要求

1、建议先用草图(最好手绘)准备两套初步设计构思来选择桥的类型，表明结构及地基基础的两种不同且可行的设计方案，并清楚说明每种方案的功能框架、荷载传递、可维护性和稳定性等。审核并建设性评估概念设计方案（如对于环境评估、功能及整体造价等方面的考虑），并确定最终设计方案，阐述选择的理由，并进行最终设计。

2、作品说明的电子版以 word 格式提交，中文使用宋体四号字，28 磅行距，不多于 20 页、1.5 万字，英文使用 Times New Roman 四号字，28 磅行距，不超过 35 页，1 万字。

3、主要设计图纸（设计方案、主要结构构造图、施工方案等），图纸数量



不多于 10 页，A3 图幅；

4、效果图：彩色，不多于 5 页，A3 图幅。电子版以 jpg 格式提交。

### （三）建筑与场景数字建模方向

#### 一、建模与表达要求

根据所选择区域的历史文化、风俗样貌及地域特点，选取能反映当地特色、经济文化发展的“一带一路”沿线运河城镇典型景观。

根据选取景观与三维模型实际应用场景的特点，自主选取数据源、建模工具及表达平台；鼓励参赛者发挥创造与创新能力，自行开发插件完成模型构建与表达。在数据采集、三维建模与展示表达过程中，注重保真度与艺术性统一、模型功能与应用场景统一的原则。

模型覆盖范围与精度：根据参赛者面向的实际应用场景自定，但需满足如下要求，模型覆盖区域不应低于 100m<sup>2</sup>、单边长度不低于 5m；模型主要人工地物要素无明显缺漏、几何精度不低于 5cm；模型纹理可体现真实景观，无明显缺漏。

#### 二、参赛城镇景观模型内容要求

1、景观要素：以文物古迹、建构筑物、广场等人文景观要素为主，以植被、水域等自然景观要素为辅。

2、建模数据：包含但不限于无人机和地面平台采集的点云和影像数据。

3、模型格式：osgb, obj, ifc, dae, dxf, kml, 3ds 等。





4、表达方式：提供的三维模型数据格式可在主办方提供的三维平台进行展示与表达，包括 webGIS，uninpho 等；也可通过插件式开发等方式构建三维展示平台，在主办方提供的硬件环境部署后展示与表达。

5、实施方案：科学、创新、适用方案。

6、建模理念：三维模型构建与展示表达应体现创新性、艺术性、实用性、科学性等设计理念。

### 三、作品要求

1、参赛作品需同时提交建模与表达方案文档，三维模型和渲染效果图。

2、采用图文及表格形式详细阐述建模与表达方案，以 docx 格式提交作品方案，中文使用宋体四号字，28 磅行距，不多于 20 页、1.5 万字，英文使用 Times New Roman 四号字，28 磅行距，不超过 35 页，1 万词。

3、以电子版三维模型提交作品，并附相应可展示平台的版本，表明构建的城镇数字化景观的主题；如自主构建三维展示平台，需同时提交平台部署文件。

4、效果图：彩色，不多于 5 页，A3 图幅，电子版可提交 jpg、png、pdf 等常用格式。



## 附件 2-1:

# 2021 国际大学生建筑设计与数字建模竞赛

## 参赛意向表

学校名称		联系人	
邮箱		联系人电话	
推荐作品信息（建筑设计、土木工程、建筑与场景数字建模每个方向每校不超过 2 个参赛队伍，摄影大赛无限制）			
竞赛方向	作品名称	指导教师	参赛学生
建筑设计			
土木工程			
建筑与场景 数字建模			
摄影大赛			



## 附件 2-2:

# 2021 国际大学生建筑设计与数字建模竞赛 作品信息表

参赛学校:			
参赛者信息(不超过 5 人)			
1			
姓 名		院、系	
性 别		专业方向	
身份证号码		本科/硕士	
手机号		E-mail	
2			
姓 名		院、系	
性 别		专业方向	
身份证号码		本科/硕士	
手机号		E-mail	
3			
姓 名		院、系	
性 别		专业方向	
身份证号码		本科/硕士	
手机号		E-mail	
4			
姓 名		院、系	
性 别		专业方向	
身份证号码		本科/硕士	
手机号		E-mail	
5			
姓 名		院、系	
性 别		专业方向	
身份证号码		本科/硕士	
手机号		E-mail	
指导教师信息(不超过 2 人)			
1			
姓 名		职 务	
职 称		E-mail	





2			
姓名		职务	
职称		E-mail	
<b>作品信息</b>			
作品名称 (中英文双语)	(作品名称+学校名称+第一作者姓名)		
命题组别 (请在□中打√)	<input type="checkbox"/> 建筑设计方向 <input type="checkbox"/> 土木工程方向 <input type="checkbox"/> 建筑与场景数字建模		
提交作品日期			
百度网盘链接及提取码			
<b>设计说明(中英文双语, 各 200 字以内)</b>			

**备注:**

- 1、每个作品单独填写表格。
- 2、请按正确顺序填写参赛者信息及指导教师信息,如作品获奖将以此表顺序为依据制作证书或奖牌。
- 3、投稿作品除本表外,应提交作品电子设计稿件,具体要求见《竞赛通知》。电子稿件文件名必须按照参赛作品信息表格中的格式要求(括号内的格式范例)填写。
- 4、投稿作品的电子稿件请通过百度网盘上传并粘贴分享链接及提取码填入此表,具体使用方法可参照《作品提交方法》。
- 5、此表格请发送至 brauic@163.com。



## 附件 2-3:

# 2021 国际大学生建筑设计与数字建模竞赛

## “一带一路”运河古镇风情国际摄影大赛

### 作品信息表

作品标题（中英文双语）：	
拍摄时间：	拍摄地点：
作者姓名：	职业：
所在单位/学校：	
联系电话：	电子信箱：
作品介绍：（中英文双语，各 100 字以内）	