

Design of a Mobile Isolation, Diagnosis and/or Treatment Unit for Use in Ebola or Other Communicable Disease Epidemics



Image Source: <http://www.bellanaija.com/wp-content/uploads/2014/07/Ebola-Virus.jpg>

Submission deadline: April 20, 2015

2015 UIA-PHG International Student Competition

**DESIGN OF A MOBILE ISOLATION, DIAGNOSIS AND/OR TREATMENT UNIT FOR USE IN EBOLA
OR OTHER COMMUNICABLE DISEASE EPIDEMICS**

Organized by

International Union of Architects-Public Health Group (UIA-PHG)
Global University Program in Healthcare Architecture (GUPHA)
China Hospital Build Exhibition & Congress (CHBEC)

Co-organized by

Center for Health Systems & Design (CHSD)
College of Architecture
Texas A&M University

In corporation with and supervised by

International Union of Architects General Secretariat
International Union of Architects Commission for International Competition

Submission

Email to: PHGcompetition@hotmail.com
Deadline: April 20, 2015 (US & Canada Central Time)

Contact

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Declaration

1. UIA-PHG is a work group of UIA. The 2105 UIA-PHG International Competition is supervised by the UIA General Secretariat and the UIA Commission for International Competition, and complies with the UIA-UNESCO regulations.
2. Texas A&M University is the co-organizer. Therefore, students of Texas A&M University will not be qualified for this competition.

CORE COMMITTEE

Co-Chairs

Xiqiu Huang, Ph.D.
Chief Architect, IPPR International
Beijing, China

George J. Mann, AIA
The Ronald L. Skaggs Endowed Professor of
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College of Architecture
Texas A&M University
College Station, Texas, USA

Members

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Subiaco, Western Australia, Australia

David Allison, FAIA, FACHA
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JURY MEMBERS

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UIA-PHG Executive Member, Japan
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Zeyad Al Swaidan, Ph.D.
UIA-PHG Executive Member, Saudi Arabia

Fani Vavili-Tsinika, Ph.D.
UIA-PHG Executive Member, Greece

Macharia Waruingi, MD, DHA
UIA-PHG Executive Member, Africa

Technical Adviser to the Jury

Mark T. Munroe
Senior Director
Mobile Solutions, Healthcare Group
STERIS Corporation, USA

Technical Adviser/Coordinator

Zhipeng Lu, Ph.D.
Acting Chair, 2015 GUPHA Meeting

Declaration

The jurors and the technical advisers will not serve as advisers for students participating in the competition.

Background	Globalization and fast transportation networks have brought people living closer to each other but also created unpredictable public health threats from time to time. An unknown disease or virus that was originally contained in isolated areas can affect any corner in the world within just a few days. In the past several months, the world has witnessed the exponential spread of the Ebola outbreak. The World Health Organization reported that the number of Ebola cases were 9,936 with 4,877 deaths as of October 22, 2014. The same situation happened 11 years ago when SARS (Severe Acute Respiratory Syndrome) infected 8,273 individuals in 37 countries with 775 deaths. To fight against Ebola, SARS and other communicable disease epidemics, health organizations should act quickly to identify, diagnose, isolate and treat patients. However, this may be impossible in many regions, especially in developing countries or remote areas, due to the lack of quality healthcare resource. Therefore, a flexible, effective and affordable measure is needed to provide swift response to communicable disease epidemics.
Mission	To develop a mobile unit that can facilitate the swift diagnosis, isolation and treatment of patients with Ebola or other communicable diseases, and safely transport infected patients to facilities that are able to provide appropriate care.
Purposes	This competition is to seek innovative approaches that help curb the outbreak of communicable disease epidemics, increase people's awareness of global impacts of ongoing or potential public health threats, and to encourage more students to be interested and engaged in health-related design.
Qualifications	<ol style="list-style-type: none"> 1. Full-time college students at the undergraduate, graduate or doctoral levels 2. The student is qualified if she/he submit the project before graduation 3. Students from all disciplines are welcome to participate; A multi-disciplinary team (e.g., architecture, medicine, public health, mechanical engineering) is strongly encouraged. However, the team should be headed by a student in architecture according to the UIA competition guidelines. 4. Can be a team project but no more than 3 students per team 5. One team/student should submit only one project
Requirements	<ol style="list-style-type: none"> 1. Type of disease: Identify a type of communicable disease that is potentially a public health concern in your country, for instances, Ebola, SARS and TB 2. Type of vehicle: Identify the vehicle that may work best for the mobile unit in your area/country. The vehicle can be, but not limited to a bus, an aircraft, a train cargo, a boat or a container. You can modify the skin and the space of the original vehicle as appropriate 3. Space program: The spaces include, but are not limited to, storage for medical supplies and/or equipment, decontamination area, treatment/diagnose area, patient sleeping/resting area 4. The Metric System (e.g., meter, kilogram...) should be used for measurement 5. All documents should be in English 6. Please include the following information into the poster(s) for your design: <ol style="list-style-type: none"> (1) The type of the disease you are dealing with; describe its nature and main transmission path (airborne, waterborne, contact, vector & vehicle) (2) Design problems (3) Design analysis and design concept (4) Design drawings (floor plan, section, elevation, axonometric, and/or perspective) (5) Air handling system (e.g., natural ventilation or mechanical ventilation) (6) Waste management plan (7) Other important information

Submission requirements

1. Submission deadline: April 20, 2015, 11:59PM (U.S. & Canada Central Time)
2. Submit your documents to PHGcompetition@hotmail.com. No hardcopies are required.
3. Create the poster(s) to introduce your design
 - (1) No identifiable information (i.e., names of the participants and universities) should appear on the posters
 - (2) Size: 59.4 cm X 84.1 cm (A1)
 - (3) Orientation: portrait
 - (4) Number: no more than three posters per project
 - (5) File type: JPG or PDF
 - (6) File size
 - (a) If sent as attachments of the email, individual file should not exceed 5MB (i.e., should not exceed 15MB per submission)
 - (b) If cloud drive is used, the total size of the file(s) per submission should not exceed 50 MB. Four types of cloud drive are acceptable for the submission:
 - Dropbox
 - OneDrive
 - Google Drive
 - Baidu Drive
4. Please submit a separate document (Word or PDF) that includes following information:
 - (1) Names of the student participants
 - (2) Students' contact information (i.e., phone, email and mailing address)
 - (3) Students' affiliation (department, college/school, university)
 - (4) Name(s) of the advisor(s) and contact information
 - (5) State whether you would like to disclose your names if the organizers publish your project
5. Please submit a copy of your student ID for verification; if you do not have a student ID, please attach a support letter signed by your department head to verify your student status
6. Failing to submit all required documents will be automatically disqualified.

Awards

- First Prize: USD \$8,000, before tax
- Second Prize: USD \$5,000, before tax
- Third Prize: USD \$3,000, before tax
- Fourth Prize: USD \$2,000, before tax
- Fifth Prize: USD \$1,500, before tax
- Honorable Mentions (up to 10 teams): USD \$750, before tax

Winning projects will be displayed on the 2015 UIA-PHG Annual Seminar to be held on May 23-25, 2015, at the World Expo Center, Dalian, China.

Timelines

December 5, 2014: Competition launched by UIA and the organizers
December 5, 2014-April 1, 2015: Question and answer period. We will not answer competition-related questions after April 1, 2015.
April 20, 2015: Deadline for submission
May 24, 2015: Result and award announcement

Contact information

Should you need more information, please contact Dr. Zhipeng Lu at luzhipeng@live.com or +1-979-845-6183

Websites & Resource

- Visit www.uia-phg.org for more details about the competition and the 2015 UIA-PHG + GUPHA Annual Seminar
- Visit sterismobilesolutions.com for examples of mobile medical units

Publication

- The organizers may publish a portion of or all submitted projects online or in print
- The participants own the copyright of their projects, graphics and drawings
- The participants should notify the organizers if they would not like to publish their projects

Anonymity

- Any submission with participants' names on the poster will be automatically disqualified
- The technical adviser will assign a code to the submitted project; only he keeps a document that relates the codes to the participants/teams
- The jurors will not see participants' names during the evaluation and voting process
- Only top-prize and honorable mention winners' names will be revealed and announced
- The projects will remain anonymous when published unless participants/teams request to disclose their names

Organizers

International Union of Architects- Public Health Group (UIA-PHG)

The UIA-PHG is one of the working bodies of the UIA, the Union International des Architects or International Union of Architects. It was founded in 1955 and represents members and guests from all continents and a growing participation from more than 60 countries in 2012. Within the context of the UIA philosophy, it is the vision of the UIA-PHG that world public health can profit by the dedication of architects to provide efficient, safe and aesthetic health care buildings and an environment that can contribute to a more rapid healing of the patients as well as an improvement in staff operations and satisfaction. To accomplish this vision, the UIA-PHG should share its knowledge and experience not only within the group but also to other architects, engineers and consultants, health care managers and providers, health care organizations and governments, as well as to the general public. It should also initiate research projects that contribute to better health care buildings and environments. The Director of UIA-PHG is Adjunct Professor Warren Kerr (w.kerr@hamessharley.com.au) from the University of Western Australia.

Global University Program in Healthcare Architecture (GUPHA)

The Global University Program in Healthcare Architecture (GUPHA) is a subgroup of UIA-PHG. It dedicates to promote international exchange, collaboration and knowledge dissemination between educators involved in teaching and research, along with UIA member practitioners and representatives of academic institutions, governmental and non-governmental agencies with an interest in architectural education and academic research in the area of healthcare architecture. Since founded in 2000, GUPHA has grown to include 25 member institutions. The Chair of GUPHA is Professor David Allison (adavid@clemsun.edu) from Clemson University, U.S.

China Hospital Build Exhibition & Congress (CHBEC)

The China Hospital Build & Infrastructure Exhibition and Congress (China HBI), co-organized by the National Institute of Hospital Administration of the Ministry of Health and Informa Exhibitions, is the largest event of this kind in Asia. In the past 15 years, the China HBI has successfully built a solid platform for knowledge and experience exchange in hospital planning, design, construction and management. In 2014, the exhibition accommodated over 260 vendors with a 12,000 square meter exhibiting

area and approximately 15,000 visitors. The congress attracted over 1,500 attendees and 220 invited speakers from all over the world. Among the attendees, 90% of them were hospital administrators and construction project managers. The congress brings project opportunities to healthcare consultants, designers and researchers.

Center for Health Systems & Design (CHSD), Texas A&M University

Texas A&M University's Center for Health Systems & Design is home to the world's largest collection of interdisciplinary faculty, students, and affiliated professionals committed to research and education about environments for healthcare. CHSD is a creation of the Colleges of Architecture and Medicine at Texas A&M University intended to promote research, innovation and communication in an interdisciplinary program that focuses on evidence-based health facility planning and design.