

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



Figure: Ebola virus. (Source: <http://s3.amazonaws.com/tgc-ee2/articles/Ebola-story.jpeg>)

Organized by

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

Submission

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

Contact

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Background	<p>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.</p>
Mission	<p>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.</p>
Purposes	<p>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.</p>
Qualifications	<ol style="list-style-type: none"> 1. Full-time college students at the undergraduate, graduate or doctoral levels 2. Students from all disciplines are welcome to participate; A multi-disciplinary team (e.g., architecture, medicine, public health, mechanical engineering) is strongly encouraged 3. Can be a team project but no more than 3 students per team 4. 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. 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 or contact) (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: individual file should not exceed 5MB (i.e., should not exceed 15MB per submission)
4. Please submit a Word or PDF document 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)
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
- Second Prize: USD \$5,000
- Third Prize: USD \$3,000
- Fourth Prize: USD \$2,000
- Fifth Prize: USD \$1,500
- Honorable Mentions (up to 10 teams): USD \$750

Award will be announced on May 24, 2015. 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.

Core Committee

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Organizers

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**Contact
information**

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

Website

Please visit www.uia-phg.org for more details about the competition and the 2015 UIA-
PHG + GUPHA Annual Seminar