**IFHE LIBRARY AWARD 2016 / PRIZES WITH TROPHY AND CERTIFICATE**

**FIRST PLACE PRIORITIES FOR BIRTHING ROOMS VENTILATION SET OUT**

Authors **Phil Nedin** (the.nedins@btinternet.com )

 C. Engineer, IHEEM Past President, Consultant Engineer-London

 **Dr Anna Coppel**,

 C. Engineer ,Arup’s Advanced Technology and Research –London

 *Phil Nedin, and Anna Coppel, describe a design analysis that used computational fluid dynamics (CFD) to investigate and validate the effectiveness of a number of mechanical ventilation options often associated with birthing rooms, thereby ensuring a system that is fit for purpose. In such settings, they point out, the need to reduce the levels of nitrous oxide to a COSHH threshold is a legal requirement. A high level technical research and extensive analysis very well documented . A good technical article of interest to the whole world.*

**SECOND PLACE** **THE PARADOX OF A “GREEN” CLINIC IN THE HEART OF A COAL MINE**

Author/s  **Ernesto González Nagel (** ernesto.gonzalez.nagel@gmail.com )

 **Joao Athayde e Melo**

 Architects

 Institute of Science and Technology of Mozambique, Maputo

 *A very good paper, describes a project in the developing world with clearly defined strategies*. *In response to the harsh tropical climate that enhances coal dust in the air, the concept of the project was to create a comfortable and healthy microclimate via sustainability: correct building blocks orientation, use of local stone and wood, collection of rain water, natural ventilation and cooling, strategically placed openings in walls and roofs, water heating with solar panels, water pumping with energy from a photo-voltaic system, use of solar fiber optic system combined with LED, naturally filtered air by the creation of a wood/stone/coal/water filter.. The careful articulation of open air, segregated, technical and public corridors and patios, under the protection of a wide roof, with water and vegetation, makes the Clinic's space an integral instrument for preservation of health and wellbeing.*

**THIRD PLACE** **BIOMASS FROM FOREST ORIGIN AS A RENEWABLE ENEGY SOURCE IN HOSPITAL POWER PLANTS**

Authors **José Luis López** **González** (jluis.lopez.gonzalez@sergas.es).

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 **Antonio Taboada Prado** (antonio.taboada.prado@sergas.es). Engineer, SERGAS, Xunta de Galicia- (Conselleria de Sanidade)

 *The Galician Health Service has elaborated a sustainable and efficient Energy Plan . Within it, the Ecospital Plan comprises a renovation of nine hospital power plants to incorporate as renewable energy source the residual biomass from forests. The fact of enhancing the consumption of biomass from forests in the region is particularly relevant to contribute to give value and usefulness to forest residue, reducing the risk of forest fires, and ultimately providing greater added value to the forest wealth. Important project on sustainability from different approaches, demonstrating the viability of the biomass application as renewable energy source in hospitals*

**IFHE LIBRARY AWARD 2016 / CERTIFICATE FOR HIGHLY COMMENDED ARTICLES**

 **EFFICIENT MANAGEMENT AND REUSE OF WATER FROM DIFFERENT PROCESSES IN A HOSPITAL**

Author/s **José Carlos Cardillo Lorente** (jcardillolo@saludcastillayleon.es)

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 *In this article the authors present a series of measures implemented at the University Hospital Rio Hortega of Valladolid, aimed at achieving a reduction of water consumption and therefore lower environmental impact in their daily operations. Execution and study of the measures taken, was carried out within a LIFE project, partially funded by the European Community. A meritorious work developed by the engineers of the hospital maintenance service showing initiative and imagination as well as a responsible approach to the application of the measures driving to a spectacular reduction in water consumption . It is the authors' desire to share experience and information gathered for application in other hospitals that share similar characteristics or operating modes*.

 **GREEN ROOFS IN HOSPITAL BUILDINGS** Author **Vicky Rojas (** vr@vickyrojas.cl )

 Architect - President of the Vegetable Infrastructure Chilean Association

 *The article presents the multiple benefits of green roof systems They respond to the need for demand of more efficient energy and environment regeneration . Within the changes that are displayed in new scenarios of health services, it can be seen a humanization of the hospital buildings by means of the use of light, colors and vegetation. At the level of the building, the green roofs serve as retainers of rainwater, controlling the excessive runoff, reducing the energetic demand of the building, helps reducing external noise and creates biodiversity, being a contribution to the quality of the environment. A vegetate space helps to normalize the humor, generates well-being, stimulate the use of senses in contact with the exterior*

 **Energy saving at Ashikaga Red Cross Hospital / Japan** Author **Shiro Tsukami** – tsukami@nikken.jp Engineer - Nikken Sekkei Ltd .-Tokyo – Japan

*This paper was presented at IFHE Europe Congress Turku 2015. It describes the new Ashikaga Hospital named as “Green Hospital for the next generation” offering patients bright and pleasant care, with advanced CO2 reduction technology by utilizing natural energy of wind, sun light and water. As keywords to realize the "Green Hospital", five of the following were considered.*

*1. “Green” for Natural Energy, Energy-saving, Water-saving.*

*2. “Safety” for Strongness against disaster.*

*3. “Smart” for Pleasantness and Amenity.*

*4. “Sustainability” for Long-Life Hospital.*

*5. “Hospitality” for Healing Environment.*

*It is able to achieve up to 45% of energy-saving compared to the average in Japan*