Research at our local institutions has always remained among the elite. Through this monthly centrefold called “ResearchDigest”, The Petri Dish is taking the initiative to bring home grown research news to the eyes of the public. It is our aim to enhance the image of local research and citizen participation in science.

**glass powder helps en bone cement**

Bone incompatibility with the implant that causes discomfort in patients,” he said.

Bon cement also addresses the problem of heat emission which affects patients undergoing bone related treatment, whereby the use of cement emits heat during the polymerisation process.

“When there is heat, cells within the surrounding area being treated will be damaged and die.

This problem can be overcome by using Bon ciment which has proven to be effective with a very low output of heat,” he said.

He added that the product was developed over a period of three years at a cost of RM400,000 and is in the process of clinical studies, after passing the preliminary laboratory and animal testing.

He hoped that Bon ciment can be commercialised, latest by early next year after passing all the tests including clinical trials.

“Since this product is focused on human, it is therefore closely related to safety and health issues and has to go through various tests before they can be commercialised.

“We see a very broad market outlook because it included all medical uses of its kind available,” he said, adding that Bon ciment production cost estimate is around RM200.00 per 4 grammes. - USM

**Novel way to harness low energy waves**

THE University of Malaya Wave Energy Research Team has recently found a novel way to harness the low-energy waves for small-scale electricity generation in coastal and Island nations.

The first prototype wave energy conversion device developed by the team was tested near the coastal area of Terengganu. The team, headed by Norhafizan Ahmad discovered that wave motion at the beach resulted in the rising and falling of the water level within a wave chamber.

The system harnesses the wave energy from the developed pressure oscillations within the wave chamber to drive a bidirectional wave turbine. The bidirectional turbine extracts the kinetic energy of waves and converts it into mechanical energy to drive an electrical generator. The electrical energy generated can either be fed directly to a load or relayed into a power grid.

Previously, the research team has successfully fabricated a standalone wave energy system to meet only the electricity demand of only small coastal and Island communities.

“Malaysia has a total coastline of 4,675 kilometres and 878 islands, a massive potential of wave energy that would be a vital source of electrical energy generation for the country.

The team’s analysis revealed that the total available wave power in Malaysian seas is greater than 39,000 MW.

“If 65% of the available coastal area is harvested properly, about 25,350 MW of energy can be extracted,” said Norhafizan.

**Grant critical for further research**

**Wintergreen to replace xylene for slide mounting**