



Prof TM Wong, 18:22 25/7/00 +08, [asean-vust] Fwd:

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Subject: [asean-vust] Fwd:

Dear friends,

Greetings from Hong Kong! You may remember me from the Bangkok meeting. I am taking part in this E-discussion on the invitation of Dr Aoshima. I trust that this is acceptable. Thanks.

Let me first respond to Aura's 20/7 posting:

1) I agree that the pilot should concentrate on a number of IT-based Continuing Engineering aimed at serving Engineers who are already in possession of a qualification recognised at least in their own country. It is to be expected that there will be numerous teething and continuing problems of hardware and software compatibility, access, bandwidth, learning approaches, language competency, student receptivity to the on-line learning experience etc. so let begin with some simple courses.

2) Developing programmes at the Diploma and Degree level will follow naturally and basically depends on the right mix of materials available in the on-line mode. A serious problem at this level is one of accreditation. Various accrediting bodies in Engineering are still not comfortable that fully on-line courses can provide the requisite 'practical hands-on training'. One can easily be bogged down on this issue.

3) With reference to the course development guide, I agree fully with the 5 points listed. Point #2 regarding a proctored final examination is most important. Without supervision, the integrity of the system cannot be assured. On-line open education systems have struggled with this issue for a long time and no body has come up with a viable alternative to a face to face examination yet! I am very interested, therefore, to learn from Rom Tamjis how his online examinations are conducted, particularly on how the integrity is ensured. With continuing engineering education courses, the issue is perhaps less crucial, particular if the course is not credit bearing.

4) With respect to Course Materials, it is important that the contents are

*Handwritten signature and date: 25/7/00*

designed for online presentation and the various interactive features and collaborative learning strategies are incorporated into the course structure. 'Logging on' must add value to the students learning, otherwise, the content may as well be delivered via a CD Rom.

5) Developing the right software platform to handle assignment submission, marking and feedback to students is also crucial since most standard software do not readily handle mathematical and engineering symbols as well as complication pictorials.

6) Ramlee Karim raised an important point on Accreditation and the WA. However, this is also one which can cause the AVUST project to remain on the drawing board for a long long time since in the Asean region most of the countries are not even WA signatories yet.(Point 2 above refers)

Thank you for your time. Regards. TM.

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Prof TM Wong, 10:36 14/8/00 +08, Re: [asean-vust] 3rd Working G

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Date: Mon, 14 Aug 2000 10:36:42 +0800  
Reply-To: asean-vust@egroups.com  
Subject: Re: [asean-vust] 3rd Working Group Meeting

Dear All,

I am glad to learn that institutions from Thailand can offer some courses in English which can be made available for the pilot. May I suggest that with the view towards 'getting started' with a pilot involving the offering of continuing education courses in engineering, maybe those institutions who are prepared to allow their on-line courses to be tested can bring along details of these courses (syllabus content, hardware and software requirements etc) to the meeting so that the WG may decide on a short-list for piloting purpose.

This would allow something concrete to be tested out while the proposal to formulate and develop programme structure and curricula (which I expect to involve a much longer process) is taking place.

I expect mutual recognition within the Asean nations as well as compliance with the Washington Accord arrangements will not be easily resolved. Cheers.

At 05:26 PM 8/13/00 +0700, you wrote:

>Dear all  
> Thailand Graduate Institute of Science and Technology and he Learn  
> Online  
>website (learn.in.th) have been offering web courses such as Bioinformatics,  
>Cybertools for Research, GMOs and DNA Fingerprinting, etc. to Thai  
>students for  
>a while. The first two courses are in English, the others in Thai. These are  
>quite popular. I understand Dr Kanchana Kanchanasut has been offering some  
>courses from the AIT.  
> Yongyuth Yuthavong  
>  
>Prof TM Wong wrote:

*TMW*  
*15/8/00*  
*g*

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North America and Thailand, Edmonton, Alberta, Canada, June 19-23, 1996

## PHOTOSTRICTIVE PROPERTIES OF PLZT CERAMICS DERIVED FROM A SOL-GEL PROCESS

Patcharin Poosanaas\*, A. Dogan, A. V. Prasadarao, S. Komarneni and K. Uchino

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Lanthanum-modified lead zirconate titanate (PLZT) ceramic materials have attracted much interest due to their potential ferroelectric, piezoelectric and especially electro-optic properties. These ceramics are known to exhibit photostriction, which is the superposition of photovoltaic and piezoelectric effect. The photoinduced strains provide various applications to photostrictive actuators such as compact photodriven relays, and photoacoustic devices. However the photovoltaic effect and response of induced strain are influenced by the fabrication and processing conditions. Conventional oxide mixing process for preparation of PLZT needs high sintering temperature and imparts impurity inhomogeneity which affect the characteristics of photostriction. The sinterability and transparency of PLZT ceramics can be greatly enhanced by synthesizing through chemical routes. Sol-gel technique provides high purity, better homogeneity, submicrometer grain size with good control of stoichiometry, and therefore, is of great interest for the preparation of photostrictive ceramics. In this study ceramics of PLZT (3/52/48) doped with 0.5 at.%  $\text{WO}_3$  and 1.0 at. %  $\text{Nb}_2\text{O}_5$  were prepared by sol-gel technique using lead acetate, lanthanum acetyl acetonate, Zr, Ti, Nb and W alkoxides. Photostrictive effect and its dependence on fabrication method were investigated. Comparison of the photostrictive properties on PLZT prepared by conventional oxide mixing process and sol-gel technique will be presented. This work is partially supported by Army Research Office through Grant No. DAAL 03-92-G-0244.