



 UNIVERSITI
TEKNOLOGI
MARA

MANAGING
UNIVERSITY
DATA FOR
QUALITY

from the lens
of a practitioner

Thursday
10 February 2022
2:30 p.m
Anjung Sri Budiman
UiTM Shah Alam

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UiTM PROFESSORIAL LECTURE

PROFESSORIAL LECTURE UiTM
Prof. Datuk Ts. Dr. Hajah Roziah Mohd Janor

Managing University Data For Quality
From the Lens of a Practitioner



Program

Professorial Lecture UiTM

Anjung Sri Budiman, UiTM Shah Alam

10 February 2022 (Khamis), Jam 2.30 petang

Nama Prof. Datuk Ts. Dr. Hajah Roziah Mohd Janor
Tajuk Managing University Data For Quality From the Lens of a Practitioner
Jangka masa : 1 jam 38 minit

Transkrip:

- 14:18 : Lagu negaraku dan wawasan setia warga UiTM akan dimainkan.
- 21:00 : Bacaan doa.
- 23:27 : Amin, amin Ya Rabbal Al amin dan majlis mengucapkan ribuan terima kasih kepada al fadhil Ustaz Muhammad Faizal yang memimpin bacaan doa sebentar tadi. Untuk makluman hadirin sekalian, syarahan professorial lecture yang berbahagia Professor Datuk Ts. Dr. Hajah Roziah Mohd Janor ini turut disaksikan secara maya melalui Facebook dan YouTube UiTM channel. Juga secara langsung di kampus-kampus cawangan seluruh UiTM menerusi platform Zoom
- 24:03 : Jadi untuk rakan-rakan yang berada di platform Zoom mungkin boleh lambaikan sedikit tangan menandakan dapat mendengar. Haa ok. Betullah tu maknanya.
- 24:18 : Baiklah tuan-tuan, puan-puan. Majlis kita teruskan lagi dengan ucapan aluan-aluan dan sesi pengenalan Profesor. dan untuk itu majlis mempersilahkan yang berbahagia Profesor Teknologis Dr. Hariani Harun Dekan Fakulti Sains Komputer dan Matematik untuk ke pentas bagi sesi pengenalan profesor. Dipersilakan.



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Transkrip:

- 24:59 : Terima kasih Pengacara Majlis. Yang berbahagia Profesor Datuk Teknologis Dr.Hajjah Roziah Mohd Janor Naib Canselor Universiti Teknologi Mara Yang berbahagia Datuk Seri Dr. Haji Irmohizam Haji Ibrahim Ahli Lembaga Pengarah Universiti Teknologi Mara Yang berbahagia Datuk Dr. Haji Mansur Bin Haji Saleh Mantan Pengarah Institut Teknologi Mara ITM Yang berbahagia Profesor Emeritus Tan Sri IR Datuk Sahul Hamid Abu bakar Naib Canselor UNITAR Dan Mantan Naib Canselor Universiti Teknologi Mara Yang berbahagia Profesor Emeritus Datuk Dr. Hassan Said Pengurus Lembaga Pengarah Universiti Malaysia of Computer Sciences and Engineering Unimine Dan Mantan Naib Canselor Universiti Teknologi Mara Yang berbahagia Profesor Dr. Nik Mahiran Nik Mohamad Menjalankan fungsi Naib Canselor Universiti Malaysia Kelantan Yang dihormati Ahli-ahli keluarga yang berbahagia Profesor Datuk Teknologis Dr. Hajiah Roziah Mohamad Janor Ahli-ahli Majlis Eksekutif Universiti Pegawai-pegawai kanan Universiti Teknologi Mara Rektor-rektor, dekan-dekan Ketua-ketua jabatan, ahli-ahli akademik Dan pentadbiran Universiti Tetamu jemputan Yang dihormati sekalian
- 26:33 : Assalamualaikum Warahmatullahi Wabarakatuh Dan salam sejahtera Syukur Alhamdulillah Pada petang ini kita dapat bersama-sama Di Majlis Syarahan Profesor Oleh yang berbahagia Profesor Datuk Teknologi Dr. Hajiah Roziah Mohamad Janor, Naib Canselor UiTM yang dikasihi Majlis Syarahan Profesor Yang bertajuk Managing Universiti Data Quality From the Lens of a Practitioner Ini dianjurkan bersama Oleh Fakulti Sains, Komputer Dan Matematik Dengan kerjasama Pejabat Naib Canselor UiTM Saya mengucapkan terima kasih Kepada jawatan kuasa penganjur Majlis Syarahan Profesor Dan semua yang terlibat Secara langsung atau tidak langsung Dalam menjayakan majlis petang ini Saya juga ingin Merakamkan setinggi penghargaan Kepada barisan mantan Naib Canselor Universiti Teknologi Mara Yang kita kasihi Yang berbahagia Datuk Dr. Haji Mansur Haji Saleh Yang berbahagia Profesor Emeritus Datuk Dr. Hassan Said Atas kehadiran Dan bersama-sama warga UiTM Meraikan Majlis Syarahan Profesor Terima kasih juga Saya ucapkan kepada Semua yang hadir secara Fizikal maupun yang mengikuti Secara atas talian



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Jangka masa : 1 jam 38 minit

Transkrip:

- 28:00 : Para hadirin yang dihormati Saya amat berbesar hati Untuk memperkenalkan Insan yang diraikan Pada petang ini iaitu Yang berbahagia Profesor Datuk Teknologi Dr. Haji Rozia Mohd Janor Naib Canselor UiTM Beliau dilahirkan di hospital Port Dickson Negeri Sembilan Dan membesar di Camp Garrison Port Dickson Dalam satu keluarga dan persekitaran Yang berdisiplin tinggi Bapanya merupakan Seorang guru besar yang disegani Di sekolah rendah Siri Rusa Port Dickson Beliau memulakan Persekolahan Darjah 1 dan Darjah 2 Di Government English Primary School Port Dickson Kemudian Beliau sekeluarga berpindah ke Bahau Dan meneruskan Persekolahan Darjah 3 Hingga ke Darjah 6 Di Sekolah Kebangsaan St. Aidan, Bahau.
- 29:00 : Seterusnya Beliau meneruskan persekolahan Di Sekolah Menengah Datuk Mansur Dari tingkatan 1 ke tingkatan 3 Dan di Sekolah Tuanku Ja'afar Kuala Pilah Dari tingkatan 4 hingga tingkatan 5 Dibesarkan Di Kawasan Peladangan Getah Di Bahau Telah menyuntik semangat beliau Untuk memajukan industri getah Lantas Setelah tamat sijil pelajaran Malaysia Beliau mermohon Untuk menyambung pelajaran Dalam bidang teknologi getah Di Institut Teknologi Mara ITM Namun begitu Permohonan beliau tidak berjaya Kemudian Allah SWT Merezekikan tawaran kepada beliau Untuk menyambung pengajian Ke State University of New York And New Pulse Di Amerika Syarikat Dalam bidang matematik
- 29:59 : Lantas bonda tercinta Memujuk beliau Untuk menerima tawaran tersebut Untuk mendalami bidang matematik Dan pendidikan Kerana bakat dan pencapaian cemerlang Beliau dalam bidang matematik Terserlah Beliau memperolehi Ijazah Sarjana Muda Matematik Dari State University of New York And New Pulse Pada tahun 1985 Dan ijazah sarjana Dalam bidang matematik Dari West Virginia University Amerika Syarikat pada tahun 1987.



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Tajuk : Managing University Data For Quality From the Lens of a Practitioner
Jangka masa : 1 jam 38 minit

Transkrip:

- 30:35 : Setelah pulang ke tanah air Minat yang mendalam Dalam bidang pendidikan Mendorong beliau mengikuti Program diploma Basas siswazah Pendidikan Di Universiti Teknologi Malaysia Beliau bergraduasi Pada tahun 1989 Beliau memulakan kerjaya sebagai Seorang guru di Sekolah Menengah Seri Desa Tanjung Garang Selangor Dan pada pertengahan Disember 1989 Beliau menerima perkabaran Gembira diterima Berkerja di Institut Teknologi Mara Maka Pada usia yang muda iaitu 27 tahun Bermulalah kerjaya beliau Sebagai seorang pensyarah matematik Pada 2 Januari 1990 Di Jabatan Sains Kejuruteraan Dan subjek pertama Yang diajar oleh beliau Adalah Advanced Statistics and Calculus Dan pada tahun 1998 Jabatan Sains Kejuruteraan Dibubarkan Beliau menyertai Pusat Sains Dan seterusnya Fakulti Sains Pada tahun 2000
- 31:48 : Dalam kesibukan bekerja Berumah tangga Dan membesarkan anak-anak Semangat beliau untuk meneruskan Pengajian keperingkat yang Tertinggi tidak pernah padam Beliau dianugerahkan Ijazah Doktor Falsafah Dalam bidang Statistik dari Universiti Kebangsaan Malaysia Pada tahun 2003 Dibawah penyeliaan Yang berbahagia Prof. Dr. Kidin Bin Syahrhan
- 32:19 : Sekembali Dari pengajian peringkat ijazah Kedoktoran, beliau menyertai Fakulti Teknologi Maklumat Dan Sains Kuantitatif FTMSK Dan kemudiannya Dikenali sebagai Fakulti Sains Komputer & Matematik Pada tahun 2009 Hinggalah ke hari ini Sumbangan beliau kepada Universiti Sangatlah membanggakan Beliau bermula Sebagai seorang fellow di Institut Pengembangan Ilmu INKA Dari tahun 2001 sehingga Januari 2006 Kepimpinan beliau mula terserlah Apabila mengetuai Inisiatif ISO 2001-2000 Bagi Sistem Pengurusan Kualiti di seluruh Sistem UiTM Beliau kemudiannya dilantik Sebagai Ketua Unit Pengurusan Maklumat Strategik di Pusat Perancangan Strategik UiTM Selama dua tahun Pada Januari 2006 Hingga Julai 2008



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Transkrip:

- 33:21 : Beliau menerajui Inisiatif Pengurusan Data Kualiti Universiti Antara Jabatan secara keseluruhan Antara Sumbangan signifikan beliau adalah Pembangunan satu model Multi Sistem UiTM Yang mencapai sasaran enrollment Seramai 200,000 Pelajar yang Berkualiti menjelang tahun 2010
- 33:46 : Seterusnya Beliau telah dilantik sebagai Pengarah Jaminan Kualiti Akademik Bahagian Hal Ewal Akademik pada tahun 2008 hingga 2010 Beliau telah Melaksanakan piawaian Berdasarkan Akta MQA 679 Kepada 326 Program Akademik Di 26 Fakulti yang seterusnya Menjadi Garis Panduan Outcome Based Education Student Centered Learning OBE CSCS Di samping itu Beliau membangunkan mekanism Penilaian Kendiri yang diperkenalkan Kepada 12 cawangan UiTM dalam tempoh 6 bulan sahaja Dan seterusnya dimajukan sebagai Portfolio Penilaian Kendiri Self Review Portfolio UiTM Kepada MQA dalam tempoh 3 bulan
- 34:47 : Pada tahun 2010 Beliau dilantik sebagai Pengarah Unit Hal Ewal Kurikulum Atau yang dikenali sebagai Overhead di bawah Pejabat Timbalan Naib, Canselor Akademik Dan Antarabangsa sehinggalah Tahun 2015 Dalam kesibukan tugas Sebagai Pengarah Unit Hal Ewal Akademik Beliau masih aktif Menyelia para pelajar PhD Dalam bidang Data Envelopment Analysis Pengukuran objektif Dalam fotografi dan Membangunkan indeks Takbir urus korporat-korporasi
- 35:25 : Beliau juga aktif Menyelia pelajar Sarjana Statistik Gunaan Dengan mengaplikasikan Teknik Data Envelopment Analysis Dalam membangunkan Skor Kecekapan untuk Kampus Cawangan dan Menambah baik kaedah-kaedah Pemarkahan yang melibatkan Skala Likat Sumbangan penyelidikan Dan kepakaran beliau berkaitan Jaminan Kualiti berterusan Melalui penggunaan data Dan kaedah statistik Melayakkan beliau dilantik Penolong Naib Canselor Di Institut Kualiti Dan Perkembangan Ilmu INKA Bermula Oktober 2015 sehingga November 2020



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Transkrip:

- 36:12 : Pada masa yang sama Beliau telah menyelia Inisiatif-Inisiatif Kualiti Universiti Antaranya Akreditasi Institusi Akreditasi Program Model Kecemalangan Kualiti Sistem Pengurusan Kualiti dan Projek Penarafan Universiti Sejak tahun 2016 beliau berkhidmat Sebagai bendahari Di rangkaian Jaminan Kualiti Institusi Pengajian Tinggi Malaysia atau yang dikenali Sebagai MYKAN Sebuah rangkaian Jaminan Kualiti untuk 68 Institut Pengajian Tinggi di Malaysia Dan bermula tahun 2018 Beliau dilantik sebagai Presiden MYKAN
- 37:03 : Beliau adalah seorang Ahli Lembaga Teknologi Malaysia sejak tahun 2020 dan telah Memperolehi Sijil Profesional Pengurusan Pengetahuan Knowledge Management pada tahun 2003.
- 37:18 : Beliau juga Merupakan alumni bersekutu Harvard Business School Sejak tahun 2018 Selesai bertugas Sebagai penolong naib Canselor Di Institut Kualiti dan Pengembangan Ilmu INKA Beliau dilantik sebagai timbalan Naib Canselor Akademik dan Antarabangsa pada Desember 2020 Hingga 8 Ogos 2021 Memacu 26 orang MYKAN dan menyelia 10 jabatan di bawah Pejabat Hal Ehwal Akademik dan Antarabangsa Universiti Teknologi MARA
- 37:57 : Seterusnya Pada tanggal 9 Ogos 2021 Beliau dilantik Sebagai Naib Canselor Universiti Teknologi MARA Sehingga kini Para hadirin yang dihormati Sekalian Meskipun memikul pelbagai Tanggungjawab dalam kepimpinan Akademik secara silih berganti Peranan beliau Sebagai seorang penyelidik Tidak pernah diabaikan Yang berbahagia Profesor Datuk Teknologi Dr. Hajah Rozia Mohd Janor Aktif menjalankan penyelidikan Melalui geran-geran Peringkat Kebangsaan dan Antarabangsa yang telah Menghasilkan pelbagai penulisan Ilmiah termasuk Penerbitan dalam jurnal Dan prosedur berindeks



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Transkrip:

- 38:47 : Serta buku-buku penyelidikan Hasil penyelidikan Beliau turut menerima Pelbagai anugerah penyelidikan Di peringkat Kebangsaan dan Antarabangsa seperti Pingat emas untuk Produk hadari skokat Di invention and New product exposition In Pax America Syarikat Terbaru Beliau dan pasukan Penyelidikan beliau telah berjaya Menerbitkan Kajian impak UiTM 20 tahun Yang menonjolkan Impak besar Universiti Teknologi MARA terhadap Penjanaaan semula Pembangunan socio-ekonomi bagi masyarakat sekeliling
- 39:32 : Beliau turut Menyumbang kepakaran dalam Projek perundingan dengan Institusi-institusi awam Dan swasta Misalnya unit kerjasama Awam swasta UKAS Jabatan Perdana Menteri Dan Proton Berhad Melalui Perdana Leadership Foundation Beliau turut aktif Menjadi panel, jurulatih Dan penceramah jemputan Dalam pembangunan akademik Serta pengurusan polisi sejak tahun 2006
- 40:06 : Perkhidmatan cemerlang beliau Melayakkan beliau menerima Pelbagai anugerah perkhidmatan Di antaranya Anugerah perkhidmatan cemelang UiTM Pada tahun 2002, 2007, 2008, 2012, 2017 Penyandang penyelidik Terbaik UiTM Pada tahun 2007 Pengalaman dan sumbangan Ilmiah beliau yang membanggakan Melayakkan Beliau dianugerahkan gelaran Professor of Statistics Oleh Universiti Teknologi MARA
- 40:46 : Untuk makluman Para hadirin yang dihormati Yang berbahagia Prof. Datuk Teknologi Dr. Roziah Mohd. Janor adalah Profesor dalam bidang statistik Di Pusat Pengajian Statistik Dan Sains Pemutusan Fakulti Sains, Komputer dan Matematik UiTM Saya selaku dekan Fakulti Sains, Komputer dan Matematik Dan warga FSKM keseluruhannya Sangat berbangga Dengan kecemelangan penyelidikan Dan kepimpinan akademik Beliau dan semoga Kejayaan beliau ini akan menjadi Role model buat Penyelidikan FSKM khususnya Dan UiTM umumnya



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Transkrip:

- 41:27 : Sumbangan dan pencapaian cemerlang kepada universiti yang menjangkau 30 tahun, Serta ketukuhan Beliau Melayakkan beliau dilantik sebagai Naib Canselor UiTM Dan lebih Membanggakan Sebagai wanita pertama Untuk menerajui UiTM Sebuah rangkaian universiti terbesar Di Malaysia
- 41:59 : Tonggak utama kejayaan beliau adalah dorongan dan sokongan Ahli keluarga tersayang yang berbahagia Prof. Datuk Teknologis Dr. Hajah Roziah Mohd Janor telah mendirikan rumah tangga dengan pasangan pilihan hatinya Yang dihormati Encik Zulkifli Badruddin
- 42:21 : Pasangan bahagia ini dikuniakan Tiga orang cahaya mata Dua orang putera. Maaf, dua orang puteri Hanim Zulaika Zulkifli dan Mariam Adila Zulkifli dan seorang putera Razman Afdal Zulkifli dan kini Telah dianugerahkan dengan empat orang cucu
- 42:43 : Di sini juga saya ingin mengambil kesempatan untuk mengucapkan setinggi-tinggi Tahniah kepada yang berbahagia Prof. Datuk Teknologis Dr. Roziah Mohd Janor atas pengurniaan Darjah Kebesaran Panglima Mahkota Wilayah PMW Sempena Hari Wilayah Persekutuan 2020
- 43:09 : Tahniah diucapkan dari seluruh warga UiTM dan sekali lagi marilah kita sama-sama memberikan satu tepukan gemuruh kepada Yang dikasihi, yang berbahagia Prof. Datuk Teknologis Dr. Hajah Roziah Mohd Janor Naib Canselor UiTM.
- 43:33 : Hadirin yang dihormati sebelum kita ke acara, acara utama, marilah kita sama-sama menyaksikan sebuah persembahan video yang disediakan istimewa bersempena Syarahan Profesor yang berbahagia Prof. Datuk Teknologis Dr. Hajah Roziah Mohd Janor. Semua warga UiTM akan sentiasa berjuang dengan lebih bersemangat bagi meningkatkan pencapaian dalam menjalankan tanggungjawab untuk memajukan bangsa dan Kemanusiaan.



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Transkrip:

- 44:38 : Saya rasa yang cukup saya pentingkan dalam mana-mana organisasi, kita nak orang yang mempunyai kekuatan dan segi ketekunan kerja dan membuat keputusan yang terbaik. Kalau dari segi kewatakan dia, dia adalah seorang yang disenangi sangat senang berhubungan. Orang jumpa dia pun senang bercakap dengan dia. Beliau adalah seorang yang sangat dedicated, reliable dan boleh memberikan keputusan. No nonsense, Goal getter jadi senang untuk bekerja dengan beliau.
- 45:23 : Apa saja yang kita ingin lakukan dapat dilakukan. Apa saja sebagai KPI, beliau dapat lakukan dengan sempurna. Saya sebenarnya pada waktu itu membuat perancangan untuk interview semua bakal pensyarah dan Semua bakal pentadbir. Ini saya sendiri yang interview di pengurus tentang masa interview dan memilih. Alhamdulillah, nampaknya pemilihan kita itu tepat. Beliau ini mempunyai kekuatan jiwa yang tinggi dan juga kemantapan hati yang ini adalah ciri-ciri yang penting bagi seorang pelajar PhD, hingga dia tidak akan bergantung sangat kepada penyelia.
- 46:25 : Saya lihat kepada penampilan diri dia. Kalau kita boleh faham tentang penampilan Prof. Rozi, dia ada karisma. Saya ingat dia kata confidence. Prof. sebenarnya sangat komited dengan kursi SPA, saya boleh memberi jaminan ini kerana dalam tempoh sejak 2017 sehingga hari ini, begitu banyak perubahan telah berlaku pada kursi SPA. Saya rasa beliau mempunyai satu disiplin yang amat kuat walaupun kemungkinan ada staf-staf akademik dan pentadbiran yang menganggap beliau agak garang.
- 47:04 : Tapi bagi saya itu adalah kaedah beliau untuk melaksanakan segala tugas beliau dengan berjaya. Dia mesti tegas, bagaimana nak tangani. Sebab saya sebagai timbalan dan dia sebagai presiden. Tapi bila saya dah lama-lama bersama dengan dia, memang saya rasa ada sisi yang kita rasa banyak yang saya rasa memang perlu belajar daripada dia. Perwatakan ibu saya, dia memang senang kata, dia seorang yang tegas tapi penyayang but also pendidikan. Dia memang sentiasa menghargai ilmu, menghargai benda-benda itu semua. Prof, dia lebih cenderung untuk memilih sudut pandang yang positif dalam menilai seseorang atau sesuatu. Ini kelebihan Prof.



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Transkrip:

- 48:01 : Kita agak sukar dengar Prof cakap yang tidak baik tentang seseorang. Dia penyayang dan dia caring. Tapi dia tegas dan ada banyak tahap kesabaran. Dia memang sabar. Kenangan manis sudah tentu sepanjang 20 tahun lebih kami bermula sebagai Pentadbir Akademik di umur yang sangat muda. Kami bangun dan jatuh bersama-sama dalam memperkasakan Agenda pendidikan UiTM.
- 48:39 : She is very sisterly to me. Walaupun umur kami mungkin tidak jauh bezanya. Tapi perwatakan sebagai seorang kakak yang banyak memberikan input-input, direction kepada career saya itu amat saya hargai.
- 48:56 : Bila saya tamat perkhidmatan saya sebagai VC Pada 31 Disember 2009 Bermula 2010, Sampai lah saya jadi chairman 2021. 2010-2020 Prof Rozi dengan tim, kita ada satu tim kita panggil Tinteng. Sentiasa bersama-sama saya, walaupun saya berhenti jadi VC, grup inilah grup yang pertama akan datang ke rumah saya. Selama 10 tahun tak pernah miss every month.
- 49:38 : Selamat menjalankan tugas Terus kan usaha Kerana sentiasa Mesti ada cabaran Dan juga walau bagaimanapun Prof. Rozi Dilanda ombak Yang besar Ataupun tsunami and i'm sure you can handle it.
- 23:34 : Saya doakan semoga isteri saya dapat menjalankan dan mencapai apa yang dia di amanahkan dan misinya untuk UiTM dan negara.
- 50:11 : Saya bersyukur kepada Prof Rozi kerana dia merupakan Pertama penerbitan untuk UiTM dan kita doakan kejayaan beliau menerajui UMC terbesar di Malaysia, mungkin terbesar di dunia.
- 50:44 : Begitulah tadi Persembahan video Mengenai yang berbahagia Profesor Datuk Teknologis Dr. Hajah Roziah Mohd Janor. Dengan segala hormatnya dipersilakan.



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Transkrip:

- 52:09 : Alright? So in order to build timber, structural using timber, because it's more sustainable material to be used, we need to have sustainable timber supply. We need standard development. We need to do promotion, education and training.
- 24:13 : We have to develop or we have to create talents, civil engineering talents, in order for them to be able to design timber structures. We need architects to be able to appreciate timber in their design. Alright? And also we need to have specific policy on the use of IBS timber for construction.
- 24:31 : Because right now, 70% of the construction must use IBS. Alright? But mainly for concrete and steel. So we want to say that at least 10% of 70% must be timber.
- 24:45 : Because right now, mostly are being used as decorative. Alright? In the construction, but not mainly for columns, for beams, to support the structure. Okay.
- 24:55 : So in order for us to have modern timber construction, what do we need? We need structural timber design. We need a standard to manufacture all the products, so that when the industry produces, we can inspect, we can audit whether that can be. Because we are talking about structural applications, so it has to be strictly followed.
- 25:19 : Then, when they design, they have to follow Uniform Building By-law. And also JKR standard specifications, CIDB building specification. At the same time, when building using timber, we have to get approval from fire department because timber is considered as combustible material.
- 25:39 : Alright? So people are worried whether it will burn under fire. The safety must come first. So how to overcome all this? So we have committee for timber structures, and I'm the chairman of the timber structures.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 25:57 : So we strategically plan for the revision of the current standard, proposed new standard, promote standard, and also we conduct training. So MS444 Part 5, because in order for us to construct the structures, we need connection, bolts and nuts. So we have to develop standards for jointing.
- 26:18 : And then MS444 Part 1 to Part 3 is already published in 2009 revision. It's for the solid timber. And then we need to produce glue laminated timber in Malaysia, so the industry has to follow certain standards.
- 26:30 : So we have manufacturing standard for MS758. And then we also have, recently we are working on developing the protocol for manufacturing of CLT, which we plan to complete in 2022 so that the industry can follow. And then, again, to overcome the fire department requirement, we have to have a design on fire performance.
- 26:55 : So MS444 Part 9, so we hope we can complete it in 2023. And then MS444 Part 12 on laminated vineyard lumber. But these are based on permissible stress design.
- 27:06 : Now the design method has changed, has moved from permissible to limit state design, which I will not be able to explain the difference in here at this moment. But at least everybody will know that there are two methods of design. One is permissible, another one for limit state.
- 27:22 : So if you want to move along with the rest of the world in terms of design, for more safe and economical, we have to design it based on limit state design. Therefore, we need to prepare standards relevant to that for each type of material. So that's opened a lot of research.
- 27:45 : So that's why my research embarked towards that, related to a standard the industry can use, the product can be produced by the industry. It's not just basic sciences. Start with sciences, grow until it can be commercialized.
- 28:04 : But not only commercialized, it can be used by engineers, by architects, and by contractors. So that's the journey that I want to bring all of you today. Okay, so these are the design codes in Malaysia, but these are based on permissible stress design.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 28:21 : These are all design standards for different types of material, solid timber, glue lamps, such as plywood, cement bonded particle board. And then we need to join, so we have joint standards. We have overcome fire resistance, so we need to know how to design in terms of fire requirement.
- 28:40 : And then preservative, and then laminated vinyl lumber for structural application. Besides that, we also look at the manufacturing standards for roof truss and also for the glue laminated timber, because at that time we have only for glue laminated timber. Now, again, in terms of design standard, there are measures standard right now still use permissible stress design.
- 29:05 : It's very conservative. We are using data from small-scale specimen. The actual one, long section, definitely there are defects.
- 29:12 : So when we use small-scale specimen data, we have to input a lot of safety factors. So instead of small cross-sectional beam, now become larger cross-sectional beam, so it's not economical. So that's why European also started with permissible stress design, and they have already changed to limit state.
- 29:28 : Design is based on large-size specimen. It's more economical, and they have already designed data for glue lamp and CLT, which we don't have. So therefore, we need to develop standards for this product.
- 29:46 : So we need to do some testing to gather the data so that we can develop the standard. Can we adopt European standard? We cannot adopt it directly because there are temperate hardwood and softwood timber, ours is tropical hardwood. So they have different characteristics.
- 30:04 : So it's not like steel and concrete, grade 40 concrete. In UK, it's a similar grade 40 concrete in Malaysia because it's designed, it's man-made. But timber is a natural product.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 30:17 : They are not the same. So therefore, my work, related research work, for me, in developing a development of manufacturing and design standard, I work on manufacturing standard of LVL, glue lamp, and also cross-laminated timber, the recent one. I also do the design standard for solid timber, design standard for glue laminated timber, design standard for laminated vineyard lumber, design standard for connection, design standard for fire resistant, design standard for limit state.
- 30:50 : This is the one that we're going to embark on now, and limit state for fire requirement and also for engineered timber product. So the first product that I want to mention is on laminated vineyard lumber, which is one of the products that we can use for joists, can use for beams, can use for columns. The production is we have to peel the log, so there also must be investigation.
- 31:13 : Not all timber can be peeled. So then we do clipping, we have to dry, so we need also to know what is the drying temperature suitable for different types of species. So that also research coming in.
- 31:28 : And then, because of not long enough, so they will have to do scuff joint, and then because when we peel, there are holes along the way, so we have to do patching, gluing, laminating, and then we do cold press and that. At the end of the day, we have that laminated vineyard lumber. This one, we received around \$225,000 in conjunction with UPM at that time.
- 31:52 : This was my first project on timber per se, directly. So based on this project, after doing all the testing, we produced data for design. And this data has been incorporated in MS544 Part 12.
- 32:07 : And we produced books on manufacturing, on the properties, and also we improvised the manufacturing standard for laminated vineyard lumber, production of laminated vineyard lumber. So from sciences, we carry up until it can be used by the engineers, by the industry. Now, as I mentioned before, our design method is based on permissible stress design, based on data gathered from small, clear specimens.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 32:41 : Therefore, we need to change our design method into a limited design, so the data has to be tested again by using structural size specimen. Structural size specimen can be 100 by 120 by 6 meters, 7 meters. It's not by 50 by 90 by 1.8 meters only, previously.
- 33:03 : Now it's by 7 meters, by 12 meters length. It's huge. This is to develop Eurocode 5 Malaysian version design standard based on permissible stress design and the limited design.
- 33:16 : At the same time, we need to come up with the strength classes for Malaysian timber. So previously in MS544 Part 2, the design data here is based on small, clear specimen. In MS544 Part 3, which we used to design glue laminated timber based on solid timber, but the data is by conversion from small, clear specimen to large size specimen.
- 33:39 : We adopt from British standard 5268. We then do the testing. We adopt from there, and we found that it is not totally correct because the data comes from Southeast Asia.
- 33:52 : So it's not necessarily timber comes from Malaysia. It's from Southeast Asia. So we have to put higher safety factor.
- 34:00 : Again, our dimension or cross-section of the structural element will become huge and will cost a lot. So inside European British standard comes BSEN. They adopt kapur, balau, kempas, merbau, and keruing.
- 34:16 : So Southeast Asian countries, this is a lot. These are all producers of hardwood timber, so we don't know from which country the UK took it last time. Okay, so therefore we need to do something.
- 34:31 : Our present standard MS544 Part 3 adopted BS5268 in 1998. These are the classes, but they have evolved. The standards have evolved from small, clear specimen to large size specimen.
- 34:43 : You can see that balau previously D70 now goes to D50, so reduced a lot from 70 megapascal to 50 megapascal. So in terms of exporting, the price is lower now. Do we agree with that? When they manipulate the data and change the standard from 70 to 50, we don't want that because we lose our export value.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 35:13 : So therefore, they explain why they change, how they change, but we need to investigate because they manipulate on the current data. They are not testing new sets of timber. So they convert from small, clear to large size by using this modification factor.
- 35:33 : So in order to overcome that, we have to do some testing. Now in Eurocode, to design based on the state, they have to come up with new strength classes in EN388 for hardwood timber. Start with D, mean hardwood.
- 35:46 : There's another table, C means softwood. But these hardwoods are from temperate, from Europe. So can we adopt European standard directly? We have to investigate.
- 35:59 : So these are for softwood. Start with C. Again, they only did bending test, and the rest to get design value for compression, tension, and so on, they use formula. They develop formula to get that.
- 36:17 : Then at the same time, they also develop tensile classes for designing glulam. That will be later. So in order for us to embark on the project to develop our own strength classes for tropical timber in large size and be accepted in European community, I have to study correct and the right way.
- 36:45 : I cannot just simply do the test, get the bending, and then declare it, no. Because at the end of the day, I want our data to be accepted and incorporated in European standard. So therefore, in order to do that, I'm glad that I am able to collaborate with these well-known people in the European Standards Committee, Dr. Simon Eicher, Dr. Jural in the Eurocode, and also Stefan.
- 37:13 : He's the chairman of the European Timber Structures Committee. So we need to work with them. So in order to run the test, because of large size, we need equipment.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 37:24 : So MTIB has sponsored us 2.3 million torsion machine, the only one in Malaysia right now. So any university can use it, but they have to pay. Even my students from other universities, they have to pay for it.
- 37:37 : But to complement that, I can also provide us with tensile machine 2.5 million, because the sample is so large, our current machine will not be able to accommodate that. So in order to be relevant, the data, we have to take the sample from all over Malaysia, because timber in Sarawak is not the same in Terengganu, in Johor, in Pahang. So there has to be representative of all that.
- 38:01 : So then timber must, in order to be accepted and published in ISO standard, and also in European standard, we must prove that the timber comes from sustainable forest. We go to that extent. Not just buy from the sawmill anywhere and do the timber.
- 38:22 : Do the test. Then the sample, almost 20,000 number. These are my students who completed that.
- 38:29 : Other students do five samples enough, 20 samples enough, they do thousands of samples. So these are some tests. So they also came to inspect whether the methodology that we do is correct or not.
- 38:46 : Correct, comply with the standard. We found that their testing standard does not really comply to our timber. The rate that they put, let's say 10 millimetres per second, is for their saw food.
- 39:01 : Our timber is so hard. So we have to change. So there are modifications in terms of the standard, the testing standard that they provide, actually.
- 39:10 : All right? So that's one that we're going to do. So based on that, we come up with our new strength class. Then this one, now in the process of getting approval from European Technical Committee, and once it is approved, this one will appear in our new standard design, and also we will push it into ISO standard, and hopefully Dr. Simon can help to put it into European code.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama Prof. Dr. Zakiah Ahmad
Tajuk Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 39:39 : Then when they buy our timber for design, they don't use their standards whereby they can save material for design. Then along the way, we also modify some of the formulas, some of the modifications that are available in the European standard to accommodate our timber. So we also develop new formulas.
- 40:08 : We develop new things. So this one will be incorporated into our standard later on. So the outcome of that, we use it for our code, because UiTM is the only faculty that offers masters on timber design.
- 40:27 : And we still maintain in undergraduate. Some of the universities do not cover that. So we become center for timber design.
- 40:35 : That's the one that we want. So later on, these are the new standards that we create. Then we also want it to be in the ISO standard. I am also the committee member for all these standard ISO. We have been rotating from country to country, so I meet a lot of traveling, meet a lot of friends. That's where you go for internationalization.
- 41:01 : The next one, I want to talk about glue laminated timber. You have to be patient with me today. It's my special day, so you have to wait. All right? Okay, so the next product that I want to talk about is the glue laminated timber. From logs, we sawn it into sawn timber. And then, if not long enough, we finger jointed them, and then put glue in between, and then press it.
- 41:27 : It becomes glue laminated timber. It's not as simple as that, because a lot of study, a lot of parameters need to be considered. All right? All right.
- 41:38 : So, again, previously, we have a design for glue laminated timber based on permissible stress design. So we want to move to limit state design. And in the European Code, it mentioned that here, if you are able to see that, for glue laminated sawed wood timber only.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 41:58 : So we cannot adopt 100% the Euro Code 5, because some of the data there specifically mention on sawed wood timber. So we need to get what is the new modification factor that relevant to our timber. So if engineer wants to design glue laminated structures, based on this, they have to put a lot of safety factor on that.
- 42:21 : So then it will cost more, okay? Because the section from small become large. All right? So, again, we need to have the T-classes, the tensile test of the finger-jointed lamella, the tensile test of the lamella alone, because these are required in terms of design of glue laminated timber. So, so far in the Euro Code EN14080, so they have glue lam of strength 20 megapascal up to 32 megapascal.
- 42:51 : And then this one equivalent to T-classes, 10 megapascal, tensile test, 10 megapascal. And then the bending strength of the finger joint is 25. So when we did our test, we did locally, and also we send some to German to validate the test method that we do, because we cannot send all, because it's very expensive.
- 43:12 : So we send it to University of Stuttgart. We collaborate with University of Stuttgart. So these are the number of sample that we send to them for them to do the test. All right? We send only Kruwing and Light Red Meranti. They do a series of tests. And then these are the bending strength for malangganggai.
- 43:31 : We found it in GL40. In European Code just now, the highest grade is GL32. Our malangganggai is SG3.
- 43:40 : And the class is GL4, 40. And then, so these are the design table for glue laminated timber in European Code. All right? So we set up to 32 only, from 20 megapascal up to 32 megapascal.
- 43:57 : So when we did our timber, we have Kruwing of GL44, Light Meranti, because it's lower density, GL22. So that means our Kruwing is strength class 5, all right? SG5. So still much higher than their highest timber.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 44:19 : All right? So if we don't have this data, and you can see that the tensile strength is 50, 19, 50. Here it's only 26. All right? And the bending strength, ours is 80. And the highest is only 41. So if we want to use their standards, their data to design for beam of 24-meter span with same applied load for GL28, the size is 80 by 228. But if you are using GL44, it's 80 by 144.
- 44:51 : So this is only for one beam. So we are using many, many beams. So it will save us a lot. All right? So how important is that? Then we also decouple Mapau and so on and so on. This one is kind of unique. So with this collaboration, now our data has been published in European Technical Committee.
- 45:12 : European Technical Committee has been approved. So now we need to have industry to export the product. In order for Malaysian industry to export the product overseas, their timber product must be certified by European Committee.
- 45:28 : All right? So we go to that length so that our industry can sell the product not only locally but also in Europe. All right? So to do that, we have come up with route to CE marking. We teach them how to get their product, get the CE mark, and then get to be exported overseas.
- 45:57 : We lose this project. We bid for the Cebu airport, Philippine. They like to use our timber because they know that our data that we produce and all that, they know that they can save a lot, but then our product is not yet CE mark.
- 46:15 : So the committee and MTIB, we try to help the industry to get the CE mark because that's the only way that this product can be exported overseas, even in Singapore. Even in Singapore. If you go to Singapore, there are a few buildings that are already built using glulam and CLT but imported from Finland.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 46:35 : We are very near, but they cannot buy because we don't have the CE mark to guarantee that the production control is good. All right? Because this is for structural application. Okay. So now, with this project, the outcome is we will have new version of MSEN 338. We will have ISO 1222-3. We also have MSEN 14080.
- 47:05 : In the process, I will show you the gun chart where we want it to be published. All right? And for this, we also prepared books, hopefully will publish soon, on the manufacturing of glulam timber and some properties of the glulam timber. And because of that project, we have a few companies emerge.
- 47:27 : From this study, we have Woodsfield Glulam Manufacturing in Johor Bahru, and then we have PEKA. All right? So we have them. In fact, they got the machinery from MTAB, but to get the contractors, the builders, to believe in this product.
- 47:45 : So a lot of promotion needs to be done. All right? So based on this product, we have built, I will show you some of the buildings in Malaysia has already been built using glulam timber because we are not export, so we don't have to have the sea marking, but we check their product production. So this one is the glulam gallery in Johor Bahru.
- 48:09 : And then the timber also being used for MITI Exhibition Pavilion in Milan. All right? And then TLDM Blue Moat, because it's very near to the sea. It was designed based on steel.
- 48:21 : So it will have problems in corrosion. So replace it with timber. We still maintain the same cost, and yet we make profit out of it.
- 48:32 : So people say that timber expensive, steel, but this project shows that we can replace it using timber without additional cost. And yet the company make profit. And then we have the CFR, Cross for Future Research Crops in Seminyak.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 48:50 : And then Ruffas Hospital Steel, it was collapsed because of the so many services hanging. It was not designed for. So in order to speed construction and then to be able to have a wider area, so we use glulam.
- 49:09 : All right? Without have to remove all the patient, all the machinery, and all that. So we managed to do it by using glulam. And then to showcase that timber also friendly to weather.
- 49:21 : People were afraid that it's not good in terms of durability. We have some example in Taman Negara Kukuk, mangrove area. And it's also emitted the shell, all that. So it's there. You can go. And then Ritz Carlton Hotel Langkawi again.
- 49:39 : This bubu at first was built using steel. It start to corrode. Then we change to glulam. And then also built for the warehouse. Now restaurant use it. Sugar bun and then pizza restaurant in Johor Bahru also using it.
- 49:54 : And the latest one is also on the restaurant. Okay. So now last one is on the CLT, which is my current project, still active. Okay, almost finished. So still using long sawn timber, but now we cross each other. All right.
- 50:16 : So that we can have bigger panel. All right. So these are some of the methods. So these are the products. Some cross this way. Another one cross that way. Because we can make it into big panel. So save a lot of time. Then we can just do opening window, the door.
- 50:35 : And then connect that together like Lego. So you can have the building. That's it. Very, very fast. All right. So this is market story in this one is somewhere in Germany. All right. Okay. So you can see that they don't need beam and column.
- 50:54 : The whole panel is load bearing wall. Just cut opening for the window. And just connect each other with proper design of connection. All right. So you can do that. And then you can build this very fast. Okay. I'll show you at the end the video on the construction of the building. So in order to do that, Malaysia wants to have this product available.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 51:17 : And for design purposes, we need to have manufacturing standard. All right. So, again, right now ISO standard on CLT is still under draft.
- 51:27 : So if we have our data, we can incorporate in that ISO standard some of the pertinent to tropical hardwood. So in order to do that, we cannot start from scratch because we don't want to make so many trial and error and take longer time. We want to do it very fast.
- 51:44 : And the product can easily accepted by the industry locally and internationally. And the standard, we can change it very fast rather than have to wait five or six years. So we conducted our production of CLT at Germany.
- 52:01 : And also in Italy. But it's not easy to convince them to incorporate with us in the manufacturing of this. Not many people can bring your product into their factory and look at their technology. All right. So, alhamdulillah, I have good connection. And also with support from MTRB, we managed to do it. Alhamdulillah. All right. Okay.
- 52:30 : So there are two methods. One is by hydraulic press. Another one is by vacuum press. Why? Because the cost to produce by using this method is only \$600,000. But the machinery for this can go to \$10 million. So as a start, we want to give the industry opportunity. All right. Start small. And then after that, grow bigger.
- 52:56 : So we have both methods of production of CLT. All right. So we are not only thinking of producing one panel, but we also have to think whether there is industry also not to take up this project. If it is the capital is too much and there's no guarantee there will be public to use it, then so goes. The product will not be used in Malaysia. So we have to think along that way. All right. So these are the production of CLT in the factory. Okay.
- 53:28 : So can we start the video? Just small, just short video on the product. Another cross section, the one that cross, put on top and another one, another one. So we have to create three layers, five layers, seven layers, in the odd numbers.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 54:07 : All right. There's a reason for that possibility. And they did, because they are machines, they are glue. So this specifies for certain pressure, but also for the application of the glue. On the glue, suitable or not for our use. If not suitable, the bonding is not good. Once completed, one can bring to the industry, and the industry will change that for you. All right. So this is the first CLT.
- 55:49 : We did crewing and light rep mounting. The first production of CLT from Malaysia tropical hardwood in Europe. Now they have experience producing CLT from us. Hopefully they will buy timber from us. If they are finding that it is good, then we show that the strength is much higher. So the smaller section, they can combine.
- 56:07 : Actually, a lot of study can be done. The middle section can be European timber, top and bottom, because we need the compression and tension for design purposes, so we can use our timber. So there's opportunity for us to export more.
- 56:22 : All right. Okay. So the outcome, we come up with a technical guide for protocol of how to manufacture cross-laminated timber from Malaysian timber. We're going to do MSISO 16692, and then we have one factory that's producing CLT now. All right. See how it goes from research into industry.
- 56:45 : All right. Another issue, fire. We also have to tackle. If not, the fire department will not approve our timber structures, especially when it goes more than three stories, more than six stories. All right. Okay.
- 57:04 : Because we always say that timber is combustible. Now, if a bomber does not approve, you can never get insurance covered. All right. And then if they want to cover, you put 30% higher. That will put off the contractors, the developer. All right.
- 57:22 : And also, the UBBL uniform building bylaw, we need to look at the law, and then we have to change the law, because inside that law, it says that the beam, the column, the compartment floor must be built or must be constructed using non-combustible material, timber gone. All right. Timber is considered combustible, but we have to make it such a way that it is considered as non-combustible.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 57:51 : All right. So I'm heading the committee, looking at the revision of the UBBL, together with the fire department, MTIB, and industry, and so on. Alhamdulillah, we have made some progress on that one, now waiting for the parliament to approve the law. But at the same time, we have to educate bomber. Things change. It's not like before.
- 58:16 : When I say that, they are very sensitive. Now it's live. But then we have got very good cooperation with them. They are very supportive. Even now, we're going to construct one building using CLT in Sabah, and the fire department is very supportive. We agree with that after we show some proof to that.
- 58:37 : So in order to prove that, there are two ways. One is by full-scale testing. Another one is by design method. So I'm going for design method, because full-scale testing, it will cost a lot, because we have to construct large-sized building, and then put fire, burn it. All right. So that's very expensive.
- 58:58 : So we have to do by calculation. So there are two parts. When it starts to ignite, then after the fire builds up, then slowly the structure loses its integrity. So there are two parts that we need to take care of, the fire resistance and also reaction to fire, how it contributes for the fire development. All right. So the reaction classification for timber, European standard wood, is at D class.
- 59:25 : All right. So we did a reaction test in University of Stuttgart, because we don't have the equipment for this. Even in Malaysia, we don't have that for the large size.
- 59:34 : So we did a test in Europe, and we found that for glulam crewing, instead of class D, we push to class C. So our timber is actually not easily catch fire, but engineered timber product, when you design it, not just simply normal wood stick for fire. That one is burn easily. All right.
- 59:59 : That have to have design. And fire department worried about the toxic smoke. So we did also test on that.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 1:00:08 : We have class 1, very little smoke. We have to go to that extent. Now, to design fire resistant, European code in EN1 and EN5-1-2, all right, specify on how to design timber structures using to overcome fire, whichever mentioned in UVBL, two hours or three hours or half an hour.
- 1:00:32 : All right. In order to do that, when we put the section into fire, there will be reduction of cross-section and also consideration of heated. All right. So we have to look at how much the timber is being charred. All right. So we can design it by using notional charred rate.
- 1:00:50 : These are the current in MS54.9, based on strength grouping. For BS5268, it's based on density. And then now, recent one, Eurocode 5, also based on density.
- 1:01:02 : They have for softwood, they have softwood glulam, but they don't have hardwood glulam, and also for the LVL. So, therefore, we have to change our charring rate instead of using strength grouping because the charring rate depends on the density, not based on strength. So we have to change that.
- 1:01:25 : So we did some study. We did a fire test at Trada, and also in Sweden. And latest, we did it in FRIM. So that we learn from here, we learn from there, and then we did in FRIM. All right. So in Eurocode, there are two formula to use, two parameters to use, beta 1 and beta 2, which is for the floor like this, fire is only one-sided.
- 1:01:53 : For column, it can be three, three-sided. So we design column different than we design for floor slab. All right. So we need to have these two data. So these are the test conducted in Trada. And then we get the charring rate is 0.44. In MS449, it's 0.7, but we have 0.44. It's much lower.
- 1:02:17 : All right. And then for one-sided test, we test in Sweden. We have also 0.69. This one is for one-sided test. All right. And then we did in FRIM for two-dimensional, and also for three-dimensional, for different species. All right.
- 1:02:34 : And then also for solid timber, for glue lamp, and also for LVL. And we measure. This is the original piece.



Program

Professorial Lecture UiTM

Dewan Seri Impian, Hotel UiTM Shah Alam

24 September 2020 (Rabu), Jam 9.00 pagi

Nama : Prof. Dr. Zakiah Ahmad
Tajuk : Renaissance In Tropical Hardwood Timber Construction
Jangka masa : 1 jam 11 minit

Transkrip:

- 1:02:41 : After half an hour, okay, we have to calculate what are the charring rate available. There are so many formulas. So we have to come up with our own justification. And then we have our – these are the value that we recommend for time being. We need to do more just to validate. We use very small numbers.
- 1:03:06 : All right. Now, overseas, we are looking for tall stories, 80-story clock tower in London, and then 120-story in China. All right. Malaysia, two stories at most. All right. So we have to push, all right, because of sustainability of the material.
- 1:03:28 : And then there's also mention that they believe ingenial wood will become the cheapest way to construct tall buildings in the future. All right. So before that, let's look at video. Video. Very short time. They built in six weeks.
- 1:04:08 : Very, very short time. Because it's IBS. It's already done in the factory. Bring to the site. It's very safe construction, very clean construction, and it's very fast. You will be very fast.
- 1:04:23 : You don't have to wait for one year. Sometimes you do renovation. It takes you one year. All right. It's okay. It's just to tell you that the construction is... It's very, very fast.
- 1:04:43 : (Unclear audio)
- 1:06:10 : So I would like to say thank you to all of you, especially my children, my family, FKA staff, my beloved FKA staff and Isom also. I was the pengarah at that time, and friends, students, and collaborators, as well to UiTM. With that, wa'alaikumussalam wa'alaikum warahmatullahi wabarakatuh.
- 1:06:36 : Any questions? What is this? The spotlight is hot. Yeah, I already asked, is there any question to... One question about the... If based on the current scenario, present scenario, if the demand, let's say from overseas, from the EU countries, is it sufficient enough for the availability of our timber or log in our forest to supply the high demand from the EU countries? And if yes, how long can sustain with that demand? That's a very difficult question to answer. Alright, I think we at MITB take it rather not so abruptly.



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Transkrip:

- 1:07:45 : We realise that first thing, the promotion must be good to buy in. Let's say, everything is already in place, but along the way, we have policy on replanting. And now we are working with OM in Kelantan.
- 1:08:05 : They have already rented quite a large number of land from the government, they rent the land to plant the plantation timber, laran and batai. So we cannot rely on our reserve forest, because for forest management, a small number can only be logged. We need a mass number, so the best way is to buy plantation timber.
- 1:08:33 : That day also, I worked with a company in Sabah. They are also looking at renting land from the government, or trying to get some more land from the government for the plantation. In fact, laran and batai is already part of the policy, native policy.
- 1:08:52 : So we focus more on laran and batai because we can see the potential. Right now, in the lab, and this one is actually sponsored by the industry, to show that it is from CLT, made from laran. So we have already some samples in our lab, Dr Noshariza will do the testing, to see the performance of laran and batai CLT performance.
- 1:09:18 : If it is good in terms of glueability, strength-wise, and then later on, maybe FSG can help me on the treatment, how to treat. Prof Nasir can look at that one also, on the treatment, how it affects on the bondability and so on. So the planning is there.
- 1:09:48 : Thank you, Prof Zakia, for enlightening us on the usefulness of hardwood timbers. And I fully agree with the suggestion for us to focus on the forest plantations as the future resources, to lessen the pressure on the natural forest. But then, things like to make sure that when we are opening up the forest plantation, we should avoid opening the natural forest for that.
- 1:10:22 : What we might want to do is to find the degraded land. For example, in Sabah-Sarawak, there has been an unsustainable practice of farming, that they do the cliff heading and shifting cultivation. That would be some of the potential for us to grow the plantations.



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Transkrip:

1:10:46 : Because as we talk about the degraded forests, actually we can treat them. Because you showed to us this SMS, the selective management system, after logging, we can replant to enrich the area. So rather than clearing the remaining of the timber, we treat them. But when you want to do the fast-growing forest plantations, let's focus on the land that's available, the idle land and the degraded area. Thank you. That's what the OM is doing.

1:11:37 : You can ask me further during lunch. Thank you very, very much for coming, for listening. I hope it does benefit some of you, all of you.