

GMTI
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EÓ
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Letterfrack

Talking Hardwoods

Adding value – Exploring potential utilisation of Irish hardwood timber

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Lecturer

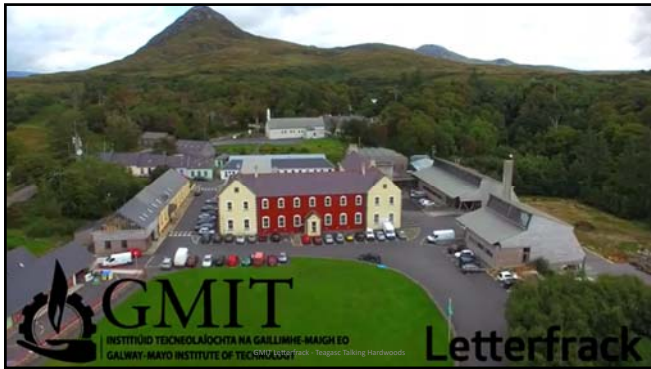
National Centre for Excellence in Furniture Design and Technology

GMTI Letterfrack - Teagasc Talking Hardwoods

Degree Courses

- BSc in Furniture Design and Manufacture
- BSc in Furniture and Wood Technology
- BSc (Hons) in Education (Design Graphics and Construction)

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Teaching, Learning and Research



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Skills

Craft	Technology	Advanced Manufacturing	CAD/CAM & BIM
Problem-Based Learning	Innovation	Design	Quality
Project Management	Automation	Product Development	Lean Manufacturing
Design for Manufacture	Creativity	Entrepreneurship	Sustainability

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Materials in use

- **Timber**
 - Ash, oak, cherry, walnut, beech, maple, sycamore, yew etc.
 - Veneers
- **Manufactured board materials**
 - Plywood
 - Birch plywood
 - Poplar plywood
 - Smart-Ply
 - MDF
- **Others**
 - Mets, plastics, glass, stone, solid-surfacing, composites



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Undergraduate Research

- Testing
- Microscopic Analysis
- Finishes
- Properties

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International Placement Programme

MJM INTERIOR BUILD

Glenn Wood

BENCHMARK

MADE SPOILT woodworking

Spend 20 weeks in a company in Ireland or overseas

MJM SUPERYACHT FITOUT

HOME SERVICES MATERIALS GALLERY BROCHURE VIDEO CONTACT

WATCH OUR VIDEO

MJM Superyacht Fitout offers a traditional joinery service coupled with the capacity to carry out CNC work. This enables us to completely fit out or refit yachts of any size.

GMIT Letterfrack

GRADUATE PROFILES

- Furniture Designer
- Project Manager
- Technical Designer
- Teacher
- CAD Engineer
- Furniture Designer-Maker
- Product Designer
- Sales and Production Manager
- CNC Programmer

Industry Partners: MARK RICHNEY, GANTER, MJM, SILVERLINING, London, stephen o'brian, GARGAN DE BRUIJ, Martek, GMS, JOSEPH WALSH, REVEL, BENCHMARK, farrell, Allwood, BAVART, RONG, etc.

Adding Value - research

- GMIT have been awarded co- funding by COFOD to develop:
 - Timber drying Kiln
 - Onsite conversion
- Aim: To explore potential of Irish grown small-diameter hardwood
 - Collaborating with Teagasc
 - Supporting undergraduate research
 - Developing opportunities for post-graduate research
 - Exploring structural, mechanical and working properties
 - Investigating optimum drying schedules
 - Raising awareness of issues amongst staff and students

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Materials

- Approx. 95% hardwoods used in manufacturing Ireland are imported (O'Donovan, 2008)
- Issues important to manufacturers:
 - Quality
 - Quantity
 - Security of supply
 - Generally non-structural members – different to construction industry needs
- GMIT exploring ways to use more native / home-grown material
 - Within current curriculum (projects etc.)
 - Through undergraduate research
 - Through postgraduate research

bow crook kink cup twist

Importance of understanding growing and conversion defects

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Complements existing GMIT testing facilities for analysing structural and mechanical properties:

- Instron Test Rig
- Climatic Humidity Chamber
- Fatigue testing
- Structural test rigs

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Potential

- Manufacturing (small scale)
 - Craft e.g. Furniture
 - Joinery
 - Instrument making
- Design
 - New product development
- Sustainability
 - Local materials
 - Carbon footprint (product)
 - Carbon sequestration (materials)
- Marketing
 - Promotion of 'Irish-grown' material
 - Heritage / mythology
- Research
 - Non-timber products
- Challenges include:
 - Cost of processing / drying/ yield
 - Quality
 - Diversity / consumer trends
 - Small volumes

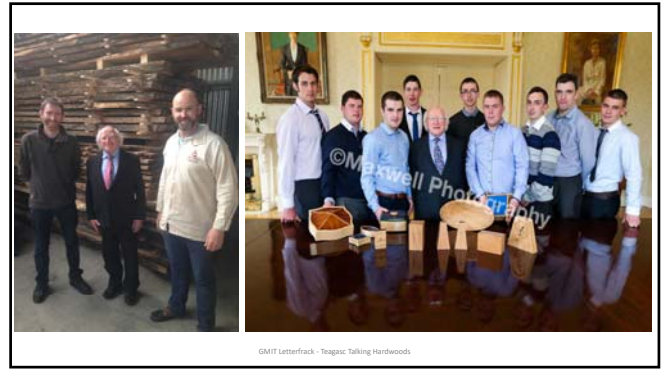
Table by Mark Donnelly

Table by Bright Potato

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Kiln Project – GMIT-COFORD

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For more information...

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Meet us at our GMIT Letterfrack stand!

You Tube GMIT Letterfrack - For digital resources, student experiences and virtual furniture gallery

f GMIT Letterfrack (Official) - For campus news, events and all things furniture!

t @GMITLetterfrack - For thoughts, pondering and interaction on design and technology education.

www.gmit.ie/Letterfrack