Deliverable n° C.3.1

Synthetic report of the scientific conferences organised within the FLOWER project

2nd Conference: September 2020
PP University of Portsmouth

Interreg France (Channel Manche) England

European Regional Development Fund

Presentation

The 2nd conference of FLOWER Project untitled 'Advanced Biobased Materials and Composites for Engineering applications' was held on 17 September 2020 by videoconference and organised by the partner University of Portsmouth.

Key numbers:

- 12 presentations including 2 keynotes and 2 invited talks
- 184 participants' registrations
- 86 effective participants

Feedbacks:

"…Many congratulations on the FLOWER conference that was run last week! I think it was a great success, some fantastic speakers/presentations (and good questions), and very well hosted and supported !.."

"…just to thank you for inviting me to the Flower conference, it was an amazing and well organized event…."

"..once again I have to thank you for the opportunity and chance to speak at the FLOWER conference. It was a pleasure to see other researches explaining their research interests in the field of bio-reinforced engineering. Even though it was a long day, it was great to soak up new ideas and aspects in this field".

"…The virtual atmosphere or mood of the conference was superb, because there was no interference nor disturbance from the presenters and organisers, despite the fact that we were all in our comfort zones (houses and offices). The presentations of all the keynote speakers were full of information and very professional, due to the high professional experiences, prowess and capability. I can rate the performance of the erudite keynote speakers to be top 10% or 9 on the scale of 1 (worse) to 10 (excellence).."

"..been a virtual cost really saved a lot of costs and possibility of logistic failures. This would have had possible impact on the increased number of the participants and full attendance of all the presenters. Therefore, restriction due to the location of the event was immaterial…"

"..The success of the conference was great, considering the presence of the COVID-19 pandemic and its hydra-headed effects this year. It delivered a cohesive message. It was very relevant to the targeted audiences. It was very engaging, as reflected from the questions from many participants after each of the presentations and talks. I benefitted maximally almost from all the various relevant topics covered by the presenters. I learnt actionable information that will help me in professional development and growth..".

"…the publicity of the conference was very effective, because I came across it both in the University of Portsmouth website and the Facebook of the host/organizer. The registration process through was very easy and the platform/Eventrite used was very user-friendly. It was accessed and completed within a short time. This reminds me of the effectiveness of the cloud-based video conferencing service/virtual venue used. This success could be attributed to the pre-conference testing and arrangement, organized by the Project Manager. Undoubtedly, I will be one of the advertisers who will encourage others to attend next year…"

"…I have not only enjoyed my participation in the FLOWER conference and also it gave me an opportunity to upgrade my knowledge with the present research situation around the globe. …"

"… once again I have to thank you for the opportunity and chance to speak at the FLOWER conference".

"…Congrats on the nice session yesterday…"

Save The Date - Flyer

2nd Conference FLOWER Project

Advanced Biobased Materials and Composites for Engineering Applications

Online event

17 September 2020
08:30-16:30 (UK time)

Programme and registration:
https://flower-conference.eventbrite.co.uk/

Interreg France (Channel Manche) England
European Regional Development Fund

FLOWER

UNIVERSITY OF PORTSMOUTH

EUROPEAN UNION

www.flower-project.eu
@FLOWER_Interreg
FLOWER Project

Programme

2nd Conference - FLOWER Project

Advanced Biobased Materials and Composites for Engineering Applications

FLOWER
Flax composites, LOW weight, End of life and Recycling

17 SEPTEMBER 2020
08:30 - 16:30 (UK TIME)

Online conference

Registration https://flower-conference.eventbrite.co.uk/

Interreg France (Channel Manche) England
European Regional Development Fund

UNIVERSITY OF PORTSMOUTH

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Advanced Biobased Materials and Composites for Engineering Applications

08:30 **Welcome and Introduction** – Prof. Hom N. Dhakal (University of Portsmouth)

SESSION 1 — 08:45 – 10:15

08:45 **Keynote - Prof. Ian Hamerton (University of Bristol):** *The use of HiPerDiF (high performance discontinuous fibre) technology to manufacture hybrid composites from more sustainable feedstocks*

09:15 **Questions & Answers**

09:25 **Wassim GUERFALA** (GeM, Centrale Nantes), Patrick ROZYCKI, Christophe BINETRUY: *Elaboration of hybrid bio-composites with thermoplastic matrix: optimal material formulation and modelling of the quasi-static behaviour for an automotive structural application part*

09:40 **Erwan GROSSMAN** (Kaïros), **Peter DAVIES** (IFREMER): *Experience from the GWALAZ flax reinforced trimaran*

09:55 **Questions & Answers**

10:15 - COFFEE BREAK

SESSION 2 — 10:30 – 11:50

10:30 **Invited talk - Mr Andy Smith (Gordon Murray Design):** *Light weight composite manufacturing, opportunities and challenges*

11:00 **Questions & Answers**

11:10 **Sofiane GUESSASMA** (INRAE Nantes): *Biosourced materials in additive manufacturing*

11:25 **Sikiru O. ISMAIL** (University of Hertfordshire), Hom N. DHAKAL: *Machinability of biocomposites: prospects and challenges*

11:40 **Questions & Answers**

11:50 **Virtual Lab Tour**

12:00 - LUNCH BREAK

Advanced Biobased Materials and Composites for Engineering Applications

Advanced Biobased Materials and Composites for Engineering Applications

SESSION 3 — 13:00– 14:20

13:00 **Keynote - Prof. M. Sain (University of Toronto):** *Circular biobased materials and composites technology: A fast emerging industry 4D*

13:30 **Questions & Answers**

13:40 **Marwa ABIDA** (ENIM), A. BAKLOUTI, F.GEHRING, A. VIVET and C. BOUVET: *Inverse approach for flax yarn mechanical properties identification based on flax fabric reinforcement tests*

13:55 **Michael GEUEKE** (University of Siegen): *Mechanical properties and durability of flax and carbon fibre reinforced hybrid composites fabricated by additive manufacturing*

14:10 **Questions & Answers**

14:20 - COFFEE BREAK

SESSION 4 — 14:35 - 16:00

14:35 **Invited talk - Prof. Fabrizio Sarasini (SAPIENZA-UNIVERSITÀ DI ROMA):** *Strategies to increase fibre/matrix interfacial adhesion in natural fibre composites: recent advances*

15:05 **Questions & Answers**

15:15 **Laëtitia DUIGOU** (Université de Bretagne Sud, IRDL), Houdayfa OUNIS, Jean-Marc CADOU: *Study of the influence of flax/epoxy layers on the damping and eigenvalues of composite structures*

15:30 **Kevin CLARKE** (KCC Packaging): *KCC's trek from plastic packaging to a fibre future*

15:45 **Questions & Answers**

16:00 Panel discussion and Closing Note

PRACTICAL INFORMATION

https://flower-conference.eventbrite.co.uk/

This conference is organised by the Advanced Materials and Manufacturing (AMM) Research Group of the University of Portsmouth and co-financed by the by the European Regional Development Fund (ERDF) within the framework of the **INTERREG VA France (Manche) England Programme**

ABOUT FLOWER PROJECT: University of Portsmouth Website

@FLOWER_interreg | FLOWER Project | flower-project.eu

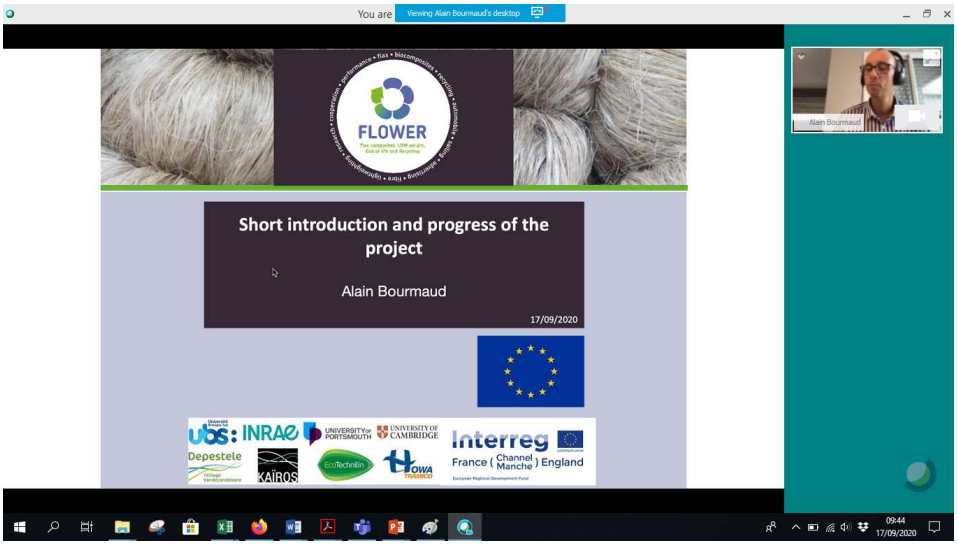
EUROPEAN UNION

Attendance

❖ Number of participants per organisation type

Organisation/origin	number
FLOWER partners	24
Speakers	13
Higher education and research (HER)	38
Entreprise	18
Other, unknown	6
TOTAL	86

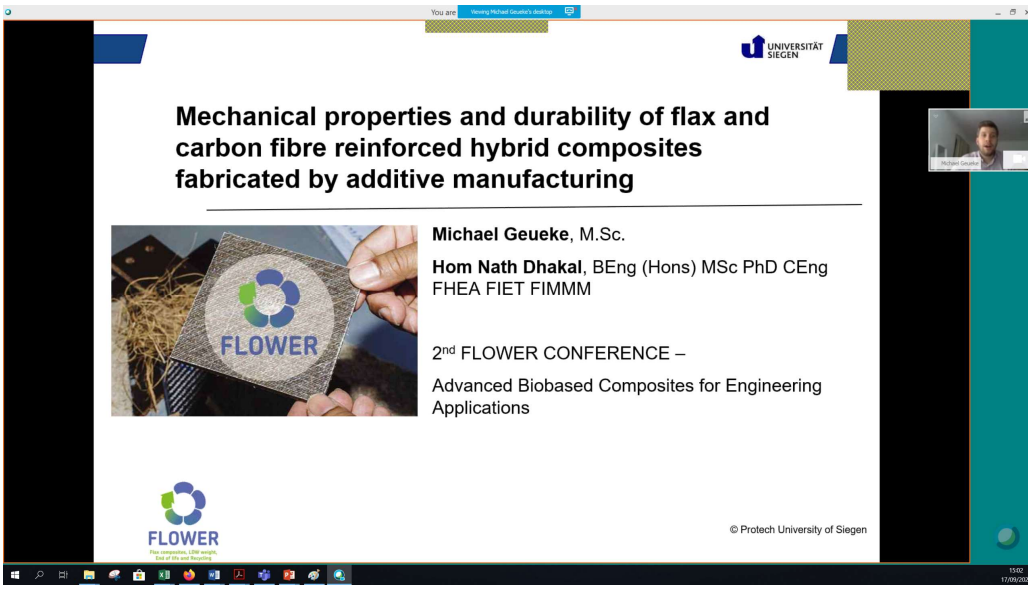
Pictures


FLOWER
Short introduction and progress of the project
Alain Bourmaud
17/09/2020
Interreg
France (Channel Manche) England

FLOWER
Flax composites, LOW weight, End of life and Recycling
Interreg VA France (Channel) England Programme
8 partners (4 industries et 4 academic laboratories/institutions)
Duration : 56 months (from 31/01/2018 to 29/09/2022)
Total budget: €4,6 millions including 3,1 of ERDF
Development of innovative flax fibres composites reinforcements
EUROPEAN UNION
European Regional Development Fund

CiMap
Inverse approach for flax yarns mechanical properties identification from statistical mechanical characterization of the fabric
Marwa ABIDA,
Ahmad BAKLOUTI, Florian GEHRING, Alexandre VIVET, Christophe BOUVET
FLOWER Conference
"Advanced Biobased Materials and Composites"
(September, 17th 2020)

STRATEGIES TO INCREASE FIBRE/MATRIX INTERFACIAL ADHESION IN NATURAL FIBRE COMPOSITES: RECENT ADVANCES
Fabrizio Sarasini
Dept. of Chemical Engineering Materials Environment, Sapienza-University of Rome, Rome – Italy
SAPIENZA UNIVERSITÀ DI ROMA
2nd FLOWER Conference
"Advanced Biobased Materials and Composites for Engineering Applications"
17-09-2020


UNIVERSITÄT SIEGEN
Mechanical properties and durability of flax and carbon fibre reinforced hybrid composites fabricated by additive manufacturing
FLOWER
Michael Geueke, M.Sc.
Hom Nath Dhakal, BEng (Hons) MSc PhD CEng FHEA FIET FIMMM
2nd FLOWER CONFERENCE –
Advanced Biobased Composites for Engineering Applications
FLOWER
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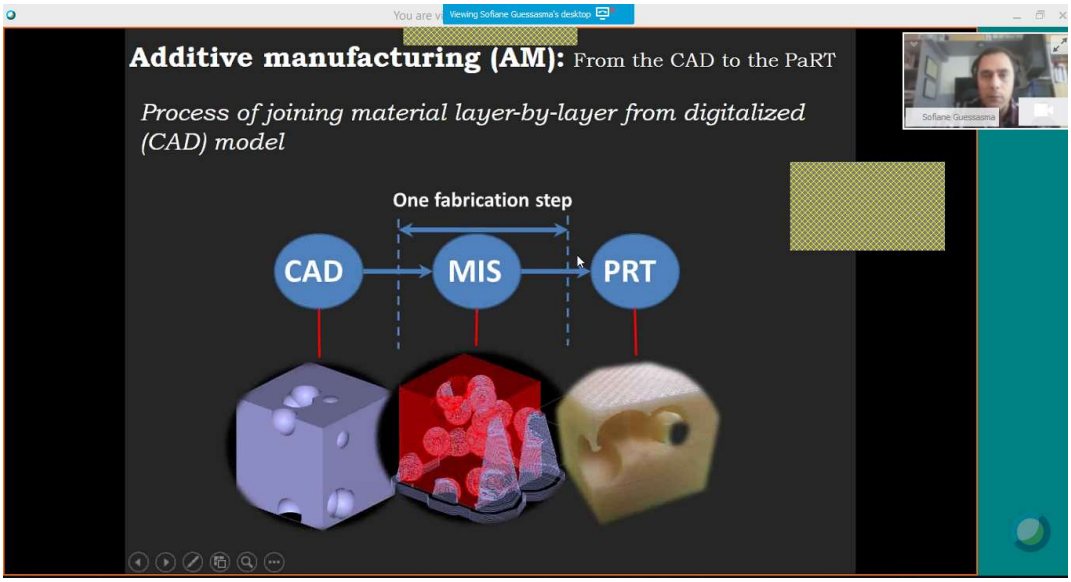
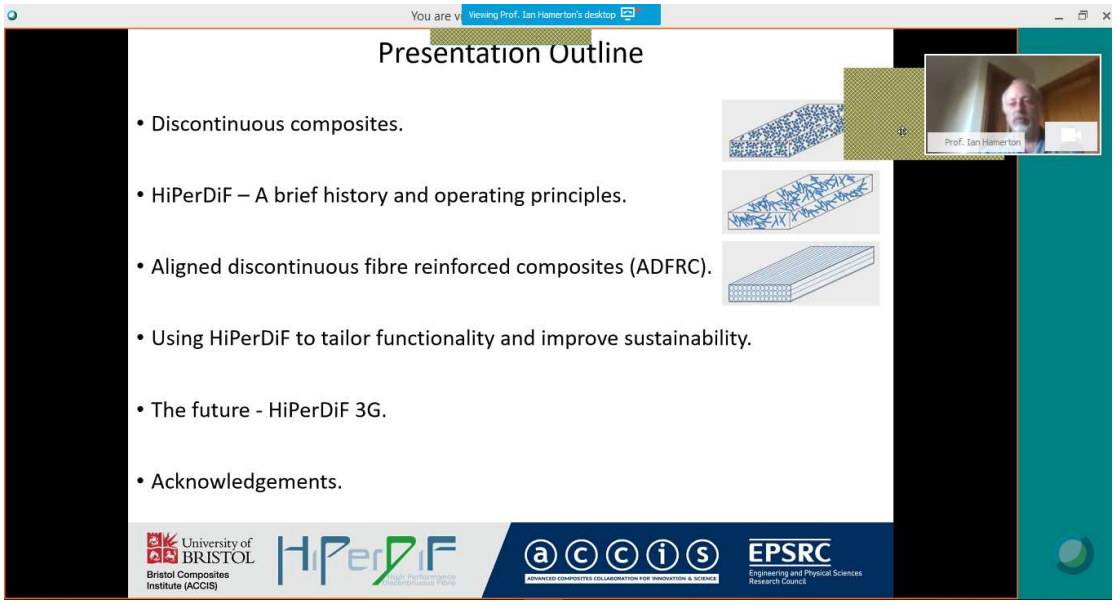

Additive manufacturing (AM): From the CAD to the PaRT
Process of joining material layer-by-layer from digitalized (CAD) model
One fabrication step
CAD
MIS
PRT

Institut de Recherche Dupuy de Lôme
Study of the influence of flax/epoxy layers on the damping and eigenvalues of composite structures
L. Duigou, J.M. Cadou, H. Ounis, M. Ziapkoff,
G. Robin and EM. Daya

FLOWER CONFERENCE – Advanced Biobased Composites for Engineering Applications
University of Portsmouth – 17th September 2020 - Webinar
Experience from the GWALAZ flax reinforced trimaran
KAÏROS
Erwan GROSSMANN
Ifremer
Peter DAVIES

C4X Bio-inspired Carbon: The Vibe and
Circular biobased materials and composites technology: A fast emerging industry 4D
Mohini M Sain
University of Toronto
Ford Motor Canada Chair Professor in Sustainable Materials

Viewing Wassim's applications
FLOWER
17/09/2020
bertrandt
Wassim
Elaboration of hybrid bio-composite with thermoplastic matrix for automotive application
Encadrants : M. Patrick ROZYCKI & M. Christophe BINETRUY
Doctorant : Wassim GUERFALA
CENTRALE NANTES


Viewing Prof. Ian Hamerton's desktop
Presentation Outline
• Discontinuous composites.
• HiPerDiF – A brief history and operating principles.
• Aligned discontinuous fibre reinforced composites (ADFRC).
• Using HiPerDiF to tailor functionality and improve sustainability.
• The future - HiPerDiF 3G.
• Acknowledgements.
Prof. Ian Hamerton
University of BRISTOL
Bristol Composites Institute (ACCIS)
HiPerDiF
accis
EPSRC
Engineering and Physical Sciences Research Council