CONFERENCE PROGRAMME

(preliminary)

Friday, September 28, 2007

Testing

09.00 h **Takeda, N. (invited lecture)**
Optical fiber sensor based structural health monitoring of aerospace composite structures

09.45 h **Renz, R., Szymikowski, R.**
Locally resolved hysteresis measurement of advanced glass-mat thermoplastic composites

10.10 h **De Baere, I., Van Paepegem, W., Degrieck, J.**
Electrical resistance measurement for in-situ monitoring of fatigue of carbon fabric composites

10.35 h **Coffee break**

Loading

11.05 h **Quaresimin, M. (invited lecture)**
Fatigue behaviour and life assessment of composite laminates under multiaxial loading

11.50 h **Plumtree, A., Melo, M., Dahl, J.**
Damage evolution in CFRP under variable amplitude loading conditions

12.15 h **Nakada, M., Noda, J., Miyano, Y.**
Fatigue life prediction of CFRP laminates under variable stress amplitude and frequency

12.40 h **Conference Closing**
N. Himmel, C. Bathias, K. Schulte, W.X. Yao (designated ICFC5 organizer)

12.45 h **Lunch break**

13.30 h **IVW guided tour (optional)**

14.30 h **End of conference**

CONFERENCE DINNER

The conference dinner will be held on Thursday, 27 September 2007.

BENEFITS TO YOU

- Keep up-to-date on the latest advances in the field of fatigue of composites
- Discuss your work within a unique forum of researchers, scientists and engineers
- Interact with experts from all over the world
- The conference papers will be reviewed by members of the Scientific Committee for publication in a special issue of the International Journal of Fatigue

CONFERENCE FEE, VISA

Conference fee 350 €

The conference fee includes the attendance to all lectures and presentations, IVW guided tour, refreshments during breaks, lunches, and conference dinner. IVW will send you an invoice after registration.
The conference fee has to be paid before the start of the conference. Please note that participants who have not paid the conference fee will not be allowed to attend the conference.

Cancellations/Refunds

Participants who cancel their registration more than 60 days before the start of the conference will receive a complete refund less 100 € administration charge. Fees remain payable in full for cancellations received within 60 days before the start of the conference.

Visa

If you need a visa to attend this conference we strongly advise that you apply for it as early as possible in order to avoid disappointment. Please note that the responsibility in obtaining a visa is yours and the decision rests solely with the appropriate embassy.

REGISTRATION DEADLINE

Please register before

7 SEPTEMBER 2007

using the registration form on the ICFC4 web site www.ivw.uni-kl.de/icfc4.

CONFERENCE SECRETARIAT

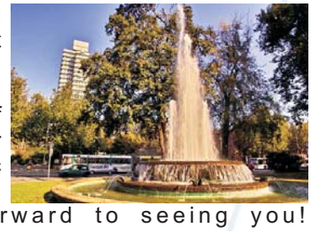
ICFC4 Conference Secretariat,
c/o Dr.-Ing. habil. N. Himmel
Institut für Verbundwerkstoffe GmbH
Erwin-Schrödinger-Straße, Gebäude 58
67663 Kaiserslautern, Germany

CONFERENCE VENUE

Institut für Verbundwerkstoffe GmbH (IVW) is a non-profit research institute of the state Rhineland-Palatinate, Germany, exploring and advancing applications and potential applications of composite materials, based on polymer matrix systems. The institute was founded on the campus of the University of Kaiserslautern in 1990.
Basic idea regarding the projects at IVW is the consideration of the value-added chain "from the scientific basics to the component part" while integrating the core competencies “Design and Analysis", "Materials Science", and "Manufacturing Science”.

LOCATION

Kaiserslautern, the "little big city in the heart of Europe", is inspiring by its many faces and friendly atmosphere. Discover the idyllic Old Town, the German “gemutlichkeit”, the culinary variety, the unique Japanese gardens and, of course, the hospitality of the people of Kaiserslautern. In addition, the Palatinate Forest and numerous local recreational possibilities are directly at our front door. Kaiserslautern is located about 2 hours south-west of Frankfurt with a superior road and rail traffic infrastructure. We are looking forward to seeing you!



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CONFERENCE ANNOUNCEMENT

I C F C 4

Fourth International Conference on Fatigue of Composites

26 – 28 September 2007

IVW, Kaiserslautern Germany

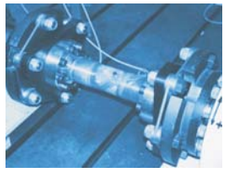
www.ivw.uni-kl.de/icfc4

SAMPE WAK AVK INLEB Institut für Verbundwerkstoffe

THE CONFERENCE

The First International Conference on Fatigue of Composites was held in Paris in 1997 (chairmen C. Bathias and R. Fougères) and has successfully been followed triennially by the second and third conference in Williamsburg, VA, USA (2000, chairman K. Reifsnider) and in Kyoto, Japan (2003, chairmen T. Fujii and N. Takeda).

Like the preceding conferences, the **Fourth International Conference on Fatigue of Composites** (ICFC4) to be held at IVW in Kaiserslautern, Germany, on 26 – 28 September 2007, is dedicated to provide a forum for scientists, researchers, and engineers from academia and industry to discuss fundamental and applied research on composite fatigue and to exchange results, experience and methodologies. For more detailed information please refer to the ICFC4 web site www.ivw.uni-kl.de/icfc4.



CONFERENCE CHAIRMEN

N Himmel	IVW GmbH, Kaiserslautern, Germany
K Schulte	University of Hamburg-Harburg, Germany
C Bathias	CNAM, Paris, France

SCIENTIFIC COMMITTEE

S Case	VPISU, Blacksburg, VA, USA
T Fujii	Doshisha University, Kyoto, Japan
C Galiotis	University of Patras, Greece
M Hojo	University of Kyoto, Japan
P Horst	University of Braunschweig, Germany
M C Lafarie-Frenot	Université de Poitiers, France
M Quaresimin	University of Padova, Italy
K Reifsnider	Univ. of Connecticut, Storrs, CT, USA
J Renard	Ecole des Mines de Paris, Paris, France
T Sabu	Mahatma Ghandi University, Kerala, India
G Sims	National Physical Laboratory, London, UK
J Williamson	Imperial College, London, UK
W-X Yao	University of Aeronautics and Astronautics Nanjing, P.R. China

CONFERENCE PROGRAMME

(preliminary)

Wednesday, September 26, 2007

09.00 h Conference office open for registration

Conference Opening

10.00 h Opening adress from the organizers
N. Himmel, C. Bathias, K. Schulte

Opening adress from Director of IVW,
A.K. Schlarb

Opening adress from Technical University of Kaiserslautern

Fatigue Damage I - Charakterization and damage models

10.25 h **Lang, R.W. (invited lecture)**
Deformation and failure based characterization of polymer matrix composites

11.10 h **Giancane, S., Panella, F.W., Dattoma, V.**
Characterization of fatigue damage in long fiber epoxy composite laminates

11.35 h **Hochard, Ch., Thollon, Y.**
A generalized damage model for woven ply laminates under static and fatigue loads

12.00 h **Wu, F., Yao, W.X.**
A fatigue damage model of composite materials

12.25 h **Lunch break**

Fatigue Damage II - Fabrics

13.25 h **Horst, P. (invited lecture)**
Fatigue in multiaxially loaded non-crimp fabrics

14.10 h **Bizeul, M., Bouvet, C., Barrau, J.J., Cuenca, R.**
Influence of woven ply degradation on fatigue crack growth in thin notched composites under tensile loading

14.35 h **Hojo, M., Nakashima, K., Tanaka, T., et al.**
Mode I fatigue delamination of zanchor reinforced CF/epoxy laminates

15.00 h **Coffee break**

Fatigue Damage III - Degradation and delamination

15.30 h **Reis, P.N., Ferreira, J.A., Antunes, F.V., et al.**
Study of the residual stiffness on a carbon/epoxy laminate composite with delaminated interlayer

15.55 h **Schürmann, H., Franke, O.**
Analysis of the interaction of the adjacent layers of a GFRP-laminate under fatique loading

16.20 h **Tumino, D., Catalanotti, G., Cappello, F., et al.**
Mixed-mode delamination tests on composites under fatigue loads

16.55 h **Zhang, T.F., Yao, W.X.**
A two-parameter model of FRP laminates stiffness reduction

17.20 h **Hosoi, A., Nagata, K., Kusumoto, Y., et al.**
High-cycle fatigue characteristics of quasi-isotropic CFRP laminates

17.55 h **End**

CONFERENCE PROGRAMME

(preliminary)

Thursday, September 27, 2007

Design & Analysis

09.00 h **Yao, W.X., Lian, W. (invited lecture)**
Fatigue life prediction of composite laminates by FEA simulation method

09.45 h **Kleschinski, M., Schürmann, H.**
The influence of fatigue loading on the torsional buckling of thin walled cylinders

10.10 h **Noll, T., Magin, M., Himmel, N.**
Fatigue life simulation of multi-axial CFRP laminates considering non-linearity of material

10.35 h **Coffee break**

Materials

11.05 h **Bernasconi, A., Davoli, P., Armanni, C.**
Fatigue strength of a clutch pedal made of reprocessed fiberglas reinforced polyamide

11.30 h **De Monte, M., Quaresimin, M., et al.**
Fatigue strength assessment of a short glass fibre reinforced polyamide 6.6 under multiaxial loading

11.55 h **Lamkanfi, E., Van Paepegem, W., De Baere, I., et al.**
Monitoring fatigue damage in fibre-reinforced plastics through the Poissons ratio degradation

12.20 h **Lunch break**

Fatigue in composite applications

13.20 h **Reifsnider, K., Solasi, R., et al. (invited lecture)**
Fatigue of composite membranes

14.05 h **Trappe, V., Grasse, F., Meiste, O.**
Lifetime enhancement for GFRP-gliders using a representative substructure

14.30 h **Kensche, Ch. W., et al.**
Methods for proof testing of large wind turbine rotor blades

14.55 h **Schulte, K., Böger, L., Wichmann, M.**
GFRP with a nanoparticle modified matrix and damage sensing capability - influence on fatigue-life

15.20 h **Coffee break**

Fatigue of assemblies

15.50 h **Renard, J., Joannès, S., Gantchenko, V.**
Evaluation of fatigue damage mechanisms of multi-materials bonded joints

16.15 h **Ricotta, M., Meneghetti, G., Quaresimin, M.**
Influence of the layer orientation at the interface on the fatigue behaviour of bonded joints in composites

16.40 h **Ceschini, L., Minak, G., Boromei, I., Ponte, M.**
Fatigue properties of FSW joints on particle reinforced aluminum based composites

17.05 h **Seike, S., Takao, Y., Wang, W.X., Matsubara, T.**
Bearing damage evolution of a pin joint in both $[0/\pm45/90]_{3s}$ and $[90/\pm45/0]_{3s}$ CFRP laminates under repeated tensile loading

17.30 h **End**

CONFERENCE PROGRAMME

(preliminary)

Thursday, September 27, 2007

Parallel Sessions

10.35 h **Coffee break**

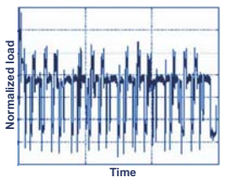
Fatigue Damage IV - Load environments

11.05 h **Minak, G.**
Determination of the fatigue life of laminated graphite-epoxy composite by means of temperature measurement

11.30 h **Gamby, D., Nguyen, T.H., Lafarie, M.C.**
Relationship between constant strain-rate and fatigue cracking curves for aeronautical carbon/epoxy laminates

11.55 h **Cain, J.J., Case, S.W., Lesko, J.J.**
Investigation of the damage and failure modes for varying R-ratios in polymer reinforced composites

12.20 h **Lunch break**



15.20 h **Coffee break**

Materials II - MMC and nano composites

15.50 h **Bonora, N., Ruggiero, A., Gentile, D., Esposito, L.**
Multiscale approach to fatigue in MMC

16.15 h **Takao, Y., Moryama, M., Wang, W.X., Matsubara, T.**
Strength of metal impregnated C/C plate with slot under tensile cyclic loading

16.40 h **Zhu, S.J., Usuki, A., Kato M.**
Fatigue behavior in an inorganic-organic hybrid nanocomposite

17.05 h **Zhang, W., Krempaszky, C., Werner, E.A., et al.**
Low cycle fatigue behaviour of hot rolling strip mill work-rolls

17.30 h **End**