CONGRESS PROGRAM APS MEETINGS 2019

TUESDAY 19 MARCH

08:45 - 09:00

Congress introduction

Philippe BAUER, **THALES**

09:00 - 09:30

The Horizon 2020 program, European projects on Additive Manufacturing and The 4Dhybrid project case

Research and development in Europe is strongly supported by the EU which has funded AM research projects since 1980s with more than €270M between 2007 and 2018.
Beside some examples to be presented to the public, the key focus will be on the 4DHybrid Project, whose main objective is to develop a new concept of hybrid additive manufacturing based on the modular integration of compact, low-cost modules including laser source, deposition head, sensors and control.

Giorgio MAGISTRELLI**, A3DM MAGAZINE**

09:30 - 10:00

Metal additive manufacturing finally made accessible

Metal additive manufacturing has been buzzing for years because of its impressive application potential. However, it is clear that the solutions proposed so far only met niches needs, with significant constraints.
By combining the proven MIM process (metal injection molding) with the capabilities of 3D printing (FDM, Binder jetting), it is now possible to remove these constraints and make metal additive manufacturing accessible to designers, engineers and production.

Pierre-Victor SABATIER**, DESKTOPMETAL**

10:00 - 10:30

Presentation of an aircraft component repair using different additive manufacturing and welding technologies

Currently, most new part made by metal additive manufacturing are obtained using a single technology, either LBM, EBM or LMD. Through simulation and manufacturing of a demonstrator from a real part, the company has combined different additive manufacturing (LBM, LMD) and welding technologies (LBW, EBW). The aim is to develop more profitable repair (or adding new features) approach for design and advanced aircraft or tooling components repair.

Jean-Paul COMIN, **STYX TECHNOLOGIES**

10:30 – 11:00

The Finishing Touch for High-Volume AM Applications – Challenging the Status Quo

Additive manufacturing (AM) has the potential to revolutionize the future of manufacturing. As for the production of polymer plastic parts this means not only challenging, but keeping up with the status quo, injection molding. In order to achieve this, AM has to change for the better along its whole value chain and improve part design, part building and part finishing. DyeMansion delivers the last mile already today by providing the finishing touch for high-volume AM applications and is developing new finishing technologies.

Maximilian KRAUS, **DYEMANSION**

11:00 - 11:30

Serial production in polymer additive manufacturing for B2C & B2B applications. A concrete example of collaboration between Initial, Prodways group, and Morel, a French leader in the eyewear industry

Initial has developed a set of skills to support its customers towards the use of plastic additive manufacturing for mass production. Through hands-on examples of applications, and in particular with the co-presentation of Marius Morel, which embodies the French eyewear know-how, we will develop the methodology and associated convictions. In particular, we will be focusing on process characterization, material identification and finishing. All that combined, to be able to offer an innovative product, meeting the quality challenges of a B2C industry demanding and competitive.

Luc ECKENFELDER, INITIAL
Denis BELLONE, INITIAL

11:30 - 12:00

Simcenter 3D Additive Manufacturing, the next generation of powder bed fusion process simulation

Siemens has adopted additive manufacturing very early across all divisions to realize the next level of product, manufacturing and business performance. Industrializing additive manufacturing has thus become a major challenge. Discover how our new process simulation software plays a key role in this process.

Emilien GOETZ, **SIEMENS**

12:00 - 12:30 **Roundtable**

12:30 - 14:00 **Lunch**

14:00 - 14:30

PEEK / ULTEM: Additive manufacturing of high temperature materials through application cases

High temperature 3D printing, thanks to its unique properties, allows new applications for many sectors of activity such as aeronautics, aerospace, medical, automotive and many others. Discover printed parts in PEEK, PEKK and ULTEM, the advantages of using these materials through concrete applications.

Maxime BORRECA, **NEOFAB**
Emilie DEMAS, **NEOFAB**

14:30 - 15:00

Are there any prerequisites for sustainably implementing additive manufacturing?

Fantastic way to adapt to a highly competitive global market and a changing environment, additive manufacturing and its iterative mode fully participate in the industrial enterprise's evolution. A learning company that relies on the value produced but also the skills of its teams! Review of success conditions for successful implementation of additive manufacturing.

Elizabeth REY, **ADDITIVE CONSEIL**

15:00 – 15:30

Series production of millions of parts per year with Additive Manufacturing

How to identify applications that can combine several generic benefits of Additive Manufacturing?

Alexandre PFISTER**, 3TRPD**

15:30 – 16:00

State of the art in Metal AM simulation and challenges for the future

Process simulation for Metal AM is an essential tool to minimize the number of iterations in the design phase of a product. These simulations consider phenomena at different scales to predict the final part distortions and residual stresses. There are also certain challenges for the future of AM simulation that must be surmounted to achieve the holy grail of AM production: the first-time build.

Adhish MAJUMDAR, **GEONX**

16:00 - 16:30 **Coffee break**

16:30 - 17:00

Powder-Free Ceramic & Metal AM

This presentation highlights the world's first and only powder-free ceramic and metal AM technology. The audience will view microscopic pictures and charts that demonstrate the new quality level that can now be reached using this disruptive technology.

Dror DANAI, **XJET**

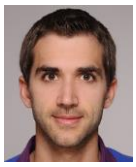
17:00 – 17:30

Thermal performance optimization of an additive manufactured heat exchanger

TEMISTH accelerates the innovation process of companies using all the freedoms given by additive manufacturing. Thermal management is one of the key points for future developments in various sectors of activity: battery of electric cars, cooling of power electronics, recovery of energy on combustion gases ... In order to reap the full benefits of this means of production, we present some cases of applications. We will analyze the interest of using additive manufacturing and the different gains that this brings.

Damien SERRET, **TEMISTH SAS**

17:30 – 18:00



Qualification of AM parts – What standards exist?

What standards enable to qualify additively manufactured parts? How can I select a supplier? How can I apply current norms and what approach is recommended to obtain certification? What standardisation efforts are led internationally?

Christophe BLANC, **TÜV SÜD**

18:00 - 18:30 **Roundtable**

WEDNESDAY 20 MARCH

09:00 - 09:30

3D measurement solutions in additive manufacturing

Hexagon Manufacturing Intelligence solutions in additive manufacturing: 3D acquisition measurement solutions for control and reverse engineering as well as for software solutions in design, analysis and simulation.

Fabien DUCARD, **HEXAGON**

09:30 – 10:00

How additive manufacturing is disrupting metallurgical industries

Additive manufacturing is about to become a relevant new forming process for metals. However, behind this upcoming revolution, another silent revolution is hiding in the traditional metallurgical activities. How can we shorten development lead times, fulfil unreachable functional needs or attract new talents in "old" industries? These are questions, which can be answered thanks to additive manufacturing.

Paul-Henri RENARD, **CTIF**

10:00 - 10:30

Altair Inspire, the design platform for additive manufacturing

ALTAIR has been working for years to develop the use of simulation as a design driver for parts and systems, whatever the manufacturing process to be considered.
Today, the continuous progress in our solutions allows us to propose a complete design creation platform, very well adapted to the many challenges we are facing when using additive manufacturing.

Gildas GUILLY, **ALTAIR**

10:30 - 11:00

Powering growth with an integrated software chain for Digital factories

How software integration allows the business model of the service bureaus to adapt, from open new markets up to the production or customer service conditions.
Prototyping or serial production, the capacity of an online service bureau optimizes and transforms the response to customer needs through software channel integration.

Clément MOREAU, **SCULPTEO**

11:00 - 11:30

Additive Manufacturing of Metals. The Road to Series Part Production in Aerospace

The manufacturing readiness of metal AM is progressing rapidly. Several parts have been qualified on single laser/electron beam machines for quite a while. Processes are advancing, standards and tools e.g. to monitor critical performance parameters are available as more parts enter qualification. Multiple laser machines are integrated into production. Still there are challenges to be addressed by the next generation of additive manufacturing equipment.

Udo BURGGRAF, **GE**

11:30 - 12:00

Additive manufacturing of ceramics in the space industry

The presentation will be about how to combine the design for additive manufacturing and our need for lightweighted structure such as mirrors.

Nisrine LOUH, **THALES ALENIA SPACE**

12:00 - 12:30

Roundtable

12:30 - 14:00 **Lunch**

14:00 - 14:30

Finally the truth about the costs in metal additive manufacturing

Many manufacturers face investment decisions in 2019. Knowing the real costs of metal additive manufacturing is essential to build a record.
Explanations from some concrete cases.

Charles DE FORGES, **SPARTACUS 3D**

14:30 - 15:00

Novel HIP and heat treatment for metal-AM materials and parts

Modern HIP technology is applied to metal-AM materials and parts for enhancement of mechanical properties and post-treatment optimization, including combined heat treatment and HIP processes for substantial reduction of throughput time and cost. HIP also facilitates the application of high-speed build parameters for an overall cost and time reduction. Specific examples will be presented.

Laurenz PLOCHL, **QUINTUS TECHNOLOGIES AB**

15:00 - 15:30

ThermoMelt ™ the new 3D printing process for a greater industrial perspective of high-performance polymers

LSS GmbH will present the advantages (increased recycling of powders, isotropy of mechanical performance ...) of the use of the ThermoMelt ™ process, which operates at lower temperatures allows a more cost-effective printing of high-performance polymers (PEKK, PPS, ...). ThermoMelt ™, the next step in bridging the gap between Industrial Additive Manufacturing and conventional manufacturing technologies.

Ralph RISSÉ, **LSS LASER-SINTER-SERVICE**

15:30 - 16:00

QUICK WIN & PRINTSTRONGER or How 3D plastic printing meets the needs of metal parts?

Tools: Replace machined aluminum directly with continuous carbon fiber parts for the manufacture of equipment, tools and end use parts.
Foundry: The manufacture of 100% wax foundry models in a few hours.

Frédéric POTIER, **3DZ France**
Patrick FERRARIS, **3DZ France**

16:00 - 16:30

To guarantee the integrity of prototypes during shipping: use the 3d digital packaging process by additive manufacturing pack&strat

Pack&Strat® addresses the issue of secure packaging of prototypes or high added-value parts, with exceptional responsiveness and at a reasonable cost. Based on the additive manufacturing process Stratoconception®, from the digital file of the part, Pack&Strat® makes it possible to design and manufacture in record time a 3D custom-made packaging, which perfectly matches the shape of the object, taking into account the axis by which it will be unpacked.

Jean Loup RENNESSON, **INORI SA**

16:30 - 17:00

Hybrid 3D printing + CNC metal machining: get the best of both worlds

- *Optimise component performance and cost with pioneering hybrid solution*
- *Demonstrated in multiple applications: see our case studies*

Andreia NABAIS, **DIMLASER**