Additive Manufacturing

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Additive Manufacturing of Titanium Alloys – Chances and Possibilities

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Mechanical behaviour of gas nitrided Ti-6Al-4V bars produced by selective laser melting

Huiping Tang, State Key Laboratory of Porous Metal Materials, China
Additive manufacturing of titanium alloys and titanium aluminides by selective electron beam melting

Alexander Kirchner, Fraunhofer IFAM Dresden, Germany
Mechanical properties of Ti-6Al-4V fabricated by electron beam melting

Peter Holfelder, Technical University Munich, Germany
Selective laser melting of Ti-6Al-4V: Influence of process parameters on the microstructure
Numerical simulation with a thermodynamically motivated nucleation and growth model

Ma Qian, RMIT University, Melbourne, Australia
Towards achieving forged properties for Ti-6Al-4V additively manufactured by selective laser melting

Marie Jurisch, Fraunhofer IFAM Dresden, Germany
Thermohydrogen Processing of 3D screen printed titanium parts

Yadir Torres Hernández, University of Seville, Spain
Processing and characterization of Ti-6Al-4V samples manufactured by selective laser melting

Metal Injection Moulding

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Titanium Metal Injection Molding - commercial overview

Paul Ewart, ENGCONS and The University of Waikato, New Zealand
Identification of Contamination in the Microstructure of Metal Injection Moulded Titanium
Satyajit Banerjee, DSH Technologies, USA
Sintering Powder Metal Injection Molded (MIM) Titanium Alloys: In Vacuum or Argon?

Toby Tingskog, AP&C Advanced Powders & Coatings, Canada
New Titanium Alloy Feedstock for High Performance Metal Injection Molding Parts

Peng Cao, The University of Auckland, New Zealand
Development of PEG/PMMA Based Binders for Ti Metal Injection Moulding

Jobe Piemme, Praxis Technology, USA
Titanium Metal Injection Molding, A Qualified Manufacturing Process

Roger Pelletier, National Research Council of Canada, Canada
A MIM route for producing Ti6Al4V-TiC composites

Marco Mulser, Fraunhofer IFAM Bremen, Germany
Two-component Metal Injection Moulding of Ti-6Al-4V and Stainless Steel Bi-Material parts

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Sintering behavior of a metal injection moulded Ti-Nb Alloy for biomedical application

Microstructure and property optimization

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Powder Metallurgy Ti-6Al-4V Alloy with Wrought-like Microstructure and Mechanical Properties by Hydrogen Sintering

Ajit Pal Singh, University of Waikato, New Zealand
The Effect of Heat Treatments on Mechanical Properties of Ti-6Al-4V Alloy Produced by Consolidating a Blended Powder Mixture Using a Combination of Powder Compact Hot Pressing and Extrusion

Bin Liu, Central South University, China
Fatigue behavior of powder metallurgy titanium alloys

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Ceramic reinforcement (Ti$_3$SiC$_2$) of Ti scaffolds via direct foaming of pre-ceramic polymers

Sergey Konovalov, Siberian State Industrial University, Russia
Increase of fatigue life of titanium VT1-0 after electron beam treatment

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Characterization of Spark Plasma Sintered Cp-Ti Reinforced with Nanosized Ti-Based Ceramics Additives

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Sintering Characteristics of Spark Plasma Sintered Binary Titanium-Zirconium Alloy

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Metal Injection Moulding of Ti-6Al-4V with Yttrium addition
Ajit Pal Singh, University of Waikato, New Zealand
Processing, Microstructure and High Strain Rate Behaviour of Ti-6Al-4V Alloy Produced From Blended Mixture Using Powder Compact Extrusion

Elena Gordo, University Carlos III of Madrid, Spain
Corrosion and tribocorrosion behavior of Ti-alumina composites

Shifeng Liu, Xi’an University of Architecture and Technology, China
Researching on Microstructure Control of SPS Titanium Fiber Porous Materials

Eric Neubauer, RHP-Technology GmbH, Austria
Titanium Matrix Composites with High Specific Stiffness

Cristina Arévalo, University of Seville, Spain
Development of Ti-MMCs by the use of different reinforcements via conventional Hot-Pressing

**PM biomaterials**

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Powder Metallurgy of Net-shaped Titanium Implants

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Metal Injection Moulding of titanium medical components

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Biofunctionalization of porous titanium

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Mechanical Properties of Cellular Ti-6Al-4V Structures Fabricated by Electron Beam Melting

Ernesto Chicardi Augusto, Universidad Técnica Federico Santa María, Chile
Design, Processing and Characterization of Materials with Controlled Radial Porosity for Biomedical and Nuclear Applications

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Physical properties of Ti–36Nb–2.0Ta–3.0Zr–0.35O alloy prepared by powder metallurgy

Hong Wu, State Key Laboratory of Powder Metallurgy, Central South University, China
Effect of Carburization on In Vitro Corrosion Behavior and Cellular Response of TiAl Alloy

Yadir Torres, University of Seville, Spain
Electrophoretic deposition of PEEK/45S5 BioGlass® coating on porous titanium substrate: influence of processing conditions and porosity parameters

Ana Paula Cysne Barbosa, Universidade Federal do Rio Grande do Norte – UFRN, Brasil
Realization of a Titanium Spinal Implant with a Gradient in Porosity by 2-Component-Metal Injection Moulding
Martin Balog, The Slovak academy of sciences, Slovakia
CP Ti fabricated by low temperature extrusion of HDH powder: application in dentistry

Yadir Torres, University of Seville, Spain
Porous Titanium for biomedical applications: micro-mechanical behavior and numerical simulation

PM Ti alloys including TiAl

Efraín Carreño-Morelli, University of Applied Sciences and Arts Western Switzerland, Switzerland
Metal injection moulding of superelastic TiNi parts

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Microstructures and Mechanical Properties of Ti-43Al-5V-4Nb-Y Alloy Consolidated by Spark Plasma Sintering

Vera Juechter, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany
Creep properties of Ti-48Al-2Cr-2Nb produced by selective electron beam melting

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Microstructure and mechanical properties of TiAl alloy consolidated by prealloyed powders

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State of The Art PM Ti Materials with Ubiquitous Light Elements

Vinicius André Rodrigues Henriques, Brazilian Aerospace Center, Brasil
Microstructural Investigation of Routes for Gamma Titanium Aluminides Production by Powder Metallurgy

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Microstructure of Ti-45Al-5Nb and 10Nb powder

Marcus Willi Rackel, Helmholtz-Zentrum Geesthacht, Germany
Orthorhombic phase formation in a powder processed Ti-Al-Nb alloy with a nano scale modulated microstructure

Powder production and cost reduction

Todd Morton, Boeing, USA
Titanium Powder Applications for Aerospace Cost Reductions

Ian Mellor, Metalysis Limited, United Kingdom
Novel and Emerging Routes for Titanium Powder Production – An Overview

Romain Vert, TEKNA, France
Production of Titanium alloy powders for Powder Metallurgy Applications by Using Tekna’s Induction Plasma Technology
David van Vuuren, CSIR, South Africa
**Considerations for the Direct Production of Pre-Alloyed Titanium Powder**

Gang Chen, State Key Laboratory of Porous Metal Materials, China
**Spherical Ti-6Al-4V powders by gas atomization**

Stefan Gulizia, CSIRO Manufacturing Flagship, Australia
**Advances in Titanium Additive Manufacturing Technologies**

Stella Raynova, The University of Waikato, New Zealand
**Development of low cost PM Ti alloys by thermomechanical processing of powder mixtures**

Christian Doblin, CSIRO, Australia
**Continuous production of Titanium-Boron alloy powders**

Sergio Luis Graciano Petroni, Institute of Aeronautics and Space - IAE / Materials Division, Brasil
**Evaluation of press-and-sinter processing parameters in titanium hydride powder metallurgy**

Ridvan Yamanoglu, Kocaeli University, Turkey
**Rapid Solidification of Ti6Al4V Alloy Powder Produced by PREP Technique**

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**Thermomechanical processing**

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**Production of Ti and Ti alloys by pressing and sintering. The low-cost approach**

Deliang Zhang, Shanghai Jiao Tong, China
**Thermomechnical Consolidation of Titanium, Ti-6Al-4V, TiAl Based Alloy and TiH2 Powders**

Toby Tingskog, AP&C Advanced Powders & Coatings, Canada
**HIP of near net shape parts from Plasma Atomized Titanium and Nickel base alloys**

Yifeng Zheng, Shanghai University, China
**In-situ formation of TiC/Ti matrix composites by mechanical blending and thermomechanical consolidation of TiH2-3vol.% CNTs powder**

Youngmoo Kim, Agency for Defence Development, Rep. of Korea
**Influence of Microstructures on the Mechanical Properties of P/M Ti-6Al-4V Prepared by Hot Isostatic Pressing**

Robert Frykholm, Höganäs AB, Sweden
**Press and sintering of titanium alloys**

Mingtu Jia, University of Waikato, New Zealand
**Powder consolidation of titanium and titanium alloys by a powder compact forging process**

Isabel Montealegre-Meléndez, Universidad de Sevilla, Spain
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Specific applications and techniques

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Application of Microwave Energy to Consolidate Titanium Powder

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Processing and characterization of porous Ti2AlC using space-holder technique

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Shaping strategies for porous Ti fabrication throughout colloidal chemistry

Alberto Molinari, University of Trento, Italy
Spark Plasma Sintering of Titanium Alloys

Dr. Maria Villa Vidaller, Helmut-Schmidt-Universität, Germany
Cold spraying manufacturing Ti-alloy parts

Fei Yang, University of Waikato, New Zealand
Preparation of titanium alloy parts by powder compact extrusion of powder mixture and scaling up the manufacturing

Tzeyang Yeh, Industrial Technology Research Institute, Taiwan
Characterization of Simultaneously Gas Atomized Ti/TiC Composite Powders

YingYing Sun, RMIT University, Australia
A detailed assessment of microwave heating of titanium hydride powder