



Joint Workshop qSOFC-Cell3Ditor-EERA

Manufacturing success: cost down and quality up

Manufacturing is a key enabler in building up a sound European technology base for the energy transition, and multiple scientific fields are challenged in transferring concept to mass product. This workshop will cultivate common approaches through collaboration between two FCH-JU funded projects (qSOFC and Cell3Ditor), the EERA Joint Programme for Nuclear Materials and FCH, and the SPIRE Association, to assess the manufacturing processes of tomorrow for high-temperature materials. It will provide a platform where scientists, entrepreneurs, industry and policy makers can discuss advances and performance criteria as well as break-through approaches in high-temperature material manufacturing, inspection and quality assurance.

Solid oxide cells (SOC) cover a vast number of potential applications in diverse fields: building heat and power, power generation, energy storage and transportation. Industrial manufacturing of SOC systems is a reality, but volumes are still low and costs are high: manual labour within the fabrication process, multiple sintering steps and high scrap rates.

qSOFC pursues mass-manufacturing by automatization of state-of-the-art processes and automated in-line inspection methodologies for improving the reliability of stack fabrication. **Cell3Ditor** proposes a multi-material 3D printing technology that is a disruptive innovation of the SOFC stack manufacturing paradigm.

The workshop will take place on **December 11th 2019** at the Royal Continental Hotel in **Naples, Italy**, co-located with the **8th European Fuel Cell Conference**. **Registration is compulsory and free of charge.**

<https://www.eventbrite.com/e/joint-workshop-qsofc-cell3ditor-eera-tickets-77087565985>

For more information, please go to www.qsofc.eu, www.cell3ditor.eu and www.europeanfuelcell.it



NAPLES Hotel Royal Continental
9 > 11 December, 2019

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Agenda

10:30-11:00 Coffee and registration		
Introduction		
11:00-11:10	Setting the scene and workshop scope	Stephen McPhail (ENEA, qSOFC)
11:10-11:25	The FCH JU Portfolio on fuel cell manufacturing	Dionisis Tsimis (FCH-JU)
11:25-11:35	SPIRE: the association	Pietro Gimondi (A.SPIRE)
Scaling up: How to handle millions		
11:35-11:50	Success stories going to TRL9	Pietro Gimondi (A.SPIRE)
11:50-12:05	Approaches to automation	Jens Forker (MüKo Maschinenbau)
12:05-12:20	Mobility as a success story	Elring Klinger (To be confirmed)
12:20-12:35	Roll-to-roll steel metal	Carlos Bernuy-López (Sandvik)
12:35-12:50	In-line visual inspection	Anton Litke (HaikuTech)
13:00-14:15 Lunch		
Manufacturing energy materials: New frontiers		
14:15-14:30	qSOFC – quality assurance in SOFC manufacturing	Markus Rautanen (VTT, qSOFC)
14:30-14:45	Cell3Ditor – 3D printing of Solid Oxide Cells	Albert Tarancón (IREC, Cell3Ditor)
14:45-15:00	EERA JP Nuclear Materials: additive manufacturing of steel	Alejandro Revuelta (EERA JP NM),
15:00-15:15	Additive Manufacturing for Nuclear Fusion Energy	Nerea Ordas (EERA JP NM)
15:15-15:30	Joining metals and ceramics	Monica Ferraris (Politecnico Torino)
15:30-16:00 Coffee break		
Key challenges and steps forward		
16:00-16:15	Scaling up SOC manufacturing	Matti Noponen (Elcogen)
16:15-16:30	Industrial-scale SOFC manufacturing	Dario Montinaro (SolidPower)
16:30-16:45	Development of advanced microtubular Solid Oxide Cells	Miguel A. Laguna Bercero (ICMA-CSIC)
16:45-17:30 Panel and audience discuss the following topics:		
<ul style="list-style-type: none"> • common manufacturing challenges for high-temperature materials • manufacturing now to reach millions tomorrow • opportunities for funding and joint development 		



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