

FREE ZOOM WEBINAR

# DISRUPTING MANUFACTURING WITH 3D PRINTING AND DIGITAL TECHNOLOGIES

TALKS 9.30AM – 2.10PM | VIRTUAL TOUR 2.10PM – 3.00PM  
3 NOVEMBER 2020 (SGT/UTC +8)



**REGISTER NOW**

Jointly organised by

**SINGAPORE CENTRE FOR 3D PRINTING & HP-NTU DIGITAL MANUFACTURING CORPORATE LAB**



**Prof Yeong Wai Yee**  
Programme Director,  
Singapore Centre for 3D Printing (SC3DP)



**Dr Chandrakant D. Patel**  
Chief Engineer & Senior Fellow,  
HP Inc



**Dr Ho Chaw Sing**  
Managing Director,  
National Additive Manufacturing  
Innovative Cluster (NAMIC)

**3D PRINTING: SUSTAINING DISRUPTION  
AND CROSSING BORDERS FOR THE  
NEW NORMAL**

**THE EXCITING INDUSTRIALISATION OF  
ART TO PART 3D ADDITIVE PRINTING**

**DIGITAL ADDITIVE MANUFACTURING –  
ENABLING A SUSTAINABLE FUTURE**

## KEYNOTES FROM LEADERS IN THE AM FIELD | LATEST AM RESEARCH DEVELOPMENTS



**Advances in Part Design with  
Additive Manufacturing**  
Dr Xiong Weidan, HP-NTU Corporate Lab



**3D Printing Technologies on Aerospace  
& Defence: Status and Promise**  
Prof Moon Seung Ki, SC3DP



**Potential of 3D Printing to Transform  
Building & Construction**  
Prof Wong Teck Neng, SC3DP



**Additive Manufacturing Opportunities  
Emerging from the Pandemic**  
Mr Mitchell Beness, 3D Printing & Digital  
Manufacturing, HP Inc



**Building Robust and Resilient Supply  
Chains with Additive Manufacturing**  
Prof Viswanathan, S,  
HP-NTU Corporate Lab



**Breakthroughs in Materials Development  
by Additive Manufacturing  
for Marine & Offshore**  
Dr Tan Xipeng, SC3DP

Supported by



**PROF YEONG WAI YEE**  
**PROGRAMME DIRECTOR, SC3DP**  
**PROGRAMME DIRECTOR, HP-NTU CORPORATE LAB**



Assoc Prof Yeong Wai Yee is the Associate Chair (Students) at School of Mechanical and Aerospace Engineering (MAE), Nanyang Technological University, Singapore. She serves as Programme Director (Aerospace and Defence) at Singapore Centre for 3D Printing (SC3DP) and Programme Director (3D Printing) at HP-NTU Digital Manufacturing Corporate Lab.

Wai Yee is the winner of TCT Women in 3D Printing Innovator Award 2019. She is the associate editor for 2 international journals – Virtual and Physical Prototyping, and the International Journal of Bioprinting. Her current research topics include 3D printing of new metal materials, electronic printing and bioprinting for tissue engineering. She has published more than 150 papers, generating more than 4500 citations with a current H-index of 34, and co-authored 2 textbooks used in 3D Printing education.

**DR CHANDRAKANT D. PATEL**  
**CHIEF ENGINEER & HP SENIOR FELLOW, HP INC**



Dr Chandrakant D. Patel is HP's Chief Engineer and Senior Fellow. He has led HP in delivering innovations in chips, systems, data centers, storage, networking, print engines and software platforms. Chandrakant is a pioneer in thermal and energy management in data centers, and in application of the information technology to drive available energy management at city scales. His current technical interests are focused on 21st century cyber physical systems such as HP's 3D Additive Printers.

Chandrakant is an ASME and an IEEE Fellow. He holds 153 patents, and has published more than 150 technical papers. He has served as an adjunct faculty at Chabot College, U.C. Berkeley Extension, San Jose State University and Santa Clara University. In 2014, Chandrakant was inducted into the Silicon Valley Engineering Hall of Fame. In 2018, he was inducted to the National Academy of Engineering. Chandrakant holds a Bachelor of Science in Mechanical Engineering from U.C. Berkeley and a Master of Science in Mechanical Engineering from San Jose State University.

**DR HO CHAW SING,**  
**MANAGING DIRECTOR, NAMIC**



Dr Ho Chaw Sing is the co-founder and Managing Director of NAMIC (National Additive Manufacturing Innovation Cluster), a Singapore government platform initiative to catalyse innovation and scale industrial adoption of digital additive manufacturing technologies. An advocate for 3D printing, Chaw Sing has a passion for nurturing deep tech start-ups, and has spoken at numerous forums, including at the World Bank Group, Development Research Centre China, and the World Economic Forum - Centre for the Fourth Industrial Revolution.

Chaw Sing is an Adjunct Associate Professor at the National University of Singapore Faculty of Engineering, and lectures on Industry 4.0 topics in the areas of cyber-physical integration and digital manufacturing technologies such as 3D Printing. He earned his doctorate (Ph.D) in Electrical and Computer Engineering, and has a Bachelor's (honours) degree in Electrical Engineering with a major in Microelectronics, both from the National University of Singapore.

Time (SGT/ UTC +8)	Agenda
0930 – 0940	<p><b>Welcome Speech</b>  <i>Executive Director, SC3DP &amp; Director, HP-NTU Corporate Lab</i></p>
<b>Keynote Address</b>	
0940 – 1005	<div style="display: flex; align-items: flex-start;">  <div> <p><b>3D PRINTING: SUSTAINING DISRUPTION AND CROSSING BORDERS FOR THE NEW NORMAL</b>  <i>Prof Yeong Wai Yee,  Programme Director, SC3DP</i></p> <p>In this talk, Prof Yeong will share on the key highlights of 3D Printing research in Singapore Centre for 3D Printing with special optics in the new normal currently. The value of 3D printing as advanced digital manufacturing with the inherent characteristics of crossing borders and enabling disruption in various industries including aerospace, building and construction and future of healthcare. The flexibility and ultra-fast response time afforded by 3D printing technologies will be crucial in manufacturing at this critical juncture.</p> </div> </div>
1005 – 1030	<div style="display: flex; align-items: flex-start;">  <div> <p><b>THE EXCITING INDUSTRIALISATION OF ART TO PART 3D ADDITIVE PRINTING</b>  <i>Dr Chandrakant D. Patel,  Chief Engineer and Senior Fellow, HP Inc</i></p> <p>3D additive printing may be described as a complete “art to part” digital to physical pipeline built on operating technologies and information technologies. It promises to drive sustainable “on-demand” manufacturing. The acceleration in 3D digital manufacturing is compelled by the change in production-consumption models due to social, economic, ecological, technological trends coupled with externalities such as the COVID-19 pandemic. Success of 3D Digital manufacturing necessitates a holistic perspective that encompasses design, device (the 3D printing system) and the digital factory (system-of-systems).</p> <p>In this talk, Chandrakant will elucidate our holistic approach that paints an exciting course ahead in the industrialization of 3D additive manufacturing in the Post-COVID sustainable economic transformation.</p> </div> </div>
1030 – 1055	<div style="display: flex; align-items: flex-start;">  <div> <p><b>DIGITAL ADDITIVE MANUFACTURING – ENABLING A SUSTAINABLE FUTURE</b>  <i>Dr Ho Chaw Sing,  Managing Director, NAMIC</i></p> <p>Climate change and Covid-19 have shown the world that humanity needs to make profound changes from our ways or face potential extinction. Traditional supply chains and manufacturing ecosystems are on the cusp of change in order to de-risk global supply chains, localize key component manufacturing, increase flexibility in processes and more importantly lower carbon footprints. For OEMs and manufacturing enterprises specifically, this means jumpstarting their digital transformation journey and adopting digital technologies such as additive manufacturing. This talk will review the state of digital additive manufacturing adoption, and its impact on sustainable manufacturing and digital trade. Pervasive adoption by the global community will help amplify and unleash the full benefits of additive manufacturing, a big step towards preserving our planet’s future.</p> </div> </div>
1055 – 1130	<p><b>Q&amp;A Session for Keynote Speakers</b></p>

Talks

1130 – 1145		<b>ADVANCES IN PART DESIGN WITH ADDITIVE MANUFACTURING</b> <i>Dr Xiong Weidan</i> <i>Research Fellow, HP-NTU Corporate Lab</i>
1145 – 1200		<b>3D PRINTING TECHNOLOGIES ON AEROSPACE &amp; DEFENCE: STATUS AND PROMISE</b> <i>Prof Moon Seung Ki,</i> <i>Principal Investigator, SC3DP</i>
<b>Break</b>		
1300 – 1315		<b>ADDITIVE MANUFACTURING OPPORTUNITIES EMERGING FROM THE PANDEMIC</b> <i>Mr Mitchell Beness,</i> <i>Head of Category APJ, 3D Printing &amp; Digital Manufacturing, HP Inc</i>
1315 – 1330		<b>POTENTIAL OF 3D PRINTING TO TRANSFORM BUILDING &amp; CONSTRUCTION</b> <i>Prof Wong Teck Neng,</i> <i>Programme Director, SC3DP</i>
<b>Break</b>		
1340 – 1355		<b>BUILDING ROBUST AND RESILIENT SUPPLY CHAINS WITH ADDITIVE MANUFACTURING</b> <i>Prof Viswanathan S,</i> <i>Principal Investigator, HP-NTU Corporate Lab</i>
1355 – 1410		<b>BREAKTHROUGHS IN MATERIALS DEVELOPMENT BY ADDITIVE MANUFACTURING FOR MARINE &amp; OFFSHORE</b> <i>Dr Tan Xipeng,</i> <i>Senior Research Fellow, SC3DP</i>
1410 – 1450	<b>Guided Virtual Open Tour</b>  <b>HP-NTU DIGITAL MANUFACTURING CORPORATE LAB</b> <b>SINGAPORE CENTRE FOR 3D PRINTING</b>	
1450 – 1500	<b>Closing Address</b>	

**Contact the Organisers**

Singapore Centre for 3D Printing: [Execdir-SC3DP@ntu.edu.sg](mailto:Execdir-SC3DP@ntu.edu.sg)

HP-NTU Corporate Lab: [HP-NTUCorpLab@ntu.edu.sg](mailto:HP-NTUCorpLab@ntu.edu.sg)