

Mr Chancellor,

In Britain this year we are marking 400 years since the death of our greatest writer, William Shakespeare, and it seems fitting to begin my citation for our honorary graduand today, Professor James Syvitski, with this quotation from *Julius Caesar*:

There is a tide in the affairs of men
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.
On such a full sea are we now afloat,
And we must take the current when it serves,
Or lose our ventures.

Shakespeare presents us with an image of humanity's fortunes reaching a critical moment in our common destiny, and asks us what we are going to do to change things for the better. Today, the 'full sea upon which we are now afloat', is the new epoch of unprecedented climate change. Since the 1950s, human action upon the earth's system has reached such a scale – and precipitated such drastic change - that it merits a new geological label: the Anthropocene - or era of humankind. James Syvitski is a world-renowned scientist who is recognised for his pioneering efforts in developing the concept of the Anthropocene. Among

JAMES SYVITSKI: DSc

his many scientific achievements, Syvitski has quantified how humans have become the largest force in the movement of sediment across the earth's surface - a force at work that is greater than ice, wind and water. He has also been a world leader within and beyond the scientific community in calling for greater collaboration across academic disciplines in addressing climate change and sustainable development. The importance of these issues is recognised here at Newcastle University via our Newcastle Institute for Sustainability.

A Canadian by birth and American citizen by adoption, Professor Syvitski is an Earth System scientist, educated in the fields of quantitative Oceanography and Geoscience. He holds bachelors degrees in geology and mathematics, and a double PhD (oceanography & geology) from the University of British Columbia. His early career was at the University of Calgary and later at the Bedford Institute of Oceanography, Halifax, Nova Scotia where he worked as a Senior Research Scientist. His adventures there included being stranded at the edge of the Greenland Ice Sheet on a sinking Canadian research vessel 1,000 kilometres from the nearest port at Reykjavik. As Chief Scientific Officer, he kept a cool head while awaiting rescue by a nearby Danish frigate, and was later honoured for his bravery and leadership during this crisis. In 1995, he was made Director of the Institute of Arctic and Alpine Research, University of Colorado, Boulder. He has worked in industry, academia, government, and as an environmental consultant. In 2009, he was awarded the A. G. Huntsman Award for Excellence in Marine Sciences, and in 2010 he became a Fellow of the American Geophysical Union. The following year he was appointed by the International Council of Science as the valedictory Chair of the International Geosphere-Biosphere Programme, which up to 2015 was the leading international non-governmental organisation

fostering collaborative research and synthesis on global change, reporting directly to the United Nations and UNESCO.

Today, James Syvitski works at the forefront of Computational Geosciences, particularly in the domain of sediment transport, land-ocean interactions and Earth-surface dynamics. His 1987 book on fjords summarised knowledge from every corner of the earth, reviewed by the journal *Science* as ‘simply outstanding in breadth and depth’. In 1992, he authored one of the most cited papers in the field of geoscience, documenting the global flux of sediment transported by rivers to the global ocean. Syvitski’s research has redefined paradigms on glacial-marine sedimentation and stratigraphy and, through his efforts, world experts have come together to examine the global scale and consequences of sinking deltas. We now know that deltas that are home to more than 500 million people are unlikely to exist by the year 2050, highlighted in Syvitski’s published research in *Nature Geoscience*. His research informs policy decisions made at the highest level - international climate change summits, the United Nations and President Obama’s task force on climate change. His ethos as a scientist undoubtedly befits Newcastle University’s mission to demonstrate excellence with a purpose – impactful research that will help humanity survive and thrive in the future. He was instrumental in organising the highly successful Planet Under Pressure Conference held in London (2012), which engaged and influenced scientists in the World Climate Research Programme, among many others. Syvitski and his collaborators also engaged with industry and provided policy briefs to the RIO+20 summit. He is in demand as an expert commentator, reaching wide public audiences via *National Geographic*, *The Economist*, the *New York Times* and other leading international press organisations.

When Nobel Laureate Paul Crutzen introduced the idea of the Anthropocene in 2000, James Syvitski was one of the first scientists to engage with the concept and test its validity. Between 2000 and 2003, he organised experts from the International Geosphere-Biosphere Programme to document Anthropocene fluxes along hydrological pathways, the first truly global evaluation of humanity's contribution to accelerating sediment transportation. In 2005, he co-authored *Coastal Fluxes in the Anthropocene* - the first book to include the word Anthropocene in its title. In 2011, Syvitski's keynote address to the Royal Geological Society of London, alongside Paul Crutzen and Will Steffen, was published in the *Philosophical Transactions of the Royal Society*.

Professor Syvitski has laid the foundations for a bridge between the natural sciences, social sciences and the arts and humanities. In 2014, he led a team of experts exploring the social dimensions of the Anthropocene, focusing on new calls for collaboration, developing new approaches to modelling and contextualising the Anthropocene. Crucially, their work was not apocalyptic 'doom and gloom', but focused upon visioning plausible and desirable futures for humanity. As Chair of the International Geosphere-Biosphere Programme, in 2014, he began a fruitful collaboration with a network of researchers from Newcastle University's Anthropocene Research Group and Newcastle's key strategic partners at Indiana University-Purdue University, Indianapolis at a conference in the US on 'Rivers of the Anthropocene'. This remarkable gathering of engineers, social and natural scientists, artists and humanities researchers came together to share their Anthropocene research findings, and will result in a major publication by the University of California Press. Thanks to James Syvitski, the influential Future Earth Programme funded in part by the Obama administration has the Anthropocene as one of its central themes.

JAMES SYVITSKI: DSc

Somehow in his life, this remarkable polymath with, to paraphrase Douglas Adams, ‘a brain the size of a planet’, has also found time to become a blackbelt martial artist, accomplished musician, LGBTQI rights campaigner and spiritual *Bodhisattva*. Jai, as he is known to his friends, is also a proud parent and grandparent, and we are delighted to welcome today his wife Dianne, who shares many of his international travels. In Japan recently, they were received by the Emperor and his wife. Today you are both warmly welcome to this palace of Geordie hospitality and we trust you will find Newcastle no less of a fascinating and novel experience.

Mr Chancellor, with 163 peer-reviewed journal publications, 61 books and book chapters, and hundreds of scientific publications to his name, Professor James Syvitski’s contribution to his field has made a huge impact. Our knowledge of the human footprint on the landscape, based on his state-of-the-art methods and databases will stand the test of time. He is the closest to genius it has ever been my privilege to meet, and I would like to commend him to you for the award of Doctor of Science, *honoris causa*.

Citation by Professor Helen Berry, Public Orator

13th July 2016