

Journey of Change: a “New Normal”

Prof Saurabh Sinha, PhD(Eng)

Deputy Vice-Chancellor: Research and Internationalisation



UNIVERSITY
OF
JOHANNESBURG

Scenario planning

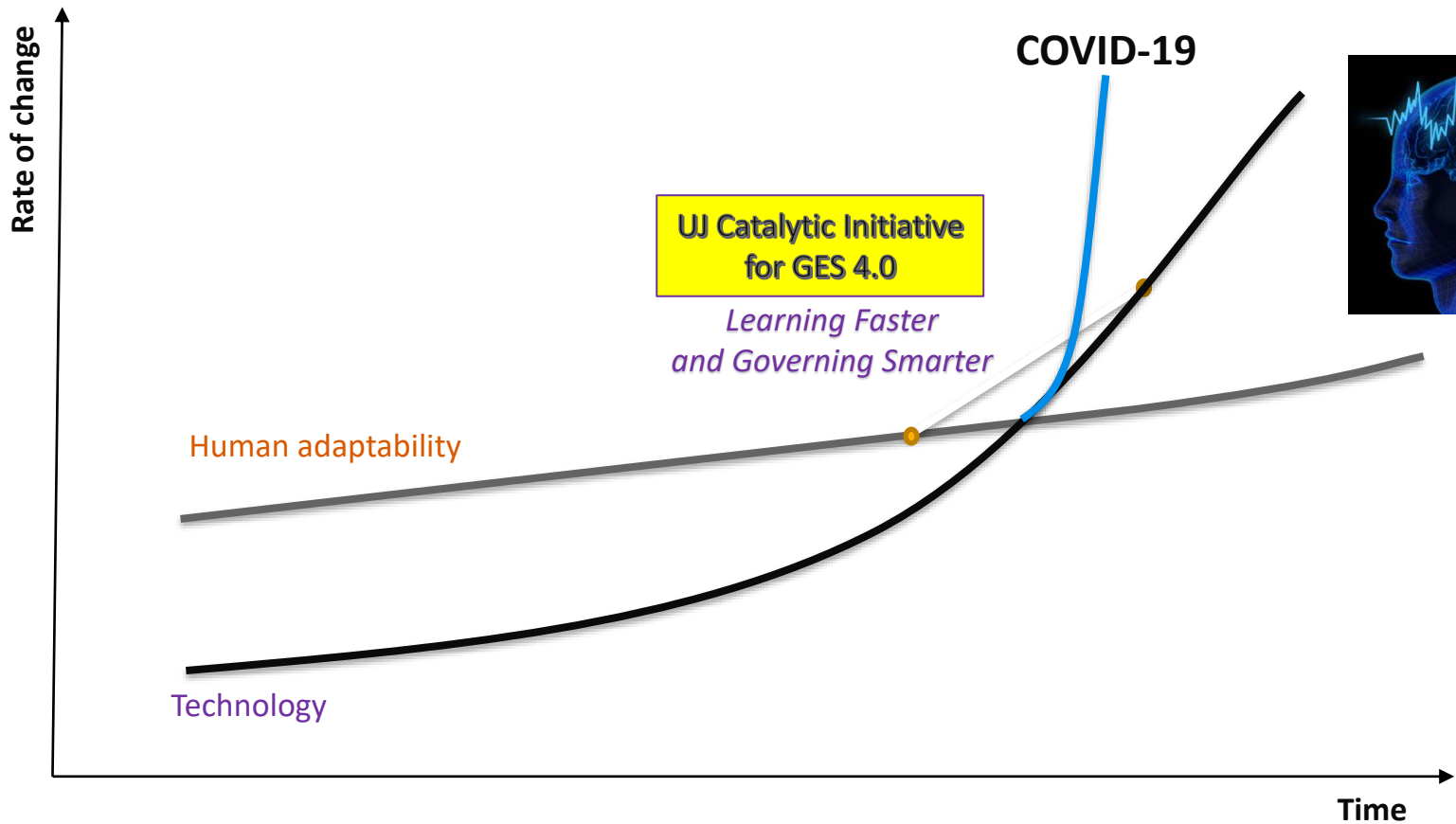
A culture for adaptation and resilience – in an era of uncertainties

Uncertainties brought about by:

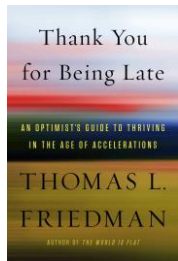
1. #FeesMustFall (South Africa's context)
2. Plurality of Knowledge Epistemologies
3. **Technology - Fourth Industrial Revolution (4IR)**
4. **COVID-19**

Strategy

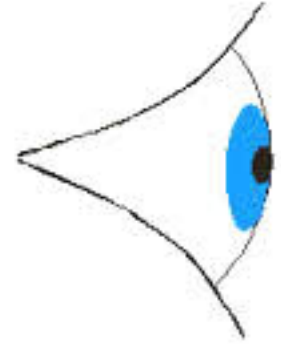
University of Johannesburg (UJ): “Re-imagine, Re-invent.”



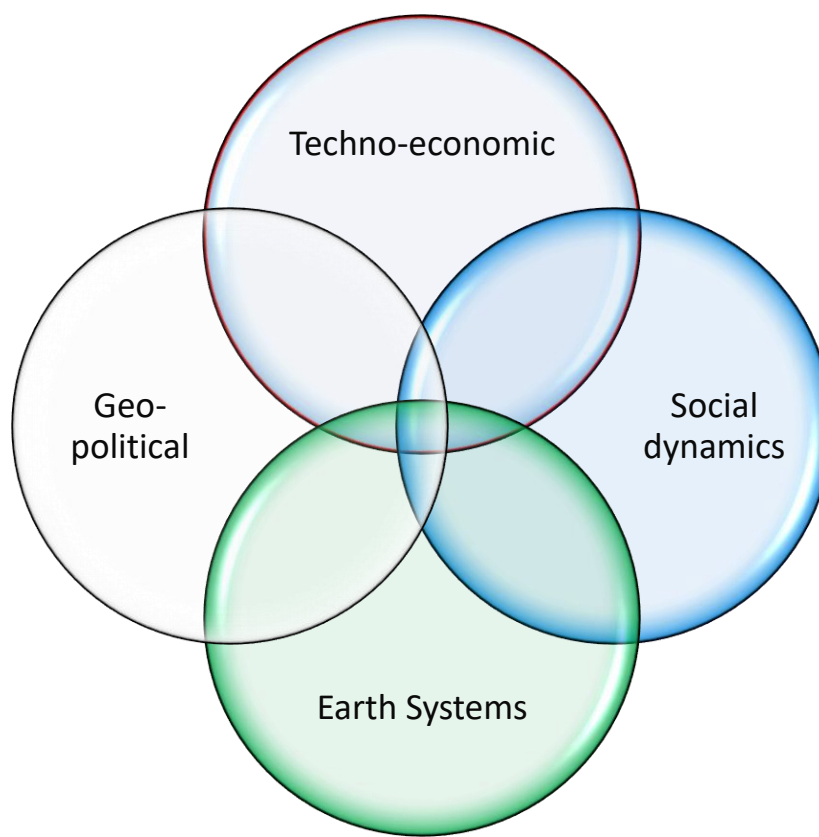
Source:



Acknowledgements: The concept of this slide is textually captured in Friedman's book; the UJ component is superposed to illustrate our catalytic initiative for the Fourth Industrial Revolution (4IR). The second image (the mind) is obtained through a creative commons (CC) license and can therefore be re-distributed. The image displays an EEG waveform – as generated by the human brain.



COVID-19



*Source: Jeffrey D. Sachs, "The Age of Sustainable Development," Columbia University Press, Mar. 2015

4IR – requires **holistic** thinking



COVID-19 and 4IR

Ongoing Educational
Transformation

COVID-19
“Lockdown”



COVID-19



Post COVID-19
period

1. Physical distancing
2. Personal Protection Equipment (PPE) - masks
3. Sanitizing

- **Health crisis**
- **Financial crisis**

Acknowledgement: The coronavirus image (in green) is provided under a creative commons licence.



- Inequality
- Digital inequality



Acknowledgement: The image is provided under a creative commons licence.



Personal Protection Equipment (PPE)



Filters:

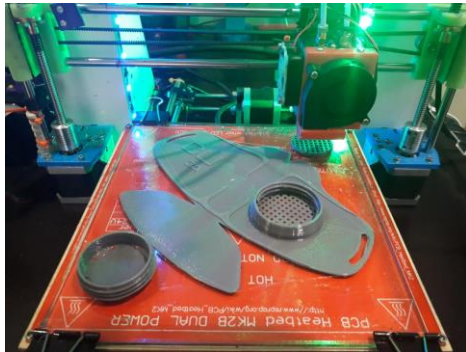
To assemble the microparticulate filtration system, we recommend using Polypropylene Non Woven (A) fabrics or simply a round cutout from a conventional mask that fits well in the window of the filtration system.

If you wanted even more filtering capacity you could use a makeup remover pad like the one in the photo (B).

You can regulate the filtering and air flow with combinations of these elements.

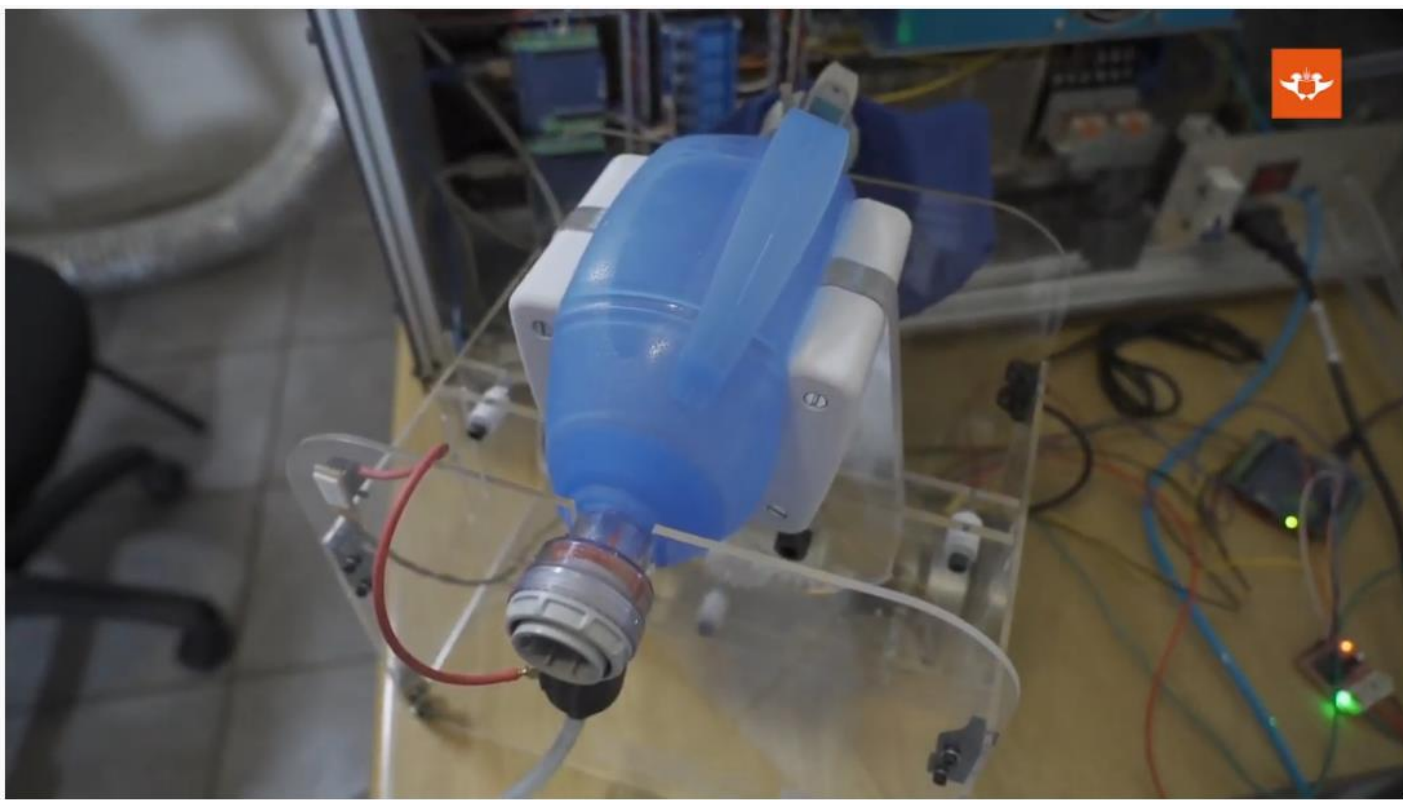


Design source: <https://www.3dapac.com/hackthepandemic>



Sanitizers





University of Johannesburg prototypes cost-effective ventilators

https://www.youtube.com/watch?v=0R_BtDySHg4



Open Source COVID19 Medical Supplies

Public group

About

Discussion

Announcements

Members

Events

Videos

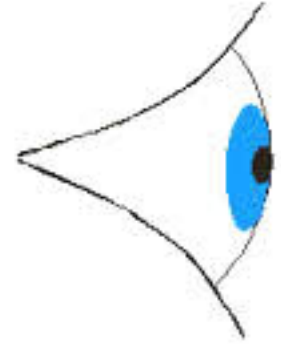
Photos



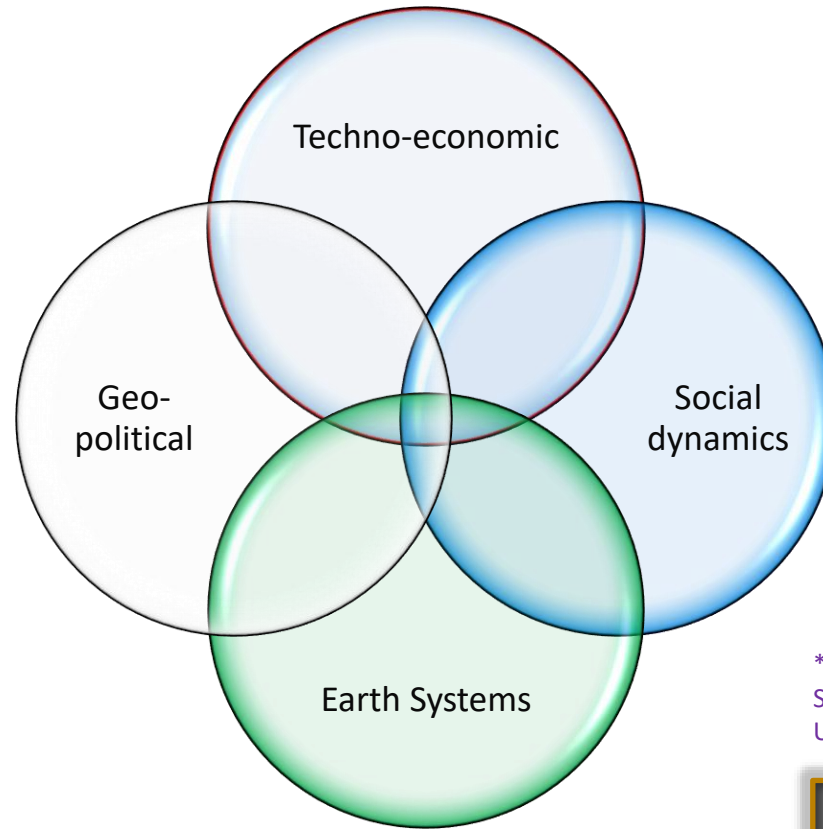
Reference: <https://www.facebook.com/groups/opensourcecovid19medicalsupplies/>

Open Access





**Higher
Education**



*Source: Jeffrey D. Sachs, "The Age of Sustainable Development," Columbia University Press, Mar. 2015

4IR – requires **holistic**
thinking

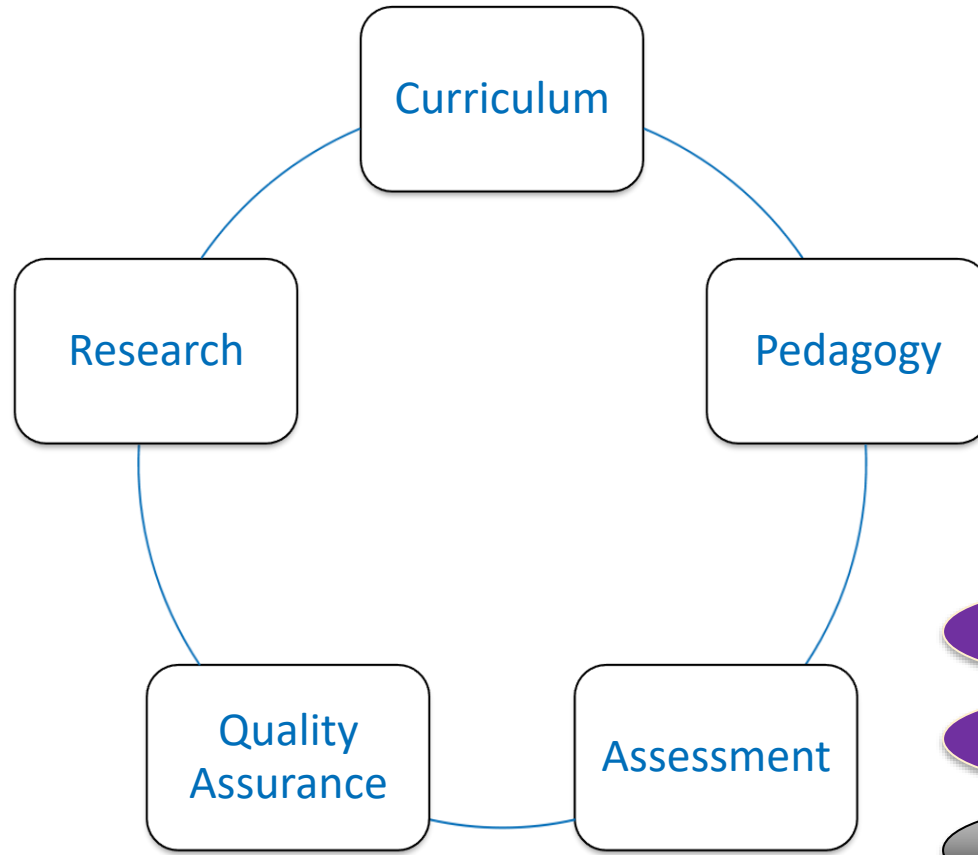


Inclusivity

Innovation

Integrity

Infrastructure



Data

Ethics

Dark Web

Service - Community Engagement



Curriculum (1)

Lesson design – six tenets:

- “New learning is dependent on knowledge learners have already acquired;
- our working memory is limited;
- learning is dependent on attention and cognitive engagement;
- emotion and cognition are intertwined;
- transfer of learning does not happen automatically; and
- learners learn more effectively if they understand how they learn and manage their own learning (metacognition – thinking about one’s own thinking).

Source: <https://mg.co.za/article/2020-04-29-initial-teacher-education-must-be-prioritised/> (Prof Sarah Gravett, Executive Dean, Faculty of Education)



Curriculum (2)

"Tell me and I forget. Teach me and I remember. **Involve me and I learn.**"

Benjamin Franklin



Expansion: Learning Environment (1)

1. In a world of **customization**, there is a need to better understand how individuals learn.
2. Technologies provide a **support** mechanism
3. Technologies have a **potential for enhancing inclusivity**
 - Self-paced learning
 - Differently-abled
 - Translation
 - “Innovation” – “wow” factor, e.g. augmented reality



Expansion: Learning Environment (2)

1. **Work-based Education**
2. **Expanding support** - Vertical Integration, e.g. engagement with alumni
3. **Virtual mobility**
4. **Innovation** and preparedness for the "**Future of Work**"
5. **Laboratory** environment
6. **Student wellness** programmes



Research

1. Research – adaptation required
2. Scholarship of Teaching and Learning (SOTL)
 - >> Data backing - Learning Management Systems (LMS)



Conclusions

1. Pandemics change the world.
2. Pandemics, by default, are negative; there is an opportunity to re-define how and what we do...to think about the post COVID-19 period.
3. Post COVID-19, new competitive and collaborative landscape will emerge.
4. There is a **real opportunity to shape this future**, to be closer to humanity, and evolve an approach that enables inclusivity.
5. **Modalities:** In-person ⇔ Online ⇔ Hybrid ⇔ Policy changes

