# ADVANCED COMPUTING RESOURCES AND HIGH-PERFORMANCE KNOWLEDGE FOR HUMAN SURVIVAL IN CRISIS TIMES

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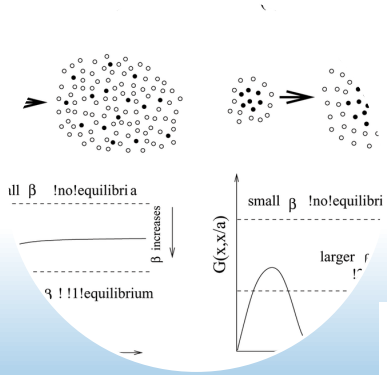
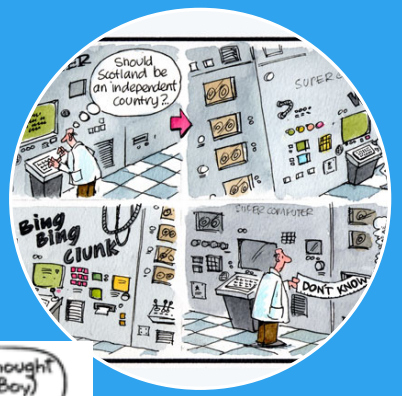
# SCIENCE AND ADVANCED TECHNOLOGY FOR ALL

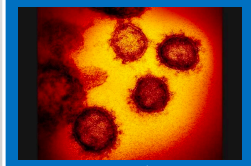


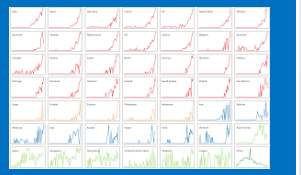


Decision Takers

## Reality- Theory (Data and Models)

Experts- Scientists
(Biologists, Doctors, Economists)

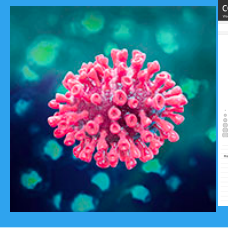


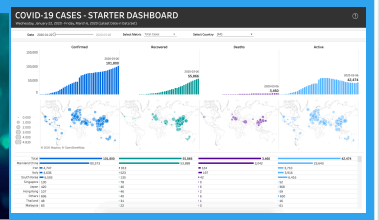


## Experiments - Data Storage- Simulations

Experts Scientists – Computer and Informatics
Informatic, Math Applied

## Advanced Computing Platforms / Supercomputing





Citizens, All

Connectivity - Collaboration

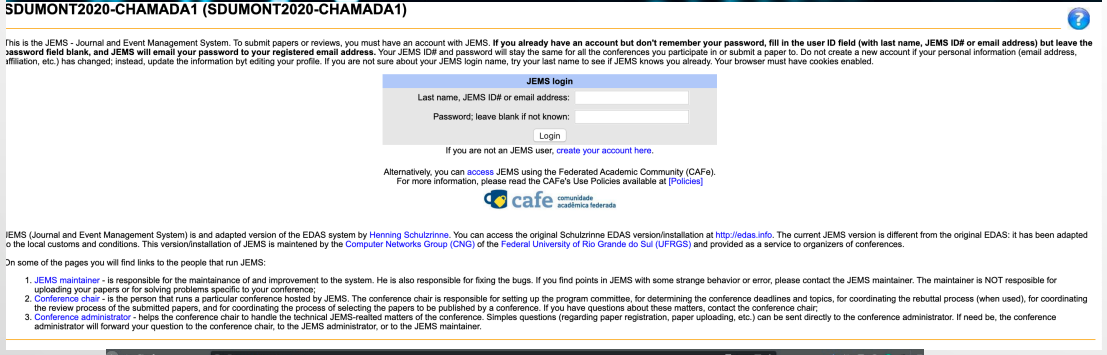
Technology - Infrastructure

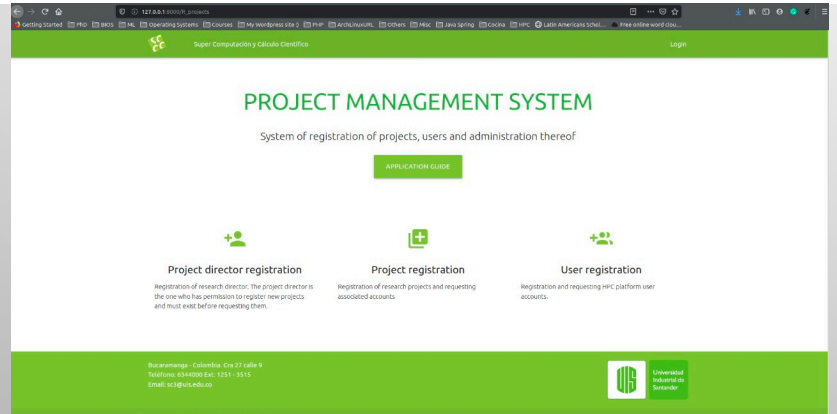
# ADVANCED COMPUTING FACE TO FACE REAL TIME NEEDS

https://tiny.cc/4wjylz **from @HPCWire Published 25/03/2020**

- **Detection and Monitoring**
  - Data from Tests (Positive and Negative)
  - Following Data (Monitoring and Forecast)
  - Social Issues (Economic Consequences, Anxiety, Violence, Safety, Security…)
- **Modelling, Simulation and Data Treatment**
  - Understand SARS-COVID19 (Molecular simulation, Docking, Folding, Sequencing and Alingment)
  - Pandemical Behaviours
  - Medical Treatment
- **Collaboration and (Scientific and Official) Diffusion**
  - Social Forecasting
  - Decision Takers Forecasting
  - Data Reproduction, scientific publication sharing, forums

# ADVANCED COMPUTING INITIATIVES COORDINATED BY SCALAC/REDCLARA



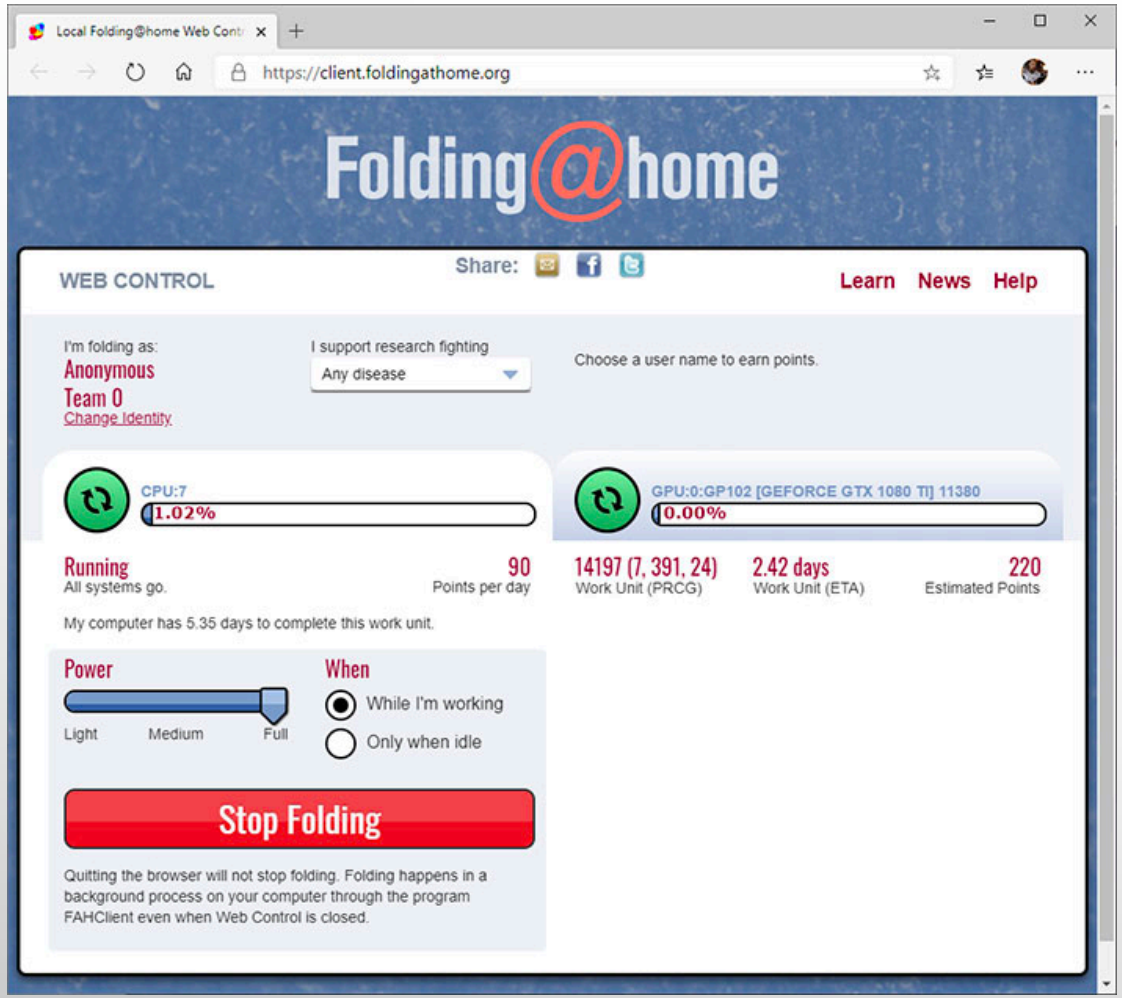




- **Access to HPC/Advanced Computing Platforms**

1. LNCC Brazil: https://jems.sbc.org.br/Paper.cgi?c=3557&track=8039
2. NLHPC Chile : https://covid19.nlhpc.cl/
3. SC3UIS Colombia: https://www.sc3.uis.edu.co/scalac-covid-19/

**However all access is possible via RedCLARA portal.**

# AND IN YOUR HOUSE?

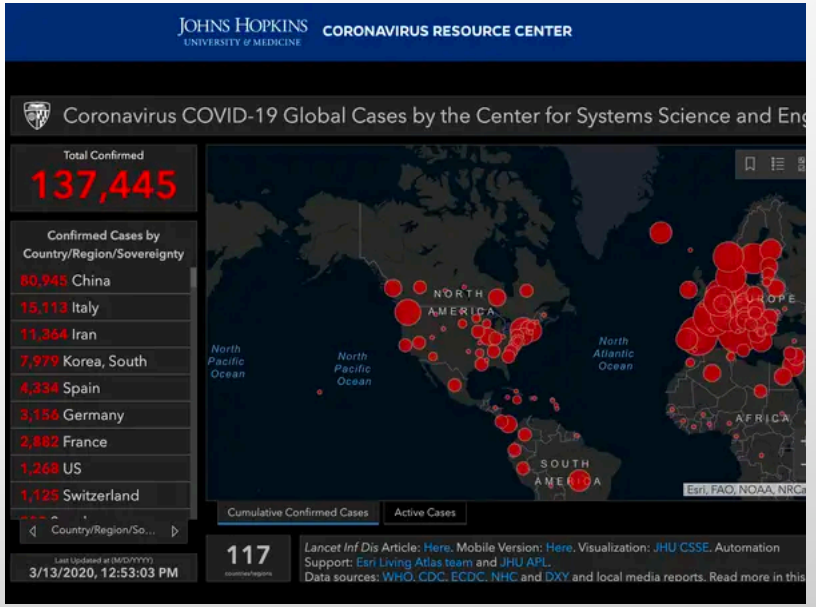



https://foldingathome.org/covid19/

- **Citizen Science Support for Research**

1. Compute Time via @Home Applications
2. Tracking and Data Analysis
3. Depurate Information

# 4. #StayAtHome



# LATIN AMERICA AND THE CARIBE

SOME INTERESTING NUMBERS

- 33 INDEPENDENT COUNTRIES
- 15 DEPENDENCY TERRITORIES
  - 3 FRENCH DEPARTMENTS
  - 5 SPECIAL UK ZONES
  - 4 SPECIAL NETHERLAND DEPARTMENTS
  - 2 USA PROTECTION ZONES (PUERTO RICO IS ONE OF THEM)
- 20 COUNTRIES SPEAK SPANISH MAINLY
  - + ALL SOUTH STATES OF USA + PUERTO RICO
- 1 INDEPENDENT COUNTRY SPEAKS MAINLY PORTUGUESE
  - HOWEVER WE CAN UNDERSTAND US IN PORTOÑOL
- 13 INDEPENDENT COUNTRIES SPEAK ENGLISH MAINLY
- 1 INDEPENDENT COUNTRY SPEAK DUTCH.
- 1 COUNTRY SPEAKS MAINLY FRENCH (HAITI).
- … AND MORE OF 100 PRE-COLUMBIAN LANGUAGES.

# SCALAC

- ADVANCED COMPUTING SYSTEM FOR LATAM AND CARIBBEAN
  - PROMOTE COLLABORATION
  - SHARE RESOURCES
  - ONLY FOR NON-PROFIT AND CONTINENTAL/HUMANITY NEEDS IN RESEARCH AND DEVELOPMENT
- LEGAL SOCIETY IN COSTA RICA (AS INTERNATIONAL NON-PROFIT SOCIETY)
- FIRST INTENTION SIGNATURE IN MARCH 1 2013

- HPC INFRASTRUCTURE SHARING
  - ARGENTINA*
  - BRAZIL
  - COLOMBIA
  - CHILE
  - MEXICO

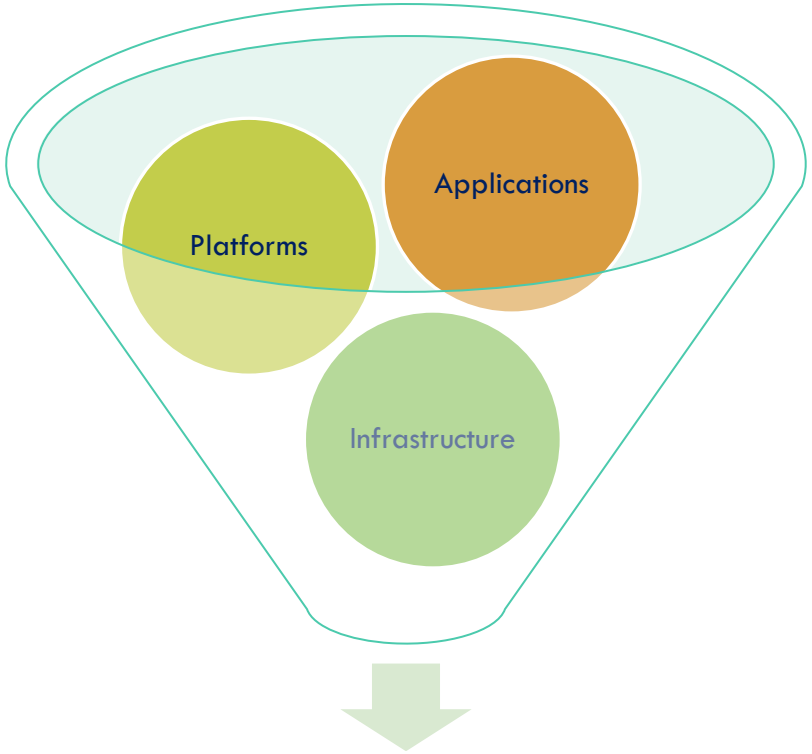
- DEPLOYMENT DEVELOPMENT OF APPLICATIONS AND CUSTOMIZATION
  - ARGENTINA
  - COSTA RICA
  - COLOMBIA
  - MEXICO
  - BRAZIL
  - URUGUAY
  - CHILE
  - VENEZUELA

- SCIENTIFIC APPLICATIONS OUTREACH
  - ARGENTINA
  - BRAZIL
  - CHILE
  - URUGUAY
  - COSTA RICA
  - PERU
  - TRINIDAD AND TOBAGO
  - COLOMBIA
  - VENEZUELA
  - MEXICO

- EUROPEAN PARTNERS
  - BSC-CNS (SPAIN)
  - CIEMAT (SPAIN)
  - INRIA (FRANCE)
  - LIG (FRANCE)
  - I3S (FRANCE)
  - DEMOCRITOS (ITALY)
  - UNILUX (LUXEMBOURG)

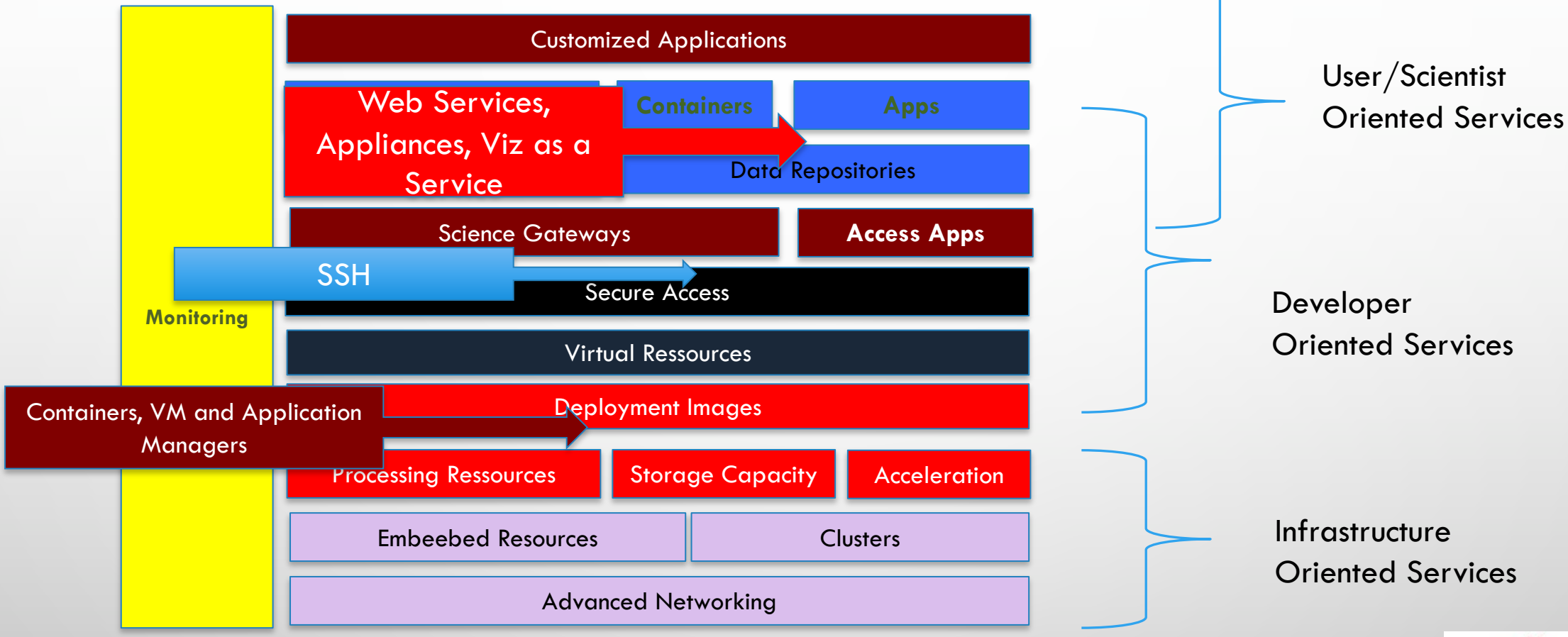
  - #RICAP (CYTED ACTION)

# Big Problems, Smart Solutions



# HPC as A Service Model

* Red Components are (most) concerned at Viz As A Service



# MORE INFORMATION

- https://www.scalac.net
- follow us in twitter:

@SCALAC_Computo

**#StayAtHome**