

COVID-19 Disease Map, building a computational repository of SARS-CoV-2 virus-host interaction mechanisms

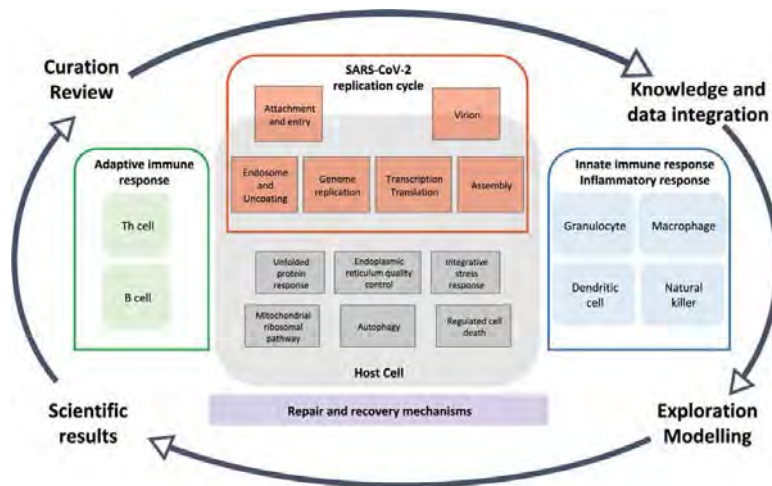
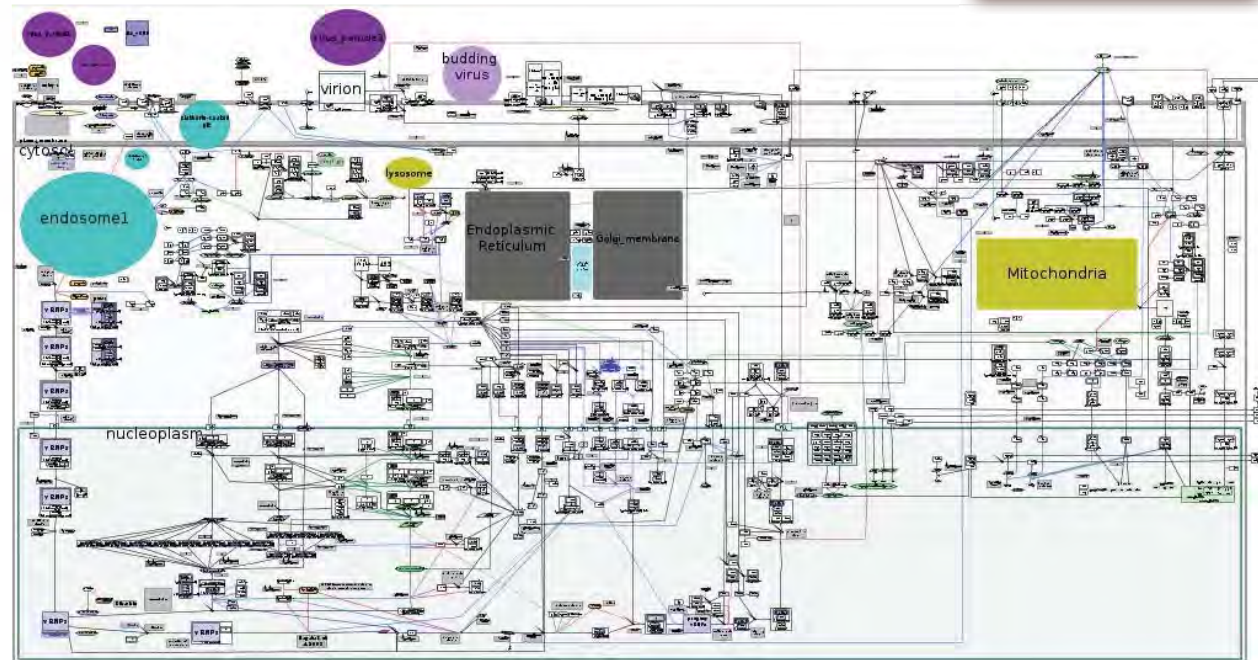
Marek Ostaszewski, Alexander Mazein, Marc E. Gillespie, Inna Kuperstein, Anna Niarakis, Henning Hermjakob, Alexander R. Pico, Egon L. Willighagen, Chris T. Evelo, Jan Hasenauer, Falk Schreiber, Andreas Dräger, Emek Demir, Olaf Wolkenhauer, Laura I. Furlong, Emmanuel Barillot, Joaquin Dopazo, Aurelio Orta-Resendiz, Francesco Messina, Alfonso Valencia, Akira Funahashi, Hiroaki Kitano, Charles Auffray, Rudi Balling & Reinhard Schneider ✉

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JST ERATO 北野共生システムプロジェクト並びに、
JST ERATO河岡宿主応答ネットワークプロジェクト
の成果を基盤に国際連携が行われている。

ERATO



Taxila COVID-19 AI/NLP Service (<https://covid19.taxila.io/>)

TAXILA 2.0.0 CHANNEL GEO TRENDS ANALYSIS

4098 **Welcome to COVID-19 Taxila**
You have access to 50645 articles.
886 of them were published in the last week.

Tag Type Filter Index Filter

456
Apr 10, 20 May 09, 20
* Click And Drag on the graph to select specified time range
10 Apr, 2020 - 09 May, 2020
1m 3m 6m 1yr All

SBI The Systems Biology Institute
SBX

LATEST PUBMED ARTICLES

Current State of Knowledge About SARS-CoV-2 and COVID-19 Disease in Pregnant Women
During any epidemic of infectious diseases, pregnant women constitute an extremely sensitive group due to altered physiology and immune functions, and thus altered susceptibility to infection. With regard to the management of pregnant COVID-19 patients, in addition to the treatment of the infection I
May 05, 2020
0 Likes 0 Saves

BIORXIV AND MEDRXIV

medRxiv THE PREPRINT SERVER FOR HEALTH SCIENCES
Optimal control of an SIR epidemic through finite-time non-pharmaceutical intervention
We consider the problem of controlling an SIR-model epidemic by temporarily reducing the rate of contact within a population. The control takes the form of a multiplicative reduction in the contact rate of infectious individuals. The control is allowed to be applied only over a finite time interval.
May 09, 2020
0 Likes 0 Saves

BIORXIV AND MEDRXIV

medRxiv THE PREPRINT SERVER FOR HEALTH SCIENCES
Comprehensive Testing Highlights Racial, Ethnic, and Age Disparities in the COVID-19 Outbreak
The United States (US), which is currently the epicenter for the COVID-19 pandemic, is a country whose demographic composition differs from that of other highly-impacted countries. US-based descriptions of SARS-CoV-2 infections have, for the most part, focused on patient populations with severe disease
May 09, 2020
0 Likes 0 Saves

BIORXIV AND MEDRXIV

medRxiv THE PREPRINT SERVER FOR HEALTH SCIENCES
Severe obesity is associated with higher in-hospital mortality in a cohort of patients with COVID-19 in the Bronx, New York
Background & Aims: New York is the current epicenter of Coronavirus disease 2019 (COVID-19) pandemic. The underrepresented minorities, where the prevalence of obesity is higher, appear to be affected disproportionately. Our objectives were to assess the characteristics and early outcomes of patients
May 09, 2020
0 Likes 0 Saves

BIORXIV AND MEDRXIV

medRxiv THE PREPRINT SERVER FOR HEALTH SCIENCES
BCG vaccine-induced protection from COVID-19 infection, wishful thinking or a game changer?
A series of epidemiological explorations have suggested a negative association between national BCG vaccination policy and the prevalence and mortality of COVID-19. Nevertheless, these comparisons are difficult to validate due to broad differences between countries such as socioeconomic status, demog
May 09, 2020
0 Likes 0 Saves

BIORXIV AND MEDRXIV

medRxiv THE PREPRINT SERVER FOR HEALTH SCIENCES
Identification and Analysis of Shared Risk Factors in Sepsis and High Mortality Risk COVID-19 Patients
BACKGROUND Coronavirus disease 2019 (COVID-19) is a novel coronavirus strain disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease is highly transmissible and severe disease including viral sepsis has been reported in up to 16% of hospitalized cases. The admission
May 09, 2020
0 Likes 0 Saves

BIORXIV AND MEDRXIV

medRxiv THE PREPRINT SERVER FOR HEALTH SCIENCES
Containing Covid-19 outbreaks with spatially targeted short-term lockdowns and mass-testing
We assess the efficacy of spatially targeted lockdown or mass-testing and case-isolation in individual communities as a possible means to control the spread
May 09, 2020
0 Likes 0 Saves

KT
WC
R

Global Network of Researchers

Who is working on which molecule?



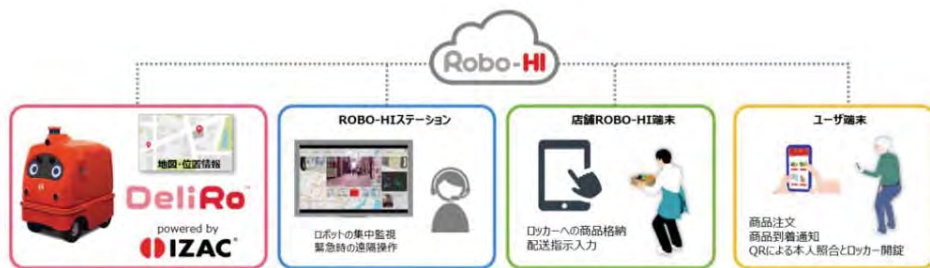
Who is working with who?



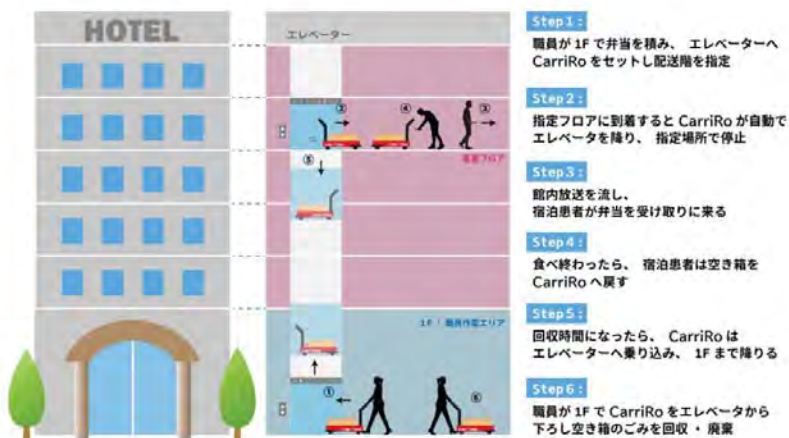
Robotics solution



JST ERATO 北野共生システム
プロジェクトからのSpin-Off



DeliRo(デリロ)xROBO-HI(ロボハイ) Stationとの連携イメージ



新型コロナウイルス感染者受け入れ施設での物資運搬フロー例



AI等技術を活用したシミュレーション開発 「開発テーマ」と「データ」公募について

内閣官房新型コロナウイルス感染症対策推進室では、新型コロナウイルス感染症に対して、我が国の英知を結集して対策を進化させ、感染防止と経済活動を両立させるために、AI等技術を活用したシミュレーションに有効な、「開発テーマ」と「データ」のご提案を広く募集します。

多重防護策の構築

リスクのある人
との接触低減

接触状況での
リスク低減

感染者発見
と迅速対応

重症化阻止

重症者治療

回復者予後支援
と長期モニター

迅速対応基盤と先制的対応基盤の構築

検査手法・精度などの
標準化・国際共通化

感染状況確認（体系的検
査）・シミュレーション

病態理解、予防・
治療法の研究

将来のパンデミックに
備えた研究基盤の構築

統合データ基盤並びに状況モニタリング基盤の構築

都市の再構築

Reshaping Cities

- 都市の変革
 - デジタル化、自動化、高安全化
 - 開疎化→自然の中での新たな居住形式の模索

新しい都市の価値

Human-out-of-the-loop City

デジタル化 (通勤無し、オフィス無しの世界)

ロボット化 (人の介在しない物流とサービス)

高安全化 (デジタル・リスク回避の実現)

開疎化*された新しい居住地

Nature embraced Sparse Village

デジタル化, ロボット化, 高安全化は徹底する

Off-Gridでの高品位サービスの実現

生物学的多様性の増大とShort supply chainの実現

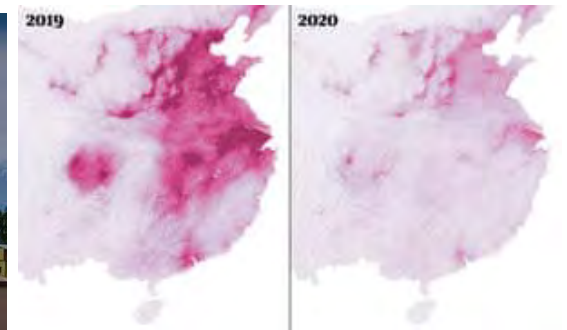
* 風の谷構想 (安宅和人 「シン・ニホン」) より
その他、OIST North Campus構想などもこの方向

A New Paradigm of Cities and Medicine

- デジタル化、自動化、Off-grid化
- 分散即応システムとしての社会システム
- 自然の一部としての人間の営み、生物学的多様性、環境負荷低減
- 新しい文明の形態を目指す
- すぐに着手するべき



インドで、30年ぶりにヒマラヤが見えた



英国の大気汚染の激減