

# **ANNUAL REPORT 2020**

This report outlines the progress made by IMI in 2020. During this time, our first projects were successfully completed and presented at our annual event in September. More importantly, 2020 saw our commitment to these initiatives intensify with the launch or selection of new major projects as well as shorter projects, some of which focused specifically on the Covid-19 pandemic. As always, these collaborative projects aim to bring academic research and the media closer together by leveraging open innovation and interdisciplinarity to foster the search for solutions. At the same time, we have continued to develop promotional activities, mainly through events and with the dissemination of project results. Finally, in a broader perspective, we drafted a proposal for a National Research Program (NRP) topic with the aim of supporting the information ecosystem of tomorrow in light of the challenges that weigh not only on its players but also on society as a whole.

# About us

We are active since January 2018 after being jointly founded by EPFL, Ringier, SRG and Triangle Azur (a cooperation network between the Universities of Geneva, Lausanne and Neuchâtel). Our main goal is to support the transformation of the media sector by initiating research and innovation projects with affiliated universities and in partnership with our media members, and to engage with a wider community involving researchers, media professionals and investors. IMI is open to all private and public organizations who wish to join and are active in the relevant fields.

In 2020, IMI received support from the following entities:





# Governance

#### **IMI Board**

The Board is the final authority for all decisions regarding IMI and is responsible for our strategic orientations and development.



ves Flückiger UNIGE



RTS



Ladina Heimgartner Ringier AG



Pierre Vandergheynst EPFL

# **IMI Scientific Committee**

The Scientific Committee makes recommendations to the Board on collaborative projects and assists the Director in managing our activities.



Nathalie Pignard-Cheynel



Laurent Sciboz HES-SO Valais-Wallis



Pascal Frossard EPFL



Gaël Hürlimann Ringier AG



Bernard Rappaz RTS

# **EPFL Media Center**

We are hosted by EPFL where the Media Center is in charge of running the Initiative and acts as an interface between academic institutions and media companies.



Mounir Krichane Director



Leonor Camporeale Administrative Assistant



# 2020 in 10 figures



# Key achievements

# Fighting misinformation and restoring public trust

This is the theme behind the first 6 major projects supported by IMI that were successfully finalized in 2020 and presented at our annual event that took place on 24 September at EPFL. A total of 135 people attended this event, most of them in person, which was not only an opportunity to showcase our project results but also to provide a platform where several communities, including researchers and media professionals, could meet. Following this success, 3 of these projects received new funding from IMI to continue their research and to facilitate access to the results for journalists.

2020 has been severely affected by the Covid-19 crisis, requiring an additional commitment from project teams to maintain their partnerships and deadlines. But these difficulties have also turned into opportunities, with Covid-19 becoming a central topic in many of our projects, including those related to misinformation and public trust.

# Tackling the Covid-19 crisis

In addition to the Covid-19 initiatives that have emerged from ongoing projects, we have also initiated and supported new fast-track projects based on a bottom-up approach which aims to address a specific challenge or idea from one of our media partners. This new type of project has led to faster and more targeted responses, making it very relevant for dealing with current issues. This is a model that we will continue to develop across all topics, alongside more ambitious projects that address challenges requiring a longer timeframe.



#### Intensifying our commitment to research and innovation

Since 2018, supporting projects has been our top priority. As a result, we have increased our efforts each year to initiate new collaborations, for instance by launching thematic calls for projects. In 2020, we received and evaluated project proposals in April and October, resulting in 7 new major projects that will run from late 2020 to early 2023 for the longer ones.

# Contributing to key issues at the national level

Having limited resources, we are constantly looking for ways to connect with other similar initiatives and to build collaborations outside our immediate network. Given the vital role of information in our democratic system, we have drafted a proposal for a National Research Program (NRP) topic intended for the State Secretariat for Education, Research and Innovation (SERI). Our proposal, which we hope to submit in the course of 2021, seeks to articulate, at the national level, areas of research that are not yet well connected in order to stimulate research activities that will tackle issues at the interface between information, technology, and society.

# **Completed projects**

# Fake News, Audiences and Journalism

S. Salerno (UNIGE), N. Pignard-Cheynel (UniNE) et al., in partnership with Le Temps



This project aims to highlight how young audiences in French-speaking Switzerland (18-25 years old) are exposed to information and misinformation, and attribute credibility to them, in order to advance journalistic practices. It is based primarily on interviews with focus groups of young people, as well as with journalists, and has led to the development of new informational formats by AJM students in partnership with Le Temps, with a particular focus on the fight against misinformation and fact checking on the

A fact-checking video format for Instagram created by J. Bianchin, K. de Gottrau and M. Piccand (AJM Newslab workshop, UniNE).

#### platforms used by young audiences.

This study shows the variety of topics affected by fake news, how they are perceived and used by young audiences, and ultimately what this age group expects from journalism in 2020. The results indicate that it is possible to fight against misinformation provided that audiences are exposed to content that integrates their specific relationship to digital culture and information.



This project has been co-sponsored by the Federal Office of Communications (OFCOM).

#### Main outputs

- A project report outlining the results of a twofold survey carried out in French-speaking Switzerland on information practices and the relationship to the media but also to misinformation of the Swiss population, especially young people.
- A report of recommendations for Le Temps and our media partners, to help renew audiences, strengthen the quality and diversity of news content, and fight against mistrust and misinformation in general.
- Several new video formats for Instagram and TikTok produced by students as part of the AJM Newslab workshop in collaboration with Le Temps.



Learn more on the project website

#### **Media Observatory Initiative**

K. Aberer (EPFL) et al., in partnership with Le Temps

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|  | Joe Biden marque la rupture avec Trump dès son arrivée à la Malson Blanche<br>Rft + 143 reactions + 35 minutes ago + (Minemania)<br>© Original article → Retweet                      |   |
|  | Melania Trump boude la photo à la descente d'Air Force One en Floride<br>BFMTV + 141 reactions + 1 hour ago + intermatinait<br>⊘ Original article → Retweet                           |   |
| Privacy policy<br>Notices and disclaimers<br>Status page | Présidentielle 2022 : la machine Hidalgo se met en route<br>Le Monde + 140 reactions + 50 minutes ago + Palitique<br>⊘ Original article → Retweet                                     |   |
| Copyright © News-Teller 2020                             | Mobilisation étudiante : « Entre la fatigue, le flou, la colère et la solitude, on fait quoi ?<br>Le Monde : 135 reactions · 1 hour ago · immuniment<br>② Original article  → Retweet |   |

In the digital age, news consumers experience increasing difficulty in distinguishing genuine from false information and, as a result, their trust in the media is being severely undermined. This project aims to develop a web platform to explore the Swiss and global news landscape in order to better understand its structure and the dynamics at play. The platform, called News-Teller, captures, processes and references over 1.5 million news articles

The News-Teller platform showing the latest news articles that have been processed inside the search module (LSIR, EPFL).

per month in 4 languages with improved context. Computational methods have been developed to enrich data in several dimensions, including reaction signals extracted from social media and news channel characteristics. These characteristics are intended to help the public distinguish between the myriad of existing channels, which can vary greatly in quality and credibility. In addition, reaction of online audiences can enable journalists to identify and address controversial or polarizing issues more effectively.



Furthermore, the close partnership with Le Temps has led to the emergence of new forms of interaction between journalists and scientists, resulting in the publication of a data-supported article on the mediatization of Covid-19. Two international workshops and an interest group have also been set up on topics addressed by the project in order to develop international academic collaborations.

This project has been co-sponsored by the Federal Office of Communications (OFCOM) and IMI is funding a follow-up that started in October 2020.

#### Main outputs

- A web platform to explore the Swiss and global news landscape as well as the reaction of online audiences on social media.
- A project report describing the platform, the methods developed to automatically collect and analyze news articles on a global scale and examples of insights that can be derived from the platform.
- A data-supported article on the mediatization of Covid-19 resulting from the partnership with Le Temps.
- Academic collaborations resulting from the organization of two workshops held during international conferences and the creation of an interest group hosted by The Alan Turing Institute.



Access the News-Teller platform



# Scientific Expertise and Media Discourse

A. Chevalier (Universities of Western Switzerland-RTS), B. Beaude, L. Kaufmann (UNIL), U. Fischer (Memoways) et al., in partnership with RTS and Le Temps



Now more than ever, the ability of journalists to quickly contextualize information and find experts who can answer their questions is becoming a key asset in creating relevant and quality news stories. This project aims to leverage interviews of scientists by journalists, by developing a web platform that automatically maps the topics covered by Avis d'experts, RTS, Le Temps and Wikipedia, in order to help journalists to take

The CompaSciences platform showing the experts associated with the keyword "vaccination" (as a list and a graph) and the list of related programs from RTS (STSLab, UNIL).

position in the face of current events in general and misinformation in particular.

The platform, called CompaSciences, allows to explore and compare the content of the last 7 years from Avis d'experts, all the programs of RTS, the archives of Le Temps and Wikipedia. In addition, the Avis d'experts database allows the inclusion of scientific experts, thus offering a systematic mapping of their media appearances in the information ecosystem of French-speaking Switzerland.

A follow-up to this project will start in 2021.

#### Main outputs

- A web platform to contextualize media content and identify experts who are best able to answer specific topics.
- Several internal project reports presenting a qualitative analysis of the reliability of the speech-to-text solution used by RTS, a qualitative evaluation of the semantic maps generated by the platform, and a comparison between the semantic maps and the semiotic maps resulting from the enunciative analysis.



Watch a demo of the CompaSciences platform



# Social network Architectures of Disinformation (#sad)

P. Vandergheynst (EPFL) et al., in partnership with UniNE and RTS



Social networks have become by far the most important place online to discuss and exchange information, but they also tend to polarize discussions and isolate users in their own cultural or ideological bubbles. This project aims to develop new methods to analyze the structure and mechanisms of influence within these communities, and to estimate the overall activity of social networks from only a partial view of them. Based on these methods, a tool

The SADView exploration tool showing a community surrounding Donald J. Trump as well as other connected communities (LTS2, EPFL).

has been developed to enable journalists to monitor the propagation of controversies and misinformation on Twitter, and complementary analyses have also been conducted on YouTube, Reddit and Voat.

The exploration tool, called SADView, automatically collects tweets—including retweets and mentions—to create an interactive visualization of user interactions while also highlighting communities and characterizing topics through a lexicometric analysis. It allows journalists and researchers to get a quick overview of the discussions around a given topic on Twitter, which has led to new insights at the crossroads between data analysis and journalism.

A follow-up to this project will start in 2021.

#### Main outputs

- An exploration tool allowing journalists and researchers to get a quick overview of the discussions around a given topic on Twitter.
- A scientific publication proposing a new approach to large-scale network exploration, capable of automatically sampling relevant user-defined parts of a network.
- A Master's thesis focused on the activity on Reddit and Voat, and more specifically on the conspiracies related to Covid-19 and QAnon.



Access the SADView exploration tool



# Traceable Original Journalistic Content (TOJC)

N. Glassey Balet (HES-SO Valais-Wallis) et al., in partnership with ESH Médias



In today's media environment, it is becoming increasingly difficult to distinguish between journalistic content and other types of content that do not share the same quality standards. This project aims to develop and evaluate a comprehensive labelling system to identify and certify content originally produced by journalists, in order to promote it and differentiate it from non-journalistic content, especially misinformation. Furthermore, to encourage a

The project website that was used to evaluate the labeling system with journalists and readers (IIG, HES-SO Valais-Wallis).

broad adoption by the media, the project considers the perception and impact that such a label would have on the readership, and seeks an architecture that leverages existing solutions and integrates seamlessly with the publishing workflows of partner media outlets.

The proof of concept of the system that was designed and developed as part of this project allows content to be labeled automatically (through third-party online services) and manually (through a self-assessment by the journalist or the editor), and demonstrates how a labeled article can be verified and traced by the readers after publication. The source code of the system is available on the IMI website to allow any media organization to evaluate it within their workflow and with their readership.

#### Main outputs

- A system to manage the certification of journalist content and the subsequent handling of the label.
- A scientific publication exploring how the Swiss population accessed and consumed news and information about the Covid-19 outbreak from different channels, and the role of the media in building public trust during the crisis.
- Several internal project reports presenting the impact of labelled journalistic content on the readership as well as the security management, deployment and evaluation of the system.



Learn more about the project on our website



# **Trust Over Time**

N. Henchoz (EPFL), D. Gatica-Perez (Idiap Research Institute) et al., in partnership with RTS

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This project anticipates the growing risk for media outlets to publish erroneous information as they rely more and more on algorithms to produce and distribute their content. In particular, it aims to develop and evaluate a content aggregator based on machine learning that combines images from media sources, cultural archives and social networks, using a design approach that allows users to see in a transparent way the source of journalistic content, as well as the decisions made by

The web service providing several image processing capabilities to extract content and colors from images (Social Computing Group, Idiap Research Institute).

algorithms, in order to increase their perception of trust.

A RESTful web service has been developed to extract the probability distribution of a set of predefined visual features (512 true colors, 365 places, 1000 objects and 150 semantic scenes). Then a series of layouts and scenarios have been designed and tested with 266 participants to understand the impact of several pre-selected trust indicators (source, source type, similarity score, indexation details).

The results show the positive effect of layout structuration and hierarchization in highlighting trust indicators, but also the distrust of users when machine learning results are displayed as a simple percentage, demonstrating the urgent need to find engaging and trusting representations for machine learning algorithms.

#### Main outputs

- A web service that automatically analyzes the visual characteristics of an image.
- An internal project report describing the design process, the evaluation method and the results of the user survey.



Learn more about the project on our website



# Fast-track projects related to Covid-19





The Role of Communication Strategies and Media Discourse during the COVID-19 Outbreak

S. Salerno (UNIGE), N. Pignard-Cheynel (UniNE) et al., in partnership with an international consortium

Gaining a better sense of the population's understanding and response towards the COVID-19 outbreak, in relation to the communication strategies adopted by the authorities, media discourse and misinformation.

Started in April 2020 (approx. 12 months).

# Four Condos and a Containment

Y. Rochat (EPFL/UNIL), P. Ronga (Le Temps) et al., in partnership with Le Temps

A narrative video game depicting the lives of 4 fictitious neighbors living in the same building during the first months of the Covid-19 pandemic, which offers an original testimony to the conditions of isolation in Switzerland.

Completed in August 2020.



# Mobility Data in Switzerland during the COVID-19 Outbreak

F. Fischbacher, C. Iaz, P. Ronga (Le Temps), T. Félix (RTS), in collaboration with Swisscom

An analysis of the impact of semi-confinement measures on the mobility of the Swiss population using anonymous and aggregated data provided



by Swisscom.

Completed in January 2021.

# New projects



# **Media Laboratory**

K. Aberer (EPFL) et al., in partnership with UniNE and Heidi.news

A platform to facilitate the creation of datasupported articles, in particular in the data collection, processing and visualization processes, and automate the intervention of experts, paving the way for future data-journalism projects.

Started in October 2020 (12 months).



# Personalized Recommendation: from Polarization to Discovery

J.-G. Piguet, J.-P. Calbimonte (HES-SO Valais-Wallis) et al., in partnership with SRG/RTS

A content recommendation system to promote public engagement and the consumption of content originating from or dedicated to all parts of Switzerland using Play Suisse—the new streaming platform developed by SRG—as a case study.

Started in November 2020 (18 months).





# Subtitling of Swiss German into Standard German: Automatic Post-Editing

P. Bouillon (UNIGE) et al., in partnership with SRF

An automatic post-editing system to improve the quality of automatic German subtitling of Swiss German television programs from SRF, while promoting linguistic diversity, multilingual cohesion and cultural exchange.

Started in November 2020 (24 months).

Future projects starting in 2021



# The Holmenkollen Project

P. Dillenbourg (EPFL), A. Scholefield (We Play Sports) et al., in partnership with RTS

An adaptive video player targeted at minor sports that automatically speeds up to interesting segments while allowing users to customize the experience based on their own tastes and time constraints.

Started in November 2020 (24 months).

#### **MILBOT**

P.-Y. Badillo (UNIGE) et al., in partnership with RTS

Strengthening the link between young audiences and public service media on social networks by developing a conversation tool, such as a chatbot, with the aim of making the source of online content more recognizable.

Starting in January 2021 (12 months).



# Automatic Labeling of Visual Data A. Alahi (EPFL) et al., in partnership with RTS

A collection of computationally efficient methods to automatically extract complex metadata from any image or video in real time—ranging from a list of objects to human actions and their relationships—to improve existing Al-based tools at RTS.

Starting in February 2021 (24 months).

# www.media-initiative.ch







# #sad II

P. Vandergheynst (EPFL) et al., in partnership with UniNE and RTS

An exploration tool to allow journalists to analyze controversies and the dissemination of information within social networks in a quick, accurate and intuitive way, thus reducing the time spent on online investigations.

Starting in February 2021 (12 months).

#### **CompaSciences 2.0**

A. Chevalier (Universities of Western Switzerland-RTS), B. Beaude, P. Gonzalez (UNIL), U. Fischer (Memoways) et al., in partnership with RTS and Le Temps

A web platform for the semantic, computational and qualitative analysis of media content to help journalists navigate the constant flow of information they face on a daily basis and identify relevant scientific experts for their stories.

Starting in March 2021 (30 months).



Learn more about all our projects on our website

# Outreach and communication activities

#### **Events organized by IMI**

24.09 Helping media fight misinformation and restore the public's trust, IMI Annual Event 2020, Lausanne, Switzerland

01.11 What future(s) for esports?, Swiss Digital Days 2020, with N. Besombes, N. Desjeux, M. Forrer, N. Graifemberg, S. Laurenceau and M. Rumignani

03.11 Al and the media: what future for the information sector and its audiences?, Swiss Digital Days 2020, with B. Chazelle and M. Rumignani



# **Scientific publications**

One Virus, Four Continents, Eight Countries: An Interdisciplinary and International Study on the Psychosocial Impacts of the COVID-19 Pandemic among Adults; M. Généreux, P.J. Schluter, K.K. Hung, C.S. Wong, C. Pui Yin Mok, T. O'Sullivan, M.D. David, M.-E. Carignan, G. Blouin-Genest, O. Champagne-Poirier, É. Champagne, N. Burlone, Z. Qadar, T. Herbosa, G. Ribeiro-Alves, R. Law, V. Murray, E.Y.Y. Chan, N. Pignard-Cheynel, S. Salerno, G. Lits, L. d'Haenens, D.D. Coninck, K. Matthys, M. Roy; International Journal of Environmental Research and Public Health 2020, 17, 8390

**Spikyball Sampling: Exploring Large Networks via an Inhomogeneous Filtered Diffusion**; B. Ricaud, N. Aspert, V. Miz; Algorithms 2020, 13, 275

**The Impact of Labelling Journalistic Content on Readership**; Z. Liu, M. Delaloye, N. Glassey Balet, L. Sciboz; Proceedings of the NEM Summit 2020

The Role of Public Trust and Media in Managing the Dissemination of COVID-19-Related News in Switzerland; Z. Liu, J. Shan, M. Delaloye, J.-G. Piguet, N. Glassey Balet; Journalism and Media 2020, 1, 145-158

# **Project reports**

**Media Observatory Initiative**; J. Rappaz; Initiative for Media Innovation and Federal Office of Communications, 2020, Lausanne, Switzerland

Quelles offres éditoriales et pratiques journalistiques à destination des jeunes publics? Rapport de recommandations au Temps et aux médias partenaires de l'IMI; N. Pignard-Cheynel, S. Salerno, V. Carlino; Initiative for Media Innovation, 2020, Lausanne, Switzerland

S'informer en période de crise sanitaire. Pratiques d'information et exposition aux fake news en Suisse romande pendant la première vague de Covid-19 (mars-avril 2020); N. Pignard-Cheynel, S. Salerno, V. Carlino; Initiative for Media Innovation and Federal Office of Communications, 2020, Lausanne, Switzerland

**Social network Architectures of Disinformation (Master's thesis)**; Amin Mekacher; EPFL, 2020, Lausanne, Switzerland

#### **Conferences and public debates**

03.04 SAMS (Source, Author, Message, Spelling), #VersusVirus, with Z. Liu and M. Delaloye

03.04 **Tracking fake news in social networks**, LauzHack Against COVID-19, with B. Ricaud and V. Carlino

29.04 Conférence fake news, Université de Lorraine, France, with V. Carlino

08.06 **Mediate**, International AAAI Conference on Web and Social Media (ICWSM), with K. Aberer, J. Rappaz and P. Smeros

01.07 **The Impact of Labelling Journalistic Content on Readership**, NEM Summit 2020, with Z. Liu, M. Delaloye, N. Glassey Balet, L. Sciboz

08.10 **Fake news: de la détection à la valorisation journalistique**, QTEM Lausanne Club, with M. Delaloye



29.10 **Fake news, désinformation et théories du complot. Perspectives théoriques et pédagogiques.** Recyclage média et image, Département de l'instruction publique, de la formation et de la jeunesse (DIP), with N. Pignard-Cheynel

11.12 **Narrative framing and its linguistic forms in online media**, international conference on Communication in Multicultural Society (CMSC), with J. Rappaz and P. Smeros

16.12 **Désinformation et réseaux sociaux**, Désinformation et démocratie, Université de Genève, Switzerland, with N. Pignard-Cheynel

# In the media

20.03 Covid-19: histoire d'une médiatisation, Le Temps, by P. Ronga, J. Rappaz and F. Quellec

01.04 AntiVirus, RTS, interview of N. Pignard-Cheynel

01.04 **Comment lutter contre la propagation virale de fausses nouvelles?**, Éducation aux médias et à l'information (J.-C. Domenjoz)

16.04 **The Hackathon Approach to COVID-19 Showcases Agile Innovation at its Best**, Forbes, with Z. Liu

18.04 Menaces sur le droit à l'information: débat entre Christophe Deloire et Matthieu Delaloye, Forum, RTS, with M. Delaloye

28.04 **Coronavirus: comment protéger les jeunes des fake news?**, Arcinfo, with N. Pignard-Cheynel and V. Carlino

30.04 **Covid-19: comment les Suisses s'informent, participez à une enquête**, RTS, dissemination of a survey related to the project "Fake News, Audiences and Journalism"

04.05 AntiVirus, RTS, interview of V. Carlino

04.05 **Quelles sont vos sources d'information à propos du virus?**, Le Temps, dissemination of a survey related to the project "Fake News, Audiences and Journalism"

06.05 **Forum des idées - Comment les Suisses s'informent-ils sur le coronavirus?**, Forum, RTS, interview of N. Pignard-Cheynel

08.05 **Comment les Suisses s'informent-ils avec le Covid-19?**, Le Point du jour, Heidi.news, dissemination of a survey related to the project "Fake News, Audiences and Journalism"

13.05 LauzHack 2020: chacun chez soi, Fréquence Banane, interview of B. Ricaud and V. Carlino

17.07 Médias et numérisation, une liaison compliquée, Hémisphères, with M. Delaloye

20.08 "Quatre apparts et un confinement", un jeu vidéo pour s'immerger dans le quotidien de 4 voisins face au coronavirus, 19h30, RTS, with Y. Rochat and P. Ronga

20.08 **Researchers launch video game exploring the effects of confinement**, EPFL News, with M. Krichane and Y. Rochat

20.08 **Un jeu vidéo pour s'immerger dans le confinement des autres**, Le Temps, by Y. Rochat and P. Ronga

21.08 **Forum des idées - Le jeu du confinement: interview de Yannick Rochat**, Forum, RTS, interview with Y. Rochat



# IMI on social media









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