

# UCLA

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Impact of COVID-19 Pandemic on Cancer Research

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Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

## Voices

# Impact of COVID-19 Pandemic on Cancer Research

The COVID-19 pandemic is profoundly changing cancer researchers and cancer research. Leaders from different fields and at different career stages share their perspectives.



**Leonard Zon**  
Boston Children's Hospital and Harvard Medical School

## Losing the Next Generation

The COVID-19 pandemic has created a financial fallout at universities that led to a freeze on many new hires. This hit home as one of my postdoctoral fellows on the job market had three job offers rescinded. Two of these offers were at Ivy League universities, and one was approved by the Dean and removed by the Chancellor. This meant accepting a job outside of the U.S., limiting his choices. It is just plain sad.

Postdoctoral fellows come to the lab often to find an academic position. The removal of positions is disappointing, but there is tougher news ahead. Most universities will not hire this year. The next reasonable number of hires will start in June 2022. If you have publications ready now for a job interview, are you supposed to put life on hold for another 2 years till you start your job? Are you supposed to ask your current mentor to keep you an extra 2 years?

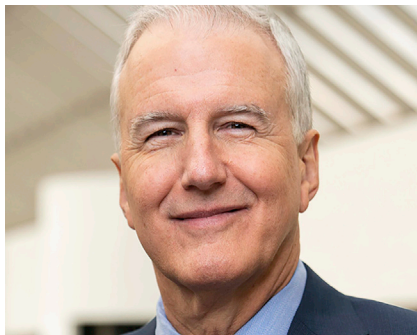
Postdoctoral fellows and graduate students view academia tenuously, even before COVID-19. Looking at the attitude of primary investigators (PIs) during COVID-19, does the job look appealing? Most PIs now are stressed from the pressures of funding. There is frustration to do or publish science due to slowed lab occupancy and months off. Publication is taking longer. Industry looks more inviting based on a better salary, no need to write grants, and no need to publish. I worry that we will lose the next generation of academic researchers and that COVID-19 will precipitate this exodus. Programs should be developed to mentor these young investigators and PIs to alleviate the stressors. There should be more communication between the PIs, editors, and funders, particularly during paper and grant writing. Most importantly, we need to remind postdoctoral fellows and students about the positive attributes of being a PI.



**Ana P. Gomes**  
H. Lee Moffitt Cancer Center & Research Institute

## It Takes a Village

In academia, institutional support is everything. I was given this advice many times, but I had never realized the full scope of it. I was a postdoc in New York City with the prospect of starting my lab at the Moffitt Cancer Center in June 2020 when the COVID-19 pandemic hit. I knew that starting a lab would be challenging but thought I was ready for it. However, nothing really prepares you for the uncertainty that a pandemic brings. Would Moffitt still be able to honor my position during a financial crisis? Would they be able to onboard me? Could I even move to another state? Then, as an international scientist, other questions began piling up about visa timelines, whether I would need to leave the U.S., when I would be able to return, and if I would still have a position at that time. It was the most pivotal, yet uncertain, point of my career and the moment when I realized the value of the advice I had been given. Moffitt moved the world to enable my laboratory to start on time, providing institutional assurance letters, developing a joint worst-case plan with my postdoctoral lab if my new visa did not come through in time or if travel was restricted, and even expediting the renovation of my lab space. Nothing was left to chance, and I opened my lab on time with only minimal disruption. My advice to anyone seeking a career in academia? Do not leave it to chance. It takes a village (or an institution), and choosing the right one will make all the difference.



**William G. Cance**  
The American Cancer Society

### The Young and the Innovative

For the first time this century, the American Cancer Society (ACS) will not be able to fulfill all our planned commitments to research funding. In March, we made the responsible decision to cancel our face-to-face fundraising activities indefinitely. Because of this, we are now projecting at least a 30% loss of our annual operating revenue. As the largest private nonprofit funder of cancer research, we typically allocate approximately \$100M to fund cancer research at institutions across the U.S. each year. We focus the bulk of our funding on innovative ideas from early-stage investigators. We are proud to have funded 49 Nobel Prize winners, usually in the early phases of their careers. Our teams of outstanding reviewers have been able to consistently identify the dream team members when they were mere dreamers.

The biggest challenge of fundraising for the ACS is the diversion of the public's attention and dollars away from cancer because of the global pandemic. Our constituents have less discretionary income and feel less certain about the future. Combined with closed labs, a slowing of clinical discovery, and tens of thousands of delayed cancer diagnoses, we face enormous challenges to sustain progress across the cancer ecosystem. But we should remember that young investigators are also some of the most creative as they bring fresh ideas to these challenges. To ensure our continued support of this group of scientists, the ACS has made strategic pivots, including broad cost-cutting measures, so that we can continue funding existing grants without reductions. We have expanded fundraising in the digital, corporate, and foundation areas with a specific \$100M research campaign in strategic program areas. We remain a financially robust organization that is committed to our support of the young and the innovative.



**Antoni Ribas**  
University of California, Los Angeles

### Going Virtual in the Pandemic

It became clear in the first 2 weeks of March 2020 that it would be impossible to hold the planned in-person Annual Meeting of the American Association for Cancer Research (AACR). At that time, it was on track to become the most successful AACR meeting ever, with record early registration and hotel room reservations, record total abstracts, and abstracts describing results of clinical trials. What was not clear was what to do next. There was no precedent for a large, international annual meeting in a virtual platform, no roadmap on how to organize it, and no assurance that the technology would be solid enough. But it was not an option to break the commitment we had with the thousands of investigators who had submitted their best research with the anticipation of presenting the results at the AACR meeting. This was particularly pressing for clinical data, as there were multiple submissions that had direct implications for patient care.

We decided to take the challenge and organize a first virtual meeting focused on clinical trial results and late-breaking basic science peer-reviewed presentations. The presentations were pre-recorded, but we made sure that the audience could ask questions that would be answered live by the presenters. The first virtual meeting was ambitious, but it left out the bulk of the abstract submissions and planned talks of the in-person annual meeting. Therefore, we organized a second virtual meeting 2 months later that included more than 400 speakers organized in 125 sessions broadcast on 14 concurrent channels over 3 days. In addition, there were more than 4,000 abstracts released in virtual poster sessions. Together, this two-part virtual meeting had over 100,000 people registered from 127 countries, arguably the largest cancer conference ever conducted.



**David Tuveson**  
Cold Spring Harbor Laboratory

### Speed Up Communication

While working in restricted capacity during the pandemic, our laboratory adapted by forming teams and was fortunate to have two manuscripts accepted following peer review and two posted as preprints. It was refreshing to see that journal editors have adopted policies that help authors of submitted manuscripts by recognizing their difficult circumstances and giving them extra time to perform key experiments, and by being more activist with deciding the most relevant questions to address from reviewers. This leads to the important issue that the reviewing process in general has gotten out of hand and that editors have given too much authority to overly enthusiastic reviewers and oftentimes surprisingly seek unanimous support from reviewers, at the expense of furthering scientific research in a timely manner. Prior to COVID-19, I witnessed many reviews written in a style that could serve as either a comprehensive review of an entire field, or a legal briefing, or a journal club directed by a trainee. This is neither necessary nor appropriate and makes me ponder whether the editors and editorial boards have relinquished control of the review process. There should be clear guidelines that all reviewers should submit concise comments with limited major concerns questioning the relevance of the work, and a simple list of very minor typographical or clarification comments. If much work is still needed to confirm what is presented, the article should be editorially rejected quickly while sending along those statements to the authors. Reviewer reform could become a beneficial outcome of the pandemic.



**Sophie Postel-Vinay, Christophe Massard, and Fabrice Barlési**  
Gustave Roussy Cancer Campus

### COVID Should Not Hit Trials

Ensuring patient access to clinical trials is essential in the era of precision oncology: trials are an integral part of cancer treatment and allow patients to access the most innovative and efficient therapies. This specificity prompted our institution to take all possible measures to limit the COVID-19 impact on patients and therefore clinical trials in order to keep all therapeutic options available. When the first wave hit France, we first endeavored to ensure patient safety, notably by providing regular guidelines on personal protective equipment, by limiting hospital visits, by favoring teleconsultation, and by performing systematic COVID-19 testing. When feasible, treatments were mailed to ongoing patients. Remote monitoring was encouraged to maintain data quality. These measures, as well as regular discussions with trial sponsors, enabled us to continue most trials—though a minority was unilaterally suspended by sponsors.

Between March and June (COVID-19 peak), 323 patients were enrolled in one of the 90 phase I and 289 phase II–III active trials; 35 new trials were open. All lockdown-induced opening delays (31 trials) were absorbed within 6 weeks thereafter. No COVID-19-related deaths occurred.

Simulations on individual patient projections showed a 2%–5% increase of the 5-year risk of death, mainly due to procedure delays and patient lateness in seeking care. Therefore, protecting clinical trial activity is essential for cancer patients, and large cancer centers have a major role to play in keeping all therapeutic options available. Defining early the optimal strategies for prioritizing patient care and ensuring research quality, at the international and local level and in partnership between academia and industry, will hopefully minimize the impact of future pandemic episodes.