

Making STS Singaporean

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1 Early Days

The first time I was introduced to the president of my university, on the periphery of a crowded academic meeting, he naturally asked what field I was in. Without thinking I said “STS” and immediately regretted it. “History” would have been the safer choice. There was no STS department or program at the National University of Singapore (NUS), or anywhere else in my newly adopted country, and few people I’d met there had heard that acronym. “That means science, technology, and society,” I quickly added, hoping I wasn’t sowing even more confusion. He was an engineer. “Ah, I do STS too!” he exclaimed to my surprise, with eyes lit. “I’m attending the STS conference in Japan.” I wasn’t aware of any such conference, but before I could clarify, he was being introduced to another assistant professor, and I stood there puzzled. It turned out the Japanese prime minister had begun hosting high-level “STS Forums” in the early 2000s with invitations to the presidents of major companies and, apparently, universities as well. “Science and Technology *in* Society” was how they were styled, but no matter. Even if hardly anyone else in Singapore had heard the acronym, the president of my university had. Just maybe, I thought, we could build on that.

When I arrived in Singapore in 1999, the acronym *STS* had only one manifestation, as the name of a popular undergraduate course taught by the sociologist Zaheer Baber, who was destined to become a close colleague and lifelong friend. That same year, the Faculty of Arts and Social Sciences (FASS) founded the Information and Communications Management Programme, which in 2001 was placed under the directorship of Govindan Parayil, who had a PhD in STS from Virginia Tech. I was hired at the same time to be the historian of science and technology in the history department, which was likewise a new departure for my colleagues there. Govindan would leave in 2004 to become vice-rector of the United Nations University, and Zaheer would

Acknowledgments I particularly thank my colleague Connor Graham for reading and commenting on a first draft of this article and adding his significant memory of STS in Singapore to my own.

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depart soon after to take an All-Canada chair in Toronto. But both had planted important seeds.¹

Was it the realization of the coming new millennium, burgeoning use of the Internet, fear of the Y2K bug, or the steady growth and reputation of STS as a field that caused my social science and humanities colleagues to begin seeing technoscience as a relevant category around the year 2000? It was likely all those things and more. Singapore had been developing a high-tech global profile over the previous decade, thanks in part to its branding as an “intelligent island” in a BBC documentary (Maslin 1990), and a more dystopian counterbranding by William Gibson (1993). And in 2000 the city-state would launch a biomedical science initiative intent on making Singapore the “Biopolis of Asia.” But social science and humanities research in Singapore had yet to catch up, to strategically focus on the historical, social, and cultural questions that this phenomenon posed. This was partly due to the very specialized nature of academic departments (and hence their research) in the commonwealth university model, which NUS then still followed. That would radically change over the next decade, however, as NUS went from being a largely undergraduate teaching institution to a globally focused research university with a substantial number of interdisciplinary programs. This transformation made it possible to mount an argument for STS as one of the most relevant fields for understanding Singapore, and Asia, in the twenty-first century. NUS fit the profile of universities around the world that had launched STS initiatives, having a strong investment in science, technology, engineering, and math (the STEM disciplines) but important ambitions in the humanities and social sciences as well. STS could serve as a bridge. These were compelling arguments, but they weren’t accepted automatically. Making STS Singaporean took time, energy, luck, and most importantly, patronage.

Events also helped. When I arrived in 1999 the philosopher Alan K. L. Chan was chairing the local organizing committee of the Ninth International Conference on the History of Science in East Asia, and he soon enlisted my participation. Although most of the 150 delegates from twenty-one countries identified with HPS (history and philosophy of science) rather than STS per se, this was in hindsight a seminal moment.² Many of the participants, including Kim Yung-Sik, Chris Cullen, Tsukahara Togo, Michele Thompson, and Kuo Wen-Hua, would end up returning to Singapore (some repeatedly) in subsequent years as we built up an STS community. They would, in other words, form the first nucleus of our regional and global network.³ And based on the success of this conference, Alan Chan would become an important patron of STS at NUS, in his role of vice dean for research and graduate study in FASS. Later still, as the founding dean of the College of Humanities, Arts, and Social Sciences at our sibling institution, Nanyang Technological University (NTU), Alan would use strategic hiring to help grow STS in Singapore into the nationwide community it currently is.⁴

¹ Zaheer, along with other mostly Indian and Indian-Singaporean scholars at NUS, such as K. P. Mohanan and Arun Bala, was then part of an informal lunch group called the Serangoon Circle. Highly literate and intellectually engaged, this group of cross-disciplinary scholars were among the first to discuss STS-related themes in Singapore.

² Select papers from this conference were published as Chan, Clancey, and Chieh 2002.

³ Other conferences in Singapore in those early years would bring such prominent STS scholars as Hashimoto Takehiko, Nakajima Hideto, Sungook Hong, and Daiwie Fu into our extended (overseas) community.

⁴ Among prominent scholars at NTU who have worked closely with us at NUS in forging an island-wide STS community are Sulfikar Amir, Lisa Onaga, Hallam Stevens, and Fang Xiaoping.

2 STS Becomes a Research Cluster

Like any assistant professor, I was mainly intent, in my first years in the NUS history department, on teaching, publishing, attending conferences, and applying for tenure. In 2006, however, I was invited by Vice Dean Chan and Dean Tan Tai Yong (now president of Yale-NUS College) to serve as an assistant dean. Although my duties were diverse, Tai Yong also invited my involvement in building what would become the first institutional frame for STS in Singapore: an interdisciplinary faculty-level “research cluster.”

Serendipity was involved as much as planning. The Asia Research Institute (ARI) had been founded at NUS a few years earlier under the historian Anthony Reid but had recently moved its offices from our main campus at Kent Ridge to the older and much quieter NUS campus at Bukit Timah. Under different circumstances this might have been a setback for the faculty, which had until that time worked closely with the institute. But Dean Tan seized the opportunity to found faculty-level research clusters in the office space vacated by ARI. This accompanied a larger push on his part to promote interdisciplinary and cross-departmental research, a campaign that had begun under his predecessor, Dean Lily Kong. Prior to their tenures, the need for interdisciplinarity had been underappreciated in a faculty where specialization was still sacrosanct and even graduate programs were comparatively new.

The founding of ARI in 2001 had itself been a landmark moment in our growth as a research university. But during the first few years of its existence, the institute was not convinced that science or technology were categories central to “Asian” research in the humanities and social sciences. Asian studies was itself an interdisciplinary project, with well-charted streams labeled *religion*, *history*, *language*, *culture*, and so on. Technoscience, to some (but not all) practitioners in that field, seemed a strange intrusion. Dean Tan had a different view, and STS was one of a handful of new interdisciplinary projects, crystalized as “clusters,” that received seed funding, staffing, and office space on the top floor of the deanery. As the initial steward of that initiative, I was able to hire a research assistant, Ms. Sorelle Henricus, and we started doing everything we could think of to introduce colleagues to STS and gain allies for our project.

Realizing there were few scholars in the faculty with STS credentials but many who had a linked interest of some kind, or at least curiosity, we took a “big tent” approach to recruitment. That meant letting people decide for themselves if they were ‘doing STS.’ Sometimes we needed to persuade them that they were, while for others we needed to reduce their certainty. We’d soon gathered a steering committee of committed tenured faculty members from a good variety of disciplines, including the sociologist Ho Kong Chong, the philosopher Cecilia Lim, the geographer David Higgitt, the English literature scholars Ryan Bishop and John Phillips, and a small crowd of enthusiasts from Communications and New Media (which Govindan Parayil’s program had evolved into under its new and highly supportive head, Millie Rivera), including Lonce Wyse, who would eventually chair the cluster.

Now we had cross-faculty membership and a modest budget, which we used to launch a speaker series. Given the distance between Singapore and other STS centers around the globe, the best way to let the world know we were here, we figured, was by paying them to come and meet us. Flying prominent speakers in would also raise local consciousness about the field. This was a lesson I’d been taught by an earlier mentor,

Svante Lindqvist of the Royal Institute of Technology in Stockholm, when he mused about how Sweden had made itself into an essential node in the global science system. It was only justice that Svante became one of our earliest STS speakers in Singapore, though he had no need to draw on our funding. By then the director of the Nobel Museum, he was coincidentally coming to Singapore with a traveling exhibition, hosted by the president of NUS (whom, as I wrote, knew what STS meant). I poached Svante for an afternoon to give a talk for our series, which, with typical showmanship, he titled “How to Win a Nobel Prize.” It brought out our first big crowd for an STS event, to be exceeded in size only when Bruno Latour took the stage in 2016 at the Society for the History of Technology Conference. In the nine years between those events, however, we would host a steady stream of prominent STS scholars in Singapore, some on our funding, and some on their own. It helped, too, that we were a natural stopover for European scholars on their way to Australasia and that our colleagues in China, Korea, Taiwan, and Japan could fly down and back without getting jet-lagged.

Our main disadvantage was not having many younger scholars, well credentialed in STS or HPS, who had a fresh perspective on the field and could provide the requisite energy. Again Dean Tan came through, this time with funding for strategic hires. The cluster was allowed to form a search committee with the generous mandate of hiring as many top-quality tenure-track STS scholars as we could find, but with these caveats: only one hire per department, and only in departments whose heads agreed to cooperate. The committee conducted what was likely the most extensive global hiring campaign for tenure-track STS positions anywhere in the world up to that time. We ultimately made offers to more than a half dozen scholars from prestigious foreign research universities, most of whom accepted, including the philosopher Axel Gelfert from Cambridge, the sociologist Catelijne Coopmans from Oxford, the historian John Dimoia from Princeton, and the media scholar Denisa Kera from Charles University, each of whom would help build a global reputation for STS in Singapore over the following decade.

Dean Tan’s vision for the research clusters was that they act not just as affinity clubs, however, but as platforms for launching interdisciplinary research projects more ambitious than a single department could manage. Singapore’s Ministry of Education had just announced a multitiered grant scheme that over time would inject many millions of dollars into university-based research, helping to put NUS on par with the best research universities in the world. The grant quantum on offer were large enough to require not just a principle investigator and his or her graduate students but the formation of a collaborative team of PhDs from a variety of disciplines intent on tackling big questions over a period of years. From my perspective, having such a grant was also a way of forging the nascent STS cluster into something like a cross-departmental community with a common goal. With philosophers, historians, literary theorists, sociologists, communications scholars, and so forth, constituting the “big tent” of Singapore STS, we needed a way to keep everyone inside. The pull of the disciplinary departments would be a strong countervailing force for the assistant professors we had just hired—indeed, a few were pulled so deeply into departmental cultures that they never reemerged. A well-funded cluster-based project, it seemed, was not just useful but necessary.

After discussing many alternatives, we decided to apply for funding to study Singapore’s emergent biomedical research community. Biopolis, our local bioscience city,

had been founded less than a decade before and was still filling with foreign scientists largely recruited by Singapore's Agency for Science, Technology, and Research (A*STAR). Scientific research in Singapore was then (and remains) largely focused on medicine. Biopolis was emerging as a global science leader in Southeast Asia, but other science cities were also springing up in urban locations throughout the region and in East and South Asia. This suggested that we take a regional and network approach to their study. North American and European researchers were slightly ahead of us in their ability to tap on grants and were beginning to regularly descend from the skies to interview our scientists and theorize the larger issue of the rise of Asian science. Why weren't we, Singapore-based social scientists and humanities scholars, doing the same? That was the argument we would successfully make to the university and the education ministry to fund and launch this initial STS project.⁵

We realized early on that it wasn't a matter of competing with or displacing foreign-based researchers, some of whom had far better connections inside Biopolis and around the region than we had at that point. Most prominent in this category was the anthropologist Mike Fischer, who was also the former director of my STS graduate program at MIT. Through his frequent trips to Singapore to interview scientists at the Human Genome Institute, Mike was gradually transforming from my former professor into my friend. I invited him into our cluster at an early stage in order to help us think through our research program, and his advice and willingness to engage contributed greatly to our eventual decision to concentrate on biomedicine.

Mike agreed not only to sign on as an external collaborator but also to introduce us to his major informant, Dr. Edison Liu, the director of the Human Genome Institute and then-president of the Human Genome Organization. Like the president of NUS, Ed knew what STS meant. And he understood its scholarly value. In our first meeting, he volunteered to sign on with us as a collaborator without my even asking. Ed would end up being an important patron to our project even though, before we had finished the grant, he left Singapore to become president and CEO of the Jackson Laboratory in the United States.

3 STS as a University-Level Initiative

Another important patron for STS entered at this stage in the person of the geographer Lily Kong. The former dean of FASS when ARI had been founded, Kong took over the directorship of ARI in 2008 and started to search for a new research cluster. She invited us to organize a second STS cluster at ARI on the prospect that we would receive our grant, which luckily we did. Now STS in Singapore had a presence within a university-level research institute, which greatly expanded our resources and horizons. Of equal importance, science and technology were now recognized as legitimate topics to study by humanities and social science scholars within the frame of "Asia." At ARI we began a second hiring campaign, attracting senior visiting scholars like V. V. Krishna from Jawaharlal Nehru University, Aihwa Ong from the University of California, Berkeley,

⁵ Our Asian Biopoleis project resulted in three large conferences, a number of smaller workshops, and over two dozen publications. See [Coopmans et al. 2012](#); [Clancey and Chen 2013](#); and [Clancey et al. 2013](#).

and younger scholars like Connor Graham (Melbourne), Margaret Tan (NUS), Philip Cho (Pennsylvania), Kim Tae-Ho (Seoul National), Haidan Chen (Zhejiang), Jerome Whittington and Alfred Montoya (UC Berkeley), Mitch Aso (Wisconsin), Honghong Tinn (Cornell), and Tamra Lysaght (Sydney), among others.⁶ Itty Abraham, now head of the NUS Department of Southeast Asian Studies, would also enter the university through a visiting position in the ARI STS cluster and become a valued member of our community. The numbers of applicants for postdoctoral and higher positions at ARI, and their quality, helped convince the university that it had made an investment in the right direction—that STS was a vigorous global project that had in a sense been waiting for a beachhead in our part of the world.

During this same period, NUS was rising in global university rankings from a position scarcely worth recording to become, in the second decade of the twenty-first century, one of the top research universities in the world. As we reminded our patrons, nearly every one of NUS's "peer institutions" at the top of such rankings had an STS or HPS department, graduate program, institute, or other such unit. This suggested that bridge building between the STEM disciplines and the humanities/social sciences helped mark a university's global prominence. Indeed, the strategies that the STS cluster pursued closely paralleled those of the university at large and, in so doing, contributed in their own small way to NUS's reputation and status as "a global university centered in Asia," to quote our official motto. The influence of interdisciplinary scholarship, projects, and above all grants in fueling this global connectedness is, ironically, not made explicit in most ranking systems, which continue to highlight the roles of specific disciplines and departments.

We also became much more aware around this time of parallel efforts by our colleagues in Japan, Korea, and Taiwan, and they of ours. The founding of the East Asian STS Network around 2000 and the journal *East Asian Science, Technology and Society* in 2007 created a pan-Asian community that we were grateful to be invited into and that broadened us for the contact. We became aware through these initiatives that STS, which had been founded in Europe and North America more than thirty years before, was experiencing a second birth across twenty-first-century Asia, and we began to place ourselves in that frame. We also realized we were well placed geographically to reach out as well to STS colleagues in South Asia and Australasia, creating a meeting ground between three compass points. In fact, the ARI STS cluster was kicked off in 2009 with a conference largely organized and brought to us from Sydney by our colleague Warwick Anderson. The resulting conference volume, a double issue of *EASTS*, would announce to the world that STS had a new center in Southeast Asia (Anderson 2009).

The founding of the Asia-Pacific STS Network around the same time, originating in Australasia but with a growing regional representation, also increased Singapore's centeredness within the geography of STS scholars on our side of the planet. This was made actual by the appointment of our colleague Jerome Whittington as Asia-Pacific STS Network convener and NUS's hosting of its biannual conference in 2014.

Our growth as an ARI cluster continued under the directorship of the historian Prasenjit Duara and more recently under the geographer Jonathan Rigg. The cluster

⁶ Connor and Margaret would go on to become founding directors of Tembusu College.

continues to support research on medicine but has branched out to include disaster STS (the subject of our second large grant), Internet studies, infrastructure and the Anthropocene, the philosophy of technology, and other subfields driven largely by the interests of our younger members.

4 STS as an Undergraduate Curriculum

Even as NUS and the other Singaporean universities have increasingly become centers for research, they have, unlike their counterparts in some countries, refused to neglect undergraduate teaching. As we built STS as a Singapore-based research field, we thus put as much energy into making it an undergraduate teaching curriculum. While staffing up with younger STS scholars and forging them into a research community with the help of grants, we simultaneously established an STS minor that linked the various courses they were teaching in different departments. In a burst of ambition a few years later, we also established a joint PhD program with our STS counterparts at Edinburgh University, using some of our grant money to fund the initial exchange scholarship. Francesca Bray, Steve Sturdy, Jane Calvert, and the late Stewart Russell were our major collaborators in this venture. Liz P. Y. Chee became the first graduate of this program in 2016—indeed, the first NUS degree holder with doctoral training in STS.

The boldest step in this direction, however, came with the founding of an STS-themed residential college in 2010, named Tembusu College after a Singaporean heritage tree.⁷ Our patrons at this juncture were NUS provost Tan Eng Chye, and again Tan Tai Yong, now serving as vice provost for student life. Their larger mission, of which we were a part, was to found what would ultimately be five residential colleges with their own unique characters and curricula. STS, we successfully argued, was tailor-made to serve as the curriculum and organizing principle at a teaching college enrolling students from every department and faculty in the university. This resulted in another hiring campaign, this time attracting colleagues who could creatively craft an undergraduate curriculum themed around STS subjects and methods.⁸

We decided not to use the acronym *STS* to describe our program to incoming freshman, however, as this still has little understanding or currency outside the university. But courses such as Biomedicine and Singapore Society, Climate Change, Time and Life, Poetry and Science, the Darwinian Revolution, and others dealing with intelligence, truth and evidence, Singapore as a model city, green politics, species conservation, crime scene investigation, mortality and the Internet, social responses to radiation, and so on, have delivered STS-themed lessons to a highly diverse undergraduate audience in innovative and popular ways. We have also been able to attract prominent STS scholars such as Kim Dong-Won and Mike Fischer as visiting lecturers

⁷ For a fuller discussion of the founding and rationale of Tembusu College, see [Clancey 2017](#).

⁸ Many members of the current fellowship were recruited directly from our Asian Biopoleis grant project, which illustrates how a research project can creatively be used to seed undergraduate education. These include Tembusu College directors Catelijne Coopmans, Connor Graham, and Margaret Tan and fellows Sorelle Henricus, Shamraz Anver, and Liz P. Y. Chee, as well as associate fellows John Phillips and Axel Gelfert.

thanks to the college's Ngee Ann Kongsi Distinguished Visiting Professorship. Tembusu has also been a close partner of the STS Cluster at ARI and the other, original STS Cluster of the Faculty of Arts and Social Sciences. The university's STS community is now linked across all three units, whose various missions complement one another even while remaining distinct.⁹ The recent launches of an STS seminar series under Connor Graham and a Digital Cultures Reading Group under Itty Abraham are among the vehicles we've used to keep our community together and also invite others in.

5 The Future of STS in Singapore

The STS community in Singapore has grown since its beginnings at NUS to now include scholars at NTU and our newest university, the Singapore University of Technology and Design. We maintain an island-wide mailing list and regularly participate in one another's projects and functions. NTU colleagues mounted their first international STS conference in 2013, with Wiebe Bijker as keynote speaker, and have since maintained an active schedule of events. In 2016, members from all three universities (and the Yale-NUS College, which is an autonomous college within NUS) were part of the local organizing committee for the annual conference of the Society for the History of Technology, which took place that year on the NUS campus. The success of the 2011 Society for the Social Study of Science Conference in Tokyo emboldened us to host this similarly ambitious event, which drew more than 450 delegates to Singapore from over forty countries. Both practically and symbolically, this realized a goal we'd been working toward since 2006: making Singapore an essential node within the global STS network, an important research partner and meeting ground, in Asia, for our colleagues in the region and around the world.

For historical and structural reasons, however, Singapore remains different in some respects from other STS centers, and will likely remain so. STS communities in many places have been built around graduate programs, and in some instances on national scholarly societies that even transcend university campuses. Other than NUS's joint PhD program with Edinburgh, Singapore has not chosen to found dedicated STS graduate programs, and even the Edinburgh-NUS program may be in the process of widening to include other fields, thus blurring its original focus. There also is a sense among some that interdisciplinary as an ideal has progressed so far since the early 2000s that programs as venerable and broad as STS should naturally attenuate, or even fragment. Health studies, digital cultures, disaster studies, and other such projects that are partly inside and partly outside the big tent of STS in Singapore may develop enough momentum to pitch tents of their own. In that model, STS would end up serving more as an incubator than a container, let alone a scholarly community.

There are compelling reasons, however, to keep the brand of STS current in Singapore and elsewhere in Asia, not least because of its important theoretical underpinnings,

⁹ The college structure has also allowed us to bridge the "two cultures" divide by recruiting faculty from STEM departments to help teach STS-themed modules, including the mathematician Tay Yong Chiang, the medical researchers Lina Lim and Prakash Hande, and the engineer Kuan Yee Han. The prominent historian of science John van Wyhe presents a unique case, having a joint appointment at Tembusu and the Department of Biological Sciences as well as an associate fellowship at ARI.

its mature (and still burgeoning) literature, and the breadth and depth of its institution-ization globally. The nascent STS network in Asia has been extremely productive of research, and many of its projects, including our own, could not have taken place without the transnational support that this extended community provides. Community—an essential but greatly underrated element in research planning and execution—is what stands to be lost if our field fragments into specific, discrete projects contained largely within single departments or disciplines. Strengthening and cultivating the regional and global network of STS in an age of increasing nationalism is a project worth fighting for in our respective countries, and in the pages of this journal.

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