

# Mathematics Beyond Secrecy and Surveillance

## The Just Mathematics Collective

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As explained below, the relationship between the mathematics community and intelligence agencies like the NSA is **not acceptable**. You can **take action** by:

- **Co-signing this statement** here: <https://form.jotform.com/210973783727063>. You will have the opportunity to **pledge to** (1) **avoid collaborating with the NSA**, for example by refusing to review grant applications; (2) **refuse to participate in NSA recruitment efforts**; and (3) **refuse to write recommendation letters** for NSA or NSA-related jobs, research opportunities, etc. ([How to fairly refuse to write letters.](#)) You can choose any subset of these pledges.
- **Sending an email** to the American Mathematical Society asking for transparency about the relationship between the AMS and the NSA. Suggested text and addresses: [https://www.justmathematicscollective.net/NSA\\_AMS\\_email.html](https://www.justmathematicscollective.net/NSA_AMS_email.html)

The National Security Agency is likely the largest single employer of mathematicians in the United States<sup>1</sup>. Serious ethical and political questions abound at the interface between mathematical/scientific work and other human endeavors; working for or seeking the support of an intelligence agency makes such questions especially glaring and urgent.

Despite this, and notwithstanding some public discussion<sup>2,3</sup> among mathematicians about NSA surveillance, and considerable academic attention to mathematical ethics<sup>4</sup>, we have not systematically answered the questions raised by our relationship with the NSA. We urge vigorous collective action to find and implement these answers.

We know of principled *individuals* whose disapproval of mass surveillance has inspired *individual* actions in protest of mathematical complicity with intelligence agency activities (e.g. refusing speaking engagements). We think such actions are laudable and important, but *collective* action is needed in order to truly make structural changes.

### **It is time to confront our community's entanglements with intelligence agencies.**

In this document we argue that mathematicians collectively and individually should sever ties with intelligence agencies. We discuss the professional ties that do exist, and we propose concrete actions and ways in which *any* mathematically trained scientist can help the community to move forward. We must act compassionately to include those among us who are uncomfortably enmeshed in the mathematical surveillance state by the necessity of professional survival, but we must not compromise with the institutional actors whose rationalizations bolster the present unacceptable state of affairs. These actors include: university administrations that prioritize bottom lines over human life; cowardly professional societies that, on the one hand, avoid taking stances that would be seen as outwardly political from the status quo perspective, but on the other, actively create the status quo by making the *deeply political choice* to grant security agencies access to space for advertising and recruitment; and war profiteers and the hawkish politicians whom they pressure to legislate on their behalf.

## Against the NSA and the security state

Following each historical revelation<sup>5</sup> about the scope of mass surveillance by the state security apparatuses of the US and other governments, there has been significant public expression of discontent, including within mathematics, most notably after the revelations by Edward Snowden of PRISM and other programs.

Much of the objection to the NSA mass surveillance programs<sup>6</sup> fueled by the Snowden revelations focused on violations of civil liberties and the lack of robust democratic oversight. For example, obvious but strong arguments were made about the violation of individual privacy, the chilling effect of mass surveillance on freedom of political expression, and the nexus between signals intelligence and law enforcement<sup>7</sup>.

We concur with those criticisms, but we believe there is a **more fundamental case to be made against the security state itself**, and that a real mathematics *community* would use its collective power to dismantle the military-industrial-academic complex.<sup>8</sup> We focus on the NSA as one of the tentacles of the security state most obviously wrapped around mathematics, in the interest of choosing somewhere to start. However, many of the reasons why the mathematics community should figure out how to divest from the NSA generalize<sup>9</sup>.

### “National Security”

The phrase “national security” is a propaganda term. The narrative of a populace under threat from shadowy terrorist groups and malicious foreign actors has been carefully constructed and is continually invoked by the state. The term’s usage manufactures public consent for a complex and opaque bureaucracy whose role in actual reality<sup>10</sup> has nothing to do with safety or security.

Given the activities justified using phrases like “national security” and “national defense”, it is uncontroversial that people who favor these phrases consider violence a valid political tool. Thus, in spite of those in power referring to the militaries they command as “peace- and freedom-loving”<sup>11</sup> and the targets of those militaries as uniquely barbaric, the mere use of violence does not distinguish between “national security” and “terrorism”. Not only is the line between the two concepts blurry and ill-defined, but the authority and mandate of the former relies heavily on conjuring fear of the latter. In short, the term “national security” grants legitimacy to unaccountable state power on a dishonest and inconsistent basis.

The word “terrorism” flattens the phenomenon of political violence by collapsing ideological, moral, and material circumstances and focusing on methodology only. A non-propagandistic argument that violence is sometimes on the menu of valid political tactics (again, a proposition to which a user of the phrase “national security” is committed, given the real-world practices that the term justifies) would not oversimplify things in this way. It would not situate, say, the recent attack on the US Capitol (which the JMC has condemned<sup>12</sup>) in the same category as, say, the many armed struggles against imperialism whose participants were and are labelled terrorists.

In actual reality, political violence is sometimes the only recourse of the oppressed, and also a primary tool of the oppressor, and it matters who is who<sup>13</sup>. Given the terrible consequences of violence and war, an honest argument that violence is sometimes a justifiable political tool must consider the power dynamics and complex realities of a given situation, and evaluate actions accordingly.

The framing of “terrorism” and “national security” does not do that. Instead, it asks us to accept that a broad and ill-defined category of political violence is illegitimate, but state violence --- military intervention and policing --- is justified by the need to provide “safety” to a polity with little say in the matter. Users of the concept “national security” are not responding to the actual major threats to public safety: ecological devastation, inadequate healthcare and housing, systematic patriarchal and racist oppression, capitalist exploitation, etc. Instead, “national security” is a thin justification for the unimpeded exercise of power, ignoring the communities and people most devastated by the brutality of all of this “safety”.

### Intelligence, policing, and their common oppressive role

We have summarized in earlier work<sup>14</sup> the purpose of the police, in particular their role in maintaining unjust hierarchies of racial and economic power through the use of coercion and violence. The state security and intelligence agencies, and the NSA in particular, have an analogous role, except on a wider variety of scales:

- **They serve an imperial and hegemonic purpose.** We will not rehearse the hopefully well-known list of historical examples that support this claim, but the common thread is the assertion of coercive power in the name of the US “national interest”, with no recourse for those on the receiving end. Surveillance, in particular by the NSA, is an essential part of this oppressive program.
- **They are used to suppress political efforts of oppressed people, in the US and around the world.** This applies both to the active involvement of agencies like the FBI in (for just one example) suppressing Black Lives Matter protests in Operation Iron Fist<sup>15</sup> or the CIA in destabilising numerous democratically-elected governments deemed unfriendly to “US interests”. It also applies to the culture of silence<sup>16</sup> engendered by NSA mass surveillance.
- **They bolster the same racist hierarchies that the police do.** For example, the Snowden revelations showed that prominent Muslim Americans were targeted for surveillance despite lack of any legitimate basis for suspicion<sup>17</sup>. A major role of policing is the maintenance of an unjust and white supremacist social and economic order, in which a handful of oligarchs control the lives of millions of Black, Brown, and poor white people. Security forces and the militaries of powerful countries play an analogous role on the geopolitical scale.

We emphasize that security agencies are not only analogous to police, but that they also have concrete relationships with police forces in a way that strengthens the latter’s hold over local communities<sup>18</sup>. Just as the JMC does not take the institution of policing for granted and assume that it will and must exist for all time, we also do not assume the NSA and similar agencies are a necessary part of society and that our only power as mathematicians is to decide how we will engage with them. Instead, we are interested in working actively to dismantle them! Such work can not be carried out if we decide upfront that abolishing the security state is impossible.

### **Intelligence work is corrosive to the mathematical endeavor**

If someone tried to argue that the NSA was somehow “good” for the mathematics community – measured by money, professional opportunities, or whatever else – they would first of all have to define “the mathematics community”. Any definition that would support the arguer’s claim would necessarily exclude the millions of victims of American bombing campaigns, or the countless people worldwide who are forced – thanks in large part to clandestine campaigns waged by American security agencies – to labor under dangerous working conditions for less than poverty wages. There can be no argument that the NSA is “good” for mathematics without completely throwing under the bus anyone for whom being part of a notional “mathematics community” is out of the question due to outrageously oppressive circumstances, including those exacerbated by security agencies. So we refer to the “mathematics community” only as a shorthand, mindful of the almost inescapably exclusionary nature of the concept.<sup>19</sup>

With this in mind, here are two ways that intelligence work is detrimental to the collective practice of mathematics.

First, jobs that require a security clearance often discriminate on the basis of nationality (and sometimes even on the nationality of an applicant’s collaborators and associates). The supply of mathematical research jobs is outstripped by demand. If some of those jobs are restricted to applicants of certain nationalities, then access to participation in the mathematics community is rationed on a discriminatory basis. Impediments to community inclusivity are bad for mathematics and people who do it, so the mathematics community would do well to organize politically to increase the supply of mathematics jobs that are open to *all* mathematicians. This effort must include agitation for sources of public funding to replace employment requiring security clearances.

Second, the mathematics community depends on the unimpeded and timely exchange of information. Mathematics is

vast and complex, so we have many mechanisms for this: papers, conference talks, informal correspondence, etc. Mathematical progress consists not only of the introduction of new ideas but of their digestion, clarification, and compression, and this relies on the results of mathematical research being disseminated. Many will be aware of the collective effort to break the grip of the publishing cartels, with the Elsevier boycott and “Open Access” efforts. This effort was justified in terms of the need for free exchange of knowledge<sup>20</sup>. Similar motivations hopefully underlie our methods of circulating preprints, most notably the ArXiv.

Perhaps you know a mathematician who does officially secret work – “I do mathematics research, but I can’t tell you more about it”.<sup>21</sup> That research, likely of interest to the broader mathematics community, is being hoarded by the security state to the detriment of the rest of us. The justification is thin, because the cost of keeping research secret is clear (by the usual arguments for free exchange of knowledge), while the supposed benefit rests on the propaganda concept “national security.” Even in a situation where there is a “real” reason to keep specific work secret, the details of that reason are also secret, i.e. we are expected to accept a situation that affects us without examining the rationale.

When the authors have questioned senior mathematicians who oversee secret work, the response has been that “we [the organisation doing classified research] are just a couple years ahead anyway,” and that the secret research will be duplicated in due time by others’ “public” work. The function of this claim is to minimize the problem. We were told that the secrecy is justified because of “national security” concerns.

We acknowledge that there is a coherent argument here, along the lines of: “National security demands a lag in capability between the government and the people, but this doesn’t necessarily mean that the people’s knowledge is compromised; they will just always be partially in the dark about what is known. This is not so different from the usual state of affairs in research anyway.”

There are various problems with this argument. First, it relies on the assumption that, typically, the “public” mathematics community will eventually duplicate the work of the “secret” one. The reality is that the exchange of knowledge could well be largely one-way, since there is no reliable way to know how comprehensively research is eventually declassified. This part of the argument is a dressed-up version of “believe us”.

Second, the idea that classifying research is not so different from other forms of uneven flow of information in mathematics (e.g. the habit of not publicizing, or being cagey about incomplete work, or mathematicians being selective about what work they publicize) frankly saddens us. For one, the comparison fails to account for the imperialist and authoritarian functions of security agencies. When the security state classifies mathematical research, the broader community loses out (at least for a time) not only on the first order knowledge of the mathematics itself, but also on the second order knowledge that militaristic forces believe the mathematics can be used for violent, coercive, or deceitful purposes<sup>22</sup>. Even if the community manages to reproduce the underlying theory, it is still deprived of contextual knowledge that would be crucial to any ethical practice of mathematics. When we know that a certain mathematical technology is being used for nefarious purposes, we can be in a position to make important political and ethical choices about how to frame our own work on the topic, and whether to even engage in that work at all.<sup>23</sup>

Moreover, we are disappointed by the implication that since imbalances of power in how knowledge is shared abound in the mathematics community anyway, we shouldn’t consider the unilateral secrecy of the security state to be an especially serious problem. When the bar is already far too low, we can not be satisfied with institutions that only just meet it. And to reiterate: the sort of secrecy with which security agencies approach research does *not* meet even the shamefully low bar-- characterized by exorbitant pay walls, inequitable distribution of funding, widespread exploitation of graduate students and junior faculty, etc.-- set by the status quo. The JMC deeply desires a mathematical culture in which the norms for sharing knowledge are negotiated in a genuinely democratic way, and we feel sorry for those of our colleagues who have apparently given up on this vision<sup>24</sup>.

## Mathematicians and the NSA

How is the mathematics community **complicit** in the activities of the NSA? We have mentioned the fact that the NSA is a large employer of mathematicians; the same is true of many private companies contracted to carry out intelligence work.

Beyond direct employment of mathematicians, the NSA funds a large amount of mathematical activity. This is via grants, funding of conferences, REUs, etc.<sup>25</sup> It is at first glance not obvious what the NSA gains from some of its support for mathematics, since NSA-funded mathematicians seem often to have the same freedom to pursue their own research as, say, NSF-funded mathematicians. Despite the known utility of certain parts of, say, number theory or discrete mathematics in signals intelligence/cryptography, it cannot possibly be the case that the NSA is simply funding large amounts of pure mathematics because the resulting expansion of collective knowledge is likely to benefit its activities directly.

We suggest that the NSA is motivated by the need to maintain good relations with the “mathematics community”<sup>26,27</sup>. The NSA supports mathematics broadly because a broad, active research community provides a wellspring of expertise on which the NSA can draw when required<sup>28</sup>. They need a large, well-trained labor pool, so it makes sense for them to support PhD-level mathematical training, which in turn means supporting a broad range of (potentially “irrelevant”) research.

Moreover, it would be seriously detrimental to the NSA’s functioning if the attitude of the mathematics community towards intelligence work was broadly suspicious, and if mathematicians typically took steps to avoid supporting intelligence agency work<sup>29</sup>. At the same time, as in most basic research, funding for mathematics research is often in short supply, and mathematicians may be willing to relax ethical standards when research support is on the line. It seems that the NSA understands this, and its considerable largesse should be understood as a tactic to maintain good relations with the mathematics community. **We emphasize that mathematicians availing themselves of NSA support, although not working for the NSA directly, are complicit in this reputation-laundering.**

In particular, and not unlike many other oppressive institutions, the NSA intentionally seeks out “diverse” job candidates and grant recipients as part of a tokenizing smokescreen.<sup>30</sup> Anecdotally, the JMC knows of many Black and Brown mathematicians whose work is at least partially supported by the NSA and other security agencies. Considering the reality in which *genuinely* supportive opportunities for nonwhite mathematicians --- ones for which people do not have to offer up the propagandistic use of their identity for professional survival<sup>31</sup> --- are so incredibly rare, we find this very unsurprising. A **senior mathematician** who, on ethical grounds, thumbs their nose at NSA related grants, but who also exerts little to no effort to create space *and secure material resources* for nonwhite mathematicians, is **very much a part of the problem**. This is especially true of officials in professional societies who interface with funding agencies and Congress supposedly on behalf of “all” mathematicians.

The JMC is well aware of the sordid history of racist, patronizing claims in American politics that Black and Brown people do not know what is best for them and that they are simply being manipulated by forces larger and greater. We therefore want to emphasize that *anyone* who chooses to accept funding from the NSA has agency and has chosen to exert that agency, just as the Black and Brown members of the JMC have chosen to exert *their* agency in preparing this document and launching this campaign. At the same time, the constraints on real-world choices in the mathematics

community can and do differ from person to person in a way that tracks race, gender, and other markers of identity very closely. And, the NSA undeniably enjoys specific reputational benefits from employing and supporting Black and Brown mathematicians, namely the public relations benefit of “diversity”.

**Our professional societies** also have a symbiotic relationship with the intelligence agencies and the NSA in particular. This takes some obvious concrete forms, like the NSA recruitment activities at the Joint Mathematics Meetings and the NSA (and allied organisations, e.g. the Institute for Defense Analyses<sup>32</sup>) job advertisements on MathJobs and in AMS periodicals<sup>33</sup>, or the AMS’s role in reviewing NSA grant proposals.

It also potentially takes some subtler forms. For example, as part of its claim to “speak for mathematics”, **the AMS** has a responsibility to represent mathematics to federal decision-makers when research funding is being allocated<sup>34</sup>. The relationship between the mathematical and intelligence communities would seem to make this job much easier – our “lobbyists” can point to the “national security” relevance of mathematical work and nurture our status as a valued part of the military-industrial complex. By compromising in this way, they can bring us (their “constituents”) an “easy win”. It works out well for all parties provided we ignore those spied on, brutalized, or silenced by the intelligence agencies and the imperial order they support.<sup>35</sup>

### **What is a mathematician to make of all this?**

The cultural reflexes that tend to limit the attention given to ethical and political questions by mathematicians and scientists have been discussed extensively elsewhere<sup>36</sup>, but in summary: individualism in the scientific community – fertilized by the precarity of academic survival – makes it very easy for the mathematician to conceive of their role in the community mainly through the lens of the problems they personally work on, the theorems they personally prove, the papers they personally write, etc.

For ethical purposes, this viewpoint is inadequate because the serious questions that face the community are more than the sum of the often seemingly easily-dismissed questions that face individual mathematicians about their particular work. Diffusion of responsibility grants plausible moral deniability. Thus we are in a situation where, on one hand:

- the mathematical community as a whole is deeply complicit in maintaining the power of the security state – both through direct mathematical work with organisations like the NSA, and through whatever of the NSA’s goals is advanced by their extensive funding of apparently irrelevant research (at the very least, the goal of maintaining good relations with the mathematics community), and on the other hand,
- most individual mathematicians, even perhaps some of those *directly employed by the NSA* can plausibly argue that their work has nothing to do with mass surveillance and other abuses<sup>37</sup>, and their ethical discomfort is therefore too abstract to counterbalance material or careerist pressures.

However, we are not atomized mathematicians. We are members of a complex, organic community, each responsible for the health, functioning, and continual growth of that community. Mathematicians have the same social responsibilities as everyone else. It is incumbent upon us to create a mathematics that works for human liberation rather than oppression and destruction.

### **A Call for Resistance**

Recognizing the depth of our entanglement with the security state, resistance in the mathematics community will need to take many forms. We must deal sensitively and inclusively with the reality that many mathematicians early in their careers are faced with few options beyond work benefiting intelligence agencies, regardless of their personal feelings about it. But we must not cede any ground to institutional logic that justifies our relationship with the NSA in terms of financial need; instead, we must call upon our

professional societies to lobby for public funding of mathematics using arguments that present mathematics as part of a cultural commons and a potential force for progress and liberation, replacing arguments predicated on the same sort of “national security” propaganda with which the police state justifies itself.

An NSA publication<sup>38</sup> contains a report by David Harris on the 1987 JMM. Harris says “...academic mathematicians are generally not very friendly to government or to DoD, though many think that they should get support through the National Science Foundation almost as a matter of right.”

We feel strongly that the mathematics community should lean right into such accusations, and **our professional societies should be making strong arguments to Congress for an increase in NSF funds allocated to mathematics research activities and a corresponding decrease in military research funding.**

**As an essential part of making these arguments, we must put our money where our mouth is in terms of funding for programs supporting Black, Brown, and Indigenous mathematicians so that ethical participation in the mathematical endeavor is not simply one more burden forced onto BIPOC community members.**

Abolish the surveillance state!

## **Action steps**

Immediate actions you can take are listed at the beginning of this document. We elaborate here.

Meaningfully disentangling the mathematical community from the NSA, and from the security state in general, will require sustained organizing and collective action. While there are many possible actions to consider, we suggest an initial frame of **targeting NSA recruitment and researching mathematical-NSA ties as a step to identify and focus further action**, as well as **forcing our institutions to articulate concretely how they relate to the security state.**

As the NSA relies heavily on recruitment of mathematicians, actions or strategies to oppose the recruitment of mathematicians by the NSA can have a potentially major impact by disrupting mathematical-NSA relationships before they begin. On an individual level, possibilities include refusing participation in NSA recruitment events and [withholding writing letters](#) for NSA programs.

While the precise nature of the relationship our departments, universities, and professional organizations have with the NSA is often obscured, we should interrogate these relationships; organizing to force institutions to reveal this information can highlight the importance of just ethical guidelines in mathematics and provide useful information for more targeted collective actions. The American Mathematical Society’s

[ethical guidelines document](#), for instance, promotes the “unrestricted dissemination” of mathematical research while failing to recognize the responsibility of mathematicians to avoid causing harm or to present ethical guidelines for the AMS’s own relationships with governmental entities. We urge mathematicians to call on the AMS to publicly explain its involvement in NSA recruitment and how the AMS benefits from this relationship, and you can be a part of this campaign by using the **email script** [here](#).

## Endnotes

1. *The Inside Scoop on Mathematics at the NSA*. Michelle Wagner. *Math Horizons* (13:4), 2006.
2. For example: Alexander Beilinson’s 2013 letter to the AMS Notices: <https://www.ams.org/notices/201311/rnoti-p1432.pdf>, subsequent discussion within the Notices: <https://www.ams.org/notices/201406/rnoti-p623.pdf>, and Tom Leinster’s LMS Newsletter letter on collaboration with GCHQ: [https://www.maths.ed.ac.uk/~tl/LMS\\_newsletter\\_April\\_2014.pdf](https://www.maths.ed.ac.uk/~tl/LMS_newsletter_April_2014.pdf).
3. And much more widespread individual discomfort.
4. For examples, see the extensive list of references from the Cambridge University Ethics in Mathematics Project: <https://www.ethics.maths.cam.ac.uk/publications/>.
5. There have been many: the Citizens’ Commission to Investigate the FBI, the revelations about NSA wiretapping by AT&T employee Mark Klein, disclosures by NSA whistleblowers like Thomas Drake and Edward Snowden, etc.
6. Carried out in collaboration with the corresponding agencies in the other Five Eyes countries, along with Germany, the Netherlands, and Sweden, and major private-sector actors like Google, Facebook, and Verizon.
7. A summary from the Electronic Frontier Foundation: <https://www.eff.org/deeplinks/2014/05/how-nsa-transforming-law-enforcement>.
8. The security state is part of a broader economic network that involves academia as a major node. See e.g. Henry Giroux’s *The University in Chains: Confronting the Military-Industrial-Academic Complex*. See also the numerous lucrative partnerships between the private tech world --- which, as a major recruiter of science PhDs, is itself highly enmeshed with academia-- and national surveillance, e.g.: <https://theintercept.com/2017/02/22/how-peter-thiels-palantir-helped-the-nsa-spy-on-the-whole-world/>.
9. For example, some of the arguments apply to other intelligence agencies, and many of them apply to the NSA’s international counterparts (both those that work in close partnership with US intelligence and those that don’t). We also want to make sure to explicitly mention the many private firms and non-profits who work closely with the NSA, such as the Institute for Defense Analyses (IDA) and in particular, the Center for Communications Research (CCR) which employs over 70 mathematicians and computer scientists.
10. As opposed to its stated purpose, or even its intended purpose (to the extent that “intent” even makes sense in the context of institutions). The purpose of a system is whatever it does.
11. A phrase invoked often by George W. Bush in reference to anyone construed as being on the American side of the “global war on terror”.
12. See here: <https://www.justmathematicscollective.net/jmcsoca.html>.
13. Even “nonviolent” resistance of oppression is more complicated than is sometimes portrayed in liberal histories, often because the resistance relied on the ability of participants to present a credible coercive threat to power (even if not the threat of physical force), or because those resisting nonviolently did so in parallel to more militant resistance and were thus able to occupy a “center” that only existed relative to the “violent extreme”. So the idea that there is “well-behaved” legitimate activism, entirely separate from “illegitimate” activism (parts of which are labelled “terrorism” by voices across the mainstream political spectrum) is

ahistorical and divorced from any reality-based theory of change and power.

14. *Toward a Mathematics Beyond Police and Prisons*, The Just Mathematics Collective, [https://www.justmathematicscollective.net/JMC\\_response\\_to\\_notices.html](https://www.justmathematicscollective.net/JMC_response_to_notices.html).

15. Michael German. *The FBI Targets a New Generation of Black Activists*. <https://www.brennancenter.org/our-work/analysis-opinion/fbi-targets-new-generation-black-activists>

16. Kaveh Waddell. *How Surveillance Stifles Dissent on the Internet*. <https://www.theatlantic.com/technology/archive/2016/04/how-surveillance-mutes-dissent-on-the-internet/476955/>

17. Arun Kundnani and Deepa Kumar. *Race, Surveillance, and Empire*. <https://isreview.org/issue/96/race-surveillance-and-empire>

18. We again direct the reader to the EFF piece: <https://www.eff.org/deeplinks/2014/05/how-nsa-transforming-law-enforcement>

19. We are reminded of the words of Stephen Jay Gould: "I am, somehow, less interested in the weight and convolutions of Einstein's brain than in the near certainty that people of equal talent have lived and died in cotton fields and sweatshops."

20. Including making the literature available to people without access to resources made available by wealthy institutions.

21. One of the authors of this document reports on a Joint Mathematics Meetings session in which the NSA gives this as a selling point for working there. Among the "top ten reasons to work at NSA", number 1 was "You'll never turn a Happy Hour into a Sad Hour by talking about work!" The speaker went on to explain how they can't take work home and they can't complain about work to their friends --- and isn't that great?

22. Or for some application which would be positive or liberatory in the hands of the people, but which becomes oppressive in the hands of the security state. One has to be very careful with the notion that technical tools are value-neutral, but it is the case that a given technical tool can have oppressive or liberatory functions according to who is using it. Certainly the implementation of cryptographic algorithms is of this nature, which suggests that the theoretical work it rests on is, too.

23. See for example Federico Ardila's recent paper which frames pure mathematical results that may have applications to robotics, alongside the use of robotics in policing: <https://www.ams.org/journals/notices/202007/rnoti-p977.pdf>.

24. A mathematician not employed by an intelligence agency or related institution may wish to avoid working on projects that they suspect might support (in some mysterious ways), say, ethically unacceptable NSA activities. Secrecy means they cannot make this decision in an informed way. The common practice at intelligence agency-supported research institutes of allowing employees to pursue research of their own choosing (for part of their time) injects further uncertainty into everyone else's ethical decision-making by enlarging the range of research topics that are "suspect". This undermines research ethics in the broader community.

25. See <https://www.nsa.gov/what-we-do/research/math-sciences-program/>.

26. William Thurston's 1987 *AMS Notices* letter, *Military Funding in Mathematics* (starting pp. 39 of Issue 253, Volume 34, #1) contains interesting discussion related to this point.

27. As Jade Edenstar Master puts it in *The Lie of "It's Just Math"*: "The DoD's real goal is not just the math you produce, they want to gain access to your mathematical community." See: <https://jadeedenstarmaster.wordpress.com/2020/12/11/the-lie-of-its-just-math/>.

28. From the mouth of an NSA official, as platformed by the AMS: <http://www.ams.org/profession/employment-services/emp-shaker>.

29. One thing one can do immediately is to refuse to write recommendation letters for students applying to such jobs. The Just Mathematics Collective has some advice on doing this fairly and clearly: [https://www.justmathematicscollective.net/letter\\_writing.html](https://www.justmathematicscollective.net/letter_writing.html).

30. See, for example, <https://www.nsa.gov/News-Features/Feature-Stories/Article-View/Article/1999264/nsa-article-innovation->

[and-diversity-we-want-to-see-you-in-honolulu/](#) or <https://icag1.recsolu.com/external/events/eoSkiHyXiXyV5zArw7dsMg>

31. Of course, the entire academy and most universities and colleges engage in this reputation-laundering too, in the sense that BIPOC mathematicians are often exploited to grant cover to their institution by protecting it against claims of exclusivity and racism, while also experiencing pressure not to “be too loud” or “make waves”. But to improve material realities for real people in the real world, we need the ability to focus on particular fights and develop targeted campaigns. In this campaign, we are focused on the NSA and the security state and we can not be waylaid by “whataboutism”. The JMC does not --- and, given the lived experiences of many of its members, in fact *can not* --- ignore the many ways in which BIPOC mathematicians are forced to live fractured mathematical lives. And, at the same time, we can draw distinctions between seeking employment at a neoliberal university, and seeking career advancement through agencies positioned at the tip of the spear of US militarism.

32. On MathJobs: <https://www.mathjobs.org/jobs/IDA>.

33. E.g. from the *AMS Notices*: <https://www.ams.org/journals/notices/201605/moti-p581.pdf>.

34. See <https://www.ams.org/government>.

35. This is perhaps a caricature of the AMS/intelligence agency relationship, but part of what we are asking for is more transparency from the AMS about that relationship and how it benefits the AMS, the mathematics community, and the NSA. It is not easy to find precise details.

36. For example, we highly recommend the discussion in Phillip Rogaway’s article, *The Moral Character of Cryptographic Work* (<https://web.cs.ucdavis.edu/~rogaway/papers/moral-fn.pdf>).

37. Indeed, they may not even have the clearance needed to know exactly how their work is used. This may be especially true for mathematicians employed by private concerns with government contracts. The extra organizational distance can translate into extra perceived ethical distance, especially for mathematicians who do not view those affected by intelligence agency activities as being part of their community.

38. *Cryptolog*, 1<sup>st</sup> Issue, 1987.