

Campus Puritans Come for an Astronomer—And His Byline

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2007 NASA photo of astronomer Geoffrey Marcy

By demanding that morality tests be imposed on scientific journal authorship, Geoff Marcy's critics are creating a dangerous precedent.



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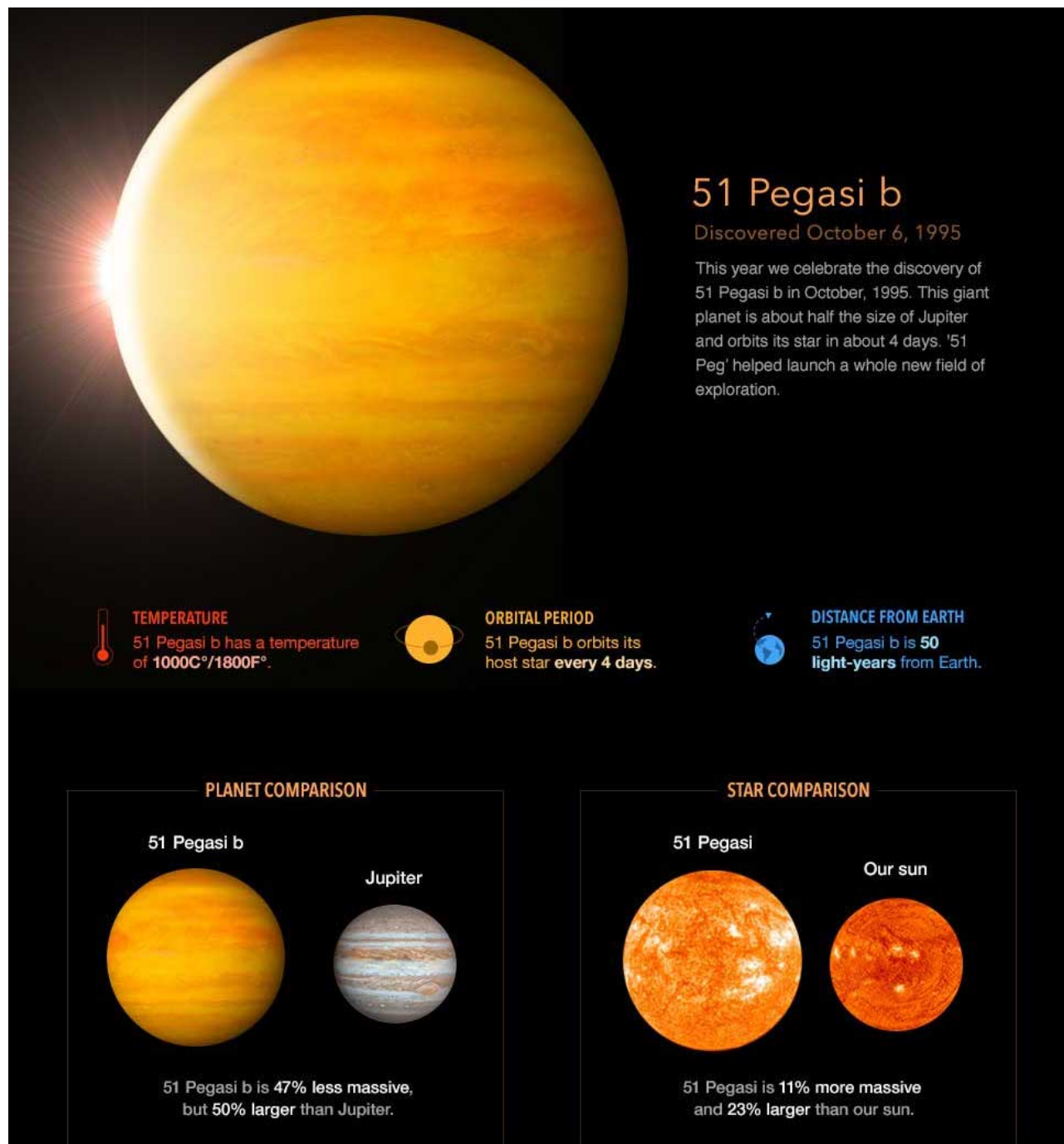
Are we alone in the universe? It's one of the most compelling existential questions facing humanity. And the past half-century has witnessed a revolution in our ability to scan the cosmos in search of an answer. When I was a university student, the possibility of discovering, much less *observing*, planets in other star systems seemed like science fiction. But that has changed. Thanks to orbiting observatories such as the James Webb Space Telescope, and huge ground-based telescopes such as the Keck Observatory in Mauna Kea Hawaii, astronomers could be on the cusp of finding evidence for life around one or more of the thousands of extrasolar planets (also known as exoplanets) that have now been discovered.

And yet, even as new technology allows humanity to peer into distant galaxies and answer profound questions about the universe, some scientists working in this field are being hounded by colleagues more focused on leading terrestrial outrage mobs than finding new discoveries in the heavens.

The existence of planets orbiting other main sequence stars (a category that includes about 90 percent of the stars in the universe) was first demonstrated in 1995, when Swiss astrophysicist Michel Mayor and Swiss astronomer Didier Queloz inferred the existence of a [Jupiter-mass companion of the star 51 Pegasi](#), approximately 50 light years away from our own solar system. They did this by observing cyclic “wobbles” in the star’s path—tiny oscillatory movements whose maximum speed is [about 70 meters per second](#), negligible in astronomical terms. These oscillations reflect the gravitational tug of 51 Pegasi’s planetary companion, which orbits the star once every four days, at a distance far closer than Mercury orbits our Sun.

The discovery was accomplished using a technique that Mayor and Queloz spearheaded in parallel with similar work done by American astronomer [Geoff Marcy](#). Both teams based their observations on the Doppler effect, the well-known phenomenon by which a wave’s apparent frequency will change depending on whether the observer is moving toward, or away from, the radiation source. (It’s similar to the principle that police use to measure your car’s speed with a radar gun.) To the extent that a star’s wobble aligns with the axis of observation, the frequency of its emitted light, as observed on Earth, would also vary, albeit by a minute amount.

The two teams used sensitive spectrometers that could measure such shifts. And within a month of Mayor and Queloz’s observations becoming known, their results were confirmed by Marcy and his own colleagues. Marcy’s team went on to identify 70 of the first 100 known exoplanets, including the first exoplanet located as far from its star as Jupiter is from the Sun. In 2005, Marcy and Mayor [shared the prestigious Shaw Prize](#) in Astronomy, awarded for outstanding contributions in the field.



NASA [infographic](#) on 51 Pegasi b.

Another planet-detecting technique—which I will admit to having previously dismissed as nearly impossible—was uncovered by Marcy’s group, working with Tennessee State University astronomer Greg Henry. Using this method, a planet’s existence is inferred from the fact that its associated star is dimmed (to a terrestrial observer) by a minute amount (less than one part in a thousand) when the planet passes in front of it. This “transit” technique of exoplanetary detection was used by NASA’s 2009 [Kepler Mission](#), of which Marcy was a Science Team member, to discover approximately 4,000 planets. Many of these are the size of our Earth, and would seem to have surface temperatures conducive to biology (as we know it).

By now, we have discovered many systems with multiple planets orbiting a single star. And this naturally invites the question: Is the character of our own solar system, with large giant gas planets (Jupiter, Saturn, and Neptune) orbiting farther out, and smaller rocky planets (Mars, Earth, Venus, and Mercury) orbiting closer in (allowing the surface of at least one of these latter planets, Earth, to be sufficiently warm to host liquid water), a prerequisite for the development of life?

In March, a group of 16 authors—including Marcy; lead author Lauren Weiss, a junior faculty member in the astrophysics group at Notre Dame University, and a former PhD student of Marcy; and Caltech astronomer Andrew Howard, a former postdoctoral researcher who’s worked under Marcy’s direction—posted a paper entitled ‘[The Kepler Giant Planet Search. I: A Decade of Kepler Planet Host Radial Velocities from W. M. Keck Observatory](#)’ to arXiv, an archive for electronic preprints of scientific papers in certain fields. One of the authors’ purposes was to explore how the existence of Jupiter-size outer planets might correlate with the existence of smaller rocky inner planets. (A layperson might ask what the existence of a gas giant such a Jupiter has to do with the emergence of life on a rocky planet much closer to the sun. One answer is that—to take our own solar system as a representative example—Jupiter is believed to have absorbed or deflected large asteroids and comets from the outer solar system that otherwise would have vaporized Earth’s oceans, from which life first emerged.) Here is part of the abstract of that paper:

Despite the importance of Jupiter and Saturn to Earth’s formation and habitability, there has not yet been a comprehensive observational study of how giant exoplanets correlate with the architectural properties of close-in, sub-Neptune sized exoplanets. This is largely because transit surveys are particularly insensitive to planets [whose orbit radius is greater than that of Earth], and so their census of Jupiter-like planets is incomplete, inhibiting our study of the relationship between Jupiter-like planets and the small planets that do transit. To establish the relationship between small and giant planets, we conducted the Kepler Giant Planet Survey (KGPS). Using W. M. Keck Observatory HIRES [High Resolution Echelle Spectrometer], we spent over a decade collecting 2,858 [exoplanets detected using the Doppler wobble method] (2,181 of which are presented here for the first time) of 63 sun-like stars that host 157 transiting planets.

But if you visit arXiv to [read the paper](#) now, you can’t. It’s been withdrawn. Why? Was the data incorrect? Was the analysis conducted improperly? No. The problem was that Geoff Marcy’s name was on it.

Nine years ago, Marcy was [investigated](#) by his then-employer, the University of California, for behaviour that was described as sexual harassment. (You can read his take about the claims [here](#), wherein he describes the infractions as resulting from him treating students as friends, hugging them or kissing them on the forehead if they related personal problems, and so forth.) It is worth adding that during his time at the University of California, Marcy also developed a record of working to

promote a welcoming environment for women in science, advocating progressive university policies, and mentoring many female PhD students who subsequently went on to successful careers.

It is true that a University of California investigator decided in favour of Marcy's complainants, albeit based on a (weak) preponderance-of-the-evidence standard. (And the low levels of due process that typify campus investigations of this type are [well-known](#).) But even so, following the investigation, U.C. Berkeley recommended that Marcy should continue as a full professor, as he'd recently demonstrated five years of more careful behavior, which had elicited no further complaints.

Nevertheless, the online pressure against him became intolerable, and so Marcy eventually chose to leave his position voluntarily, so as to allow his colleagues and the department as a whole to get past the controversy surrounding his continued presence in the department. Grant sponsorship of his research ended, and he was removed from various collaborations. The Nobel Prize was [awarded](#) to Mayor and Queloz in 2019 for their work on exoplanets, but Marcy wasn't included, in spite of the seminal role he and his group had played. In 2021, Marcy was [ejected](#) from the National Academy of Sciences, a shockingly severe response to behaviour that not only wasn't criminal in nature, but which his university hadn't even considered a firing offense. The pattern was clear: The imperatives of academic virtue signaling required individuals and institutions to publicly humiliate Marcy as a means to indicate their own moral bona fides.

Marcy's name had been included in the authorship of 'The Kepler Giant Planet Search' on the basis of his long-standing contributions to the project therein discussed. He helped design, build, and even fund the Doppler system at the Keck Observatory; and he helped write the novel computer algorithm used to distill evidence of stellar wobbles from the background data.

One might imagine that the previous sanctions meted out to Marcy might have been enough. But not so: Once Astronomy Twitter discovered his name on the paper, a wave of outrage manifested itself. Many complained that it was wrong to have such a person's work "promoted" in such a way—as if scientific publications were press releases. The pressure became so great that Weiss, the lead author, withdrew the paper from the arXiv altogether on April 7th, indicating, euphemistically, "It has come to my attention that there are significant concerns about the author list of this manuscript. It is very important to me that I honor everyone's contribution to this work appropriately. Accordingly, I am revisiting the author list, with the goal of setting a standard for authorship that fairly acknowledges everyone's contribution." As of now, the status of the paper is still in limbo.

I have learned that, as a result of the social-media furor, several co-authors had requested their names be removed from the author list. That list included the aforementioned Caltech astronomer and former Marcy-supervised post-doc, Andrew Howard, who, in the style of a Soviet apparatchik announcing that one of his comrades had fallen from favour, publicly assured everyone that Marcy "won't co-author any papers the group publishes going forward." (These remarks were published in a May 16th *Science* [hit piece](#) on Marcy's reputation, whose author appeared to agree with those seeking to bounce Marcy from the author list. The torqued title: "After outcry, disgraced sexual harasser removed from astronomy manuscript.")

A student who co-authored earlier publications as part of the same collaboration—in which Marcy's name had appeared as

co-author—now claims that having Marcy’s name on this new manuscript would be bad for her career. On what basis she made this claim is not clear. As noted above, Lauren Weiss, the lead author, is one of Marcy’s former students. Her name, like Howard’s, has appeared on numerous publications alongside Marcy’s. It appears that their association with the so-called “disgraced sexual harasser” helped, not hurt, their careers.

Another student, whose role on the project was confined to collecting data, complained that the appearance of Marcy’s name on the paper would somehow serve to “promote” Marcy at the expense of the student. Putting aside the respective importance of the contributions being made, the complaint reflects a fundamental misunderstanding of how scientific publication works. These articles are not press releases, and one’s appearance on an author list is not a form of “promotion.” Rather, it is meant to indicate one’s actual intellectual contribution to the design and implementation of a project—a form of recognition the lead author and other co-authors presumably agreed upon before the paper was submitted for publication.

The *Science* article also included a student’s extremely dubious claim that the presence of Marcy’s name on the author list would produce “potential psychological harm.” Specifically: “A lot of people in astronomy, especially a lot of women, are survivors of sexual assault and sexual harassment themselves, so seeing your name next to his—seeing his name at all—can be extremely triggering for a lot of people.” At the risk of appearing insensitive, anyone whose psychological trauma is so severe that it causes them to be emotionally triggered by the sight of someone’s name on a publication is in need of therapy. More importantly, such personal sensitivities should not serve to award individuals with veto power on the appearance of bylines in scientific publications.

Such is the (new) outcry over Marcy that the American Astronomical Society (AAS), a publisher of journals in which his name has appeared frequently, felt compelled to get in on the act. One might imagine that it would stand on the side of proper scholarship, asserting that author credits should reflect project contributions; which is to say that the only grounds for removing an author’s name should be a disclosure to the effect that he or she did not actually contribute to the underlying science, or that he or she was involved in falsifying or distorting data.

Instead, AAS President Kelsey Johnson publicly confirmed that the society’s ethics working group is now considering whether to classify “sexual harassment—and, indeed, all forms of harassment, discrimination, and bullying”—as grounds for restricting authorship. Under this standard, any number of people might have their names stripped from scientific papers, including, ironically, many of those same individuals now demanding that Marcy’s name be removed from ‘The Kepler Giant Planet Search.’ After all, how was lead author Weiss (a *junior* faculty member, it should be remembered) induced to withdraw the paper with its current author list except through mob bullying tactics?

Indeed, one of Marcy’s [SETI](#) collaborators, Nordic Institute of Theoretical Physics researcher Beatriz Villarroel, has filed harassment complaints on this very basis. Recently, she was blocked from presenting at an astrobiology conference at Penn State because of her [collaboration with Marcy](#). She also had to withdraw an application to become an affiliate at the SETI institute in California after being instructed not to publish any papers, or apply for any grants, for a project involving Marcy.

The campaign against not only accused harassers, but also those who are accused of even dealing with accused harassers, including producing good science with them, is beginning to take on the flavour of anti-collaborator campaigns during

wartime. Some organizations are even seeking to encode this mob logic in their formal rules, through codes of conduct that serve to punish those who collaborate with, or even cite the work of, those deemed to have committed harassment or offences against Diversity, Equity, and Inclusion (DEI).

In the current political environment, few are willing to stand against the pitchforks. Two senior female astronomers to whom I sent a draft of this piece for possible comment prior to publication indicated that they agreed with the expressed views, but would not be willing to say so publicly. One stated that she didn't want her students and postdocs to have a supervisor who could be viewed as "guilty by association." Shouldn't the mob mentality that produces this kind of fear be deemed at least as worthy of condemnation by the scientific community?

Even the AAS leadership seems to have recognized the hypocrisy at play here, albeit grudgingly. A 2021 [online note authored by the AAS's then-President](#), University of Washington astronomer Paula Szkody (who herself [co-authored](#) a paper with Marcy in 2012), affirmed that the AAS ethics code states that "all persons who have made significant contributions to a work intended for publication should be offered the opportunity to be listed as authors" (a policy consistent with that of Springer, a major science publisher, which [warns](#) contributors that "it is dishonest to omit an author who has made significant contributions"). But in the same breath, she noted that the AAS anti-harassment policy "allow[s] for the denial of authorship privileges"—a provision that, when implemented, would plainly make nonsense of the idea that "all persons" who'd made "significant contributions to a work intended for publication" would be entitled to appear as listed authors. The two principles, the then-President acknowledged, "could be construed as being in potential conflict." *Could* be?

The slippery slope here is very slippery indeed. In the future, will everyone who writes scientific papers first have to be vouched for by some social-justice tribunal that assesses their moral purity? And if so, using what criteria—and under what statute of limitations?

It has long been seen as a progressive habit of mind to understand that people can change, and that past sins do not inevitably define a human's worth. There are famous examples of scientific papers being written from prison. And the same people baying for Marcy's ongoing humiliation would likely be horrified to see the authorship of such then-incarcerated individuals stricken from the published record. Their puritanism is highly selective, in other words, being guided by the cyclic wobbles (to apply an astronomical metaphor) of political fashion.

Members of the anti-Marcy contingent might peer into their own closets, and remember that there are many ways that one can run afoul of online mobs. In recent years, it has become seen as normal for scientists to be required to put their signature to DEI pledges and anti-racism manifestos as a condition of academic employment. And the broad language in these documents leaves signatories vulnerable to all manner of accusations. Once we accept the principle that a scientist's "significant contributions" to a project stop being significant simply because of his or her alleged moral defects, there is no particular reason to expect that such scrutiny won't be extended to one's political views, social-media posts, and even private conversations and jokes.

As Canadian science historian, Yves Gingras, put it in [a thoughtful article](#) last year, scientists are hardly immune from social panics. The Soviets were fond of judging science based on the politics of the men and women who conducted it, often

denouncing the work of “[bourgeois](#)” scientists, whom they accused of being lackeys to Western imperialists. Google the name “Trofim Lysenko” to learn how that story ended. As Gingras stressed, “The road to hell is paved with good intentions.”

My wife recently reminded me of a quote from Henry Adams, which suggests, I think, an apt lesson to end on: “A teacher affects eternity: he can never tell where his influence stops.” The same principle applies to scientists. Members of the mob that came after Marcy won nothing for themselves but a brief spasm of *schadenfreude*. The consequences of this kind of precedent will last much, much longer.