

'The handsome astronomer and the yelling lady': representing scientists and expertise in *Don't Look Up*

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Abstract

The film *Don't Look Up* engages a woman science advisor, historically a very male-dominated role. Because the character of woman scientist Kate Dibiasky (Jennifer Lawrence) cannot be easily transformed into a commodity, she is side-lined as a scientific voice as she attempts to warn Earth of the coming apocalypse. For marginalised scientists, their value depends on how their identity markers are used. *Don't Look Up* is a satire of audience apathy, corporate greed, and media manipulation but still offers a very nihilistic vision of the impact of scientists and their expertise.

Keywords

Public understanding of science and technology; Science and media; Women in science

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Introduction

According to science/technical advisor Amy Mainzer,¹ *Don't Look Up* was intended to provide insight into the scientific process and "culture of scientists" with a cast and crew of professionals who were "really, deeply interested in science" [Cohen, 2021; Eicher, 2021]. The film is part of an emerging trend in science-based entertainment media that sees women science advisors becoming part of what has historically been a very male-dominated role [Kirby, 2011]. Mainzer joins a recent spate of space advisors: Laura André-Boyet for Claire Denis' *High Life* [2018] and Maggie Aderin-Pocock (the only Black woman scientist I have found advising thus far) for Sky TV's *Intergalactic* [2021, 1 season] in providing scientific expertise that "engages with the complexities of women's experiences in the male-dominated sciences and a world that is designed to accommodate men" [Chambers, 2022, p. 495]. Recognition of the differing experiences of women scientists, especially in

¹Professor Amy Maizner (Lunar and Planetary Lab, University of Arizona) is the principal investigator for NASA's Near-Earth Object Wide-field Infrared Survey Explorer (NEOWISE) and leading the development of the NASA's Near-Earth Object (NEO) Surveyor mission launching 2026.

narratives where a main scientist is a woman, is a valuable development. Reflecting the experience of other women advisors, Mainzer was approached by filmmakers who wanted not only accurate science but to accurately represent the experiences of a woman in STEM [Cohen, 2021].

The yelling lady, or when the scientist is a woman

Don't Look Up opens with the daily routine of red-mullet-haired, multiply pierced, casually dressed astronomy postgraduate researcher Kate Dibiasky (Jennifer Lawrence). Alone in the lab making toast and tea with distorted hip-hop humming from her headphones, she raps along to expletive laden WuTang Clan lyrics. Kate is framed by a clinical lab space that is dotted with personalisations: printed out scientist memes, whiteboard calculations (drawn by MIT researcher Michael Marsset, see: Soffer [2022]), and a Carl Sagan bobblehead. She's logging on and checking in with telescope data when *she discovers* an anomaly that *she identifies* as an Oort Cloud comet: the Dibiasky Comet. This is still a Hollywood star but her solo introduction is a small but effective moment in the movie that exemplifies hashtag movements, including the active [#ThisIsWhatAScientistLooksLike](#), which attempt to “combat stereotypes of STEM professionals through visual imagery” showing the diversity of those lumped together under the lady scientist label [Jarreau et al., 2019, p. 3].² The only other women scientists in the film, however, are the briefly featured lab Ph.D. researcher Nisha (Shimali De Silva), the corrupt, politically-appointed Head of Kennedy Space Centre Jocelyn Calder (Hettienne Park), and the unreliable Princeton/Ivy League scientist Lisa Inez (Dee Nelson). Kate is the most fully developed woman character, in part because of the focus on her development in pre-production by filmmakers and a science advisor who actively tried to avoid traditional tropes [Flicker, 2008] and were keenly aware of the importance of women's representation in narratives of science.

Dibiasky and her academic advisor Randall Mindy (Leonardo DiCaprio) work with data from the Subaru Observatory at the esteemed astronomy department at Michigan State University (MSU).³ This institution in the U.S. state university system was specifically chosen because:

I [director, Adam McKay] wanted to make a joke about the kind of ‘status symbol’ quality of an Ivy League degree, where you see people like George Bush and Jared Kushner, who are total dolts, go to Ivy League schools, or Trump constantly bragging about going to UPenn. Also, state school educations are some of the best educations you can get, and have been for decades. [Graham, 2021].

The elite and infinitely name-droppable Ivy League universities are part of an ongoing joke here on institutional affiliation bias and the myth of meritocracy, but

²The term lady scientist, as explained by the magazine *Lady Science* [n.d.], has been used to pejoratively separate women “from their male counterparts with the added descriptor ‘lady’”. Lady becomes a title that maintains the distinction of woman as other to the norm of the man of science.

³The time lapse imagery of the Subaru Observatory (Maunakea, Hawai'i) shown in the film includes an image of the Keck telescopes with the constellations Pleiades and Taurus. This is symbolic, as the Japanese word Subaru signifies the constellation that the ancient Greeks called the Pleiades. The public misunderstanding of this term — Subaru — is neatly highlighted with a joke where a TV reporter mistakenly assumes that the observatory is part of the Japanese transportation conglomerate Subaru Corporation. This observatory also appeared in *Contact* [Zemeckis, 1997] and *Deep Impact* [Leder, 1998].



Figure 1. Side-by-side images of memes of Randall (DiCaprio) and Kate (Lawrence) produced during their inaugural interview on daytime television show *The Daily Rip*. Randall's meme (L) is an unedited screenshot of his smiling face with the text 'A.I.L.F.: astronomer I'd like to fuck'. Kate's meme (R) is a photoshopped image of her as Sloth from *The Goonies* movie with a sloping eye and eyebrow with rotten/missing teeth.

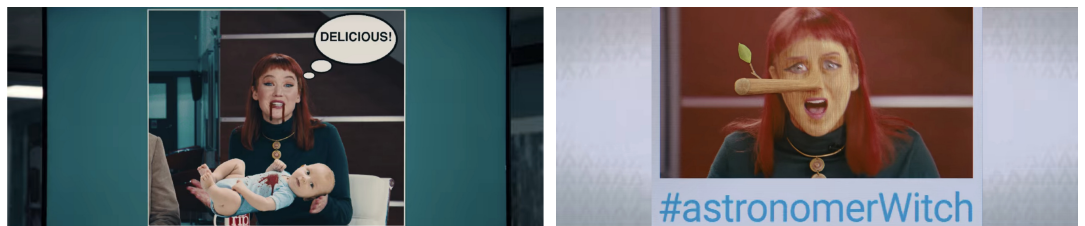


Figure 2. Side-by-side images of memes of Kate (Lawrence) that reference her as a witch. She is seen (L) eating babies (destroying innocence) or (R) as a photoshopped image of her face as Pinocchio (the lying puppet) and labelled as #astronomerWitch.

also the reality for researchers whose institutional affiliation can limit the impact and recognition of their research [Skopec, Issa, Reed & Harris, 2020; Horbach & Halfman, 2018]. The Kellyanne Conway/Marjorie Taylor Green-styled President Janie Orlean (Meryl Streep) asks to get “our scientists on this... some Ivy-leaguers” to verify the data and crudely give her space to weigh up the timing of the release of the news in relation to midterm elections. The astronomers choose to break confidentiality and leak the news to the press, but even once the White House gets on board with the mission to destroy the comet it is only to boost Orlean’s polling numbers and media reputation. Regardless of whether the imminent apocalypse is reported by the White House or leaked to the press, it must be packaged for consumption in a world where science for the public is filtered through social media memes and daytime talk shows.

Randall and Kate are memed *during* their first daytime talk show appearance. Randall is labelled as the #AILF (astronomer I'd like to fuck) whereas Kate is Sloth-Faced (see Figure 1).⁴ The sheer volume and variety of memes and commentaries on Kate present her not only as a failed scientist but also a failed woman: ugly, a baby killer, a witch, mentally unstable, sexually promiscuous, etc... As exemplified in Figure 1, Kate's memetic representations focus on her physiognomy or, as seen in Figure 2, depict her as a witch/deviant woman. Michele White [2021, p. 4] argues that such anti-feminist memes are used to

⁴Sloth-Facing is popular photoshop meme in which the subject's eyes and mouth are altered to resemble the face of *The Goonies* [Donner, 1985] character Sloth Fratelli (John Matuszak). This specific meme of Kate references similar anti-feminist, ableist memes made of climate activist Greta Thunberg where “unevenly spaced eyes and skewed mouths, are used to mock the ways Thunberg looks and talks. These memes correlate the freak with Thunberg as a means of conceptually distorting her speech” [White, 2021, p. 4].

undermine women's expertise in order to "stabilise the position of white heterosexual men and to maintain traditional worldviews" by "coding women and their bodies as aberrations". Even in the face of an impending extinction-level event Kate as a woman scientist is "an aberration" constantly placed in opposition to the more traditional, acceptable and thus sellable Randall Mindy.

It is because Kate Dibiasky cannot be easily transformed into a commodity that she is side-lined as a scientific voice. She comes from the wrong university and the wrong gender and does not fit into the limited frame that women scientists must squish themselves into for public consumption. The character arcs of Dibiasky and Mindy show the considerable power of white male privilege in communicating and recognising scientific expertise [Bird & Rhoton, 2021]. Women scientists are more often "defined through the norms of femininity" [Chambers & Thompson, 2020], with more attention paid to their appearance and likability rather than their knowledge [Chimba & Kitzinger, 2010]. Kate is thankfully never introduced as a "lady scientist", but the senior NASA scientist Teddy Oglethorpe (Rob Morgan) is defined and presented to the public as *the* "African-American scientist". For marginalised scientists — in terms of race, gender, ability, sexuality, and intersections of these — their value is fluid depending on whether their identity markers are used to discredit or fetishise them. When Kate loses her composure in the Oval Office and later again on daytime television she is defined by her gender and unseemly presentation, she is: yelling lady, mullet lady, crazy chick, sweetheart, and a viral set of grotesque anti-feminist memes.

The handsome astronomer: selling science and celebrity expertise

In comparison to Kate's impassioned responses, Randall's panic attacks and emotional outbursts are seen as less of an issue. Randall *is* what Kate is seen to lack: an older, white man scientist. He embodies the "deeply embedded" expectations of what a scientist looks and acts like [O'Keeffe, 2013, p. 18]; Randall is where and from whom the public expect to receive their "science". He receives media training and a stylist who swiftly transitions him from being an unknown professor to the Chief Science Advisor for the Orlean White House, and "America's sexiest scientist". Randall Mindy becomes a "scientific star", no doubt a reference to figures like Anthony Fauci, Chief Medical Advisor to the President during the ongoing Covid-19 pandemic, whose celebrity status became inextricably linked to his scientific authority as a rational communicator of truth and reason [Fahy & Lewenstein, 2021]. Mindy is fashioned into a magazine cover star and appears as the face of the government response to the crisis. He features in a public information film — "Call +1(254)63-COMET for peace of mind" — that launches a hotline to connect members of the public with scientists. Here, experts have been reconstituted as the approachable "friend we all need to lean on during uncertain times" whose main role is soothing public anxieties about a post-comet world rather than asking the difficult but necessary questions. Randall becomes the face of a carefully managed campaign that downplays the severity of the forthcoming apocalypse and crafts a comforting narrative around what happens next.

Mindy falls into the trappings of celebrity that sees him manipulated into being a government mouthpiece. He leaves his wife for an affair with Brie Evantee (Cate Blanchett) the anchor of the light news show *The Daily Rip*, and even takes credit for his woman advisee's discovery. When the government announce the U.S. response to the comet — a highly choreographed nationalistic launch event that

presents the mission and the U.S. as the saviours of the planet — Kate is namechecked by the President as the woman “who the comet is named after, but don’t blame her” whereas Randall is a hero who “will help us destroy our common enemy: Dibiasky”. Of course, the Dibiasky Comet is the enemy, but so is Kate Dibiasky as she consistently presents as a problem to the government and their message. Even as Randall is seduced by sexy scientist stardom, Kate is maintained within the film as a voice of reason. She repeatedly highlights issues with how science is represented and communicated to the public; she is the first to ask about the peer reviewing of the science that is used to underpin the plan B mission to save the Earth by saving the comet.

Politics and peer review: speaking in science and no one is listening

The initial mission plan to nuke the comet is recalled literally at the last minute. The President is pressured by her “Platinum Eagle Level donor” tech-billionaire Peter Isherwood (Mark Rylance) CEO of the multinational technology company BASH to use experimental technology to break up and land the comet on Earth rather than destroying or knocking it off course. Isherwood sells the new plan as a utopian mission for a post-scarcity future where the minerals and resources mined from the comet will be used for technologies that will ultimately end poverty. But research scientists are only part of the BEADS (BASH Explore and Acquire Drones) project as long as they serve the political narrative spun by the White House that protects Isherwood/BASH’s corporate interests.

Scientists’ rejection and reaction against the BEADS project is underreported by the media. Narratively this leads to the next stage in Mindy’s character development as he breaks away from his carefully managed star scientist media personality and returns to being an emotional wreck and overwhelmed scientist. In a live interview on *The Daily Rip* with Brie and her co-host Jack (Tyler Perry), Randall emotionally explains that the majority of the scientists working for Isherwood have been fired or quit and tries to explain that “there has been growing concern within the scientific community” about the project’s lack of thorough independent peer-review. But he is interrupted by Jack who jokes that “if BASH’s stock is any indicator, we don’t have to worry about the peer-review. It is going gangbusters...”. Terms like “peer review” fail to engage audiences representing the public misunderstanding of the scientific process, its measures of success, and the way that scientific knowledge is generated and validated through the scientific community.

Politicians and their oligarchs are shown to thrive on the public misinformation and politicisation of expert knowledge. After Randall’s *Daily Rip* outburst that resolves in him screaming “Just look up!”, he joins Kate in exile: both geographically and intellectually. Back in Michigan. But this time they are outside of the university bubble where Kate is even rejected by her parents who have bought into the lie that saving the comet will bring prosperity for all. The astronomers’ final attempt is public awareness raising and claiming that the public need to #JustLookUp. Oglethorpe, now removed from his institutional position at NASA, is seen joining protest movements that spring up, and works alongside Randall and Kate in the formal “Just Look Up” campaign office. Actions that are almost immediately contradicted by a rival denier movement “Don’t Look Up” that is spearheaded by elites who benefit from a calm and uninformed public. It is only once the public can literally see the hurtling comet in the sky and do look

up that the tide of opinion shifts. But it is too late, and the scientists are resigned to their fate.

Conclusion: expertise critiqued for clicks

Don't Look Up is about the communication of scientific expertise to the public. Public understanding of science, however, is parodied here as politicians (and their invested corporate donors) confront and diminish scientists' expertise with their own expertise in public relations and campaigning. On one hand the film references public passivity, media manipulations and politicisation of crises like climate change and Covid-19, and on the other pokes fun at the naivety of SF films like *Armageddon* [Bay, 1998] and *Deep Impact* [Leder, 1998] where scientists, journalists and governments do *eventually* manage to work together. Jokes abound concerning media training, but it is a key point in the ongoing discussion surrounding the apparent apathy of publics that are over-saturated by competing compelling perspectives where science is confronted by well-communicated (if inaccurate) opinion. Science communication is "identity work"; who communicates information and how they communicate it matters, as "publics construct their own identity as separate and outside the domain of scientific citizenship" [Davies, Halpern, Horst, Kirby & Lewenstein, 2019, p. 7]. *Don't Look Up* articulates this mismatch and extrapolates the worst-case scenario, as it positions science and scientists as distinct and separated from the publics' everyday experiences.

Scientists are rarely prepared for such levels of "interaction with the public", and even if they are digital natives, they are not media experts [Mainzer qtd in Cohen, 2021]. Yet they are working in a reality where their expertise will be critiqued for clicks by non-experts; like Kate and Randall, their work will be eclipsed by embedded cultural assumptions that become about them as individuals (star scientist) rather than the urgent information they need to communicate. Kate is not selected as the face of the comet crisis — despite it being her discovery and named for her — because her identity does not fit. Kate's gender and apparently abrasive (un-feminine?) personality is too much of a barrier when it comes to delivering news of the apocalypse. *Don't Look Up* is a satire of audience apathy, corporate corruption, and media manipulation, but still offers a very nihilistic vision of the impact of scientists and their expertise.

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