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D. CALVERT/AP



Judy Mikovits has been accused of taking notebooks and other materials from her former employer.

RESEARCH

Embattled scientist in theft probe

Sacked virologist faces lawsuit from Nevada institute.

BY EWEN CALLAWAY

Controversy has dogged Judy Mikovits ever since she and her colleagues published evidence in *Science*¹ in 2009 suggesting that the retrovirus XMRV was linked to chronic fatigue syndrome (CFS). Yet as others dismantled the paper's claims, Mikovits has refused to recant her hypothesis, even after the paper was partially retracted².

Now the saga has taken a bizarre and shocking turn. On 22 November, Mikovits posted \$100,000 bail after spending four nights in jail in Ventura, California, as a "fugitive", according to a county-court docket. She is accused

of possessing stolen lab notebooks, a computer and other material belonging to the Whittemore Peterson Institute for Neuro-Immune Disease (WPI), a private research centre in Reno, Nevada, where she was research director. Mikovits faces extradition to Nevada, while the WPI is seeking the materials' return in a separate civil suit.

But in a letter to WPI lawyers dated 4 November, Lois Hart, a legal consultant to Mikovits, said that Mikovits did not have the notebooks, computer or any WPI intellectual property. Hart says the letter was posted

to the Internet without her permission, and has declined to comment on any other aspect of the affair. Mikovits did not respond to *Nature*'s questions. Her lawyer in the civil suit, Dennis Neil Jones, declined to comment or release any information telling Mikovits's side of the story, which has not yet been considered in court.

Tensions between Mikovits and the WPI reached breaking point two months ago, when the institute's president and chief executive, Annette Whittemore, fired Mikovits for refusing to share cell samples with a colleague.

Their relationship could not have been more different when *Nature* visited the WPI in January, to report on Mikovits's defence of her XMRV claims³. In interviews with Mikovits and Whittemore, there was no indication that their close friendship would soon implode. The two women ate breakfast together most mornings, and were optimistic about their research programme into the origins of CFS, a collection of symptoms including exhaustion and muscle pain that has no known cause.

But no published study to date has been able to reliably find XMRV in either CFS patients or healthy people. Some scientists believe that the original results are due to contamination, and a *Science* paper published in May⁴ suggests that XMRV emerged as a laboratory contaminant in the 1990s. One of Mikovits's former collaborators retracted his contribution to the 2009 *Science* paper on 22 September over concerns of contamination, although Mikovits declined to retract the whole paper. The journal is now investigating indications that data in the paper were misrepresented.

On 29 September, Whittemore dismissed Mikovits for refusing to share cell samples with Vincent Lombardi, another once-close colleague. That day, an incensed Mikovits told Max Pfof, a scientist in her lab who detected the first traces of XMRV in CFS patients, that "she had had enough of WPI" and that "WPI would go down", according to a 16 November affidavit signed by Pfof and filed by the WPI's lawyers to a court in Washoe County, Nevada. Mikovits rented a car that evening and drove to southern California, where she and her husband have a home, the affidavit says. Whittemore and Lombardi both declined to comment on the case.

Shortly after her dismissal, Mikovits told *Nature* that she planned to continue her research at another institute, supported by a grant of roughly \$1.5 million from the US National Institute of Allergy and Infectious ▶

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For a longer profile of
Judy Mikovits see:
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► Diseases (NIAID) that she won while at the WPI. But such R01 grants are awarded to institutions, not individuals: when a principal investigator (PI) leaves, the institution is allowed to choose whether to keep the grant and name a new PI, or transfer the grant to the original holder's new institution. Both actions require approval from the funding agency. The NIAID would not comment on the grant, which runs to August 2014.

Pfost has declined to answer *Nature's* questions, but according to his affidavit Mikovits gave him the keys to her office at a bar on the evening of 29 September and instructed him to retrieve laboratory notebooks and biological samples. Early the next morning, Pfost took 12–20 notebooks from a locked desk in Mikovits's office. The WPI noticed the notebooks were missing on 30 September, according to a representative for the institute. Claiming they were the property of the institute, it reported them missing to campus police. It was 17 October before Mikovits picked up the notebooks from Pfost, before returning to California.

Another worker in Mikovits's lab told lawyers in a signed affidavit on 21 November that after being fired, Mikovits asked her to ship cell lines and blood samples from the laboratory to Frank Ruscetti, a collaborator and former mentor to Mikovits at the US National Cancer Institute in Frederick, Maryland. She did not send the samples. Pfost, too, refused a request to send additional lab items to Ruscetti. Ruscetti has declined to comment, and there is no indication that he was aware of these events.

In a civil suit filed on 4 November, the WPI is seeking return of the notebooks, as well as a computer and flash drives that Mikovits used to store lab data and patient records. The institute obtained a restraining order preventing Mikovits from destroying, altering or disseminating any of the information contained in the materials. Mikovits is due back in court in California on 19 December to face potential extradition to Nevada, where she could face charges that she possessed stolen property. According to a WPI spokesperson, some of the missing materials have now been recovered.

Patients with CFS, also known as myalgic encephalomyelitis (ME), feel "very let down and very confused", says physician Charles Shepherd, medical adviser to the ME Association, based in Gawcott, UK.

"I think those people who believe in XMRV are going to continue to believe," he adds. "But I think it's going to be very difficult for Mikovits to continue this research." ■

1. Lombardi, V. C. *et al. Science* **326**, 585–589 (2009).
2. Silverman, R. H. *et al. Science* **334**, 176 (2011).
3. Callaway, E. *Nature* **471**, 282–285 (2011).
4. Paprotka, T. *et al. Science* **333**, 97–101 (2011).



Species such as the chambered nautilus would benefit from restrictions on activities in the Coral Sea.

ENVIRONMENT

Australia's marine plans questioned

Ocean reserves offer inadequate protection, critics say.

BY DANIEL CRESSEY

Home to pristine reefs, rare sharks and vast numbers of exotic fish, the Coral Sea is a unique haven of biodiversity off the northeastern coast of Australia. If a proposal by the Australian government goes ahead, the region will also become the world's largest marine protected area, with restrictions or bans on fishing, mining and aquaculture.

The Coral Sea reserve would cover almost 990,000 square kilometres and stretch as far as 1,100 kilometres from the coast (see map). Unveiled by environment minister Tony Burke on 25 November, the proposal would

be the last piece in a jigsaw of proposed marine reserves that stretch around Australia's coast.

But the scheme is attracting criticism from scientists and conservation groups, who argue that the government hasn't gone far enough in protecting the Coral Sea, or in other marine reserves in the coastal network.

Hugh Possingham, director of the Australian Research Council (ARC) Centre of Excellence for Environmental Decisions at the University of Queensland, points out that little more than half (507,000 km²) of the Coral Sea reserve is proposed as a 'no take' area, in which all fishing would be banned. The world's largest existing marine reserve, established last year by the

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