



Game change in Washington

If you're training for a new job someday soon with a video game controller in your hands, thank [Constance Steinkuehler](#).

This summer, when your kids' favorite science museum boasts a new augmented-reality environmental simulation? Same deal.

If in the next few years a video game teaches you anything -- how to conserve energy, eat a balanced diet or solve quadratic equations -- consider the invisible hand of one of the most unconventional [White House](#) hires in recent memory.

Steinkuehler studies video games. Since last September, she has been a senior policy analyst at the White House Office of Science and Technology Policy, where she's shaping the Obama administration's policies around games that improve health, education, civic engagement and the environment, among other areas.

On leave for 18 months from the School of Education at the University of Wisconsin with [MacArthur Foundation](#) funding, Steinkuehler says the job represents "an incredible opportunity to make good on the claim that games have real promise."

It comes as recent research shows that video games now reach across demographic and generational lines. The advent of cellphone and casual games such as *Farmville* have reworked the typical gamer profile in breathtaking fashion.

Recent findings from the Entertainment Software Association ([ESA](#)), a game industry trade group, suggest that the typical gamer is 37 years old. Nearly two-thirds of households in the [USA](#) play video games, and since 1999, the percentage of gamers older than 50 has more than tripled, dispelling the popular image of video gamers as teen geeks locked in basement hideaways.

ESA also says 42% of gamers are women -- they now represent a greater portion of the game-playing population than boys 17 or younger.

At the same time, researchers are finding that, for all the bad press, video games make exceptional teaching machines. The past few years have seen a flurry of titles -- many of them playable for free online -- that teach a huge array of skills and content.

[President Obama](#) has been critical of parents who don't set limits on children's screen time, but he is also coming around to the benefits of well-designed games.

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In a speech last March at TechBoston Academy, a public middle and high school, Obama told students he wanted to create "educational software that's as compelling as the best video game."

He added, "I want you guys to be stuck on a video game that's teaching you something other than just blowing something up."

Using the video game industry to push a national agenda makes perfect sense to Ben Sawyer, founder of the group Games for Health. "It's a strategic asset of the United States," he says. "Why should we let it sit where it is?"

Enter Steinkuehler. She says she is tasked with helping develop "big, save-the-world games" across subject areas and platforms. "I want them to be top-notch, super-high-quality games. I want great educational content and beautiful design."

She's also researching how well existing games work and simply figuring out which agencies already use games. Shortly after arriving in Washington, she began querying colleagues about who was using games, even experimentally. Steinkuehler expected to hear from perhaps 20 people across the federal government. Her list ran to 130 names. She convened a summit and within 48 hours had offers from "a really mobilized group" to coordinate the government's gaming portfolio.

Among the most widely acclaimed gaming experiments is *Foldit*, developed at the University of Washington's Center for Game Science, that challenges players to learn about the shapes of proteins and compete online to fold them into the most efficient shapes. The most elegant solutions could

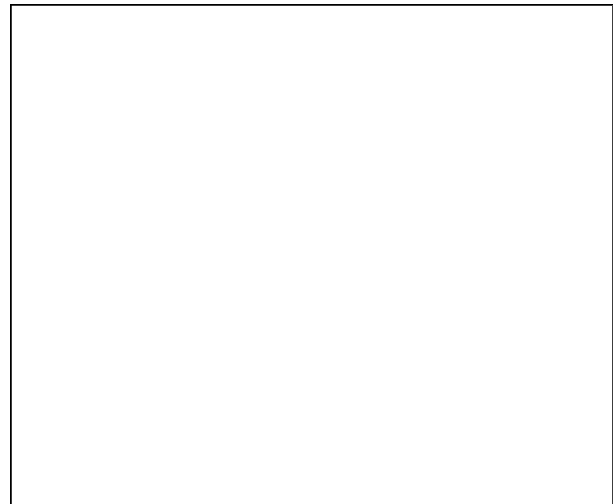
help scientists develop cures for Alzheimer's disease, [AIDS](#) and cancer, among others.

Dubbed "*Tetris* on steroids" by one player, the program works because computers, while excellent at many jobs, are poor at predicting how irregular shapes might look in a future state. *Foldit* takes advantage of humans' puzzle-solving skills, in the process exceeding researchers' expectations.

"It has basically shown that it is possible to create experts in a particular domain purely through game play," says Zoran Popovich, one of *Foldit*'s creators.

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