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## NEWS

### Innovative Beyond Their Years — and Recognized by Forbes

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**[Mirjam Swanson](#)**

What does an innovative science teacher and researcher have in common with an internationally celebrated independent video game designer?

What, that is, besides the fact that they're both members of this year's prestigious Forbes "30 Under 30" class, a compilation of what the magazine deems 600 of the brightest "young entrepreneurs, breakout talents and change agents" in 20 diverse fields?

How about that they grew up across the street from each other in La Cañada Flintridge?

Mark Essen, aka Messhof, is the low-key artist who creates low-fi games such as "Nidhogg" and "Flywrench," which have been celebrated by serious gamers and art aficionados alike. He was identified among the 30-under-30 listers in his field of gaming.

Dieuwertje Kast, aka DJ, was recognized in the sector of science. Enthusiastic and seemingly tireless, she was honored, in part, for her work inspiring a love of science in kids as the STEM program manager of the USC Joint Educational Project.

Both La Cañada High School graduates, they were alerted last year that they'd been nominated for the honor, but neither learned of the final verdict until last week, when the wider world was introduced to them and their work.

"I'm super-honored," said Essen, 29, who indicated he certainly wasn't expecting to be included in a spread alongside Kast, the NBA's Steph Curry and pop music's Jason Derulo, among other burgeoning superstars. "Not at all."

Kast, 27, hypothesized that Forbes' request that she submit a few-sentence bio would bode well until her father, Dr. W. Martin Kast, a cancer researcher and professor at USC, dashed those hopes temporarily. He called to report that he'd seen the list posted and she wasn't on it.

Turns out he'd glimpsed the 2015 list — and he was quite pleased to have been mistaken, his daughter said: "He actually called me on [a] layover, and he's like, 'I'm so proud, I'm so glad I was wrong!'"

#### MESSHOF MAGIC

Essen grew up in LCF, attending Paradise Canyon Elementary School before graduating from LCHS and going on to study film and electronic arts at Bard College in New York City. Video games he made in college gained a buzz among underground devotees, and then also found favor with those in high-art circles soon after he graduated.

At 22, he was the youngest of the 50 artists in New York's New Museum's "The Generational: Younger Than Jesus" exhibit, an international showcase of work by artists 33 and younger.

"My professors were excited about it, and they introduced me to different people in the New York art scene," Essen said. "And so I ended up just sort of meeting the right people, and they liked what I was doing."

His games have since been exhibited at MoCCA in Toronto, at DAM (Digital Art Museum) in Berlin, at FILE (an international electronic language festival) in Sao Paulo and elsewhere.

Nidhogg is a side-scrolling, punishingly difficult sword-fighting game in which players duel in a flashy, pixelated environment. Originally, it was commissioned for the New York University Game Center's annual multiplayer show before being released, following years of revision, to an enthusiastic response.

It won an Indiegade Game Design award in 2013 and was called "a brilliant marriage of mechanics, level design and music that will be talked about for years to come" by PC Gamer.

"He's always been an artist. Since the time he could hold a pencil, he was drawing and making up stuff," mom Jennifer Essen said. "In high school, he had a group of very creative friends, and he's always loved [video] games. I always thought, 'Limit it, limit it,' as a parent, but it was something he took to and combined the artistic side with the game play."

Mark Essen is now "doubly partnered" with Kristy Norindr, his wife and also

the woman in charge of the business side of their company, Messhof, a term borrowed from Essen's gamer screen name.

They live in Santa Monica, where they've got some good ideas brewing.

"We're usually playing around, experimenting," Essen said, "and then, at times, we're working around the clock when we get really passionate about something."

#### KAST'S CLASS

There is "no idle time" for Kast, who also is usually playing around, you could say, considering the joy with which she approaches all things science — including her jobs, a patchwork of roles pertaining to education and research.

Often modeling one of her trademark "science dresses" — a collection adorned with patterns depicting everything from viruses to the periodic table, amino acids to the planets — she's currently the STEM Program Manager for the Joint Educational Project as well as the director of education for USC's Young Scientist Program. (STEM stands for science, technology, engineering and math.)

She also recently earned her Master of Art and Teaching degree from USC, as well as her single-subject biology teaching credential, which supplement her Master of Science degree in marine environmental biology and bachelor's in biological sciences.

A Dutch citizen whose husband, Roe Fung, was born in Hong Kong and raised in Brazil, Kast is an eager traveler who this summer will join an expedition to the Arctic with the PolarTREC program.

In the midst of all-day daylight, she will help investigate microbial ecology. "There, in the permafrost, is soil that has been frozen for a long time, but with climate change it's getting warmer and it's melting a lot faster, so the bacteria have a lot more to eat," she said. "And when they eat, they also breathe, and when they breathe, they make much more carbon dioxide. And if all the permafrost was gone, you'd double the amount of carbon dioxide [in the world] just from them doing that alone."

With her mind on matters of global and local scientific significance, Kast has, since her days as an undergraduate, worked with kids around USC's campus in L.A. — an experience that's also proved educational.

"[Los Angeles Unified School District schools aren't] required to teach science in 1st through 3rd grade," she said. "So a lot of the teachers who are uncomfortable with it tend just not to do it. ...

"And the schools I work with have perhaps four [advanced-placement courses], and maybe one science AP. And that's a huge disadvantage. Even if students do get in, they're competing against all these other students. Compare that to LCHS, where there's AP bio, AP environmental science, AP statistics, AP computer science, AP chemistry, AP physics — the list goes on."

More than any disparity in APs, the LAUSD students' limited exposure to the

environment around them has galvanized Kast.

"Talking to these kids, almost none of them knew how to swim," she said. "And it's like, 'You live 20 minutes from the ocean, what happened in your life that you don't know how to swim?' And they're like, 'Well, we've never seen it.'

"And, well, access to swimming pools costs money, swim lessons cost money, and that's not the target. The target's getting food on the table."

With USC's backing, Kast is changing things, introducing an evolving curriculum that has kids digging in mud for ocean creatures or touching what comes up on an otter trawl, not to mention hearing directly from a Disney animator who uses physics to create hair that moves believably on-screen, or playing a game she calls "Food Web Jenga," or setting a table that might stay put in space.

"She's so weird," said former USC classmate and friend Stephanie Oh, who also teaches science and routinely calls on Kast for advice. "And when you have a weird science teacher, that's the one your remember. They make the loud noises, they get messy with you, they wear science dresses. They're fun."

Oh also said that her friend — who owns a pair of geckos named Chante and Spitfire — has a reputation for giggling.

Kast didn't dispute the notion: "I just have a lot of fun with my job."

And isn't that the idea?, said Jennifer Essen.

"You hope your kids follow their dreams and do what they want and what they're passionate about," she said. "I can't think of anything else parents would want more than having their child be so fulfilled."

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