



SIGGRAPH2016

SHOW HIGHLIGHTS

Take a peek behind the scenes of the year's largest CG show to discover what Quixel, Gnomon, Escape Studios and more leading attendees have to offer



WHAT MEGASCANS GIVES YOU

*The key features
behind the library*

CONSISTENCY

All materials are consistent across the entire library with identical calibration and texel density, and all of the meshes follow the same standard for LODs, topology, UVs, baking and mesh scale.



PHYSICALLY BASED

All of the maps are calibrated for the Disney 'principled' BRDF; this means materials plug right into Unreal Engine 4, Octane, V-Ray, Arnold, Unity 5, and every other software that supports standard PBR workflows.



MEGASCANS MARKS THE NEW FUTURE OF SOURCE MATERIAL

The world's largest library of extreme quality scans is about to open up to the public, with the launch of Quixel's Megascans

Swedish tech company Quixel is best known for having effectively transformed the texturing industry with their massively popular texturing toolset, Quixel Suite; helping texture virtually every major game franchise of the last three years. Fittingly it was dubbed as this year's best texture app in the March 2016 edition of 3D World.

After a first look, it quickly becomes apparent that Quixel's next release, Megascans is destined to make a much greater impact in 2016.

Megascans is a massive online library of tileable surface scans, scanned vegetation and 3D scans. The entire library is consistently produced and identically calibrated, and plugs right into physically based rendering pipelines. Built around a philosophy of complete ecosystems, for every scan there is a complete gamut of related scans covering every feature of a specific environment, from huge natural objects down to the tiniest piece of moss. Creating stunning environments becomes both incredibly fun and fast, and feels very much like playing with Lego all over again – it all just works.

Hollywood chooses Megascans

Megascans has already been used for building the jungle environments in Disney's The Jungle Book. The leading VFX studio MPC Film used Megascans for their work on creating the film's dense jungle scenes, which brought us arguably the most realistic CG environments ever seen.

"Megascans is an amazing set of assets," says Damien Fagnou, CTO at MPC Film, who reflects on the experience of using the library: "With a large variety of samples and the incredible quality of each layer, Megascans has become an indispensable resource for MPC artists when building photorealistic environments."

It's worth noting that the assets used for Disney's The Jungle Book constitute just a fraction of the entire Megascans library, which gives a clear indication of the

massive scope of the service. It spans countless biomes from four continents; the result of over five years of back-to-back scan expeditions. Every scan is captured and processed with Quixel's proprietary technologies, resulting in

**Megascans has already
been used for building
the jungle environments in
Disney's The Jungle Book**

material quality superior to anything the industry has seen before.

New batches of scans are released every week, and the library is slated to cover every major material category by the end of October this year – that's an impressive feat given the rich detail and depth of the library.

To help get you access to Quixel's Megascans and the vast library of assets, you will be able to sign up for monthly or yearly subscriptions to the full library at very affordable prices.

Your subscription will also include a new line of powerful software that is rumoured to revolutionise tileable material creation.

FYI For more details on Megascans visit
www.megascans.se



HIGHLY ACCLAIMED

Megascans is used by
artists at ILM, MPC,
Ubisoft and many more.

"Megascans has become an indispensable resource for MPC artists when building photorealistic environments."

- Damien Fagnou, CTO, **MPC Film**



Quixel
MEGASCANS™

megascans.se



Escape Studios offers courses that are supported by the latest technology, available to all students

ESCAPE TO A WORLD OF YOUR OWN CREATION

Escape Studios gives you the practical, real-world skills, industry knowledge and real-time theory you need to succeed in VFX

From computer animation to game art, motion graphics to visual effects, London-based Escape Studios specialises in industry-focused, highly-intensive courses designed for artists who are not just looking for a job, but who are dedicated to creating a successful career and making an impact in the creative industry as we know it today.

Since first opening in 2003, Escape Studios has been recognised as a

Whatever your specialism
or level, at Escape Studios,
you're in good hands

first-class education provider for the creative industries. Collaborating with studios such as Framestore and MPC, and pioneering individuals such as Paul Franklin (DNeg) and Eamonn Butler (Cinesite), everything Escape Studios produces is entrenched with industry knowledge, insight and connections.

It's for the game-changers

You'll find Escape Studios Alumni behind many Oscar- and Bafta-nominated and winning films, television shows and commercials, working for studios such as Double Negative, The Mill, MPC and more, working across ground-breaking projects, including the Star Wars and X-Men franchises and The Jungle Book.

"Escape was the spark that started the fire," says Carlos Conceição, VFX artist at ILM. "With an amazing selection of extremely talented and experienced tutors, I was able to absorb a vast amount of knowledge."

As part of Pearson College London, Escape Studios offers a range of courses to suit every artist's skillset and aspirations. From intensive short courses through to integrated Masters programmes, every course centres on providing comprehensive and industry-focused training that reflects the high standards expected by studios today.

"I cannot praise Escape and my mentors there highly enough for stepping up my game. One of my favourite things about Escape, was the ability to sit down with industry professionals and learn all the tips and tricks that would be needed in a professional environment," says VFX artist Zissou.

With locations across London, you'll be studying in the centre of one of the world's most creative cities, with some of the industry's most experienced tutors, supported by state-of-the-art facilities at your disposal.

Courses for everyone

Escape Studios' portfolio continues to expand. As part of Pearson College London, whether you want to develop your existing skill-set or start from scratch, there's a course for everyone.

Whatever your specialism or level, at Escape Studios, you know that you're in good hands. Courses currently on offer include: 3D VFX, Compositing for VFX, Motion Graphics, Animation and Game Art.

With courses starting throughout the year, and full and part-time options available, no matter what your current job, circumstances or skillset, it's never too late to start your creative journey!

FYI Take a closer look at Escape Studios, visit pearsoncollegelondon.ac.uk/es

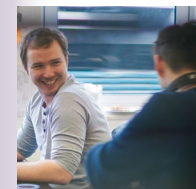


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DON'T BE SHY

There are tons of things you can get involved with at Escape Studios, without even moving from the sofa. Their webinars are the stuff of legends, with amazing tutorials, showreel clinics and industry talks, all available via the website, with more on the way. Winner!

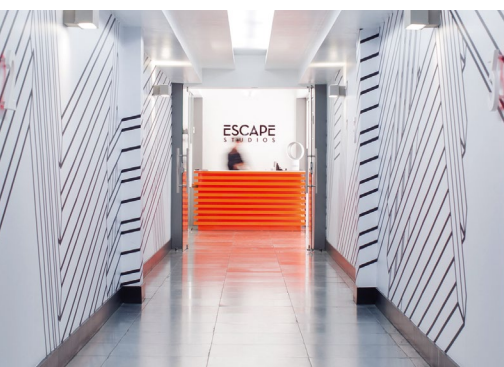


TRY IT YOURSELF

For this summer only, Escape Studios is letting you try out all the different specialisms on offer in one awesome week. Over five days you'll get an insight into games, VFX and animation, along with careers advice and even a social or two! Book your place before they all go!



Image courtesy of MPC. © 2016 Century Fox



A full-page background image of Rey from Star Wars: The Force Awakens. She is standing in a desert environment, holding her staff vertically. She is wearing her signature beige and brown outfit. The background shows some desert structures and a clear sky.

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SIGGRAPH 2016
Gnomon

Beat Reichenbach's CG skills won the Gnomon student a place at VFX house Blur Studio

GNOMON: PASSPORT TO A CAREER IN VISUAL EFFECTS

The top international CG school's industry know-how helped **Beat Reichenbach** win a place at his dream studio



For Beat Reichenbach, studying at Hollywood's Gnomon – School of Visual Effects, Games and Animation was a passport to a job at his dream studio. Growing up in Switzerland, the rising star of the VFX industry – a finalist in both last year's international CG Student Awards and The Rookies 2016 – dreamed of working at Blur Studio, creators of legendary cinematics for games like Doom, Tom Clancy's The Division and Elder Scrolls Online, and recently, the visual effects for Deadpool.

"I always wanted to go to the US," he says. "I loved movies and I wanted to work in the industry." Searching for a course that would give him a route into a major studio, Beat was struck by the quality of the student work he saw on Gnomon's website (www.gnomon.edu). "It was in a different league to any other school I'd seen," he says. "Then I found out that all the teachers work in the industry themselves."

Master industry skills in school

Described by Fast Company magazine as "the MIT of visual effects", Gnomon has trained thousands of games, animation and VFX artists since its foundation in 1997. Staffed by a team that includes industry veterans and artists, Gnomon gives students a chance to master genuine production workflows while still at school, rather than simply learning how to operate software.

Although Beat received a thorough grounding in every aspect of CG during his studies at Gnomon, it was lighting and rendering that really appealed to him. "I love modelling and texturing," he says. "But lighting gives you more opportunities to influence what a shot has to say."

Those visual storytelling skills helped win Beat his dream internship: when Gnomon sent Blur Studio his demo reel last year, the firm snapped him up for a six-month contract in its scene assembly department, doing paid work on movies and cinematics alongside his final-year studies.

Thanks to his training at Gnomon, Beat was able to adapt quickly to the pace of work required in a commercial visual effects pipeline. "At Gnomon, I learned to work faster and smarter,"

You can look up how to use software online, but the teachers' experience is something you just can't find elsewhere

he says. "Now I form an attack plan for a shot early, blocking out the scene and setting up basic lighting so I know what I actually need to model. At Blur, it's very important to look at the shot the layout department did: it's easy to spend a day working on details that are going to be covered up by smoke."

According to Beat, it is real-world insights like this that set Gnomon apart from other CG training schools. "You can look up how to use software online," says the artist. "But the teachers' experience is something you just can't find anywhere else."

FYI For more about Gnomon's training courses, visit www.gnomon.edu



TRAINING GAMES'
NEXT STARS

Gnomon graduates power *God of War*

SUCCESS IN GAMES


Gnomon doesn't just ready students to work in visual effects. On Naughty Dog's recent hit action-adventure *Uncharted 4: A Thief's End*, almost one in 20 of the staff were recent Gnomon graduates, while on the next *God of War* title – one of the biggest titles Sony announced at its E3 press conference this year – no fewer than seven of the key artists are Gnomon alumni, including four of the environment team at Sony Interactive Entertainment's Santa Monica Studio, plus lighting artist Brandon Cha and character artist Chris Gillett.



Gnomon graduate Chris Gillett now works at Sony's Santa Monica Studio

GNOMON
SCHOOL OF VISUAL EFFECTS
GAMES • ANIMATION

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Gnomon was ranked
School of the Year
at the 2015 CG
Student Awards



Student work by Ferdinand Vazquez
Concept by Darren Bartley

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SIGGRAPH 2016

Tergo

Charles Willcocks
reconnected with
friends from NCCA,
Bournemouth to make
Tergo and filmed
across London





TERGO SHOWS US THERE'S ALWAYS HOPE

Charles Willcocks shares the experience of making his first short film, *Tergo* and how chance encounters can spur you on

The filmmaking bug can strike at any time, for London-based VFX artist Charles Willcocks it was during the long commute to work and a viewing of Pixar's *Wall-E* that sparked his interest. *Tergo* was the result, a project that began as a lighting exercise but evolved into a short film and launched a film production studio. For Charles it meant reconnecting with his old friends to help out.

"We live in a world where geography and location doesn't limit creativity and collaboration and it now seems more important than ever that art and creativity drive this interconnected, multicultural world because it feels like politics won't," Charles says.

During the making of *Tergo* Charles fully embraced all mediums of technology available to him to communicate and share work - early morning and late night Skype calls,

one might expect, pretty inquisitive as to what we were up to and asked a few questions. I explained the process and he was genuinely really positive... as a confidence boost for a young filmmaker like myself it was invaluable. Hopefully one day I will be able to work with him."

Enter V-Ray

When it came to rendering Charles began looking for a solution that could fit both *Tergo* and benefit his work in a small advertising studio.

"V-Ray was recommended to me by a former colleague and I am so grateful for the tip... Once I had been converted, I never looked back," Charles says, explaining: "V-Ray has several tools which make it so easy and intuitive to use, and as any 3D artist will know efficiency in the use of your time is essential."

Charles says the Distributed rendering tool was a game changer: "The ability to distribute buckets across our small farm massively sped up my renders whilst maintaining the quality I needed. It is very easy to get a good looking and physically accurate render with GI out of V-Ray, but you can also really push the optimisation to bring the times down. When you are working in a larger studio with a huge farm this might not be so important but when you are rendering on 8-10 machines each night this is pivotal to actually producing the renders."

Charles was also grateful to the strength of V-Ray's online community. "Those using the Chaos Group forum were amazing at helping to solve issues. I can't be certain of the reasons for the strong collaborative nature but I suspect it has something to do with its prevalence amongst smaller studios where there aren't huge teams of artists and thus the community has grown up together to help each other find solutions to issues," Charles says.

Tergo is finished, and since then Charles has formed his own production company and created more short films.

"*Tergo* definitely stirred something inside me and the desire to make more films," explains Charles. "The experience of working collectively and collaboratively with others definitely motivated my ambition to work with other filmmakers, writers, musicians and artists, which led directly to the conception and creation of Pallas Pictures, which I founded alongside an old school friend."

Pallas Pictures has now become a collective of several artists and together they have made four short films. Each one explores different genres and techniques to expand the team's skill set.

"The ambition I had when making *Tergo* hasn't changed, in fact it has only grown exponentially. In the last few years I have learnt that making films is not only something I want to do, but love. I remember always thinking when lighting shots at work 'what would I do if I had complete creative control?' And *Tergo* has allowed me to do that. I am precious about this *Robot* and he will always mean a lot to me wherever I may go in my career."

Next up for Charles and Pallas Pictures is ambitious horror short *Harvest*, featuring a full-CG creature that could get Hollywood calling.

FYI To find out more about *Tergo*, visit www.charleswillcocks.com/tergo

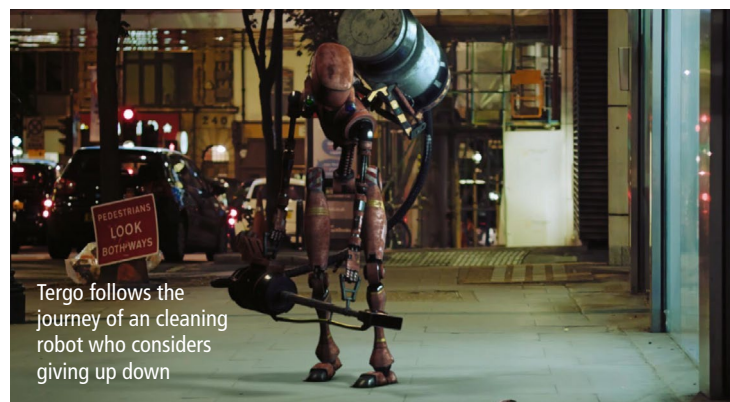
As a confidence boost for a young filmmaker like myself it was invaluable

Facebook chats, and shared Google Drives all made *Tergo* possible.

"It was a challenge at times but that is outweighed by the satisfaction of being allowed to work with three of the most talented animators I met on my MA course, all of whom were located outside of the UK," Charles says.

But it wasn't all old friends and amateur filmmakers, a chance encounter with director Ron Howard inspired the team.

"It was a complete chance encounter but nevertheless a fantastic experience. We were filming in Soho, London. It was pretty guerrilla style to be honest and this guy, wearing a cap, spotted us and stopped to ask what we were doing. It took me a few seconds to register who it was," explains Charles. "He was, as



Tergo follows the journey of a cleaning robot who considers giving up down

GET FRONT ROW SEATS AT THE PRODUCTION SESSIONS 2016

Don't miss out on loads of technical knowledge and inspiration, *Miki Rose* urges you to plan your time

This year's Siggraph takes on the broad theme of Render the Possibilities, and this stretches to the popular Production Sessions held around the show. Every Production Session was selected by program chair Miki Rose and a sub-committee made up of three industrial professionals, the XSV (Ex-Student Volunteer) and a liaison from the Conference Management group.

Planning this year's sessions began at the end of Siggraph 2015 and final decisions were made in the first half of this year. There were 40 entrants that Miki had to whittle down to just 10.

"We did several rounds of discussion, debating the merits of each suggested session based on

many different criteria, including interest to attendees, new and unusual topics, advances in technology or methodology, scope of the projects, speakers, on-site demonstrations or props," says Miki.

What to expect

In each session, attendees will learn about the planning, challenges, and troubleshooting that went into creating some of the most interesting projects in this year's computer graphics work.

"Each project started from a simple idea, and was rendered into a final product that encompasses many of the endless possibilities we have available to us as artists, technicians, and audience," explains Miki. "These

intricacies are what make these projects so unique, and what will be discussed in our Production Sessions."

Miki is in no doubt about the popularity of the Production Sessions, which this year cover the making of and technology behind some of the year's biggest films, including the DICE team's use of PBR and photogrammetry to recreate the Star Wars universe for Star Wars Battlefront, Digital Domain will reveal how it created CG character Colossus for Deadpool and Pixar will be in attendance to share the new technology developed for its latest movie, Finding Dory.

"You'll also have the chance to speak artist-to-artist in a Q&A format, and geek out with friends and colleagues,"

Animators and technical artists will reveal how cutting-edge technology enabled them to create the complex tentacles for Hank in Finding Dory



**SIGGRAPH
PRODUCTION SESSIONS**

Miki Rose picks the top three sessions not to miss...

KUBO AND THE TWO STRINGS: ONE HUGE SKELETON, ONE GIANT UNDERTAKING

Miki says Kubo and the Two Strings is not to be missed, "because the film looks epic and I love stop-motion, plus we'll get to see some of the puppets!" Turn up and you'll discover how Laika created a giant (18-foot) skeleton with a 24-foot wingspan for the film. A miniature version of the puppet (around three-feet tall) will be on display during the conference. Laika panellists for this session include: Steve Emerson, VFX supervisor, and Steve Switaj, engineer, camera and motion control operator.



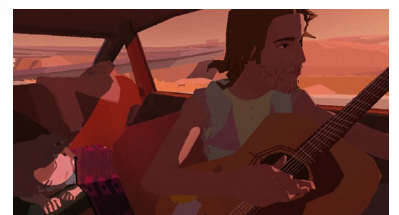
DEVELOPING MASS EFFECT: NEW EARTH A 4D HOLOGRAPHIC ADVENTURE

This session brings together video game and film production with the latest 4K holographic technology to create a new and unique theme park ride. "I'm very interested in working on theme park attractions and want to learn more about that crossover with film and games," says Miki. Expect to see some impressive technology and insights from the team at EA, Halon Entertainment and Cedar Fair.



THE MAKING OF PEARL, A GOOGLE SPOTLIGHT STORY

"VR is very hot right now and Pearl is a great example of the many, many awesome projects that are in the works with this developing technology," says Miki. Pearl is a 360-degree short film directed by Oscar-winning animator Patrick Osborne for Google Spotlight. Google's panellists for the section include: Patrick Osborne, director; Rachid El Guerrab, Spotlight Stories project lead; David Eisenmann, producer; and, Cassidy Curtis, tech art lead.



You'll also have the chance to speak artist-to-artist in a Q&A format, and geek out with friends and colleagues

adds Miki. "The only thing cooler than watching special effects on screen is learning how they were created."

These sessions hold appeal on two major levels, explains Miki: "Both as peers in the graphics industry interested in the technology and methodology behind the projects, and also as fans of media formats we present here. Our attendees are often skilled technicians and artists, but that does not stop them from being excited

about presentations based on their favourite projects of the year."

Miki is confident the Production Sessions will draw big crowds – they always do – and urges attendees to turn up early.

"I suspect that Industrial Light & Magic Presents the Visual Effects of Star Wars: The Force Awakens will be a fan favourite, as well as The Making of Marvel's Captain America: Civil War. Attendees might want to schedule carefully around those," says Miki.

To avoid disappointment, plan your days well ahead for front row seats and check the Siggraph website and schedule for news.



For more on the Production Sessions, visit www.s2016.siggraph.org

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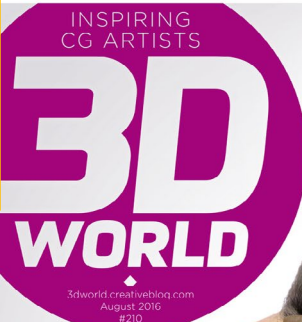
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Meike Schneider's winning character render, Little Mary was created with the help of RebusFarm



REBUSFARM
ONLINE CHALLENGE

Meike Schneider explains how she created Little Mary

CREATING A WINNING CHARACTER RENDER

Meike Schneider explains how her winning character render was created with the help of RebusFarm

There's a growing need for render power in the CG animation industry and RebusFarm is meeting that demand by offering flexible access to a large render capacity, at an affordable rate. One artist who is making use of RebusFarm in her work is German animator and VFX artist Meike Schneider, who won May's 3D Artist of the Month challenge hosted by RebusFarm.

Meike's winning render was Little Mary, a cute and colourful cartoon character that exudes Meike's love of classic Disney animation.

"I've always dreamed of becoming a famous artist one day. At a very young age Disney movies such as Cinderella, Pocahontas and The Jungle Book inspired me," says Meike.

"I didn't expect to win the Artist of the Month challenge so I was totally excited when I got the message from RebusFarm," says Meike. "Also the timing was perfect: I attended the FMX conference on animation in Stuttgart and got the chance to meet the RebusFarm Team in person. The AotM Challenge is a great opportunity for being promoted as an artist. I got a bunch of messages for new freelance projects."

I rendered the character in an 8K still frame, including different types of layers which RebusFarm rendered super fast

Little Mary was one of Meike's personal projects that she worked on away from her day job as a 3D modelling instructor at PIXL VISION.

"I rendered the character in an 8K still frame, including different types of layers which RebusFarm rendered super fast. I will render some animated sequences in the near future and I will definitely keep using RebusFarm. That way I have the opportunity to render

my projects in a higher resolution and faster compared to my home computer," explains the artist.

Meike decided to use RebusFarm for this personal project after coming into contact with the render farm while at work, as many of her high resolution client projects needed a fast and easy to use render solution – uniquely, RebusFarm gives artists full access to the power of the render farm from inside a 3D application.

"The software [Farminizer] tells you if anything is wrong before you upload your scenes and it supports all I needed for my projects. The support team is great as well! They helped me a lot on my projects."

Meike continues: "When I was a student I heard about RebusFarm but never used it because I thought it would be too complicated and perhaps too expensive. Later when we used the render service at work I noticed that it's super easy to use and it wasn't as expensive as I thought!"

Learning process

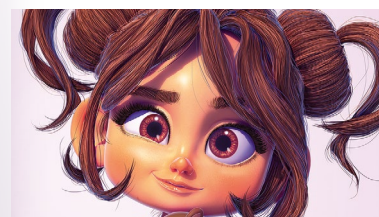
Meike says she learned a lot from using RebusFarm, and how to use render farms in general, from for her Little Mary project.

"First of all I think the process has to be understandable and I think it's important that no matter how complex your scene is, the renderfarm should be able to handle all kind of projects," says Meike, who explains: "For example, sometimes you have a lot of things like different kind of simulations, lighting maps, etc. in your project and you want to render that properly without changing or taking out stuff. As I mentioned earlier, the support is really important as well and the RebusFarm team absolutely meets those needs! Even if I am rendering projects late after work, I get an answer on my support tickets super quick!"

FYI To find out more about RebusFarm, visit www.rebusfarm.net

REVISITED AN OLD IDEA

Little Mary is a character that I designed earlier when I was in 3D school for a production pipeline class. Actually there was a finished story for her that should have been turned into a short film. After graduating I started turning her into 3D in my personal free-time after work.



THUMBNAIL PROCESS

This picture shows some of the early stages on developing Little Mary using Photoshop or traditional drawing mediums. I did some colour keys, and tried out different hair styles and facial expressions until I have chosen the final look for her.



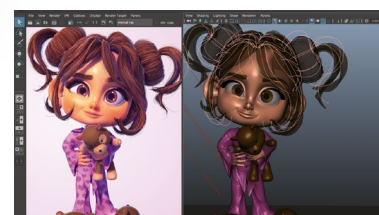
EARLY MODELLING IN MAYA

This picture shows some work in progress during early modelling and texturing stages. I modelled the base mesh in Maya and created some displacement and normal maps in Mudbox. The textures are hand-painted in Photoshop and Mudbox.



FINAL TOUCHES

After this I re-imported her into Maya and worked on the character rigging, shading and her clothes. For the hair I used the XGen Plug-in in Maya. I also modelled a princess room interior set for her that needed to be lit.





SIGGRAPH2016

The only thing cooler than watching
special effects on screen is
learning how they were created

Miki Rose, program chair,
Production Sessions