

# Laser Animation Drawing With Light



## A Conversation With Pieterjan Ruysch

**With Tim Bennett**

**Of ArgonTV**

**Laser Animation**

**Drawing With Light**

The following is a transcript of an interview between Tim Bennett ([ArgonTV](#)) and Pieterjan Ruysch ([Laser Animator](#))

The real beauty of the laser animation can be seen in this incredible video:



Watch the video above to find out...

If you prefer to read, scroll down to get the (slightly edited) transcript of the video.

Tools Featured In This Video...

- 1 - ArgonTV: [here](#)
- 2 - Contact Pieterjan: [peter@lasercontent.com](mailto:peter@lasercontent.com)
- 3 - Pieterjan on Facebook: [here](#)

## Laser Animation With Pieter Ruysch

**Tim Bennett:** Laser animation has been one of my passions and great fascinations since I started working with laser in 1989.

The fact that you can actually draw with light was something that just intrigued me since the first time I saw it.

And today I'm very excited to be talking to a new friend of mine, [Peter Ruysch](#), who is a professional laser animator based in Netherlands.

Peter, welcome to [ArgonTV](#).

**Pieterjan:** Hi, thanks for having me.

It's great to be here.

Laser animation is kind of my life, you know, so to get to talk about is very exciting for me.

**Tim Bennett:** That's awesome.

How did you initially get into lasers?

Because, It's a kind of unique area for people to move into...

**Pieterjan:** Correct!

I was still in high school.

I was about 16 years old. I'm now 27...

So you could do the math on that!

I was browsing the early days of YouTube and I saw a laser show, not a beam show, an animation show of an actual person that was within my country.

And this was at the time, you know, I'm kind of a geeky person...

I'm into these Japanese animation stuff.

It was the first time I heard there were gatherings for these kinds of things.

So I went to one of these conferences just to see what it was like.

You know, I was curious, with some people from high school and this person that I saw on YouTube... that I was talking with...

...YouTube, had a messaging system back then...

I messaged him, I said, *"This is amazing! How does this work?"*

And by pure coincidence, the same person, I actually ended up meeting there.

We got along very well, and this was the time I got to see my first laser graphics animation.

This was the first time seeing a laser.

It was the first thing I saw.

And the contrast, the sharpness...everything it was beautiful.

This was when the blue laser diodes were not very cheap yet.

Most people were using the UV diodes from the Blue Ray laser diodes.

And he had his laser projector propped up on a small bed, barely at head level...

You know, you have to duck to get into it, so it's a bit shoddy, but it was really great to see it very close up and I wanted to get into it.

Well I found out it was pretty expensive.

My first software I saw was Phoenix laser show.

I actually had some schematics to me and back then we got electronic shops and he said, *“yeah, you can build something yourself, kinda...”*

So I tried and I failed.

So I decided, *“Hey, you know, instead of making the equipment, why don't I just make content and then send it to him?”*

And he sent me a video back and then I get some gratification seeing something work, you know?

And I kept doing it for a while.

Obviously the first times it just didn't work and then I just kept trying and trying and kept trying.

I found a forum where laser enthusiast gather.

And it's called [PhotonLexicon](#) and it still exists.

It's great.

So I decided to post my work and I actually asked for feedback and eventually I found a way to make 3D laser animation without owning laser software, which is a program called [Illustrator it's for 3DS Max](#).

And in high school, I was already playing around with 3DS Max, a lot that I wanted to make games.

I wanted to make robotics.

So 3D modelling seemed like a logical step to me.

So what happened was, essentially my content starts to work, not great, but it starts to work.

So I kept sending more and more and more...

I got feedback again...

I started posting it on the forums and people started giving feedback and eventually William Benner himself, being very active at the time, commented as well and said it was *"Kind of cool, but they've been doing that for years."*

So then I was like, *“Well, what can you do? I’m, you know, I’m 16 years old, I’d love to try your software, but I don’t have the money for it.”*

And they said, *“Yeah, well you need the hardware, so trying it doesn’t make sense.”*

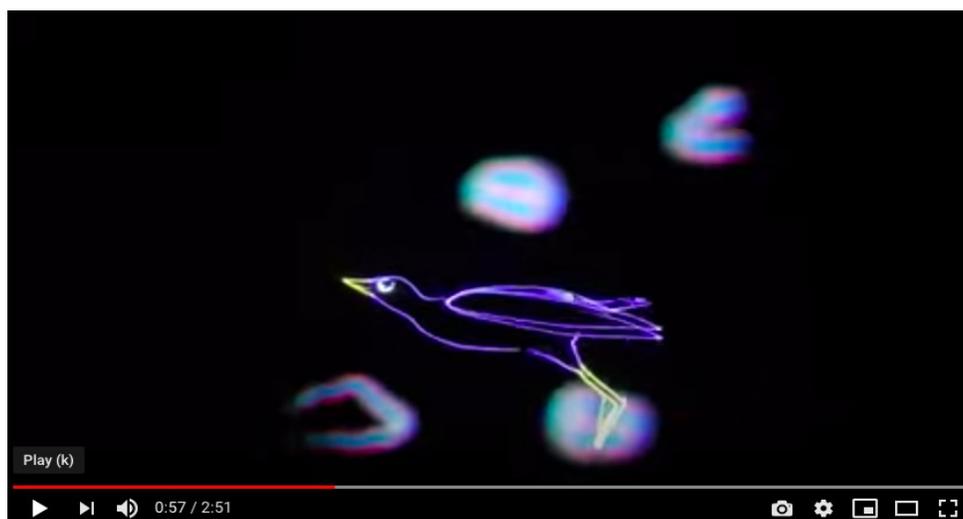
At the time you needed the QM2000 ([Actually QM32](#)), you know, the big laser controller.

So I just kept going and I started doing a little bit of programming and make some small modifications of other people's programs like Tracer and stuff like that.

And eventually Bill, got interested and made me a proposition and he said, *“Listen, if you can prove, this is really you doing this and making this... let's talk!”*

So I emailed them and we talked...

I made them a demo animation.



It wasn't great, but it was good enough for them and they wanted me to help out with their trade show.

So they made me offer, sending me a QM2000 Pro (QM32PRo), like straight from the start.

It was amazing like, *"wow, what an offer!"*

I'm 16 years old and this is like the top of the line at the time, you know?

So obviously I was a bit skeptical, but hey, I did it anyway and took the offer...

I didn't hear anything for months...

And then Christmas came and I was at my grandpa's.

I get a phone call and there's an urgent package that needs to be delivered now!

It can't wait!

So the delivery guy decided to drive all the way to my grandpa's from my own house...

And yeah, it was the QM2000, you know in the dot net box too.

I started messing around without a projector, at the time I was making content, just trying out stuff and getting feedback and learning the ins and outs of the LD2000 program, the older laser show program.

Eventually I bought a projector from some other guy.

The blue laser diodes just started dropping in price.

So people started dumping their blue, older, blue DPSS laser combinations for quite a lot less, so I bought my first RGB projector straight on head RGB, It was amazing!

And that's kinda my start.

I started making content every day, every day, and just kept going, like through seven days a week, you know, just constantly, constantly churning through.

And eventually, I did that trade show...

It went okay.

And I went to SELEM (South Eastern Laser Enthusiasts Meet) the first, big laser gathering, I think it's in Charlotte in America.

And yeah, I got to do an internship at Pangolin for, for a little while.

And this was about when Beyond was on the horizon...

I was already 18 by then and from there on, I've been doing freelance work, that's kinda how my career took off.

**Tim Bennett:** Well, that's really interesting.

That's a great story.

I think the first time you see a laser is a very important day in your life.

I remember the first time I saw a laser, it was like, I'd never seen anything like this and I think it affects people in different ways, but you know, some people get it... some people don't get it.

You obviously got it and I got it.

And it's interesting you talk about the QM32...

I still have one of those and it still works.

**Pieterjan:** I still have too!

I don't want to sell mine.

It's for me, it's like a Relic, you know, like, *"Hey, this is where I started."*

These are my roots.

I don't want to let go of that.

You know, I think it's important when you're getting a bit older you kinda appreciate that it started off your career.

It's a big part of your life.

I feel like all of that, you let go of a part of your past... I don't think that's a good idea or a good thing to do.

**Tim Bennett:** Yeah and I think it's great that you had the internship with Bill Benner and Pangolin, that's an amazing opportunity.

So the shows that they put out, that they give for free... are any of those shows yours?

**Pieterjan:** No, actually.

So when I was interning at Pangolin, what I did was, together with [Singularity Arts](#)... these were the guys that made the [Revelation show](#), we worked on concepts for the Beyond logo.

The one with the text, with the globe that you see on the (inaudible)...

It was also in the booklets at the time.

I was also working with Alexander Stomple who made Beyond 3d, we were working together... giving feedback, back and forth and he did most of the work, let's be honest, but, I've made some advice on the colours of the interface because it was really bright.

It was like a Quick show white....

I was working late nights...I still do, and it just hurt my eyes.

I felt my eyes hurting every time.

So I said like, *"Hey, can we make this really dark?"*

So that's kinda where that came from.

Then I started writing the manuals when I was at the office and that's kind of main thing I did.

So it's not that much, but most, most things I submitted to Pangolin is cloud, and stuff like that were... stills.

I don't do it as much anymore.

I've been thinking about it, but it's become my job, so it's a bit hard with free content...

It's also time and it's also motivation and you enjoy it so much, but you spend so much time on it that it really puts a large strain on you.

You kind of drain motivation, not in a negative way, but it takes energy from you to make stuff and it takes a lot of work to make something that looks good.

And that's just the way it is.

It's not something that the tools are being faulted, that it's just kind of, you know, good results take time - very simple.

**Tim Bennett:** Correct and are you a traditional animator, like a cell frame animator or are you using computer graphic animation?

**Pieterjan:** So I studied animation for awhile.

I couldn't really fit well in the whole education system.

I was already doing freelance work for me and it felt a little bit weird to go back into studying, so I dropped out actually.

I did do a hand drawn animation for a while, but I'm a very clumsy person.

So these paper piles keep stacking up and they start getting mixed through and suddenly your 10th frame is at the bottom of the pile and your 5th frame is at the middle of the pile.

It becomes a mess where you don't like storing the cupboards full of paper anymore.

So I was very happy to go back to digital

I'm mostly digital.

I sketch in a program called Paint Tools, It's basically like a Photoshop, but it's only for a tablet drawing.

I used to do flash animation a little bit here and there, and which also is useful for laser, but actually primarily, it was 3d for most things that I did, because when it comes to bulk creation of content, 3d makes sense.

I mean, deadlines in the entertainment industry are quite short.

Most of the time for large animation sequences, you go through the steps of preparing a 3D scene and then you could make a long winded animation using that one character, one scene, you know, and it saves you time on a bigger project...

...or you take a still frame and morph it, you know, you make the eyes move, open and close, you make it wiggle a bit back and forth...

...for most clients that's okay.

That for them.

It's enough movement to convey there's something alive.

It's not looking like a still image....

...so I'd say mostly 3d actually and 2d stills.

**Tim Bennett:** Yeah. I remember when I first started, when I first started doing animation with laser, was about 1990.

We were working with, I think it was a company called Omicron from Germany, If I remember...

...they had a program and they brought out hidden line and we were like, “wow, *hidden line...*”.

That was the new thing there.

It was really incredible.

So what software are you actually using?

**Pieterjan:** For the animation I use Adobe Flash CS6, YCS6, I'm not a fan of the Creative Cloud situation.

I'm sure a lot of people would agree.

I use Photoshop SC6.

I use that Paint Tool I just mentioned before...

I use 3DS Max and of course Beyond itself with their LC flash, LC Max, stuff like that.

And I use, for example, Photoshop for textures on 3D models or even in the past, I used to use it to actually make a background of a gradient line, because making gradients in the older software is quite difficult.

You make a gradient in Photoshop and then you'd colour pick from the background to make your your gradients in LD2000.

Obviously I'm glad it's part of the past, but these are my main tools.

And then obviously I have some exotic tools, like some motion capture tools that I'm now using, but I'm still experimenting with more in production.

Like how well was it worth doing, because with character animation, that's already a very difficult thing on its own in 3D and then in motion capture, you need to really set up your character correctly for it to work well.

So there's a very niche situation within the niche. So these are tools I don't end up using that often.



**Tim Bennett:** Incredible and I was actually scrolling through your Facebook page and I was looking at some of your work and I must say it's pretty outstanding, but I noticed that you don't just do animation, that you also do beam shows and other types of shows.

**Pieterjan:** Yeah, I do both.

I mean, a beam show is animation in a sense as well of course.

It's more also about, I think, about colour... your colour vision, because that goes beyond animation - colours, colouring and can be a different profession, even in the animation industry.

But yeah, I do do beam shows of course, obviously I do like to see beams as well, or both...

But when you see like a show like [Anthony Garcia's](#) work, for example, you know, you just want to make something, you want to make a beam show and then people still choose that over most things.

Corporate clients would love animation because it can tell a lot, but most people in general would go for beam shows, obviously, because you get that...

...you're inside the beams or you're inside a cone or whatever or even if it's above you, it doesn't matter, you feel, you see that depth that really encapsulates you.

But for me, just animation just makes sense.

I mean, I like it.

I like cartoons.

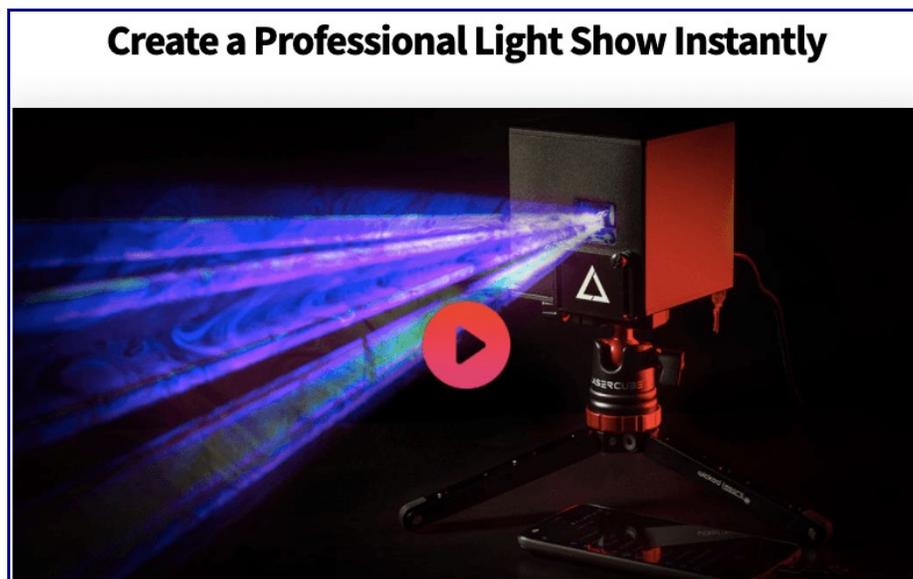
I actually, despite me wanting to be like a mechanical designer before I discovered laser, there's something about making things move and making it seem come alive, it's just really mesmerising and it just you'd never get enough of it, you know?

**Tim Bennett:** Well that's fantastic.

You sound like you could talk about this for hours and hours.

And in a moment we're going to actually take a look at some of your work, which I'm looking forward to...

I'm here with Peter Ruysch right now, he's a professional laser animator and we'll be back in just a moment...



[Find Out More Here](#)

**Tim Bennett:** So welcome back.

This is Tim Bennett from ArgonTV and I'm really excited because I'm being joined by Peter Ruysch, who's a professional laser animator.

And we're gonna take a look at some of his work now...

So Peter... give us a tour!

**Pieterjan:** Sure. Alright. So what I'll do is, I'll switch my camera to the video camera, so you can also see laser outputs.

So here's some graphics I made, so for example, I'll show you something that really people find unique about my graphics...

So I'll open this frame up here and you'll notice something's really strange when it opens up...

It looks really distorted that as you can see, it doesn't look right, I think, so when I click "show it now" on this, you can see that the projection, I'm not sure, I can't see my own camera feed...

But it looks great on the camera, if you can confirm it, I obviously can't see my own camera.

So I'm actually using a special technique, to make the laser, actually never reach its destination of projection, basically.

So it's, when a laser has two set of galvos that are steering and laser dots never keeps up entirely...

In fact, graphics usually tend to distort and I actually make use of that distortion to make my graphics more efficient.

So here you can actually see that graphic on my screen turns out to be a really good looking graphic.

This is like how I make complicated 2d frames that people are seeing on Facebook.

And they're like, wondering like, *"Hey, how can you display so much?"*

Then basically this is how.

So another thing I have loaded in here is a 3d example.

So I have here loaded a sequence, all the dolphins swimming, and you can see there, it comes and I will just delete that little fish in the back there.

I forgot to remove it.

I just rendered it out really quickly, so we can get a real time preview, which is, I think not working properly, but that doesn't matter.

So this is how I make my 3D animation.

For example, a swimming dolphin and you can see it's like following a path of lines and splines and stuff like that.

And you know, sometimes when your deadline is very short, just being very creative about how you make your animation can save you a lot of time.

Like you can cheat, you know, like for example, a dolphin doesn't have to have a whole internal structure and you can make it distort to a path, you know, stuff like that.

There's, in 3D animation, a lot of tricks to do one thing.

And that's what makes it great.

And that's what makes it so difficult.

Because one person tells you this, and one person tells you that and then you get confused.

So it's really hard to demonstrate it too.

For example, I have here a show that's actually using this frame, I'll just open it right here.

It's this one, you've probably seen it with the beam brush.

So, let me just scroll here.

So this is a part of my show

Let me disable my sound here.

So here you can see that 3D animation that we saw earlier, or you can see like fish swimming around and you can see the dolphin coming in.

You know, this is that one 3D section you just saw.

And then every three scene is its own project file within the 3D software and you rendered it out and then you put it in a timeline and you build basically you build up a whole section of scenes and frames, and that's how you create an entire animation show.

I hope, I'm not going too quick here by the way.



**Tim Bennett:** No, this is absolutely fascinating.

And I actually watched this show earlier today and it's very beautiful demonstration of not just laser animation, but also the beam brush.

I actually talked to [William Benner about beam brush](#) a few weeks ago and just to actually see it in use here is very interesting.

**Pieterjan:** Indeed.

The thing is with the show, I actually made it in, I think about four days.

Which is, I guess, that's quite quite quick.

But definitely with this technology, especially it's still early in, but there's basically my intention was, the whole show was to show people what you can do, but it's not everything, obviously far from it.

But that was my whole intention, really for this entire show.

I'll show you something else.

For example, I also do art exhibitions and they are kind of strange on its own.

So for example, I'll look for project right now because there's tons, you know, it's like a, they call it, "kill your darlings" in the animation industry, where you have a lot of good stuff, but you got narrow it down.

So you got to pick and even then sometimes you don't pick the right thing still.

Let me just see here.

**Tim Bennett:** What I find fascinating about this, just before you move on, is the show that you're projecting right now... This is done with one Laser?

**Pieterjan:** Yes. Yes. Because

**Tim Bennett:** Because traditionally, as you said, we're limited by 1000 points or 1,200 points.

**Pieterjan:** Correct.

**Tim Bennett:** You have so much going on in one scene.

I'm fascinated with that...

Is this something that you taught yourself?

**Pieterjan:** Yes, I definitely.

I did it all by myself.

It's a matter of time.

And that's when you find things, you have an off day and nobody's giving you some work for that day and you're like, *"Hey, I'm just going to play around"* or you see something cool online...

...and you're like, *"How would this translate to laser"* or *"how would I make this work?"*

And then you just play around and you fail or you succeed and that's when you find out things that are really unique to you.

During that time you also develop your own style.

It might be really edgy.

It might be really good.

It might be really funny.

You know, that's up to you.

That kind of reflects your personality in a way and also the way you learn like, for example, this is an old project, of I think it's a bird flying...

I can probably play it, it will probably be very choppy.

Oh, it's fine, you can see a bird flying here, for example, this was made in the rush, but I had to make eyes and I was like, "*well, I don't have time to make good eyes.*"

So what I did was, I saw an online animation of someone making a PAC man thing and saw what does...

...it's just a sphere, for example, inside the eye that basically closes on itself.

So if I, for example, going here, I can close them like this.

They actually just spheres closing.

But the great thing is when you're looking at it from the side, you can't really see that as a sphere, for example, It's all about tricks and cheating to make it translate well into laser.

So if I render the stream out here and I just drag it over to the other monitor so you can see it.

So from here it looks awful, but I am not ever showing that direction.

You know, here, it looks terrible, but if you could just move it to the side entirely,

let me just do that... you cannot make out it's a sphere anymore, that much.

So there's lots of tricks to do one thing right.

And, and this is one of them.

But yeah, this is all self-taught, it's all just through experimentation.

Obviously there are some tutorials, but you know, 3D animation, in general animation, on its own can be very complicated thing.

There's many ways to do things the right way.

There's many things to do things the wrong way.

Sometimes you want to do things the wrong way, because it gives us specific aesthetic.

So, you know, there's lots of mixed opinions on how things should be done.

And the same thing comes for laser animation or laser graphic content creation you know, everybody has their own way of doing it.

So this is kind of my way of doing it.

What I usually do is I blend 2D and 3D frames together because, sometimes 2D saves you time, sometimes 3D saves you time.

For example, I have a Dutch painter called Van Gough.

It's a painter.

That's a very long time ago.

He's very famous in the Netherlands.

It's the famous painter that cut his one ear off and stuff like that.

It's quite a crazy story.

But for example, here I have a face of him, where he's moving around and looking around, and this was made in maybe two hours, one and a half hours, which is quite short if I'm honest, but it's not actually 3D, but he's still looking around.

For example, here, I'm using that thing you mentioned, the hidden line removal thing.

Before you had the 3D conversion software, you had a way to draw 3D frames and I found out a way to do it myself.

So I made this head.

Wrapped around a sphere and because of that, I can make it turn left and right a little bit.

And that was a good enough for me.

You know, when you have a deadline, sometimes necessity pushes you to be creative, to finish a product, because there's a difference between trying to do it

the best way possible, and then not delivering it all, to delivering something that's quite good and actually delivering!

So sometimes there's choices from necessity.

But sometimes if you have all the time in the rules, it's actually not a good thing because you constantly keep changing and changing it and changing and you'll never finish it basically.

So what I actually like about our industry is that we have a hard, really hard deadlines that really pushes us to make it happen.

I think.

**Tim Bennett:** Yes and that's actually one of the questions I was going to ask you.

If someone does have a project, what kind of deadlines are we talking about?

How long does it take you to put something together?

And I know it's difficult to actually give it exact answer, but how long roughly does a client need with you?

**Pieterjan:** Usually about a week. Or a half.

Sometimes more.

It really depends on how ambitious they are and what money they have to spend.

Because you know, it's not only a matter of time.

It's sometimes also a matter of money.

I mean, with the graphics still, it can be as little as a few hours.

It can be as little as a day.

I usually tend to ask for a day, because you know, if something comes up, you know, sometimes someone gets sick or something, you still have that little bit of stretch.

It's very good to have.

You obviously, always want to deliver.

So, I have done a project where they asked like, *"Hey, can you deliver in half a day"* or *"can you deliver in three hours?"*

And then I would deliver a graphic in three hours.

I would really quickly sell onto on top of that in the end deliver on time.

I have made, for example, a graphic for debt mouse that, for example, it looks simple in nature, but it was actually took me two days to make, and it was just an animated graphic.

Uh, so let me actually see if I can find this.

I'm probably can.

So for example, this is an actual thing I made for debt mouse, it looks like it's just a steel frame, but it's definitely not.

This one took two days to make.

And on the laser, it looks flickery, but it's actually made for three projectors.

So that explains, but this is a BPM based animation that you would load into your, in a frame on your workspace.

And it would make things move and things would be like flash around.

It doesn't seem to work right now, but it's what it is, but yeah usually a week is the short answer.



**Tim Bennett:** Okay.

And how would you like it to happen?

Is it best if the client comes to you with an idea or do they come and say, *“look, we have no idea what we want to do.*

*What can you suggest?”*

Which is the way it normally works.

**Pieterjan:** So I usually, you know, because the client's paying for it, you want to realise his vision and you usually a client, even if they have no idea, they usually have a vision somewhere and that's what you kind of want to get out.

So usually I prefer that to have, for them to have an idea because that narrows down the whole troubleshooting and choice, because that costs you time too.

That's essentially wasted, wasted labor.

Which for some, is justifiable, but for most people they would rather have you spent your time on making something, then you working back and forth constantly fixing something that you shouldn't have to fix, you know?

So in that case, I'll take an advisory stance and say, *“Hey listen, I usually know this looks good. I'm trying to see what your, you know, I usually ask the direct question...”*

*What are you promoting?*

*What you're trying to do?*

*What kind of audience do you think is going to come?"*

You know, questions that allow me to advise for a client and try and then try to convince them that the idea works.

Because then, then I can just, I can do my thing.

And if you don't, if you just start making stuff without the client, really approving of anything, you end up doing this whole process of making something, preparing something, you present it to them, and then they're still like, we don't like it.

So you essentially wasted so many days for something they will not even take.

And for them something they're not taking, it's usually something, in their mind obviously, is something they haven't paid for and they're not paying for it because it's not what they wanted.

So I usually rather spend my time making something that I'm more confident about that, that they are actually like, and have, and I usually try to talk to a client or talk to my client that works with that client to make them enthusiastic of an idea and then have them stand behind that idea by showing them little previews of pictures or, you know, work-in-progress things and then see how their reaction is.

If their reaction is very mild and not very enthusiastic, you know, that you're going the wrong direction.

So I think feeling the waters is usually a good, good thing to do.

**Tim Bennett:** Awesome.

Well this is laser animation at a depth that I've never seen before.

It's very fascinating for me.

Very unique and clearly something way above my pay grade in animation.

Absolutely beautiful.

I'm really intrigued as to how you put all this together.

Very nice.

**Pieterjan:** Yeah. It's crazy.

Like the thing is that there's so many, you know, the whole graphics thing with lasers that, it's not just viewing beam shows anymore.

It's literally like you working multiple sections of an industry.

Like you're mixing the movie, animation industry with laser and these industries are probably even way larger than ours, you know?

So it's just that, there's never enough to learn really.

Like even I consider I'm still learning and when people say it's beautiful, it's great, I then look at the other industries, how they're doing on the animation field, and I'm like, we still have a long way to go.

And obviously I still have a long way to go.

For example, on character animation in 3D, I feel like I'm still very early in.

So for example, this is a thing I did with adult swim, this looks great.

I mean, this is like 2D animation at its finest really.

It looks like you're watching a cartoon and then you should see it on the screen, because it's a six laser graphics projection.

So it will never look very good on one laser, obviously.

But yeah, this is like watching an actual cartoon in laser.

It took me a month to make with the team of Adult Swim and took me so little... I basically, the last few days I didn't sleep for about three days and then also did the show.

And I can tell you how ill that can make you working that hard.

But then again, it's also so gratifying when you're like, the storm, the calm after the storm, you know, you're done and people are so happy and you're like, *"wow, this was all worth it in the end."*

And I feel like that's something in our industry that's really a strong thing.

You know, like in a movie, you don't actually get to meet the crowd, that gets to see your show, but with laser shows and animation, you get to be there usually.

And then you get the direct response from your crowd and it makes you so enthusiastic and it gives you like another drive to wanting to be even better and even better.

And even keep like setting the stakes higher and higher and you become really over critical of your work.

So actually, if I'm honest, like with my most of my animation work, I'm actually never happy with it.

But I feel like that's a good thing, because it keeps you... if you're pleased with what you have, that's when you stop learning, in my opinion.

**Tim Bennett:** Yep.

And you're clearly, I mean, the way you talk about it, you're clearly very passionate about it.

And I think it's kind of normal that an artist is never happy with his own work and always want something better.

But I think he made an interesting comment just now about how the technology hasn't really changed that much over the last few years, when it comes to the scanners and the the lasers themselves.

I do believe and I agree with you entirely, the laser animation still has a long way to go and I think it's going to be really exciting, what comes in the future.

**Pieterjan:** Yeah, I agree for sure. Yeah.

For now, like I'm really happy that Beam Brush came.

I was really expected for it to pick up again.

I'm also super happy that Pangolin's been investing in better scanners, digital ones, because they are you know, there's a, there's with graphics there's a whole can of worms when it comes to how graphic should be made and should graphics look, this distorted is on, on my pictures or should we have the make, you know, should we have them look good on screen and then have the computer figure it out for us?

And that's kind of what people always been saying.

There's many programmers who've tried and done it, but it's never been as good as doing it yourself.

I think there's maybe some artistic merit behind some choices when it comes to even optimising your graphics.

Because for example, I actually make some of my line fades actually, intentionally, with an optimisation, not actually fading the intensity of the ending of the lines...

I actually use the lasers speeding up as a way to reduce the intensity as well.

So that's something an algorithm doesn't really do for you, or most of them that I've seen don't do.

I think like there, for example, with the ILDA test pattern, there's a lot of mixed opinions on that as well.

Like, Hey, should we tune to this pattern and, and is a scanner that doesn't do the old test pattern at this size is still a 40K scanner or is it not, you know, there's a whole can of worms there with scan speeds and stuff.

And, and for example, you probably see now on my screen that I work with 30K PPS and it's not because I can't run higher, it's because the majority of people still in the industry use 30K PPS.

And that is a bit of a shame, but you know, for me, let's say like a game developer, you choose the largest portion of the market.

You know, the majority of people that run a PS5, but if only five people have an Xbox, you would obviously go for the PS5 you know?

So even if the other one is better, it doesn't matter as long as the biggest amount of people are on that other side.

And I'm kind of hoping that that switched to the 60K or 40 or 50K starts happening.

But I don't think it will happen anytime soon as for seeing it now, you know, people were pleased with 30.

**Tim Bennett:** Well, I'm fascinated and you definitely have a fan out of me with this.

Very interesting. I could sit and watch you for hours with this.

**Pieterjan:** No worries.

**Tim Bennett:** Yep. Anyway, this is Tim Bennett.

I am enthralled with the conversation I've been having so far with Peter Ruysch.

We've been talking about laser animation and we'll be back in just a moment.

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**Tim Bennett:** So welcome back.

It is Tim Bennett here at ArgonTV.

I'm joined today, I'm very excited because Peter Ruysch is here with me as a professional laser animator and we've just been taking a look at some of his latest animation.

I am a big fan.

You know, you got a new fan here with me.

I love the way you put it all together.

And having worked with laser animation for so long, this is totally different concept of thinking about how to make animation.

But a little bird told me you don't just do animation that you also do animatronics as well...

**Pieterjan:** Correct. Yeah, you know, obviously before laser, I wanted to be in mechanical design because, I really liked, for example, if you have ever heard of a pick and place machine, you know, those, those little suction cups that put like things really quickly on a, on a circuit board, I just love the design behind those things.

I love the fact that you can make things come alive, just like animation.

This is like physical, you know, you're going to touch it.

It's like really there.

And that's something that goes beyond the borders of the screen.

So, performance robotics, mostly called animatronics, is what I really like.

I used to watch puppetry movies from Jim Henson when I was young as well.

So that kind of helped.

So that's kind of actually what I wanted to pursue before I started with laser.

So that's kinda what I do as a side hobby.

I've been learning lots of things from making actual shells of skulls.

You know, this is an actual, we call it an inner skull and this is what you put inside a robot.

And then normally you put a skin on top of it, which you make out of foam.

This is for example, a skin, a template basically, so what you would do is you would uptake a big slab of clay and then you take a wire, you cut slices off it and you put the clay slices on it.

And the thickness of that clay determines the skin width.

You would basically put another mould on top of it and then you basically pour like a sort of gel in there called foam latex.

You'd bake that in the oven like a cake and that would make a robot skin, for example.

And then, for example, I had someone who worked on Ghostbusters and Lord of The Rings to make some eyes and they were too small, but he made me some really amazingly realistic eyes.

They definitely, without the veins, they look very cool.

But yeah, for example, I used to work with silicon caulking at first, to make ears, because it's expensive and then I wanted to do a cheap almost it didn't work so well, so I put that aside.

I even make what now completely fell apart...

I made a robotic jaw, which now is just a mess of things that I need to fix, but it was a jaw of a head and I probably don't have the top of the head here....

No, but this basically, and you put this little coupling on there and they would move the jaw up and down, and then it was on a platform where the jaw could shift left and right up and down.

Let me see if I move it without breaking it...

I don't think I can.

No, I can't.

So I made all that kind of mechanics of wood or fibre glass and stuff like that, to pursue that dream a little bit in the comfort of my own home without any pressure of anybody.

I think it's good to do like something completely different when you're working so hard on animation, which takes a lot of time because it allows you to step away from the screen.

And I feel like if you do another thing on your computer, you're still behind that screen.

You're still sitting on that chair.

So it's not really good for your health, both mentally and physically I think.

So this is why I am actually very happy that I have such a hands on side hobby basically, but I don't have much of the stuff here laying here.

It's mostly in my shed because if I would have all this stuff here, I wouldn't have any space to walk in my room, I think.

I actually did approach some people in industry, some animatronic specialists, because I earned money with laser I had money to invest in learning, something like this, where I pay for people's time to ask questions.

I would make a page of questions and I would ask them because their time is very expensive.

That's kind of how I started learning and then just experimenting and failing a lot.

I bet with this, you fail even more than laser, because it's so, you know, it's like when you do one thing you have to, for example, cast something, If you make a mistake, you have to start all over again and you have to buy all the materials all over again.

Those materials are not cheap at all.

So learning, this is a very expensive thing compared to learning something with software.



**Tim Bennett:** Yeah.

Amazing.

Yeah.

I think it's, you know, we have a fantastic job.

We get to play with lasers and toys and all sorts of things...other people go to offices and this is what we do...

**Pieterjan:** Clock in and clock out...

I mean, it might be a sense of comfort.

I don't know.

But to me it's not comforting at all.

It feels to me, it feels a bit like a you're on a real path and you're just going the same way every time.

To me it's like with laser, because it's so diverse, not all of these things, but some of these things can actually be translated to, you know, to your work.

For example, some somethings are multi-function.

For example, I wanted to capture animation for these robotics.

So I looked into motion capture, and then I was like, well, I make character animation for laser too.

Although not as often, but. I do.

But hey, why not buy a suit also for laser show animation?

And I've only used it, I think twice.

I've never posted it in terms of a laser animation, but I've actually used it on a show and it was great because it made me have a deadline that was same day.

And I made an entire animated Christmas show in literally a day from the, from the comfort of my hotel room.

Just capturing it all, with a suit on and walking through the hallways and stuff.

People probably thought I was nuts because I was wearing like a suit with like the lights flashing and wires coming from me.

And it was like a black Spandex kind of thing, like a black covering suit, you know, it looked really strange.

I actually was going to show it, but I ended up not doing it, is I actually have a motion capture glove here.

Right here, it's hard to see, but it's a glove with sensors woven into it.

If you put it on, you can control every knuckle with your finger in software as well, so you could literally capture your hand motion exactly the ways in real life and stuff like that.

**Tim Bennett:** I don't know if you remember some time ago, Pangolin used to have a product called Glove Puppet.

**Pieterjan:** Yes. I talked about it to them as well.

Very briefly though, where they had a demo video on their old website of I think it was VR Puppeteer.

Something like that and I thought it was cool, but I was actually kind of saddened that nobody ever picked further up on it.

You know, that's kind of where I left and stayed.

And obviously Beyond has Connect, but to me, Connect doesn't feel...

Like it's cool, but it feels very hacky...

It doesn't feel, it doesn't feel like professional industry.

In my opinion, it feels like a little gimmick, you know, you put up for your friends and it's like, "*Hey, that's kinda funny,*" and obviously I might be wrong on that because there's, been some really interesting things with the Connect, obviously.

But this really high end of motion capture with laser, It hasn't really shown its face at all and it's probably because of the steep price, but also probably because the fact that you need to know how to use this and how to deploy it.

And, you know, you need to take care of the equipment.

It's very fragile.

For example, if I would stretch... if I just pulled the glove off, I could

unintentionally break it.

So I have to like carefully inch it off of my hand and I have to wear like a, like a protective inner glove because of sweating, you know, stuff like that.

Like right here, this thing is an inner glove that you would wear inside of it.

I think this is kind of a thing I want to grow in the industry right now.

You know, character animation, it's, one of the things that I'm still learning and it's something that normally you have different...

...in gaming design, for example, you have different departments, just for one character.

You have a character modeller, then you have someone that makes the topology.

That's like the structure of the model that allows it to move properly on joints and stuff like that.

And then you have someone who textures it, like basically paints it, and then you have someone who skins it, which is basically like putting a skeleton inside of it and making the control rigs for the entire character, these are different professions and I'm trying to do it myself.

It's very overwhelming.

Let's just say it like that.

And I do want to learn it though, so I'm not going to stop on that, but it's something that's taking me years

**Tim Bennett:** It's absolutely amazing. I really love what you're doing.

And I'm equally fascinated with the whole concept of laser animation as you are, but you have gone to a whole different degree.

Now, if people want to get in touch with you to have work done, what's the best way for them to contact you?

**Pieterjan:** I think my email or my Facebook.

So my email is [peter@lasercontent.com](mailto:peter@lasercontent.com)

So that's one word laser with an S I hope not a Z.

That's the best way to contact me.

And obviously my Facebook, [Pieterjen Ruysch](#), is another way to do it.

What else?

I mean, some people contact me through Twitter, but I personally it's more personal than it is work.

So, it's my old username from the distant pasts, it's masterpj55.

So those will be the ways to contact me, I think.

**Tim Bennett:** Okay.

Well, I will definitely put the links to your email and your Facebook in the description beneath this video so that people could easily contact you and, I really want to thank you for being here today and spending your time showing us what you do.

I, as I say, I've said three or four times now I'm fascinated with it. I think you're doing an absolutely incredible job...

**Pieterjan:** Thank you!

**Tim Bennett:** I've been, you know, as I was searching through your videos today, you have some really outstanding quality videos.

**Pieterjan:** Actually on my YouTube, I think most of the actual really quality stuff are actually hidden because of the fact that they're for individual clients and the clients are like, "you can't share that!"

That's just for me, you know, it's like, so I feel like I'm holding back a lot more things that people even think that they're seeing.

**Tim Bennett:** Okay. Well, thank you very much for being here with us today on ArgonTV.

I've really enjoyed talking to you and seeing what you do, and I'm sure we'll be talking again in the near future.

Thank you very much!

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