

Creating Art from Fluid Dynamics

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[Facebook](https://www.facebook.com/lindengledhill)

[Promo reel](#)

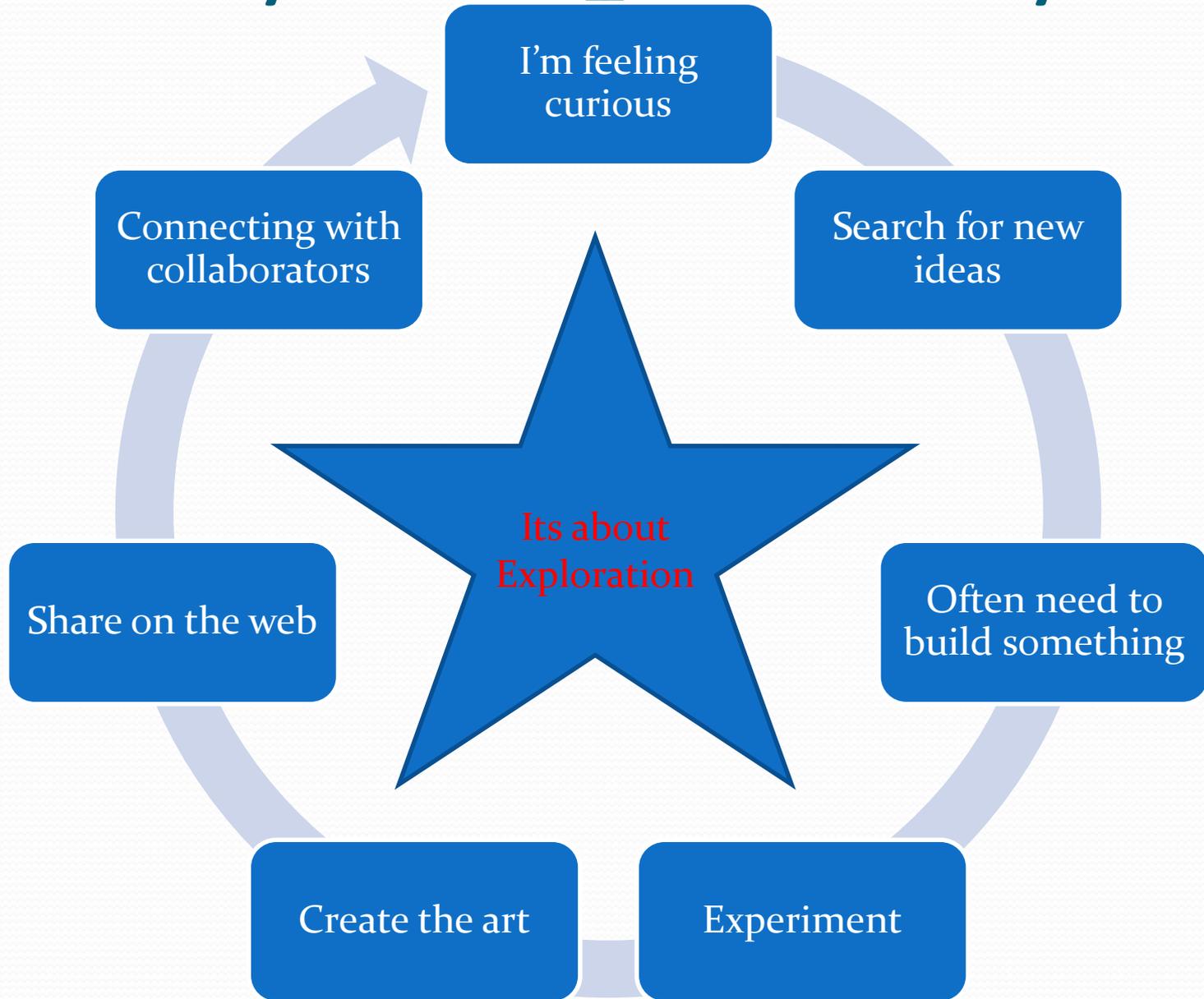
Topics

- Why I do what I do
- Curiosity driving creativity
- Case studies
 - Getting known via the web, Canon Pixma
 - Example of curiosity driving collaborations, the ferrofluid story
 - Jon Hopkins Album
 - Exxon Mobil
 - GMC Denali
- Please ask questions?

Why I do what I do

- Started photography at a very early age
- I've always liked making things with my hands
- My professional science based career and artistic expression overlap and balance each other
- I enjoy combining science and photography to create visual images which convey a feeling and message
- I do what I do because of curiosity which has continued throughout my life, I've never stop playing

Curiosity driving creativity



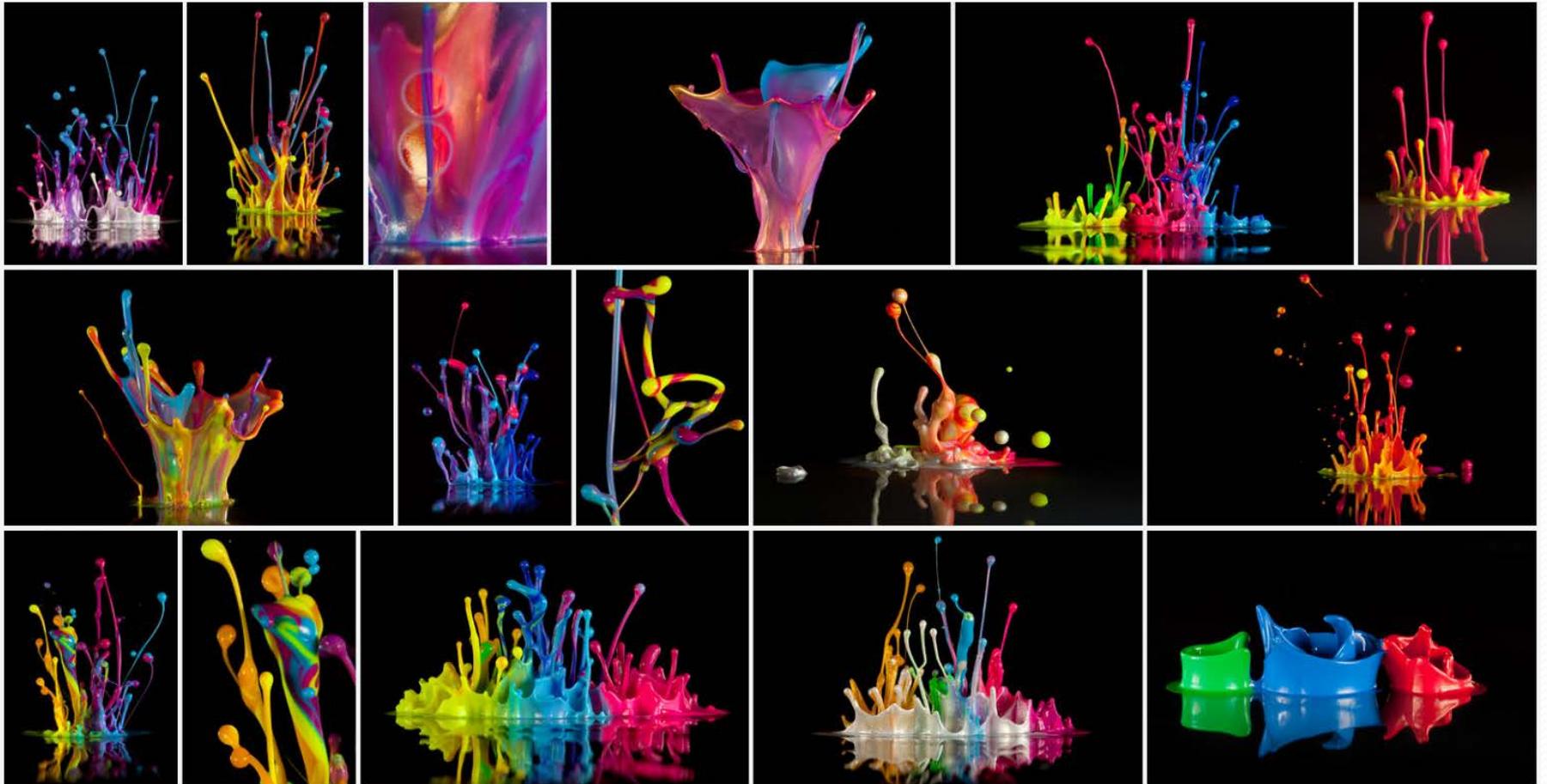
Becoming known via the web

Canon Pixma

- I've experimented with photography all my life
 - Started a flickr page in 2007
 - My first commercial project came from experimenting with high speed photography of paint splashes
- Canon project brief:
 - Create a web advertisement to promote Canon's Pixma printer range
 - Create stills for billboards and magazine promotion
 - Generate publicity by telling creative back-story
- Creative Process:
 - Create a technique to image paint splashes driven by sound and capture stills and high speed video footage
 - Set up effects in a film study in London
 - Create stills using high speed flash and support high speed film crew.

Pixma advertisement

Behind the scenes, the making of



Case Study, Ferrofluid

- Project brief:
 - Personal curiosity of the behavior of ferrofluid, a colloid of hematite suspended in solvent which was invented in 1963 by NASA
- Creative Process:
 - Explored the reflective surface of ferrofluid and posted images on Flickr
 - Exposure lead to multiple collaborations including typographer Craig Ward and film produce Mike Pecci

Ferrofluid reflections



[Flickr ferrofluid album](#)

Ferrofluid glyphs

- Web research led to an academic paper¹ and exploration of ferrofluid responses to spinning magnetic fields
- Created equipment to generate unique shapes which were photographed and this led to a collaboration with typographer Craig Ward
- Kickstarter³ raised \$50K with over 700 letter press prints shipped all over the world
- Typeset was used for academic research into language evolution in Nature²

¹[Scott Rhodes et al](#)

²[Christine Cuskley](#)

³[Kickstarter](#)

Ferrofluid 12km

- Exposure on the web led to collaboration with film director Mike Pecci¹
- Created 30 min horror short called “12km” set in a Russia in the 1970’s based on the drilling of the Kola Superdeep Borehole⁴
- Ferrofluid became the monster³ which invaded the minds and bodies of deep well drill team

¹ [Mike Pecci](#)

² [12km Promo](#)

³ [The making of](#)

⁴ [Kola Superdeep](#)

Case Study, Musician Jon Hopkins

- Project brief:
 - Create promotional video and vinyl sleeve artwork for new album “Immunity”
 - Generate publicity by telling creative back-story
- Creative Process:
 - Listen to music and interview Jon to translate music into visuals
 - Develop time-lapse and real time video special effects and stills
 - Work with creative director Craig Ward to translate visuals into finished products

Olympus BH2-UMA with epi-bright/ darkfield and polarized light



Immunity, finished commercial artwork

[Short](#)

[Long](#)

[Behind the scenes](#)

[Flickr liquid and crystals](#)



Case Study, Exxon Mobile Biofuels

- Project brief to:
 - Create algae and oil special effects and 4k video footage for national TV advertisement
- Creative Process:
 - Cultivated multiple species of algae and filmed them using DIC microscopy
 - Created micro-bubble special effect and filmed under reflected light
 - Worked with BBDO creative team and production to complete advertisement

Finished TV advertisement

TV advertisement



Case study, GMC Sierra Denali truck promotion

- Project brief:
 - Create special effects to represent chrome grill, active dampening suspension, noise cancellation and smooth engine
 - Create video content for nation wide TV advertising campaign
- Creative Process:
 - Created special effects in home study and make equipment as needed
 - Pilot effects ahead of film shoot
 - Ship equipment and support film crew in film studio in Detroit

Case study, GMC Sierra Denali truck promotion

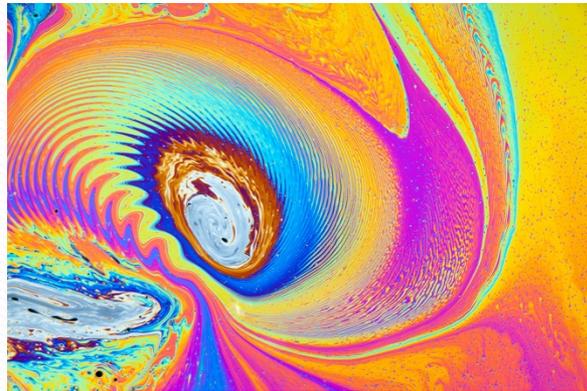
- Magnetic ride control using ferrofluid
- Noise cancellation with colliding droplets of water
- Signature chrome grille using flowing gallium
- Smooth engine sound using glass shards on Chladni plate

Thank you, questions?

- Smoke vortex



- Soap films



- Rayleigh-Taylor Instabilities

