Art, outreach and pattern formation

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Roberta Buiani, Ron Wild,
Antony Chen, Michael Rogers,
Quinsin Nachoff
and many others ...
or ....

my adventures
wandering the art world
The simple idea:

Present scientific images of natural and laboratory nonlinear pattern formation as *art* and get away with it by calling it *outreach*.

- Gallery and outdoor art shows
- Salon events at the Fields Institute
- Open data archives
- Musical collaborations
I was hooked on pattern formation when I saw this ...

Smectic electroconvection, 1990
Smectic electroconvection, 1990
Pattern formation images as scientific folk art

The scientific field of pattern formation has developed a distinct aesthetic sensibility, informed by mathematics and physics, but inherently visual and dynamic.

This aesthetic is an essential motivation for the scientist (i.e. me). Like other forms of “outsider art” — i.e. art not made by people professionally trained as artists — it can easily cross over and enter the “normal” art world, which relentlessly seeks novelty.
Spiral defect chaos presented as art in a gallery, **20 years later**. The *twisted* show at the Project Gallery, Toronto, Nov. 2013.
Spiral defect chaos presented as art in a gallery, 20 years later. The twisted show at the Project Gallery, Toronto, Nov. 2013.
Some laboratory patterns ...

An injected buoyant plume with an unstable head

Plumes and smectic convection video in the Project Gallery
Perpetual Motion show,
Toronto, June 2013
Some laboratory patterns ...

*Chaldni patterns on a square plate for increasing frequency*
Some laboratory patterns ... A live Chaldni pattern performance in The Project Gallery
The Icicle Atlas

An open access database containing thousands of images of icicle shapes, hundreds of time lapse videos and 3D printable files.

Some natural patterns ...

Phyllotactic defect in corn
Some natural patterns ...

*Bisected brussels sprout*
Outdoor art shows: once you convince a jury, they give you a tent ...

Stephen Morris

art / physics
pattern formation

Riverdale Art Walk 2013
Outdoor art shows: once you convince a jury, they give you a tent ...
Or maybe just a storefront ...
Or maybe just a storefront ... next to the Hungarian restaurant
Post retirement art ventures in Vancouver ....

Art in the City Show 2024
Post retirement art ventures in Vancouver ....
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Art in the City Show 2024
The Map and the Territory
at the Red Head Gallery
Toronto, a show jointly
with artist Ron Wild

Gallery show
The Map and the Territory
at the Red Head gallery
Toronto, a show jointly
with artist Ron Wild

Nonlinear Map
by
Ron Wild
The Map and the Territory at the Red Head gallery Toronto, a show jointly with artist Ron Wild

HD TV in the gallery showing segregating chains and many other videos
The segregation of two colored chains
Opening
The Map and the Territory
The ArtSci Salon at the Fields Institute of Mathematical Science

A regular evening meet-up with short talks by artists and scientists, followed by a trip to the pub.
An ArtSci Salon by Prof. Kari Dalnoki-Veress, presented in the Red Head Gallery during the Map and the Territory show.

A physics talk in an art gallery …
Musical collaborations

*Patterns from Nature*, a major multimedia composition

Quinsin Nachoff, composer and saxophonist
Musical collaborations

Patterns from Nature, a major multimedia composition

Featured four pattern-themed movements, Branches, Flow, Cracks and Ripples

each accompanied by a video by a different film maker
Musical collaborations

Patterns from Nature, a major multimedia composition

Lee Hutzulak
Gita Blak
Udo Prinsen
Quinsin Nachoff
Tina de Groot
Stephen Morris
Musical collaborations

Patterns from Nature, a major multimedia composition

Branches, with video by Tina de Groot
Musical collaborations

Patterns from Nature, a major multimedia composition

Ripples, finale, with video by Udo Prinsen
Conclusion

Pattern formation can be art or can be used to create art or can just be used to create interesting conversations and collaborations with art people.

Art can be outreach and outreach can be art.