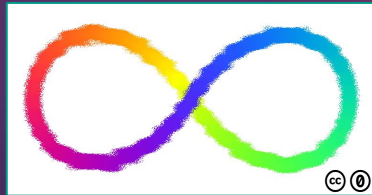


# A Society for Autistic Women in Science

Jay van der Reijden

Postgraduate Student, Archeology Institute,  
Orkney College

#ChooseToChallenge  
Equality, Advocation, Audacious



# What's going on?



## **Outline of presentation:**

- \* What is autism
- \* Women's expressions of autism
  - \* Their own Venn diagram
- \* Dedicated organization's benefits
  - \* Steps to start one

## Autistic women scientists

- ★ Conjoin into a distinct minority
- ★ No formal proactive support system
  - *ie.* No professional organization exists
- ★ Their own learned society would benefit all

### **Within this presentation, I use:**

*Female & Male* for biological sex  
*Woman & Man* for gender identity,  
with woman inclusive of Third Sex  
and Nonbinary identities



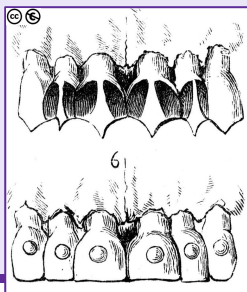
# Herland: My story

Two MSc 20 years apart: 1996 Zoology & 2014 Bioarchaeology  
Left from negative experiences & lack of support  
15 years as a professional stone sculptor

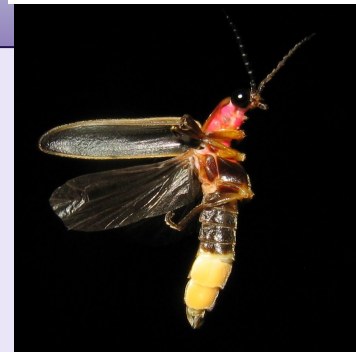
April Fool's Day 2016: late-in-life identification at 46

2018: 3rd masters with registered autism

In looking for role models & cohorts  
There's no support association!



Phylogenetics of North American *Photinus*



[http://commons.wikimedia.org/wiki/File:Photinus\\_pyralis\\_Firefly\\_3.jpg](http://commons.wikimedia.org/wiki/File:Photinus_pyralis_Firefly_3.jpg)

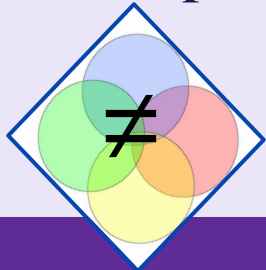
I am passionate about supporting autistic women in science because I only had the courage to engage in this thesis after my own diagnosis; it gave me solidity in my own intelligence by explaining why I see things others do not.

# Autism Spectrum Disorder, medically

UK follows World Health Organization's  
International Classification of Diseases

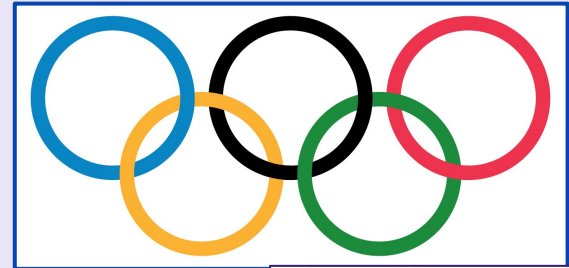
But...

- \* current ICD-10 is from 1992
- \* ICD-11 is coming May 2022  
developed 2017, refined 2019



Defines four 'levels' autism; yet  
research already shows datasets  
cluster into five profile groups

30 years ago! So out-of-date that  
many apply 2013 American  
Psychiatric Association's DSM-V  
which subsumed all into one



# What is autism?



**An overwhelming amalgam**  
Combination of genetics and environment  
creating varying gene expressions  
with cognitive and sensory differences

## Past use of term Asperger's

- \* most academics and associated with higher than average intellect
- \* will be ICD-11 Level 1
- \* *aka.* individuals without cognitive impairments who are able to live independently

ASD = Autism Spectrum Disorder

## The 3D stances:

**Disease (curable)**

**Disorder (disability)**

**Different (diversity)**

## Neurodiversity

Autistic vs. non-autistic

Neurotypical vs. neuroatypical

# Autistics advancing science

## The Pattern-seers

The most exciting phrase  
to hear in science,

The one that heralds  
new discoveries,

Is not 'Eureka' but

'That's funny...!'

– Isaac Asimov

Proximal views

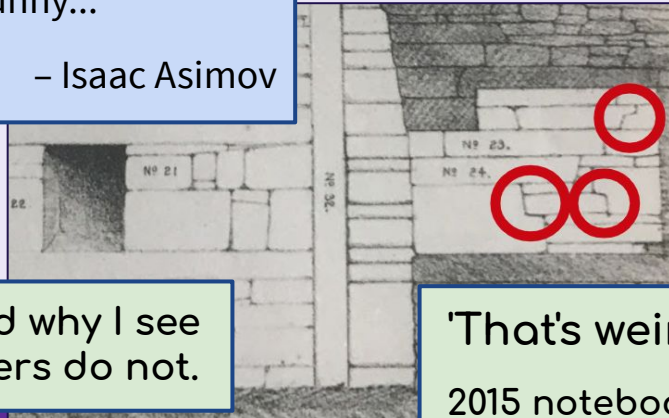
Alignment with the subject's viewpoint

Lowered biases to delusions of reality

Cognitive dissonance

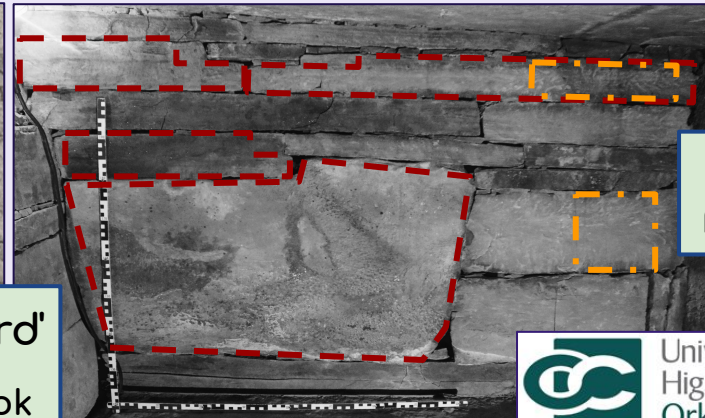
Seeing what is there; not what you expect to see

Reduced sway by suggested false memories



It explained why I see  
things others do not.

'That's weird'  
2015 notebook



2020  
publication

# How autistic cognition works?

Leading to positive & negative social-interaction issues

- \* Thoughts like search engine
- \* Literal B&W thinking
- \* Accurate
- \* Once decided, adamant
- \* Ethical (not moral)
- \* Unswayed by social influences
- \* Equality
- \* Gender dysphoria

Fear is the main emotion

- Temple Grandin

**Not emotionless; so overwhelmed unable to respond**

Social-interaction insecurities also arise from dealing with neurotypical social norms & their 'white' lies, inaccuracies and obsessive 'special interest' in social interactions

# Women's autism: the stats



✧ Male to female ratios, now

1:2 to 1:1.5; rather than 1:4 or 1:3 when include non-clinical women, *ie.* those without a official diagnosis.

Many women avoid diagnosis fearing the label

Old ratios labelled as 'Female protective effect'

lower testosterone = 'milder autism'

But... based on:

- ✧ Male-based dataset for investigations & diagnostics
- ✧ Well-funded research of the female experience only began mid-2018

Although proposed in 2002 by Ava Ruth Baker





# Comorbidity in autistic women

## Autism has a high number of comorbidities

Autistic women had a median of **16 comorbid medical conditions**, ... men had a median of 10, ...  $p = 0.01$

- Caroline Krassee *et al.* 2020  
reviewing Jones *et al.* 2016

Krassee *et al.*'s meta analysis finds a 7% higher prevalence for mutual issues relative to either autistic males or non-autistic females

Including, across the autistic population

ADHD                  Learning disabilities  
Dexterity issues        IBS/Dietary issues

Prevalences repeatedly higher in women

Anxiety                  Alexithymia        Eating disorders  
Depression              Epilepsy              Asthma                  PTSD

They also experience higher levels

Sexual, Physical & Mental Abuse  
Experience of & Overall Stress

# Expressions of the female phenotype

## Meng-Chuan Lai's lab began id'ing 2011

### Genetic

- \* Gene expressions & gene-environmental interactions affect differently
- \* Paternal age affects female's autism severity (& not males)
- \* Alexithymia (recognising and identifying the bodily sensations of emotions)

### Social

- \* Greater social-interaction desire & more cooperative
- \* Results in conforming (to reduce bullying)
- \* Fake it 'til you make it (Camouflaging)

### Neurological

- \* Same task, different neural pathways from autistic ma



# Paucity of women scientists

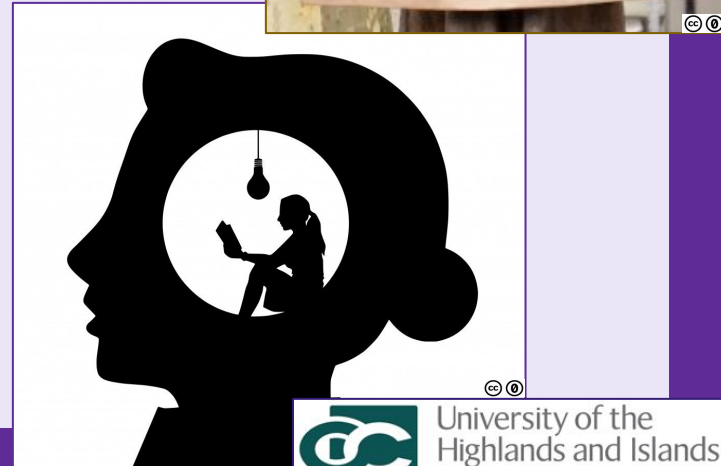
## Systemic Sexism

### Continued suppression of women in STEM

- \* Careers: 2/3rd student body but 1/3rd instructors
- \* Publications:  
throughout the event, on multiple variables
- \* Pandemic volumizing differences

### Continued suppression of women

- \* Women "to behave" as women
- \* Imposter Syndrome



# Paucity of autistic scientists

## Strange oppositions

### Negative events:

Abandonment in social relationships  
Steadfast in research specialty

### Cognition:

High intelligence  
Poor decision making

### Ethics (the truth):

Socially gullible  
Won't reveal a secret

### Results in:

- \* High numbers of school leavers
- \* Unemployment / minimum-wage

"It seems that  
for success  
in science or art  
a dash of autism  
is essential."

~ Hans Asperger

<https://www.flickr.com/photos/72616463@N00/4014164851>



I rarely think in words at all. A thought comes, and I may try to express it in words afterwards

- Albert Einstein

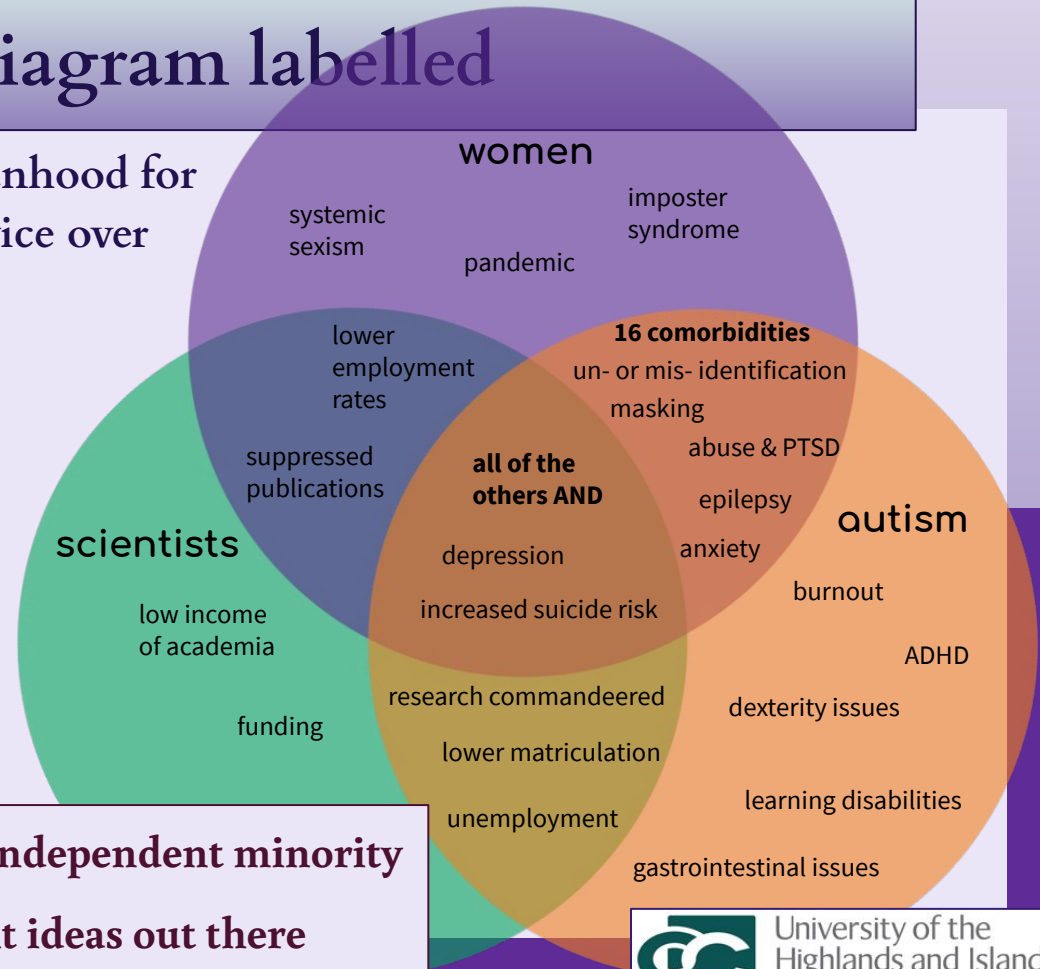
# The Venn diagram labelled

The combination of autism and womanhood for scientists are a disadvantaged group twice over

Mimicking neurotypicals because they want to appear normal, and not in need of help

∴ not identified by neurotypicals so they aren't offered help

≠ the underlying cognitive processes are still autistic, often exposed in a catastrophic manner, initiating full-scale burnout



**Autistic women scientists are an independent minority  
with probably lots of brilliant ideas out there**

# Autistic Women in Science Association

A professional society for autistic women in science benefits us all

For autistic women

Powerful Advocacy

Dissolves Isolation &

Provides Resources of  
Role Models & Colleagues

For everyone

Resource for working with autistic  
women colleagues

Information of autistic social norms

The  
Benefits  
of  
AWiSA

Scientific societies can play a significant role ... through the creation and implementation of programs to foster STEM academic workforce diversification, and by providing mentoring and skills development training that empower scientists from under-represented minority backgrounds to succeed in their communities of practice.

- Segarra *et al.* 2020

*A Community of Practice becomes a  
Learned Society if the primary aim is  
to improve Student Engagement*

# Autistic **Minorities** in Science Association

A professional society for autistic **minorities** in science benefits us all

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*A Community of Practice becomes a Learned Society if the primary aim is to improve Student Engagement*

# Advocacy: Inclusion



## If they can do it I can too

It is never too late to expand the mind of a person on the autism spectrum.

- Temple Grandin



### Role models

Mentoring system

Source for collaborations

### Assistance

Remove onus on student

Space to query norms

### Positive stories

Not a failure at life

Be visible by  
self-labelling

It is a relief, a vindication.  
I'm not mad, bad or sad.

- Laura James

### Add to email signatures?

A. Jay van der Reijden  
(pronouns: she/her;  
neurodiversity: autistic)



University of the  
Highlands and Islands  
Orkney College



# Hunting for "autistic women who are scientists"

# Advocacy: Visibility

## The need, because:

autistic BAME who are scientists

History's 30 Most Inspiring People on the Autism Spectrum  
<https://www.appliedbehavioranalysisprograms.com/history-30-most-inspiring-people-on-famous-autistic-people-in-history-dan-ajkroyd/> – Comedian/Actor Hans Christian Andersen Benjamin Banneker – African American almanac author, surveyor, naturalist, and farmer ... Burton – Movie Director Lewis Carroll – Author of "Alice in Wonderland" Henry ...

the causes of autism  
<https://www.autism.org.uk/advice-and-guidance/what-is-autism/the-causes-of-autism>  
Autism and BAME people ... Evidence suggests that autism may be genetic. Scientists have identified which genes might be implicated in autism for some years. Autism is likely to have

autistic women who are scientists

<https://www.spectrumnews.org/features/deep-dive>  
**Righting the gender imbalance in autism studies | Spectrum ...**  
Some scientists are finally beginning to include women and nonbinary people in their studies by Emily Sohn / 13 March 2019. illustration by: Andrea Mongia ...

[https://en.wikipedia.org/wiki/Temple\\_Grandin](https://en.wikipedia.org/wiki/Temple_Grandin)  
**Temple Grandin - Wikipedia**  
Mary Temple Grandin (born August 29, 1947) is an American scientist and activist. She is a ... The Autistic Brain also contains an extensive review of scientific studies that provide evidence that object-visual thinking is different from ... In 2012, Grandin was inducted into the Colorado Women's Hall of Fame. In 2012, Grandin ...  
Early life · Career · Personal life · Honors

<https://www.the-scientist.com/news-opinion/meet-th->  
**Meet the Autistic Scientists Redefining Autism Research | The**  
11/06/2020 — Both is part of a growing community of autistic scientists. A researcher lamented that girls with Rett syndrome have no soul ...  
You visited this page on 22/02/21.

People also search for  
the scientist com bias bias science news articles  
monique botha surrey university temple grandin  
aaspire autism spectrum disorder ner

autistic women who are scientists

Web Images News Videos Maps More

### Autism in Women: Symptoms, Causes, Diagnosis, and Treatment

<https://www.healthline.com/health/autism-in-women>  
This is the firsthand account of Temple Grandin, PhD, one of the most well-known women with her perspective as both an accomplished scientist and woman living with autism. Women...

### autistic women and girls - National Autistic Society

<https://www.autism.org.uk/advice-and-guidance/what-is-autism/autistic-women-and-girls>  
Lorna Wing (renowned psychiatrist and co-founder of our charity's first diagnosis centre) found on autism and sex ratios in early childhood, that among people with a diagnosis of 'high-functioning Asperger syndrome (as it was called at the time) there were 15 times more men and boys than girls while in autistic people with learning difficulties, the ratio of men and boys to women and girls

### The Autism Dilemma for Women Diagnosis | Organization for ...

<https://researchautism.org/the-autism-dilemma-for-women-diagnosis>  
...ing gender differences in autism and women. Women with autism are often misdiagnosed in the workplace.

autistic women who are scientists

**The Unexpected Connection Between Estrogen & Autism**  
255K views · 1 year ago  
SciShow  
There's a lot we don't understand about autism spectrum disorder, but a new study has found a ...  
Subtitles

**What Women With Autism Want You to Know**  
3.1M views · 2 years ago  
Iris  
Here's what women with autism want you to know. Still haven't subscribed to Iris on YouTube? -> <http://bit.ly/substhecase>  
About ...

**Invisible Diversity: A Story Of Undiagnosed Autism | Carrie Beckwith-Fellows | TEDxVilnius**  
496K views · 3 years ago  
TEDx Talks  
What is autism and why is it difficult to get it diagnosed? In her talk Carrie shares her own personal journey towards

autistic women who are scientists

ALL WORK IMAGES VIDEOS NEWS

4,940,000 Results Date Language Region

See work results for autistic women who are scientists

Why am I seeing this

**The women who don't know they're autistic**  
<https://theconversation.com/the-women-who-dont-know-theyre-autistic-80991> - A team made up of Australian scientists Sarah Ormond, Charlotte Brownlow, Michelle Gamett, and Tony Atwood, and Polish scientist Agnieszka Rynkiewicz, is currently perfecting a specific...

**Temple Grandin's Story: A Remarkable Woman With Autism**  
<https://www.webmd.com/brain/autism/features/temple-grandins-autism...>

Synopsis Reviews Academic career Film Clinical significance

Temple Grandin, a new film biography about the best-selling author, renowned animal scientist, and

# Advocacy: Policy changes

Actively disassembling discrimination

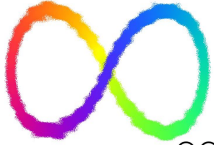
Increased matriculation & decreased bullying when cohorts autism-informed

Challenging abuse

Identification of sexual; intellectual

Prosecuting: Acting as representative

Certifying autism-friendly environments



# Resources: Understanding each other

## The Double Empathy Issues

which is that neurotypicals hold biases against autistic *and vice versa*

Catherine Crompton's lab has shown,  
multiply, neurotypical-autistic  
interactions go less well than  
similar-type wiring ones

We neurotypicals  
have issues!

- Mary Donahue

## Never going to "get over" fears

Fear is the main emotion in autism

- Temple Grandin

My brain is a jewel. I am in awe  
of the mind that I have. I and  
my experience of life is not  
inferior, and may be *superior*,  
to the NT experience of life

- Muskie in Connor 2013

emphasis original

# Resources: Autistic social norms

## Etiquette guides for all

### As an example:

Pause after a question. The autistic mind generates 'google results', tons of answers within milliseconds.

Time is needed to sort through what was meant by the question and what is the least dangerous answer.

Just like the Western view of reality is not the only reality, neurotypical social norms aren't just the only kind

autistic people are called on to understand and appropriately respond to the social logic of non-autistic people, yet non-autistic people often fail to appreciate that “autistic behavior” contains its own logic and that this also deserves recognition and respect.

- Cara Ryan Idriss

# Resources: Translation services

From my own personal attempts, communications initiated by

'I think, uhm, that I, uhm, might possibly(?) have an idea'

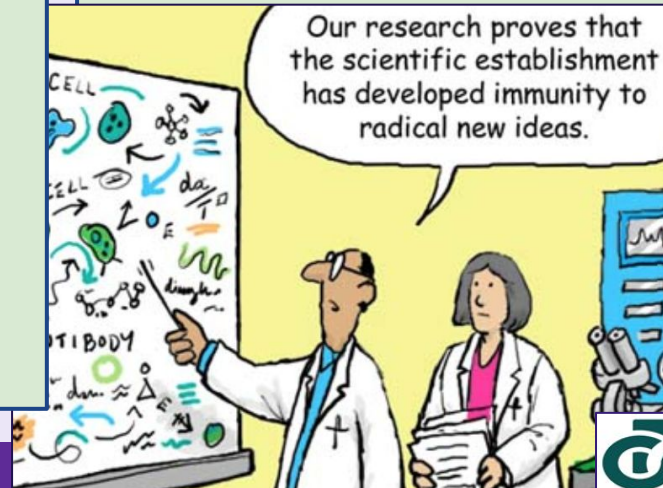
requires the neurotypical translation to:

'I've collected and collated the data, I've run the results, I've searched the literature and the resultant publication is at least in outline format'.

The *idea* of confrontation makes me feel as if my very existence is under threat

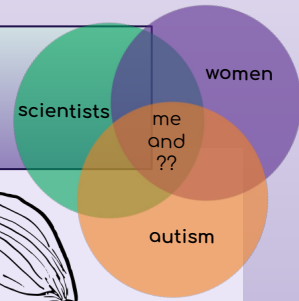
- Laura James (emphasis added)

Autism's overwhelming fear means you are absolute in your findings before taking on the lethal task of discussing it with anyone else



<https://www.chrismadden.co.uk/cartoon-gallery/?s=a531>

# Engendering a learned society



## Current support systems

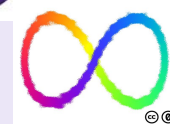


Autistic researchers' committee at the International Society for Autism Research



Autistic Women & Nonbinary Network

Social Media: Facebook (closed groups)



### Mission statement:

A registered-charity professional society to support and promote autistic **minorities** involved in scientific studies by endeavouring a welcoming, accepting space for it's autistic members while also advocating and supporting their advancements in the public world.



University of the  
Highlands and Islands  
Orkney College



## FEEDBACK



**EQUALITY  
ADVOCATION  
AUDACITY**

**[jayvdr@gmail.com](mailto:jayvdr@gmail.com)**

## Acknowledgements

Helen Inkster, Clinical Psychologist  
Dr. Mitya Schoppe  
M.D. Campbell  
Rory Donnelly  
My family

UHI Learning & Teaching Academy  
International Women's Day