

The image features two identical figures standing side-by-side against a solid blue background. Each figure is wearing a long-sleeved, floor-length dress made of a transparent material. The dress is decorated with numerous thin, vertical lines in shades of red, blue, and yellow. A heart-shaped necklace is worn by each figure. The hands are visible, showing small white devices or sensors attached to the fingers. The overall aesthetic is futuristic and scientific.

Jenny Tillotson PhD RCA FRSA

science *smell* fashion

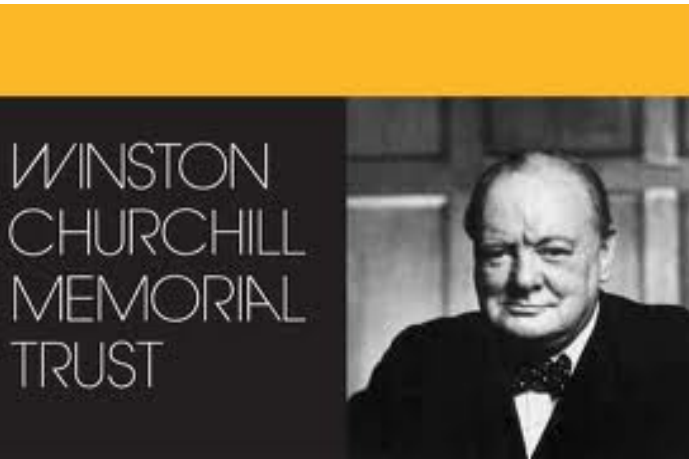
biofeedback
scent interventions
to complement orthodox
treatments for chronic mental illness

Winston Churchill Travel Fellowship

Establish a new project in **smell communication and olfactory tracking** (e-nose)

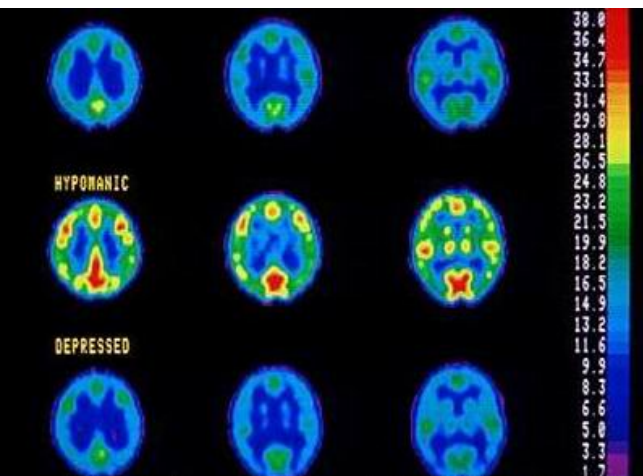
Personal CRUSADE: design **behaviour change** to benefit me:

1. Academic
2. Designer
3. Mother
4. Wife
5. Entrepreneur - *exploiting wearable technology and smell*

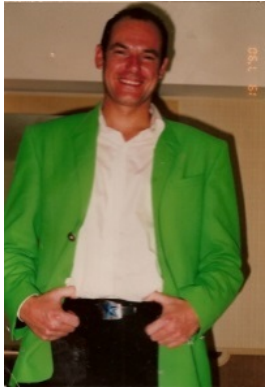


Informed by

- living with and managing long-term mental health condition (bipolar 20+ years)
- At times MUTE and unable to communicate
(Ironical? Fashion is a form of expression and communication)
- Ashamed to have an illness – **STIGMA** around 'being sick' = social isolation



What Drives Me?



Bipolar I

Motivation to
PREVENT Triggers

Invent a simple but effective way to manage a better life
– **reduce stress / improve sleep / increase confidence**



Bipolar II

Is it 25-50-75% ?

(both parents with the
bipolar gene)



[Personal quest]

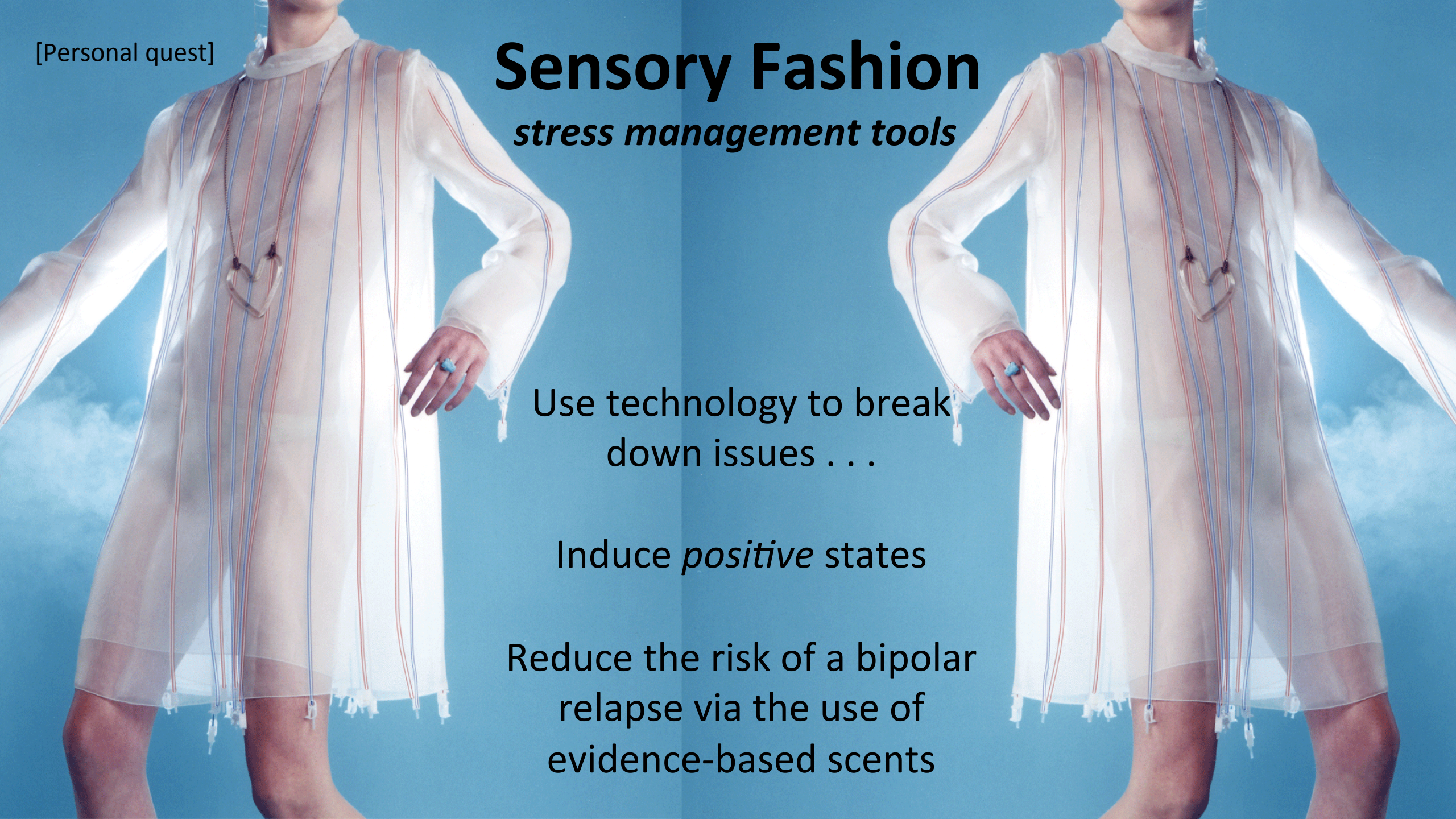
Sensory Fashion

stress management tools

Use technology to break
down issues . . .

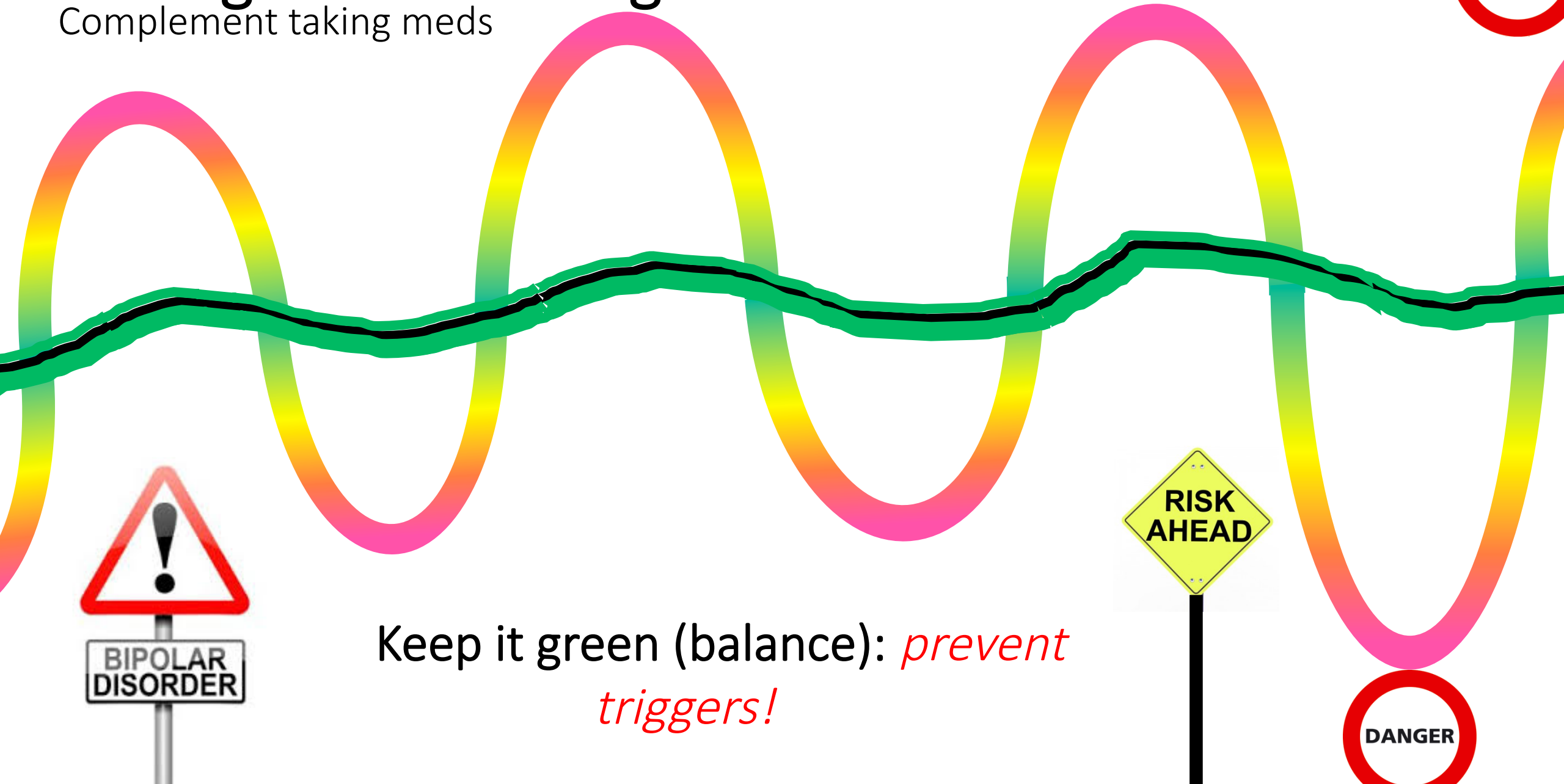
Induce *positive* states

Reduce the risk of a bipolar
relapse via the use of
evidence-based scents



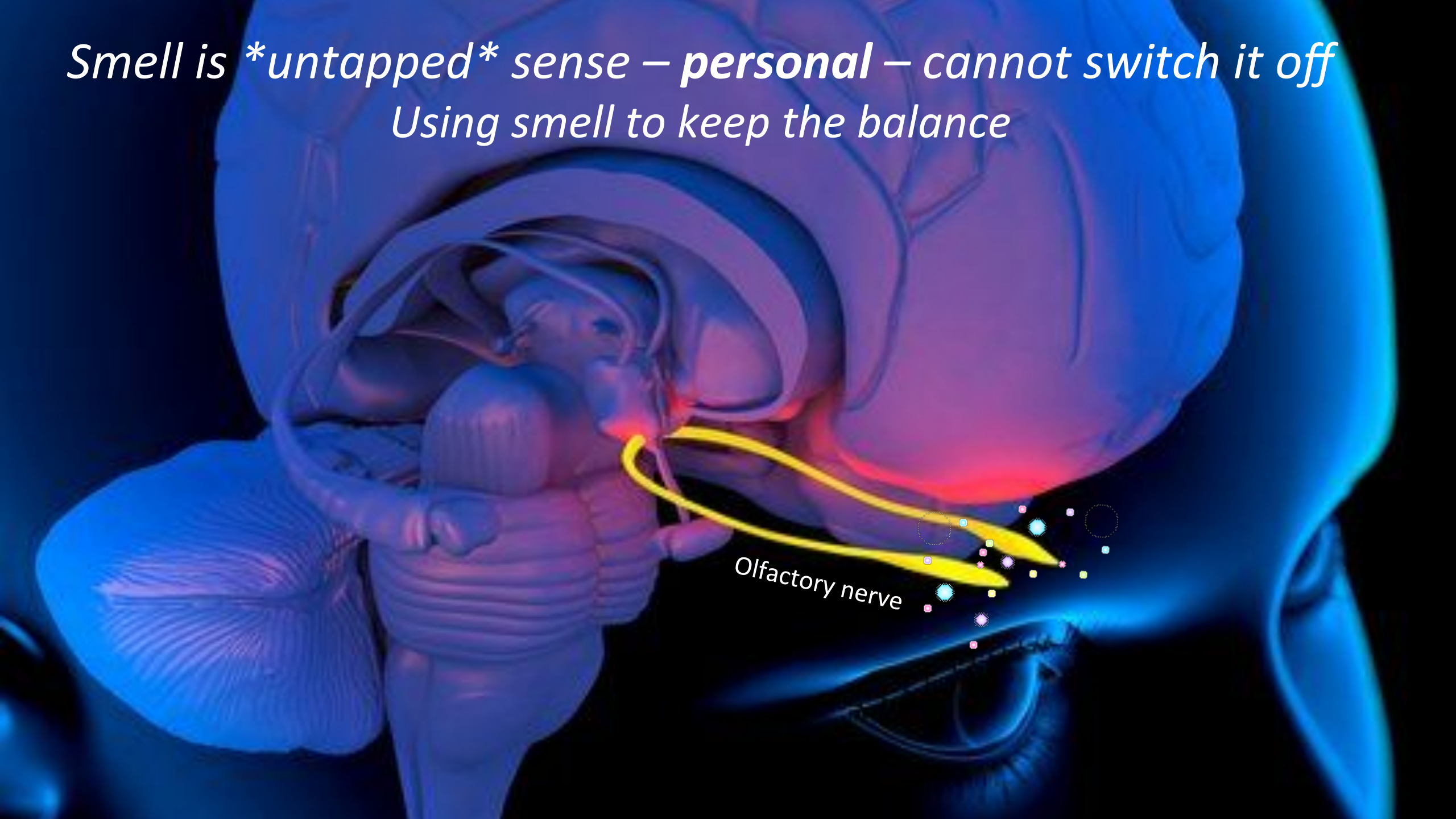
Manage Mood Swing

Complement taking meds



Keep it green (balance): *prevent
triggers!*

*Smell is ***untapped*** sense – **personal** – cannot switch it off*
Using smell to keep the balance



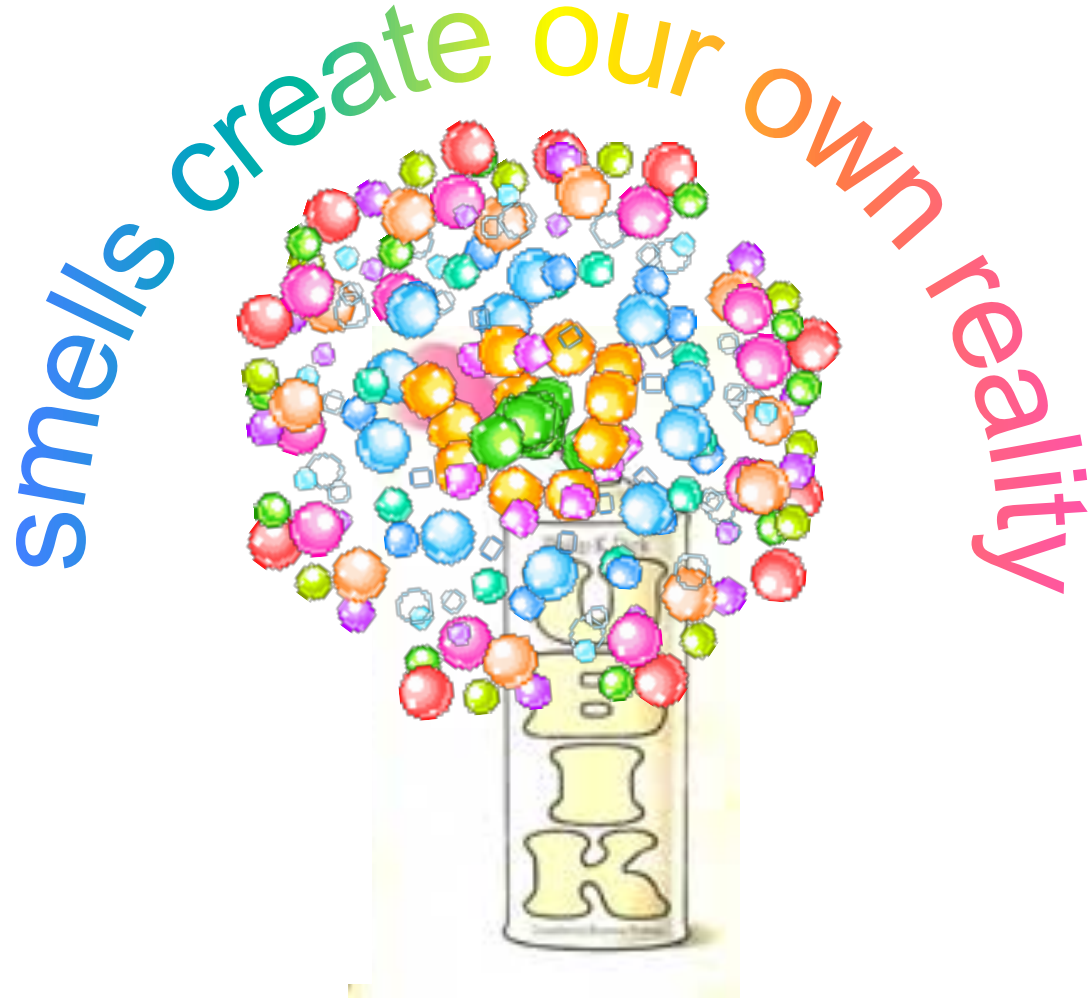
Immediate Goal

- Build a customised 'scent bubble'
NEAR THE NOSE!
- Find a calming method to reduce:
 - Stress (*cortisol*) = *chaos, havoc, trauma*
 - Performance anxiety
 - torrent of SWEAT
 - Insomnia
 - Loss of memory
 - Nausea etc...

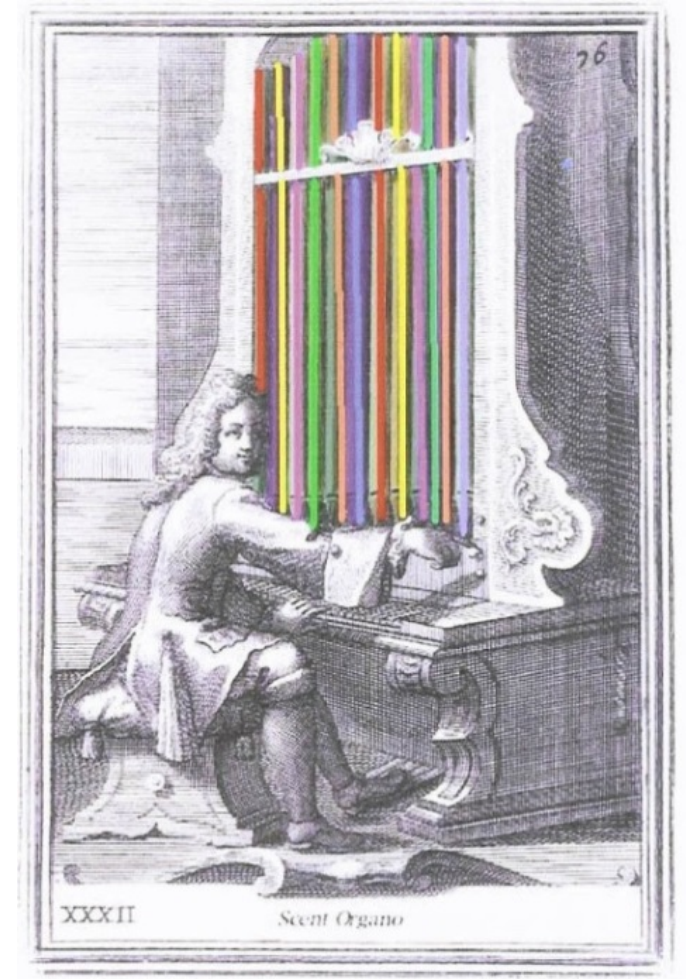


New Scentsory Platform

Inspiration . . . Sci-fi - 'bubbles of reality'



UBIK (Philip K. Dick) mystical bubble projection sprayed to stabilise a nightmare – *reality-in-a-can*



Brave New World 'scent organ'

Inspiration . . . Sci-fi fashion

“Fashion will change dramatically in the coming years

*It will be more human - closer to the
needs of the people in terms of their
wellbeing not "well showing”*

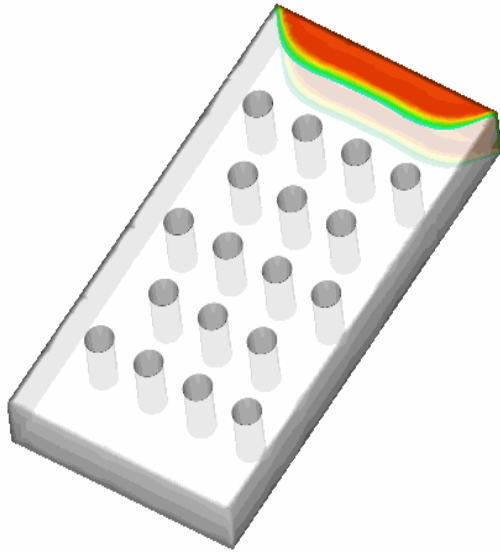


Thierry Mugler

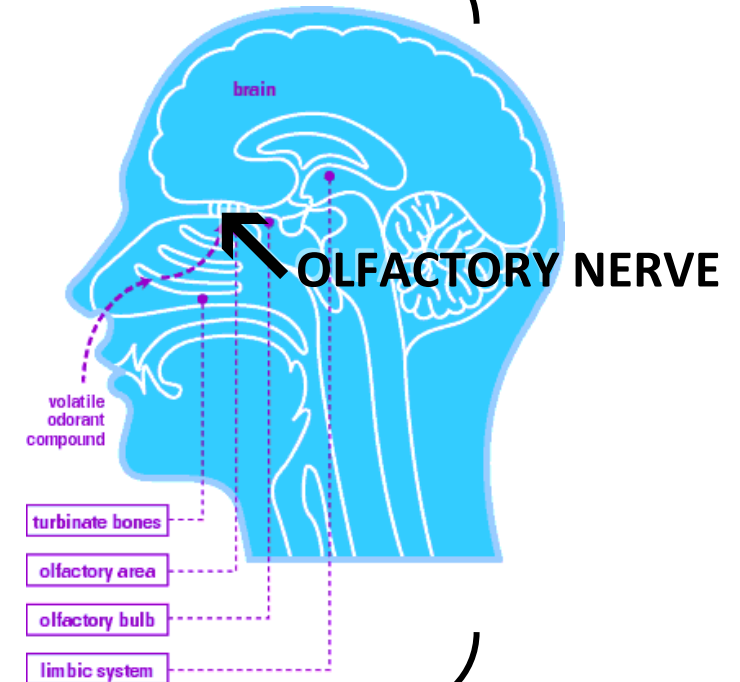
1980

Build tools:

Creative Convergence of **Ancient Art of Perfumery + Emerging Technologies**

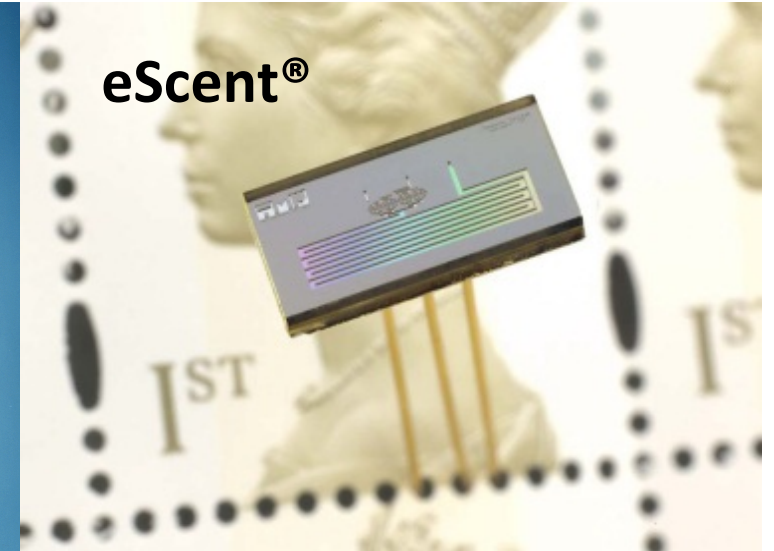


1. **wearable technology** + *fashion* = *jewellery, smart clothing*
2. 'miniaturisation', MEMS, lab-on-a-chip biometric sensors, nanotechnology
3. **smell communication**, how this affects the brain, mood, feelings and senses



eScent® platform technology

Perfumed Past to the Fragrant Future



3000 BC:

Ancient Egypt:
'fragrant wax cones'

Messy / Sticky

17th century:

French:
alcohol-based

Dry skin

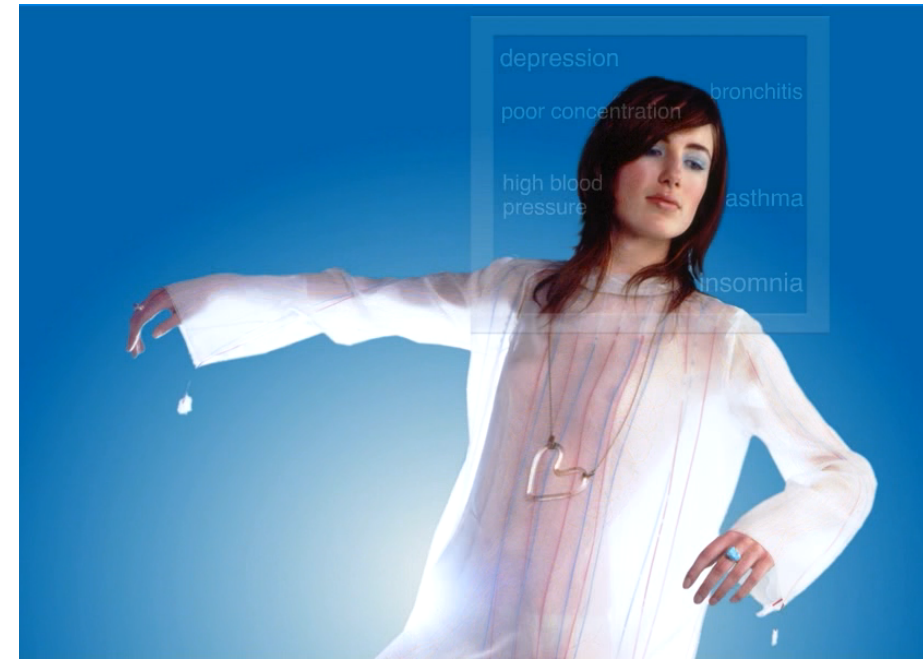
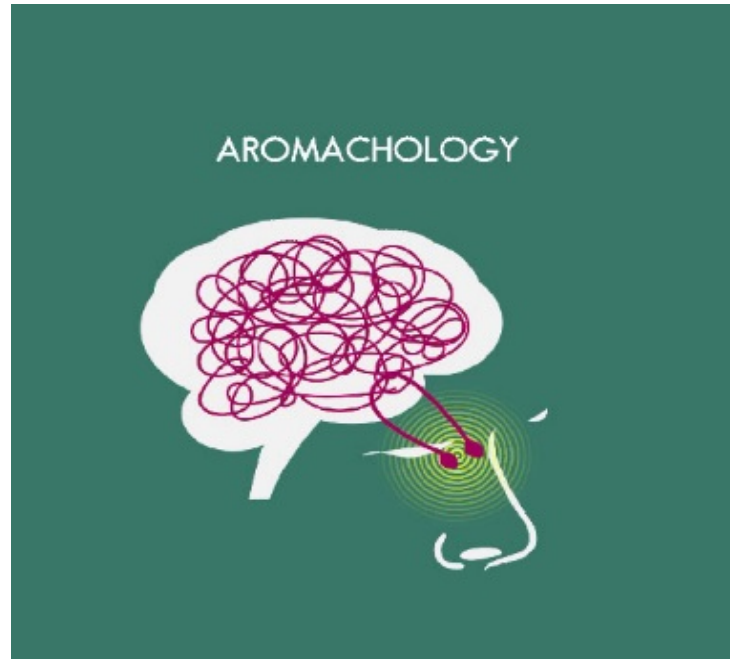
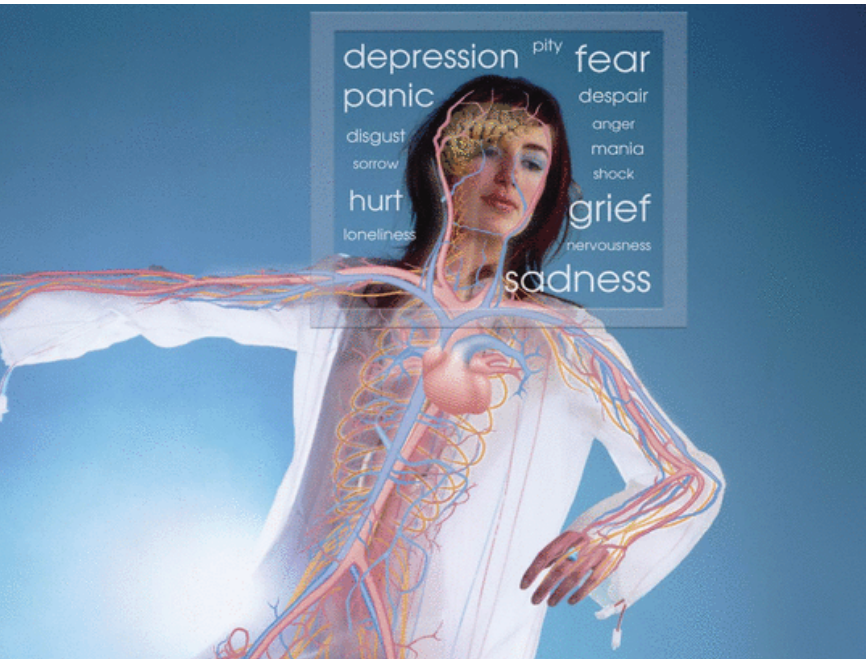
21st century

eScent®

Computer-controlled scent output

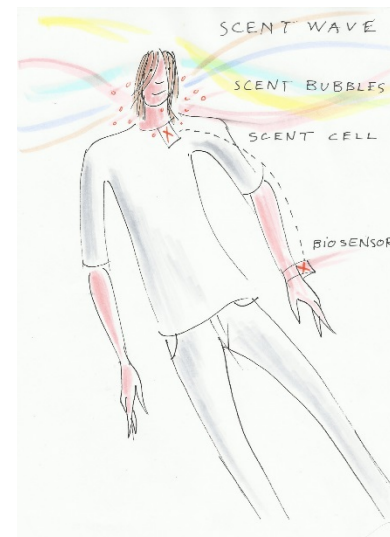
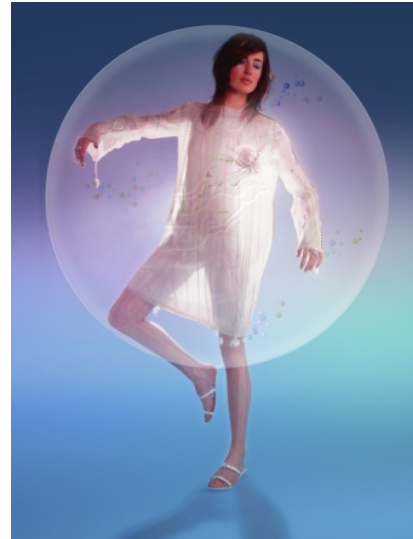
Aromachology

the study of aroma and effects this fragrance have on human psychology and behaviour



Fashion: Smart Second Skin

Exhibitions - Science | Art Festivals - Catwalk Shows - Conferences - Debates - Installations – prototypes



eScent[®]: wearable wireless device

Dispenser where frequency & type of scent delivery ("scent bubble") is flexible & determined by the user

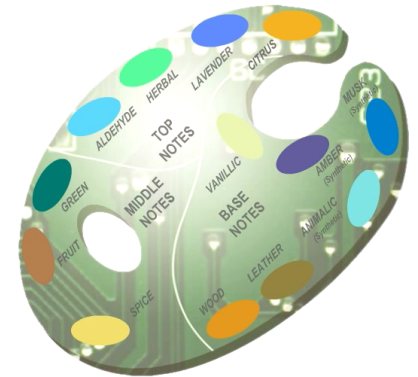


Real-time Biofeedback Scent Interventions

Offers social and therapeutic value in a desirable fashion context



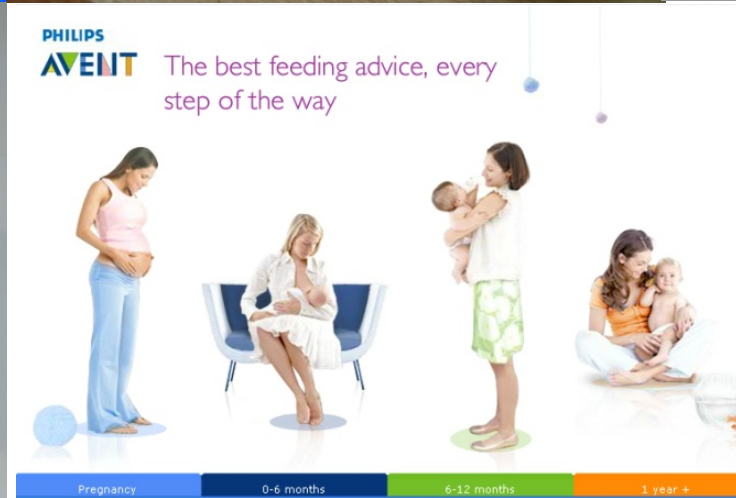
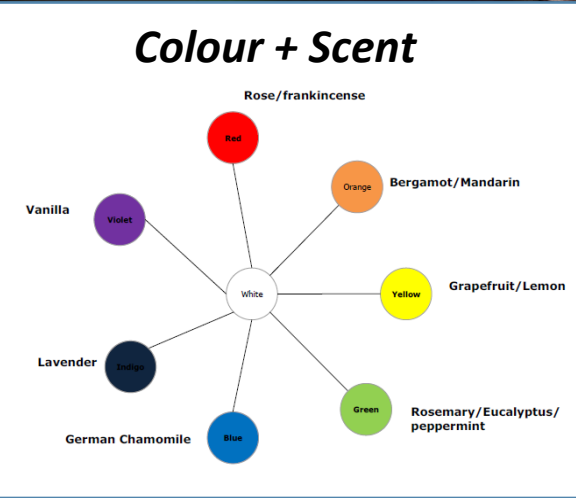
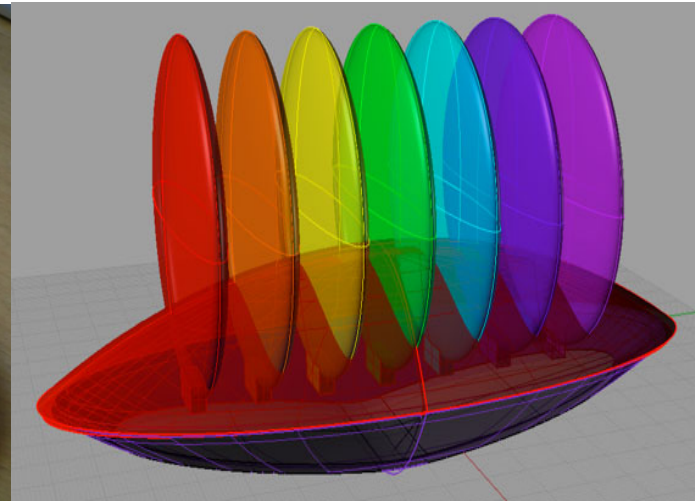
1. Track Mood + Sleep
2. eScent releases ***counteractive scents to relieve tension*** when stress levels exceed threshold
3. Select which aroma for me??
4. How does this make a difference?
5. **EMPOWER!**



eScent: Sensing Smell tool

Smell The Colour Of The Rainbow

*Collaboration with Philips Stress & Sleep businesses on “Meaningful” innovations
- demonstrated the benefits of scent on demand in ‘emotional products’*



Sleep 1 – good sleep hygiene

Clinical evidence on the properties of lavender critically reviewed – a sense of relaxation
(caused by a release of serotonin)



Sleep 2 – wake-up rise + shine

Clinical evidence on the properties of citrus to reduce anxiety



Citrus – stimulating, energising
Jasmine – sense of wellbeing
Peppermint – invigorating

What did I learn . . .

- Using the fellowship as a vehicle to raise mental health awareness . . .
- Teaching me to **re-communicate** and regain confidence – *empowerment!*
- Start new Fashion Communication projects and commercialise
- Using own personal experiences to guide the research and new projects
In return, learning early warning body signals

Personal experience to prevent relapse / stay focused

reduce stress levels:

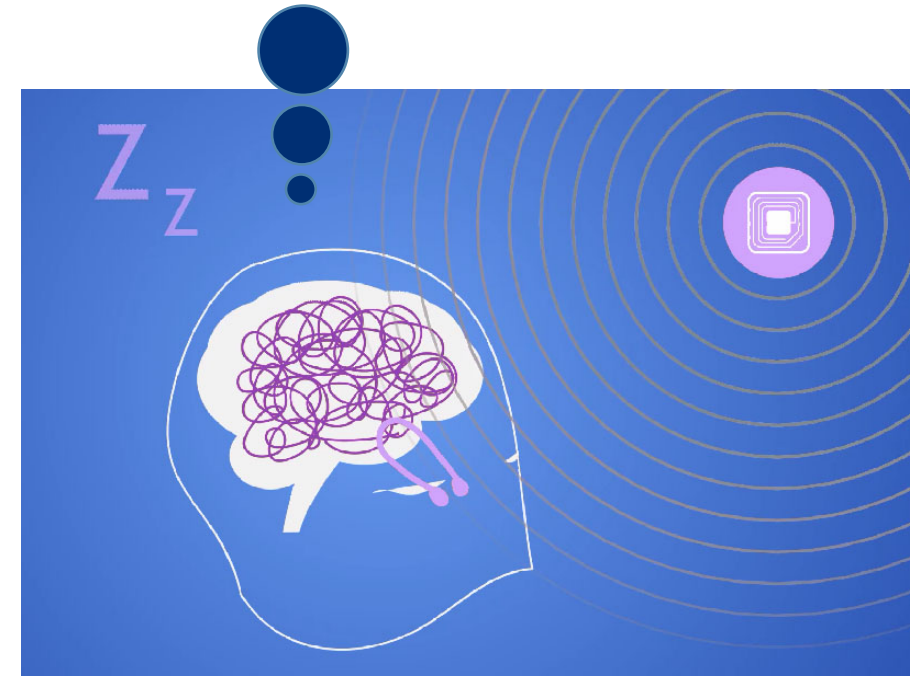
neroli, citrus

increase alertness /energy

peppermint

More relaxation, yoga,
improve quality of sleep:

lavender



Endorsement from USA Psychiatric

Community



Icahn
School of
Medicine at
Mount
Sinai



Monitor *little*
cognitive shifts
before *bigger*
shifts appear

– **PRODROME** intervention:
– *learn signs*
– *send feedback*

*Fashion element +
“De-stigmatising”*

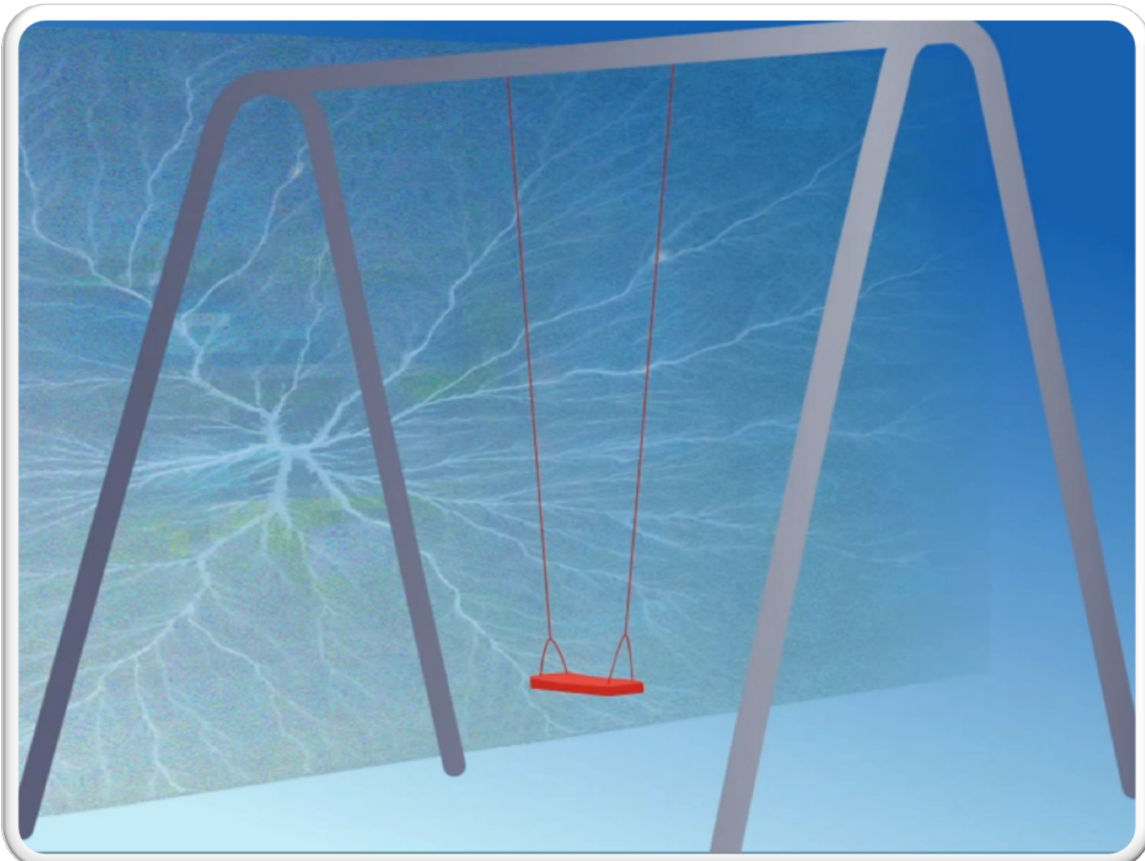


University of California
San Francisco

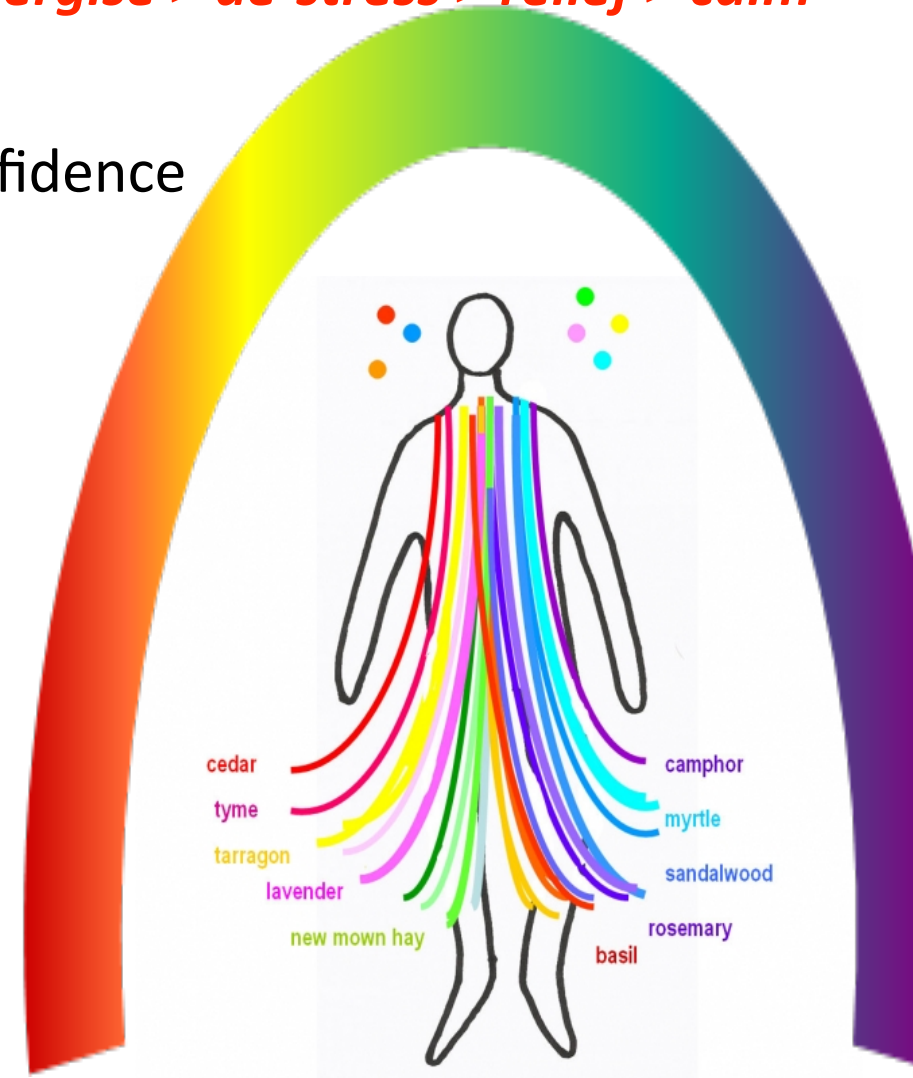


PRODROME “warning” Scent Interventions

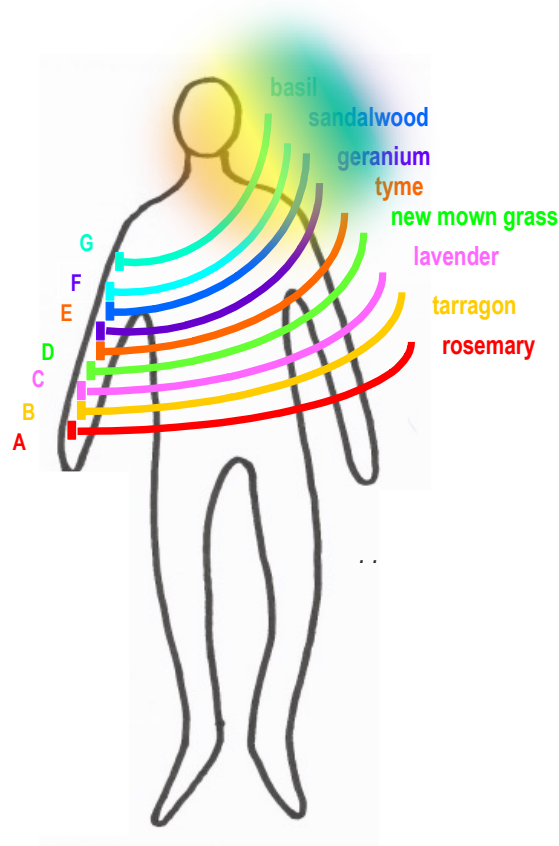
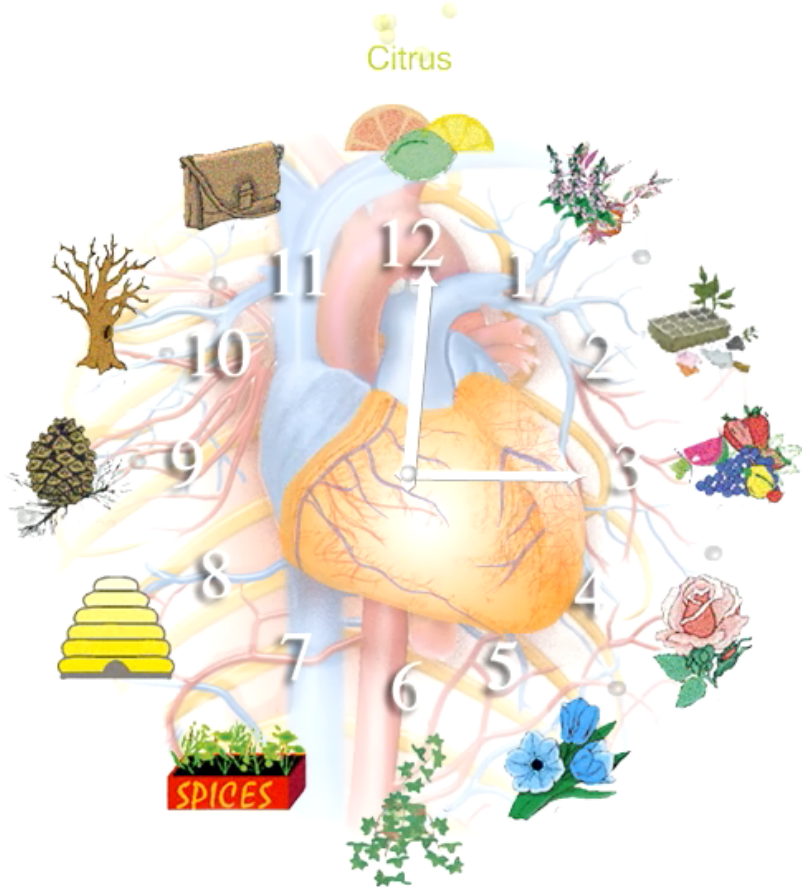
Build your own therapeutic rainbow: *peaceful > relax > energise > de-stress > relief > calm*



- Loss of confidence
- Irritable
- Insomniac
- Angry
- Anxious
- Drowsy
- Worried
- Tearful

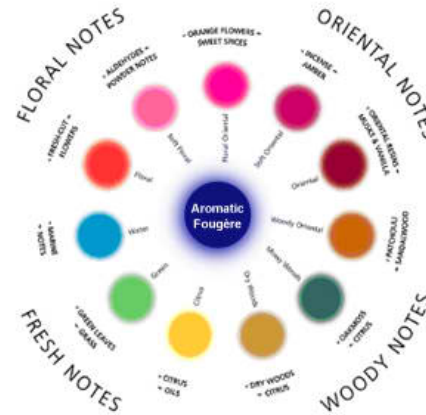
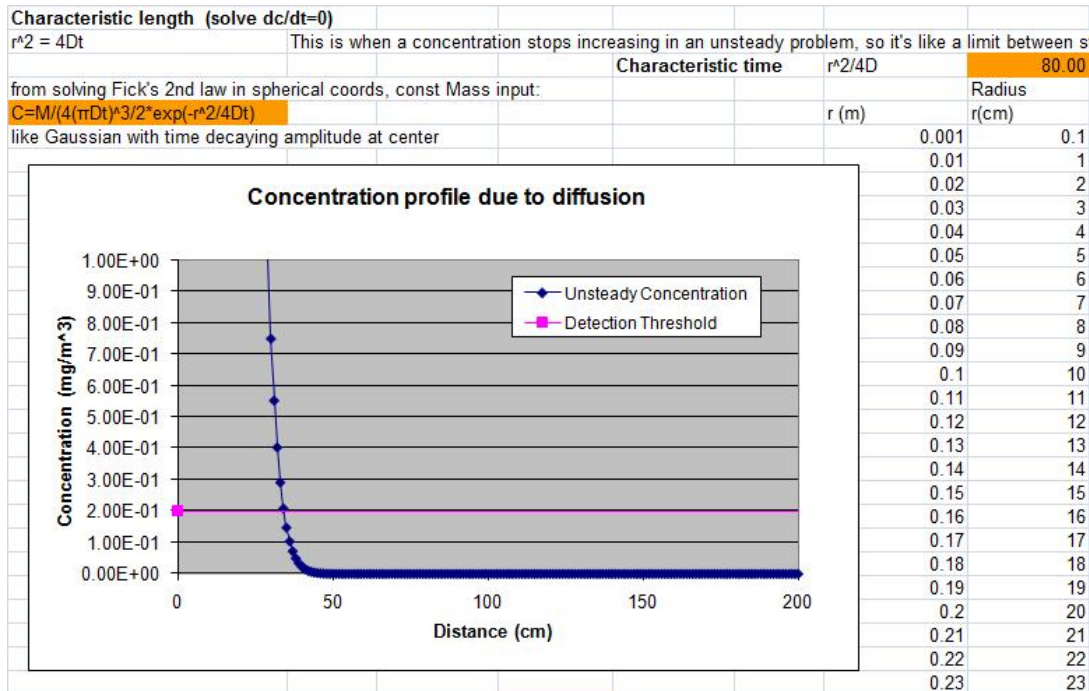


'Smart Second Skin' *Tailored To Fit Mood & Physiology*



In tune with your body - become accustomed to your **OWN** programmable palette of scents (rainbow) - changing over time . . Automatic access to wide range of scents

'Scent Bubble' – the science works!



Non invasive, localised 'scent bubble'

– rate of scent diffusion and detection threshold calculated from composition of perfume 'notes'

Long-term Goal

Stress-related body odour detection

- Electronic nose tracks propanoic acid (smelliest sweat)
- inspired by biological olfactory systems - mimic human senses and apocrine gland
- Integrate sensors into clothing
- Creates fast immediate 'scent bubble'



e-Nose

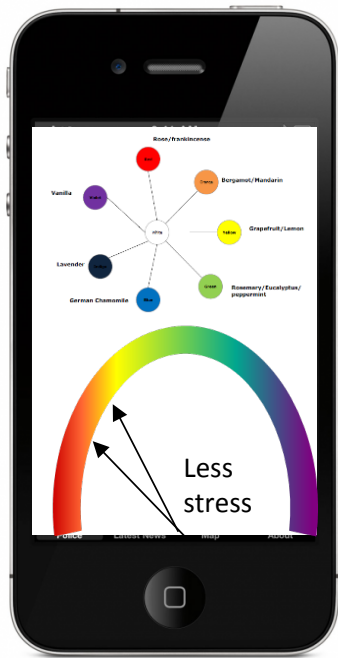


Measure stress-related body odour in ear wax



Body odour in ear canal
stress hormone cortisol appeared in the waxy plug of blue whale

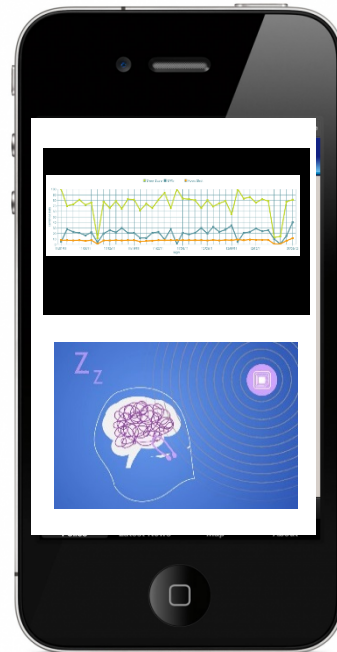
Develop eScent® App for wearable 'scent bubble' →



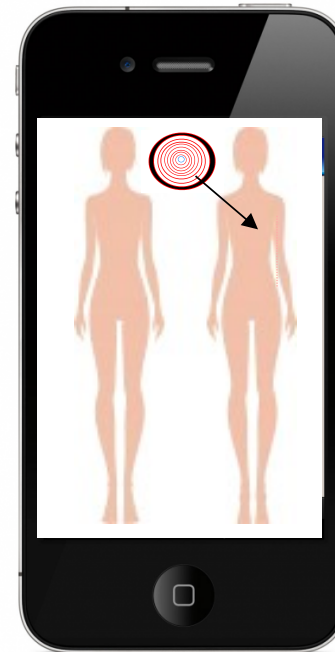
SET GOALS



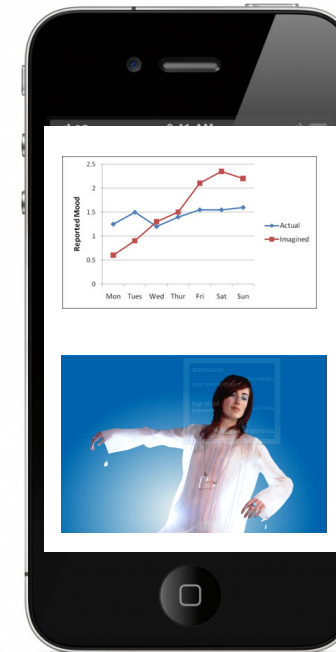
TRACK MOOD



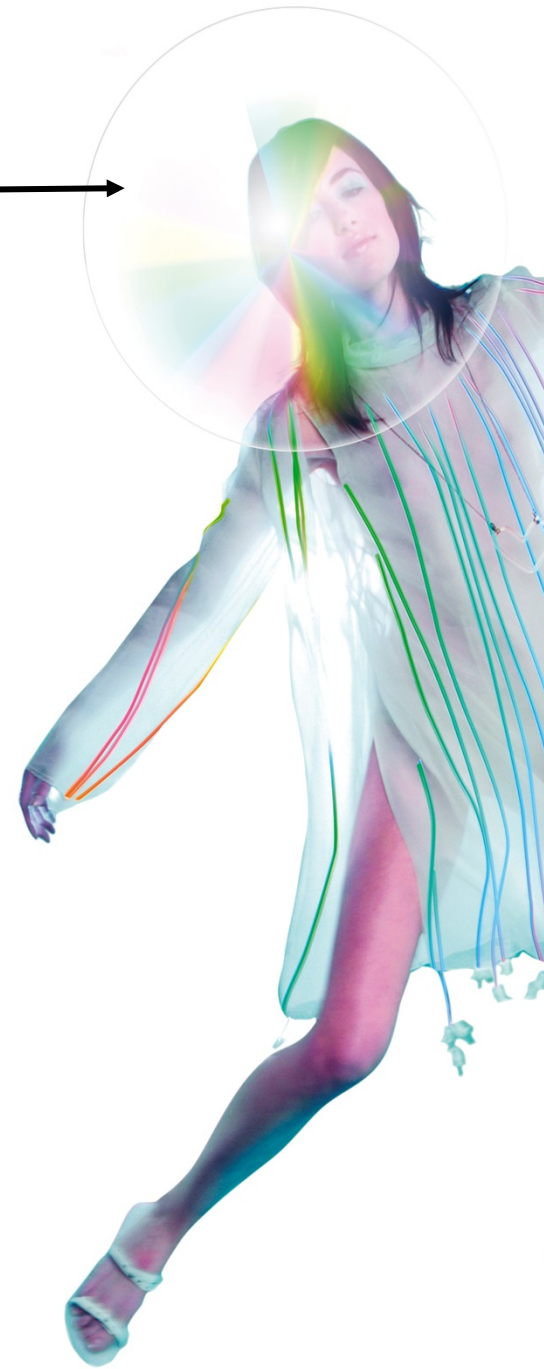
TRACK SLEEP



TRACK SMELL
e-Nose



**WATCH SELF
IMPROVE**



Many other different applications, tools . . .

Memory recall - dementia

CBT Cyber tool – impact *behavioural change*

Curb / enhance appetite . . .

Learning, entertainment, etc

Diagnosing disease . . .

**DON'T
PANIC!**

eScent®
BENEFITS



Thank you!

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@scentsory

