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# Working with Industry and Business

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**Jean McFarlane Building**  
**The University of Manchester**

# Overview

- Ageing skin;
- Defining structural changes in ageing skin;
- Repair and the Manchester patch test model;
- Engaging with Industry and Business.



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Time

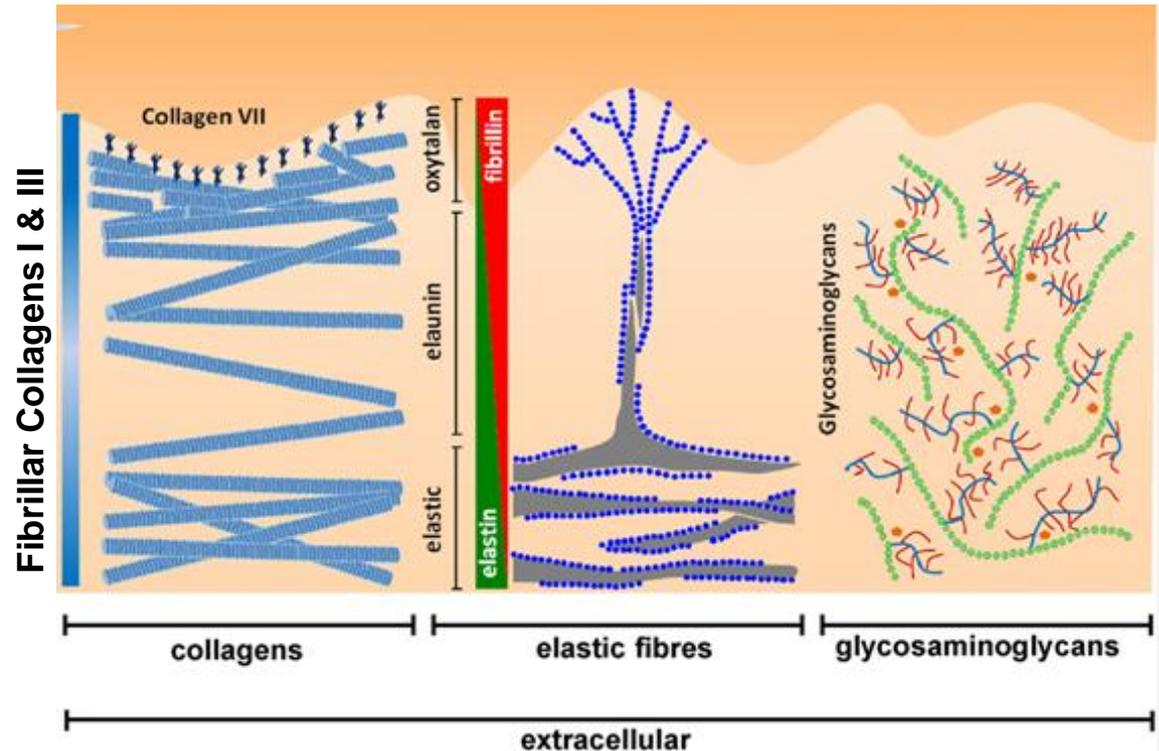
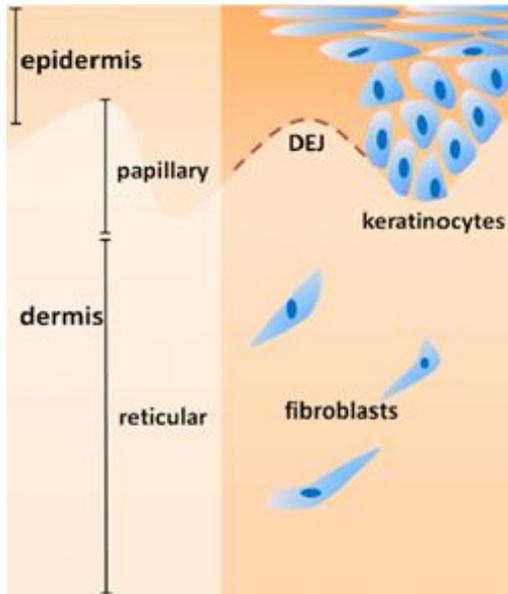
Environment



# Aged



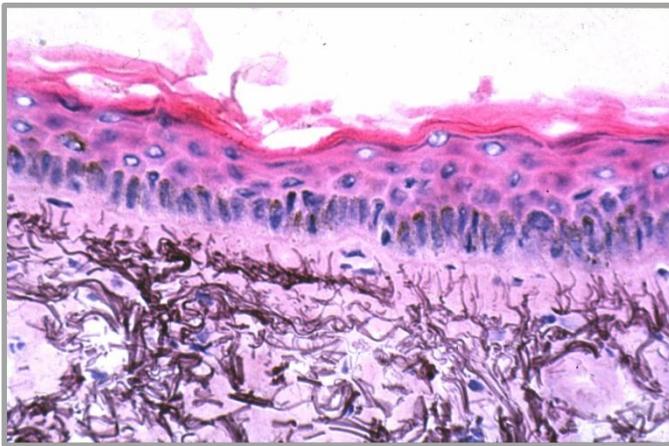
# Skin: A complex, dynamic organ



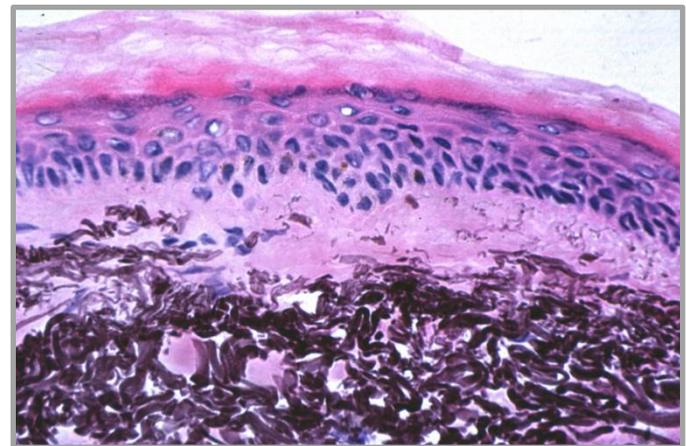
Naylor, Watson & Sherratt, *Maturitas* 2011

# Are fibrillin-rich microfibrils affected in cutaneous photoageing?

## Intrinsic ageing



## Photoageing



### Weigert's Elastin Fuchsin

Watson *et al*, *J. Invest. Dermatol.* (1999)

Tsourelis-Nikita *et al*, *Photochem. Photobiol. Sci.* (2006)

# Retinoid treatment improves the appearance of photoaged skin

## Clinical improvement following all-*trans* retinoic acid treatment (minimum 16 weeks)

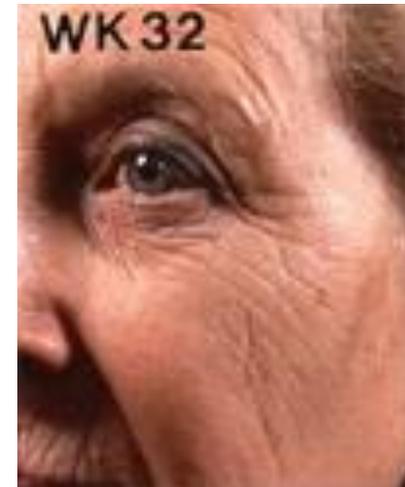
- Weiss *et al*, *JAMA* (1988)
- Goldfarb *et al*, *Br. J. Dermatol.* (1990)
- Ellis *et al*, *JAAD* (1990)

## Reduces hyperpigmentation

- Rafal *et al*, *N. Eng. J. Med.* (1992)

## Restores collagen synthesis

- Woodley *et al*, *JAMA* (1990)
- Griffiths *et al*, *N. Eng. J. Med.* (1993)



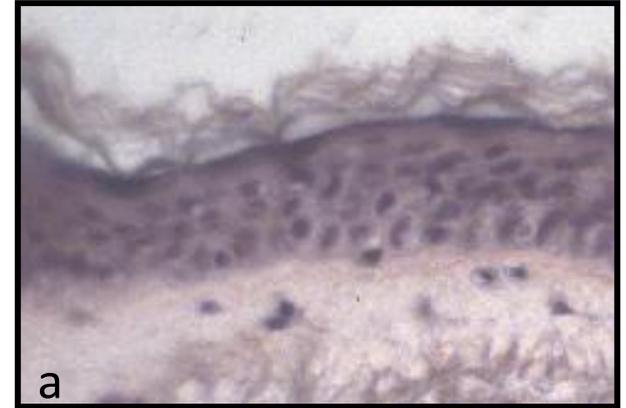
# Can retinoids modulate microfibril deposition in photoaged skin?

**Severely photoaged volunteers (n = 5)**

**2mm punch biopsies, facial skin at:**

**a) baseline**

**b) retinoid treatment (192 wks)**



# The Manchester patch test assay

**Q: Can we produce a short-term assay to predict skin repair?**

- **Photoaged extensor forearm, occluded with:**
  - **Nothing**                      **Baseline, negative control;**
  - **Vehicle**                      **70% EtOH; 30% propylene glycol;**
  - **5% SLS**                      **irritant control;**
  - **0.025% *t*-RA**              **positive control.**

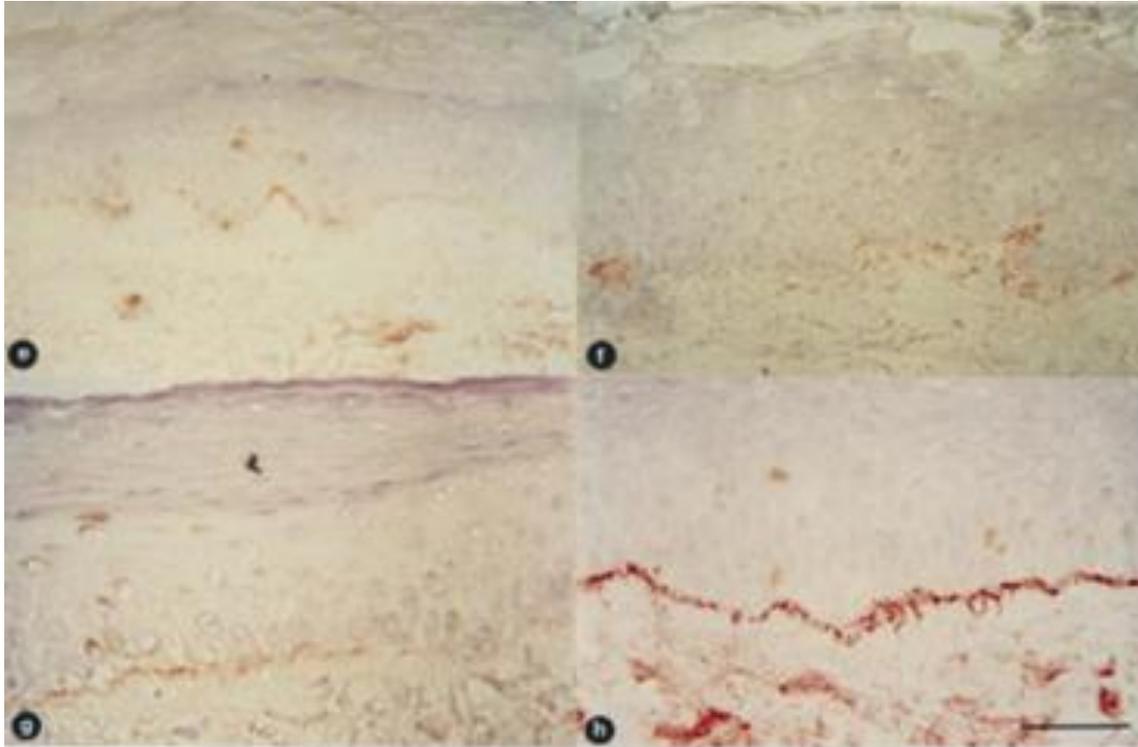
# The Manchester patch test assay predicts skin repair

**Baseline**

**Vehicle**

**SLS**

***t*-RA**



# The Manchester patch test assay

**Q: Can we produce a short-term assay to predict skin repair?**

**A: Yes!**

**Q: Would such an assay be attractive to personal care industry?**

**A: Yes!!**



## Repair of photoaged dermal matrix by topical application of a cosmetic 'antiageing' product

R.E.B. Watson, S.P. Long,\* J.J. Bowden, J.Y. Bastrilles, S.P. Barton\* and C.E.M. Griffiths

Dermatological Sciences Research Group, The University of Manchester, Manchester M13 9PT, U.K.

\*The Boots Company, Nottingham NG2 3AA, U.K.

actually worked is being resold on eBay for almost four times the price.

Bottles of No7 Protect & Perfect Beauty Serum flew off the shelves after it was reviewed on a BBC2 Horizon programme about the cosmetics industry on Tuesday.

Scientists on the show were surprised to find the cream was as effective at reducing sun damage as prescription-only products.

More...

• [What makes it so special?](#)

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The Boots serum is priced at £16.75, a lot cheaper than many creams

theguardian

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### Boots anti-wrinkle cream actually works, say researchers

First reliable clinical trial of a high street anti-ageing product shows No7 Protect and Perfect reduces wrinkles

Ian Sample, science correspondent  
guardian.co.uk, Tuesday 28 April 2009 19.01 BST

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Science & Nature

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### Prof Regan's Beauty Parlour



Tuesday 27 March 2007, 9pm, BBC Two

Professor Lesley Regan, one of the UK's most well-respected (and glamorous) medical experts, turns her scientific eye on the world of cosmetics. She's just turned 50, and is out to create an experimentally proven beauty cabinet.

Unafraid to examine the wrinkles, age spots and broken veins on her own face, Professor Regan explores just what makes us look old, and if we can slow down the ageing process. The extraordinary world of cosmetic testing is revealed, from the British hair lab which makes New York tap water, to the volunteers sun-bathing for science.

Sun damage, cellulite and balding all face Professor Regan's scrutiny as she discovers which cosmetics do - and don't - have the scientific evidence to back up their claims.

ORIGINAL ARTICLE

## *In vitro* and *in vivo* studies with tetra-hydro-jasmonic acid (LR2412) reveal its potential to correct signs of skin ageing

C. Tran,<sup>1\*</sup> J.F. Michelet,<sup>1</sup> L. Simonetti,<sup>1</sup> F. Fiat,<sup>1</sup> A. Garrigues,<sup>1</sup> A. Potter,<sup>1</sup> E. Segot,<sup>1</sup> R.E.B. Watson,<sup>2</sup> C.E.M. Griffiths,<sup>2</sup> O. De Lacharrière<sup>1</sup>

<sup>1</sup>L'Oréal Research and Innovation Clichy, Aulnay sous Bois Chevilly-Larue, France

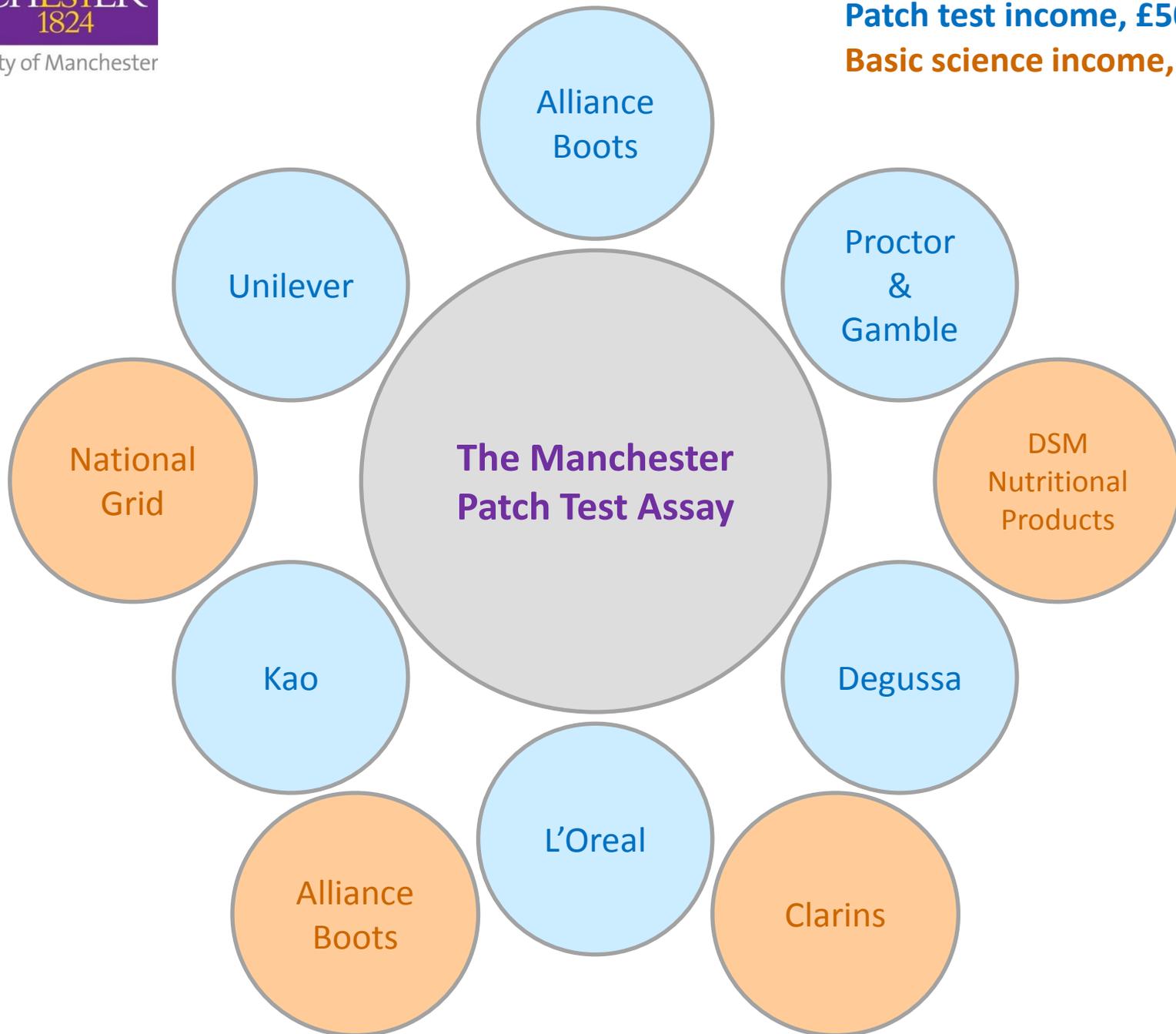
<sup>2</sup>Dermatology Research Centre Faculty of Medical and Human Sciences The University of Manchester Manchester Academic Health Science Centre Manchester, UK

\*Correspondence: C. Tran. E-mail: [ctran@rd.loreal.com](mailto:ctran@rd.loreal.com)



customer poses for the media after a BBC Horizon programme last year about No7 Protect & Perfect might work. Photograph: Jane Mingay/PA

**Patch test income, £500k**  
**Basic science income, £3.25M**



	<b>Academic</b>	<b>Industrial</b>
Background knowledge	Excellent	
	Big picture	

# Take home messages

**You need a hook – what is your USP? What makes you special?**

**Can be very frustrating – comfort zone, ways of working**

**Manage expectations – be realistic and utterly honest**

**Communication – keep contacts in the loop**

**Can be very rewarding – financially, profile, impact**

# Acknowledgements

## **Dermatopharmacology Unit**

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Dr Neil Gibbs

Dr Abigail Langton

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