

Skin@Bath Network Symposium

Old Theatre Royal, Bath, UK

Scientific Program

Wednesday 13th December 2017

Inaugural Speech

9:00-9:05 Prof Stephen G. Ward

Head of Department of Pharmacy & Pharmacology, University of Bath, Bath, UK

Welcome message

9:05-9:15 Dr Charareh Pourzand (*University of Bath*) & Dr Caoimhe M. R. Fahy (*Royal United Hospitals, Bath, UK*)

First Session (9:15-10:30 AM)

SKIN PHOTSENSITIVITY, AGEING & PHOTOPROTECTION I

Chairs: (1) Prof Paul J. Matts (London, UK); (2) Dr Caoimhe M. R. Fahy (Bath, UK)

IL1 9:15- 9:40 Rachel Watson (Manchester, UK)

'Skin ageing and repair'

IL2 9:40- 10:05 Abigail Langton (Manchester, UK)

'Ageing in skin of colour'

IL3 10:05 -10:30 Antony R. Young (London, UK)

'Sunscreen Photoprotection: Lessons from Africa'

10:30-10:55 COFFEE BREAK

Second Session (10:55-12:45 AM)

SKIN PHOTSENSITIVITY, AGEING & PHOTOPROTECTION II

Chair: (1) Prof Paul J Matts (London, UK); (2) Dr Ian S Blagbrough (Bath, UK)

IL4 10:55-11:20 Rex M Tyrrell (Bath, UK)

"Solar UVA and oxidative stress: Do exogenous antioxidants enhance skin protection?"

OP1 11:20- 11:40 Karl Lawrence (London, UK)

"Marine mycosporine like amino acids (MAA) – biocompatible sunscreens from nature"

OP2 11:40-12:00 Ian S Blagbrough (Bath, UK)

"Modern Phytochemistry Research on Hydroxycoumarin Biosynthetic Pathways with Potential for Skin Photoprotection"

IL5 12:00- 12:25 Julia Li Zhong (Chongqing, China)

"UVA irradiation releases antioxidants for photoprotection"

OP3 12:25- 12:45 Wang Mei (Chongqing, China)

"TAZ is required to sustain redox homeostasis in skin and acts by regulating the HO-1-mediated antioxidant response."

12:45- 13:45 Lunch Break and Poster Session

Third Session (13:45-15:45):

UNDERSTANDING MECHANISMS UNDERLYING NON-MELANOMA SKIN CARCINOGENESIS

Chairs: (1) Dr Christopher Lovell (Bath, UK); (2) Dr Olivier Reelfs (Bath, UK)

- IL6** 13:45-14:15 Peter Karran (London, UK)
“Oxidatively-generated damage to DNA and proteins mediated by photosensitized UVA”
- OP4** 14:15-14:35 Matthew Caley (London, UK)
“Tumour associated macrophage recruitment in squamous cell carcinoma”
- IL7** 14:35-15:00 Sarah Allinson (Lancaster, UK)
‘The direct and indirect activation of the DNA damage response by UVA’
- IL8** 15:00-15:25 Joerg W. Bartsch (Marburg, Germany)
“The role Nrf2 in skin cancer”
- OP5** 15:25-15:45 O. Reelfs (Bath, UK)
Topical iron chelation therapy for the treatment of skin cancer and UVA-sensitive iron-related disorders

15:45- 16:05 Coffee Break

Fourth Session (16:05-18:30):

SKIN INFLAMMATORY DISORDERS: CURRENT INNOVATIONS IN THERAPY AND FUTURE CHALLENGES TO OVERCOME

Chairs: (1) Prof Neil McHugh (Bath, UK); (2) Dr Sarah Woodrow (Bath, UK)

- IL9** 16:05- 16:30 Padraic Fallon (Dublin, Ireland)
“Atopic dermatitis: tales of mice and men.”
- IL10** 16:30-16:55 Zarif Jabbar_Lopez (London, UK)
‘Water hardness and skin: how hard can it be?’
- OP6** 16:55- 17:10 Amy Foulkes (Manchester, UK)
‘Great expectations: can we deliver better patient outcomes?’
- IL11** 17:10-17:35 Ryan O’Shaughnessy (London, UK)
‘Elucidating multiple roles for AKT1 in skin barrier function and skin disease’
- OP7** 17:35-17:55 John Pauling (Bath, UK)
‘Current therapies and future challenges for the therapy of scleroderma’
- OP8** 17:55-18:15 William Tillett (Bath, UK)
‘Current therapies and future challenges for the therapy of psoriatic arthritis’

19:30- 23:30 Dinner Reception

This meeting has been sponsored by the following companies;

AbbVie, Cosmetics Journal, Janssen, La Roche-Posay, Photonics Ltd, Sanofi Genzyme & Vision & Cosmetics

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Thursday 14th December 2017

Fifth Session (8:30-10:30):

SKIN PHOTSENSITIVITY, AGEING & PHOTOPROTECTION III

Chair: Prof Ioav Cabantchik (Jerusalem, Israel)

IL12 8:30-9:00 Robert C Hider (London, UK)
‘Therapeutic Iron chelation’

IL13 9:00-9:25 Estelle Loing (Quebec, Canada)
“Fight IR-induced aging: novel concept to skin photoprotection”

IL14 9:25-9:50 Xi Huang (Montvale, USA)
“Treating dark circle under the eye by addressing iron in ferritin and hemoglobin”

OP9 9:50- 10:10 Catherine Bonn (Newcastle, UK)
“Broad protection in Sun Care”

OP10 10:10-10:30 Charareh Pourzand (Bath, UK)
“Targeting iron and oxidative stress for skin photoprotection”

10:30-10:50 Coffee Break

Sixth Session (10:50 - 13:15):

INNOVATIONS IN TOPICAL DRUG DELIVERY (SKIN/NAIL)

Chairs: (1) Dr Shohre Nabahi (Swindon, UK); (2) Prof Richard H. Guy (Bath, UK)

IL15 10:50-11:15 Adrian F. Davis (Surrey, UK)
“Kligman Cosmeceutical Concepts: Learnings from Cosmetic Science”

IL16 11:15-11:40 Adrian Williams (Reading, UK)
**“You can’t put that in there!”:
Passive bio-macromolecule delivery to the skin**

IL17 11:40-12:05 Ryan F. Donnelly (Belfast, Northern Ireland)
“Microneedle Array Patches for Systemic Delivery of High-dose Drugs”

IL18 12:05-12:30 Richard H. Guy (Bath, UK)
“The pharmacokinetics of drug delivery to the skin”

IL19 12:30-12:55 Stuart Jones (London, UK)
“Using nanomaterials to modify drug deposition profiles in the skin”

OP11 12:55- 13:15 Begona Delgado-Charro (Bath, UK)
“Topical treatment of nail diseases. A challenging endeavour”

13:15- 14:00 Lunch Break and Poster Session

Seventh Session (14:00-16:10):

SQUAMOUS CARCINOGENESIS & CURRENT INNOVATIONS IN PHOTODYNAMIC THERAPY OF NON-MELANOMA SKIN CANCER

Chairs: (1) Prof Paul Winyard (Exeter, UK); Dr Ian M. Eggleston (Bath, UK)

IL20 14:00 -14:30 Irene M. Leigh (Dundee, UK)
“Molecular mechanisms of squamous carcinogenesis”

IL21 14:30-14:55 Paul Winyard (Exeter, UK)
“Changes in cellular redox status, and redox responses to photodynamic irradiation, under standard oxygen cell culture conditions versus physioxia: are most mammalian cell culture experiments done at irrelevant oxygen concentrations?”

IL22 14:55-15:20 Alison Curnow (Exeter, UK; Cornwall, UK)
“The Mechanism of Action of Dermatological PDT”

IL23 15:20-15:45 Ewan Eadie (Dundee, UK)
“Novel Photodynamic Therapy Light Sources”

IL24 15:45-16:10 Ben Novak (Leverkusen, Germany)
“Development and clinical application of a nanoemulsion-based drug delivery system for topical ALA-PDT”

Eighth Session (16:10-18:05):

INNOVATIONS IN WOUND DRESSING, WOUND HEALING AND FUNGAL SKIN INFECTION MODELS

Chair: Prof Michael R.W. Brown (Dundee, UK)

IL25 16:10- 16:35 Toby Jenkins (Bath, UK)
“Intelligent wound dressing for therapeutic and diagnostic management of wound infection”

16:35-17:00 Coffee Break

IL26 17:00-17:25 Keith Harding (Cardiff, UK)
“Innovation in Wales – Opportunities and Challenges”

OP12 17:25-17:45 Albert Bolhuis (Bath, UK)
“Development of fungal skin infection models”

OP13 17:45-18:05 Ian M Eggleston (Bath, UK)
“Targeted agents for photodynamic therapy”

Concluding Remarks

18:05-18:15 Dr Charareh Pourzand (*University of Bath*) & Dr Caoimhe M. R. Fahy (*Royal United Hospitals, Bath, UK*)

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POSTER Sessions: Wednesday 13th and Thursday 13th at lunch break:

- P1 D. Beiki, T. Radka, O. Reelfs, I.M. Eggleston and C. Pourzand (Bath, UK)
Harnessing ultraviolet a-induced labile iron release to improve the effectiveness of aminolevulinic acid-based photodynamic therapy (ALA-PDT) of skin cells
- P2 G. Cami-Kobeci, M. Mushtaque and S.M. Husbands (Bath, UK)
Towards new treatments for Atopic Eczema (AE)
- P3 B.B. Gokce, S.F. Cordery, R.H. Guy, S. Gungor (Istanbul, UK)
G2-PAMAM dendrimer-based nanocarriers for delivery and targeting of adapalene to hair follicles
- P4 A. Hampshire, O. Reelfs, C. Pourzand, I.M. Eggleston (Bath, UK)
Light-activated caged iron chelators for skin photoprotection
- P5 Ka H. H., M.B. Delgado-Charro, A. Bolhuis (Bath, UK)
Development of a Skin Infection Model to Study Fungal Adherence and Invasion
- P6 M. Malerba, J.R.R. Mathieu, S. Louis, S. Cuvelier, C. Peyssonnaud (Paris, France)
Epidermal hepcidin is protective against group A *Streptococcus* infection and systemic bacterial spread
- P7 A. Pensado, K.A.J White, A.L. Bunge, R.H. Guy, M.B. Delgado-Charro (Bath, UK)
Quantification of transdermal input rate by *in vitro* release, skin permeation and tape stripping experiments
- P8 M. M. Saleh, A. Woods, R. Harvey, S. A. Jones (London, UK)
Nanostructured vitamin E phosphate: Characterising its cutaneous permeation and interaction with skin lipids
- P9 M.A.M. Tabosa, K.A.J. White, M.B. Delgado-Charro, R.H. Guy (Bath, UK)
Probing drug pharmacokinetics in the skin *in vivo* and *in vitro*
- P10 A. Tewari, R. Sarkany, A.R. Young
Novel approaches for photoprotection via genome studies
- P11 M. Wang, Y. Guo, L. Chang, Yang X, Zhong J.L. (Chongqing, China)
TAZ is required to sustain redox homeostasis in skin and acts by regulating the HO-1-mediated antioxidant response.