



Studying the Skin Microbiome in Singapore: Diversity, genetics and functions

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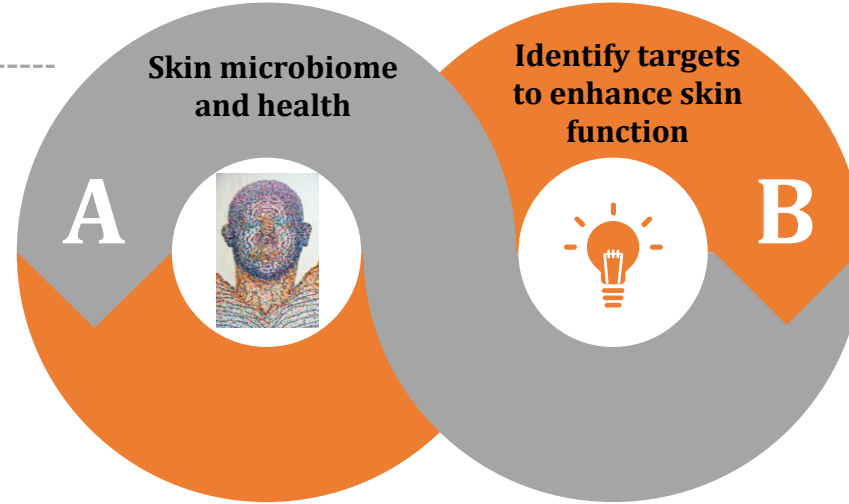
Asian Skin Microbiome Program



Asian Skin Microbiome Program

VISION

Elucidate baseline skin microbiome with longitudinal basis and understand their role in skin health and disease



MISSION

Evaluate products that improve skin health through restoration or maintenance of microbiome



SKIN-MICROBIOME PARADAIGM

Elucidate microbiome role and mechanism-of-action in skin health & disease, apply in clinical conditions or cosmetic product.



MICROBIOME-HOST INTERACTION

Modulate key targets that improve microbiome and host interaction to improve skin health (Eg: Actives screening in vitro and intervention studies)



KNOWLEDGE AND PRODUCT CREATION

Key screening platforms for screening.
Library of proven actives that could benefit the patients /consumers

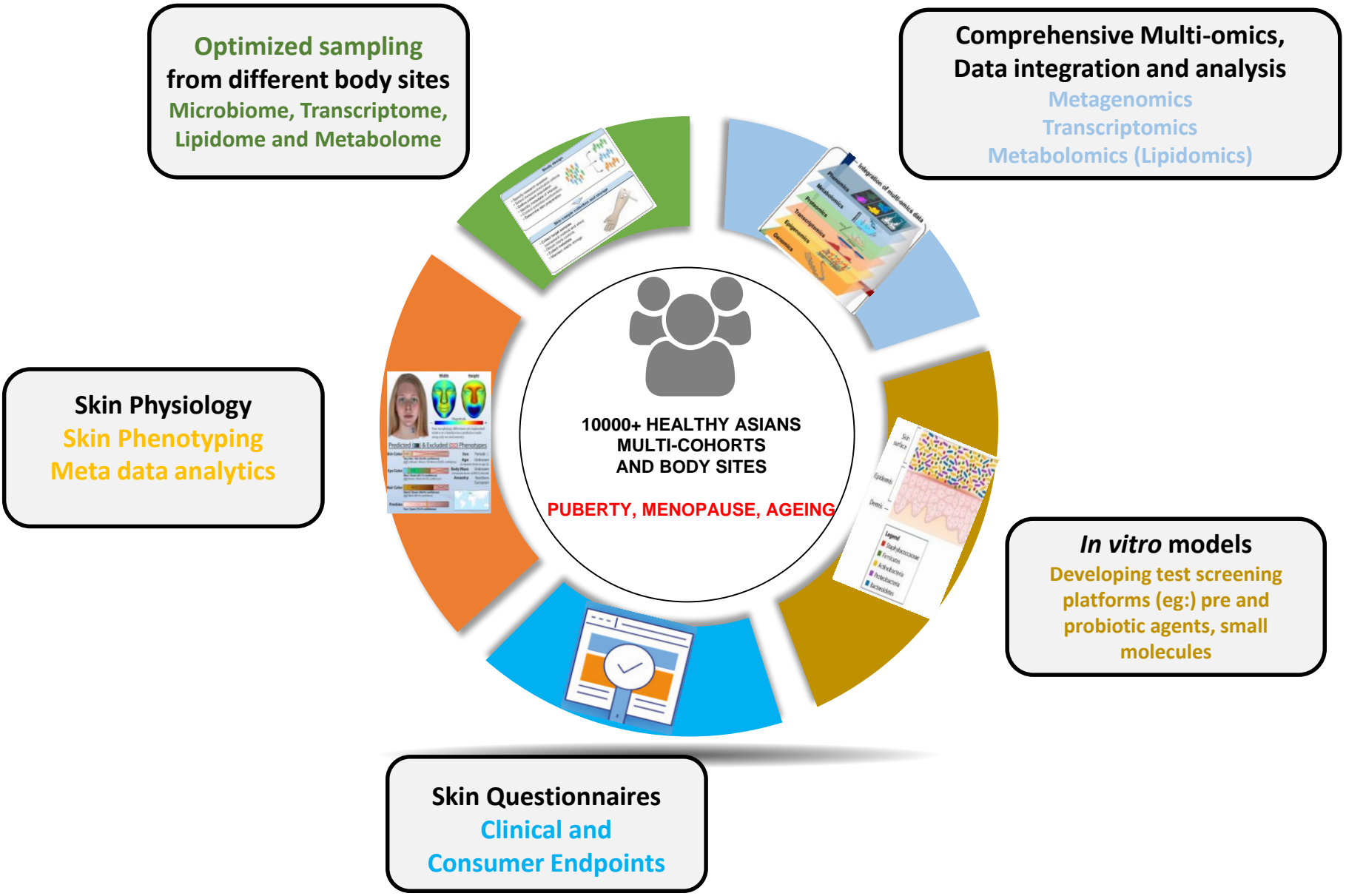


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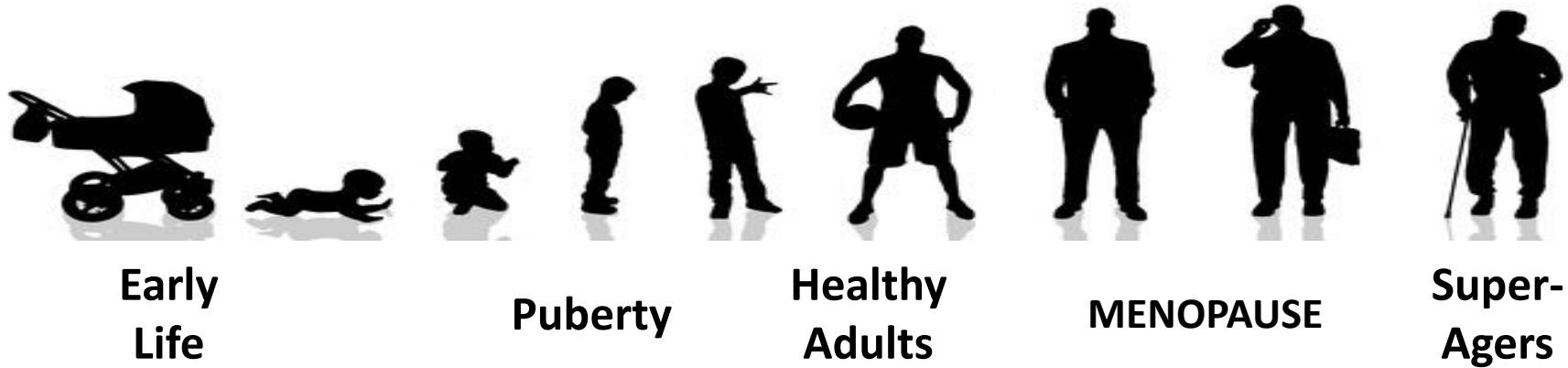
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Global differentiation:

Almost all current skin microbiome research is parallel group – we have shown longitudinal cohorts are superior.



Unique Singapore Cohorts:
characterized, longitudinal, recallable



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Clinical Collaborations

Healthy Adults

Healthy Children

Menopause

Other Projects?

ASMP

Scientific Focus Areas

Culturomics

- Comparative (regional) quantitative and qualitative diversity
- Diverse collection of primary isolates
- Deciphering dynamic conditions/species
- Understanding primary and laboratory isolates

Fungal AMR

- Local vs global resistance based isolate behavior
- Deciphering susceptibility profiles short and long term
- Identifying specific mechanisms and understanding multi-resistance

Functional Microbiome

- Defining the host-microbiome intersection milieu/niche by diversity
- Functional microbiome studies using lipidomics/metabolomics
- Genetic/molecular interventions and screening by inhibitors

Tools and Technologies

- Genetic engineering tools and applications
- *Malassezia* based applications

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Corresponding PIs (Sub-Programme Leads)



Niranjan Nagarajan, GIS
SP1: Tools and Technologies
*Microbiome genomics, big data analysis
pipeline development*



Thomas Dawson, SRIS
SP2: Functional Skin Microbiome
*Skin microbiome, yeast biology,
drug screening*

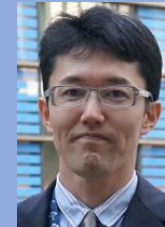


John Common, IMB
SP3: Skin Microbiome Models
*Skin biology, skin in vitro models,
microbiome in skin disease*

Co-PIs



John Chambers, NTU
*Clinical Epidemiology,
HELIOS cohort*



Kenji Kabashima, SigN/SRIS
*Skin immunology,
host/microbe interactions,
clinical dermatology*



Chong Yap Seng, NUH/SICS
*Puberty and menopausal
cohorts*



Steven Thng, SRIS/NSC
*Clinical design and execution,
clinical dermatology*