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Identification of a gut microbial signature linked to severity of irritable bowel syndrome

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UNIVERSITY OF
GOTHENBURG



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NUTRICIA
RESEARCH

Identification of a gut microbial signature linked to severity of irritable bowel syndrome

Julien Tap

Muriel Derrien, Hans Törnblom, Rémi Brazeilles, Stéphanie Cools,
Joël Doré, Boris Le Nevé, Lena Öhman, Magnus Simrén

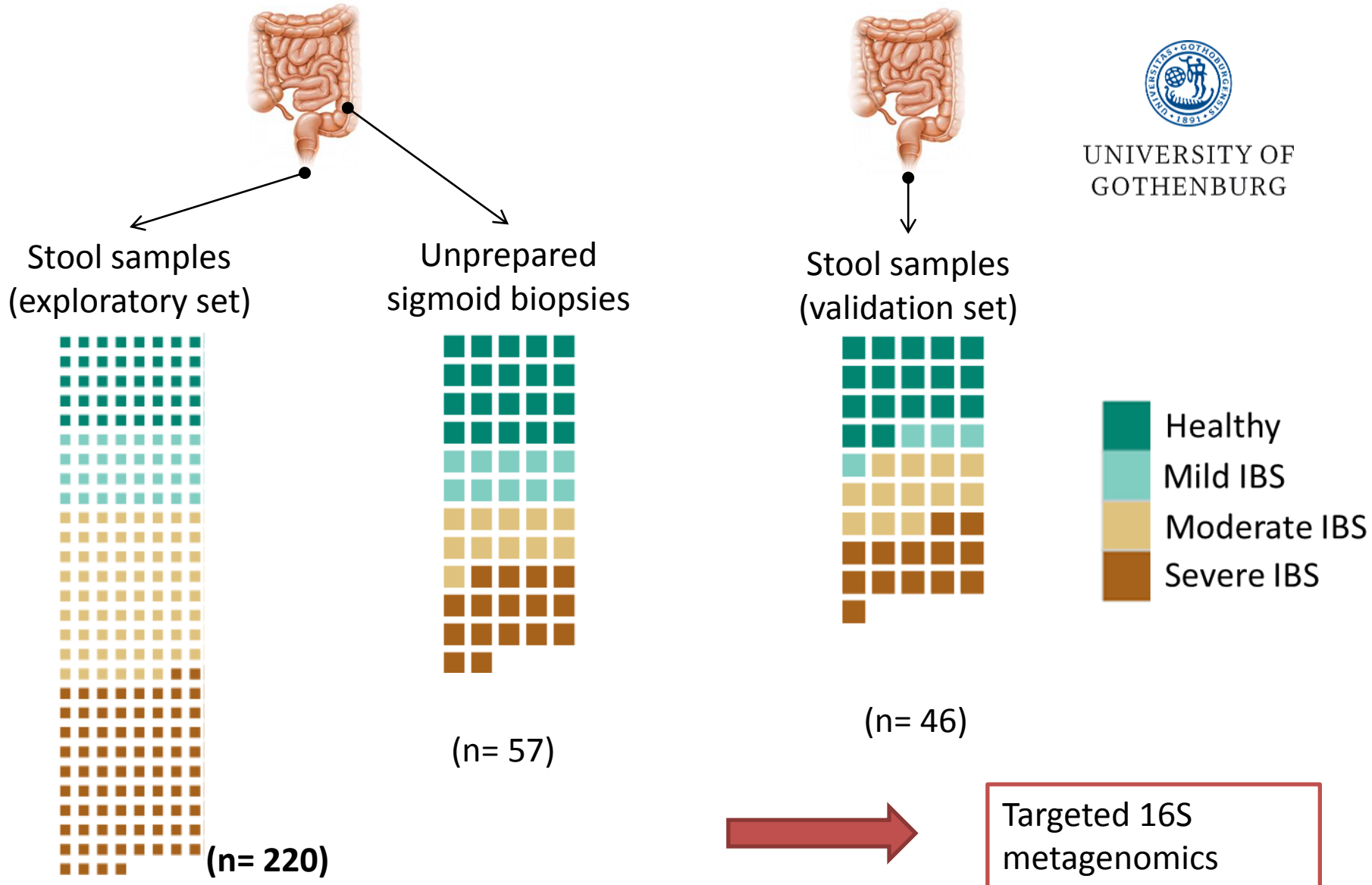
@julientap

#UEGWeek

Disclosure

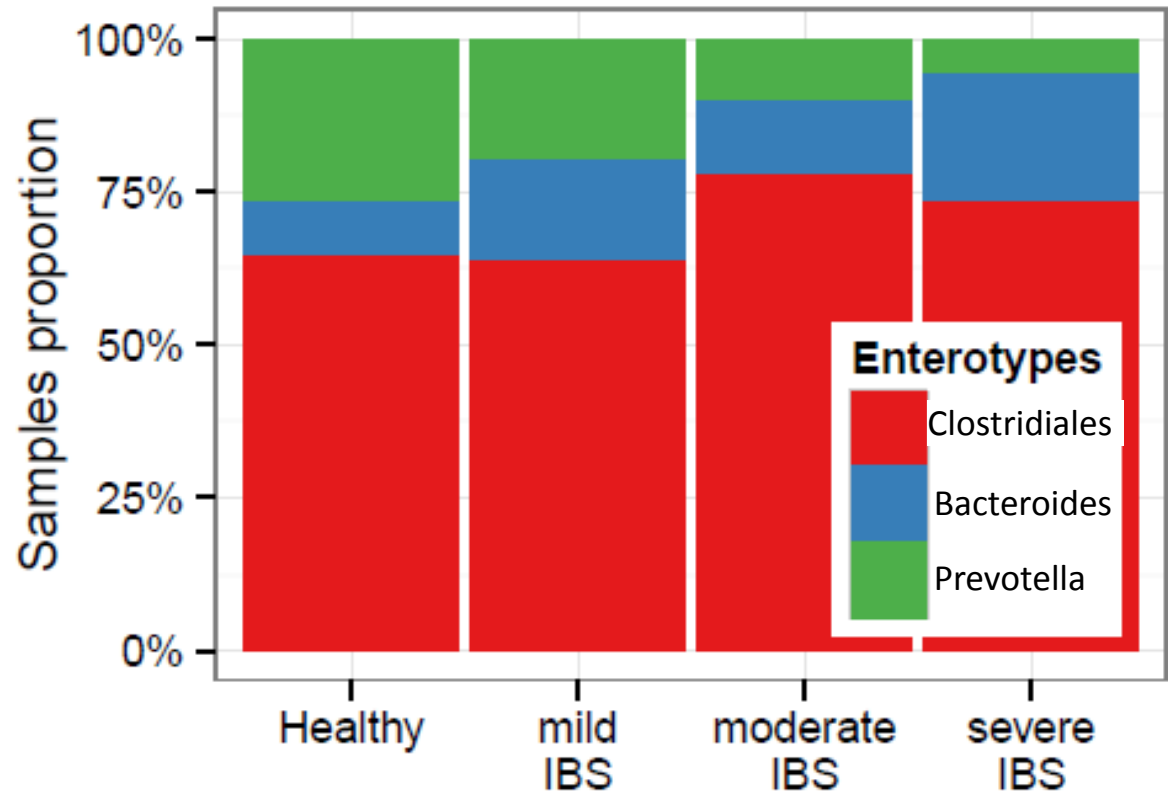
- Employee of Danone Research

Healthy and IBS dataset



Link between IBS severity score and enterotypes distribution

3 enterotypes found in the stool dataset equivalent to those published elsewhere

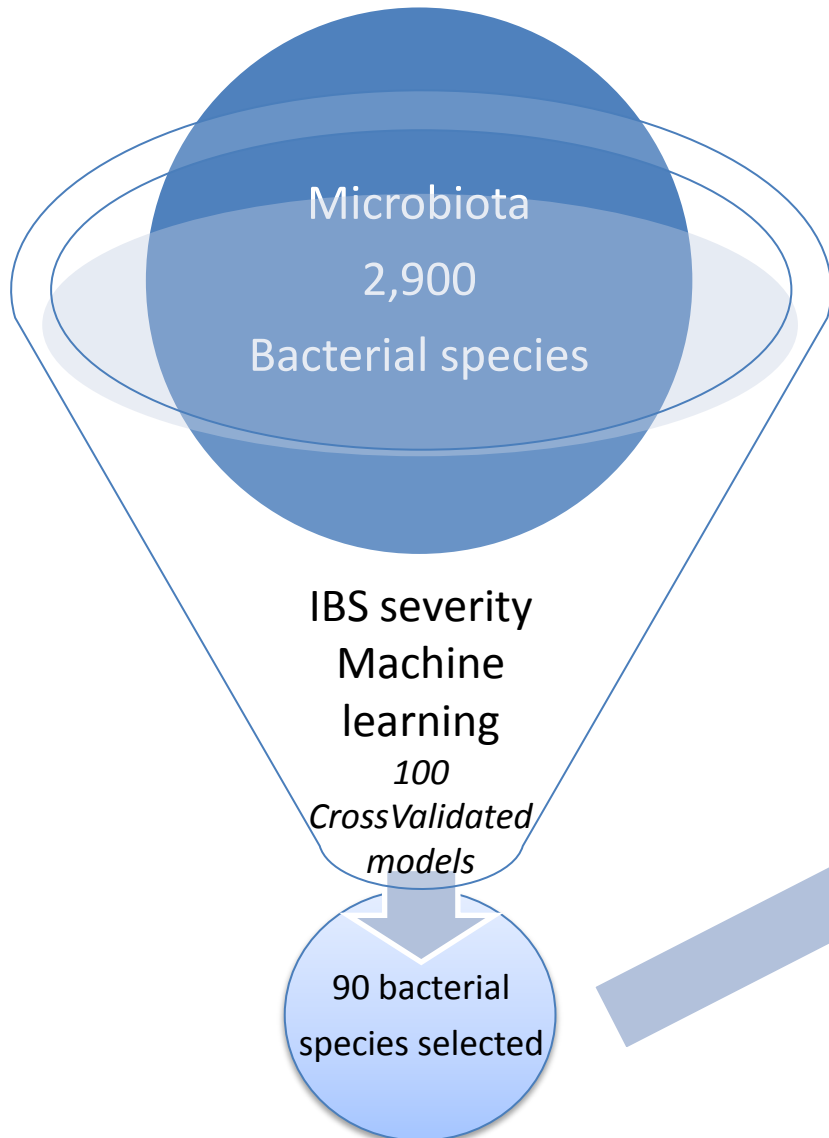


IBS-SSS

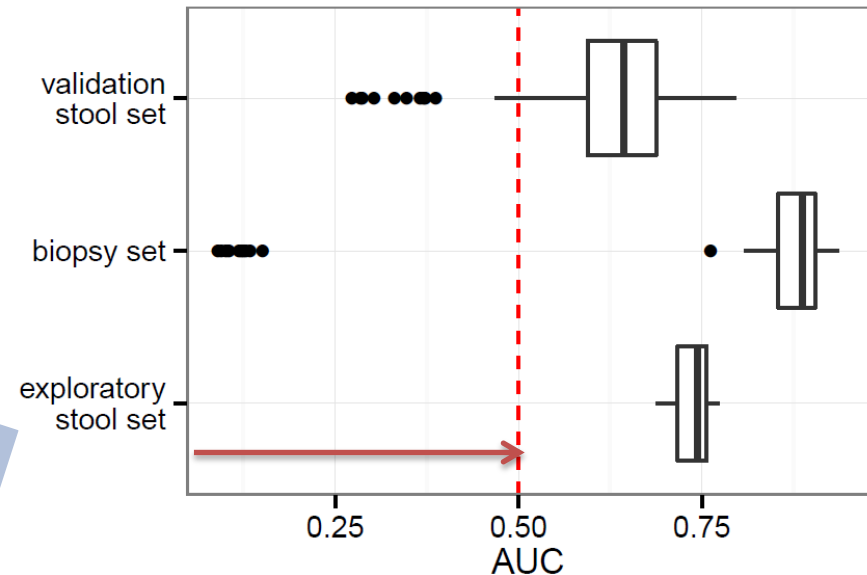
Higher Severity

Less Prevotella-type More Bacteroides-type

Towards a gut microbial signature for IBS severity

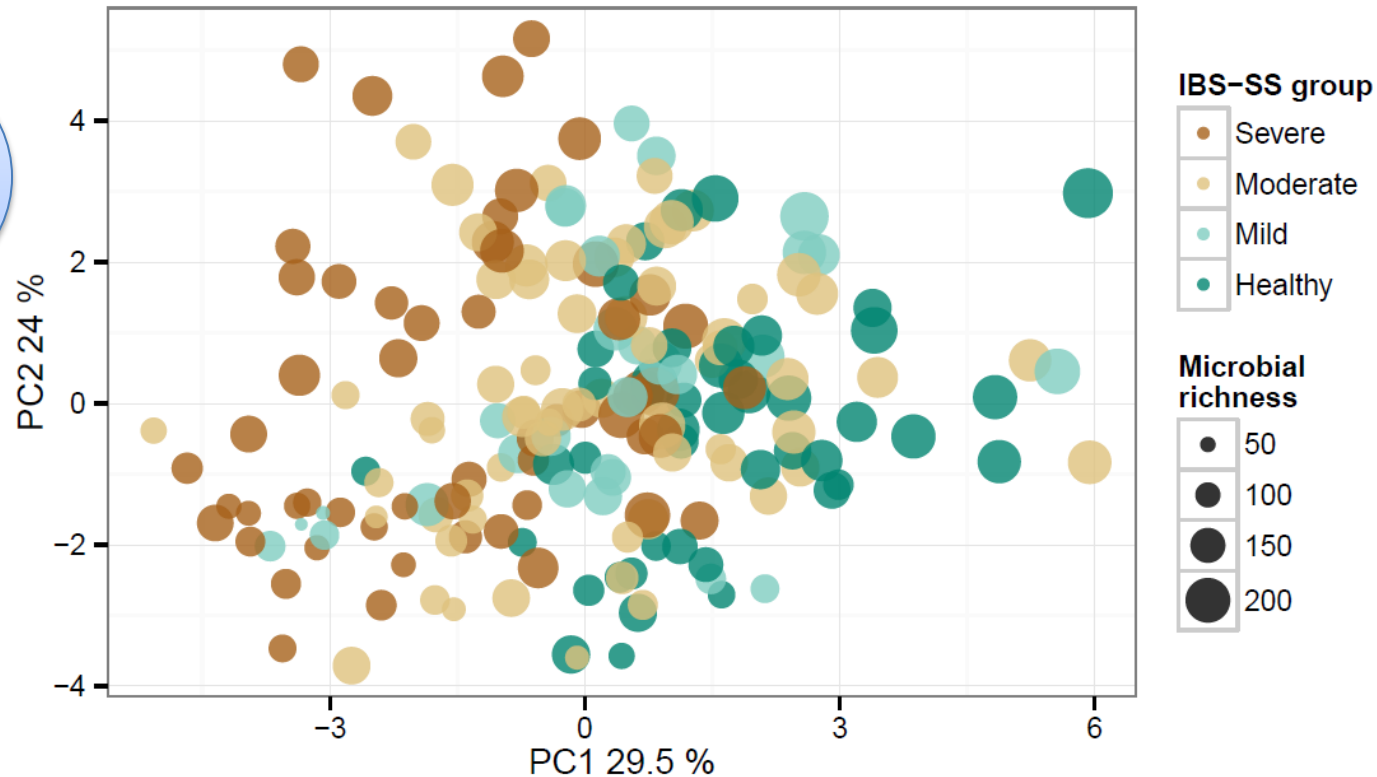


This signature is validated in biopsies and an independent stool samples set



Above Random
expectation

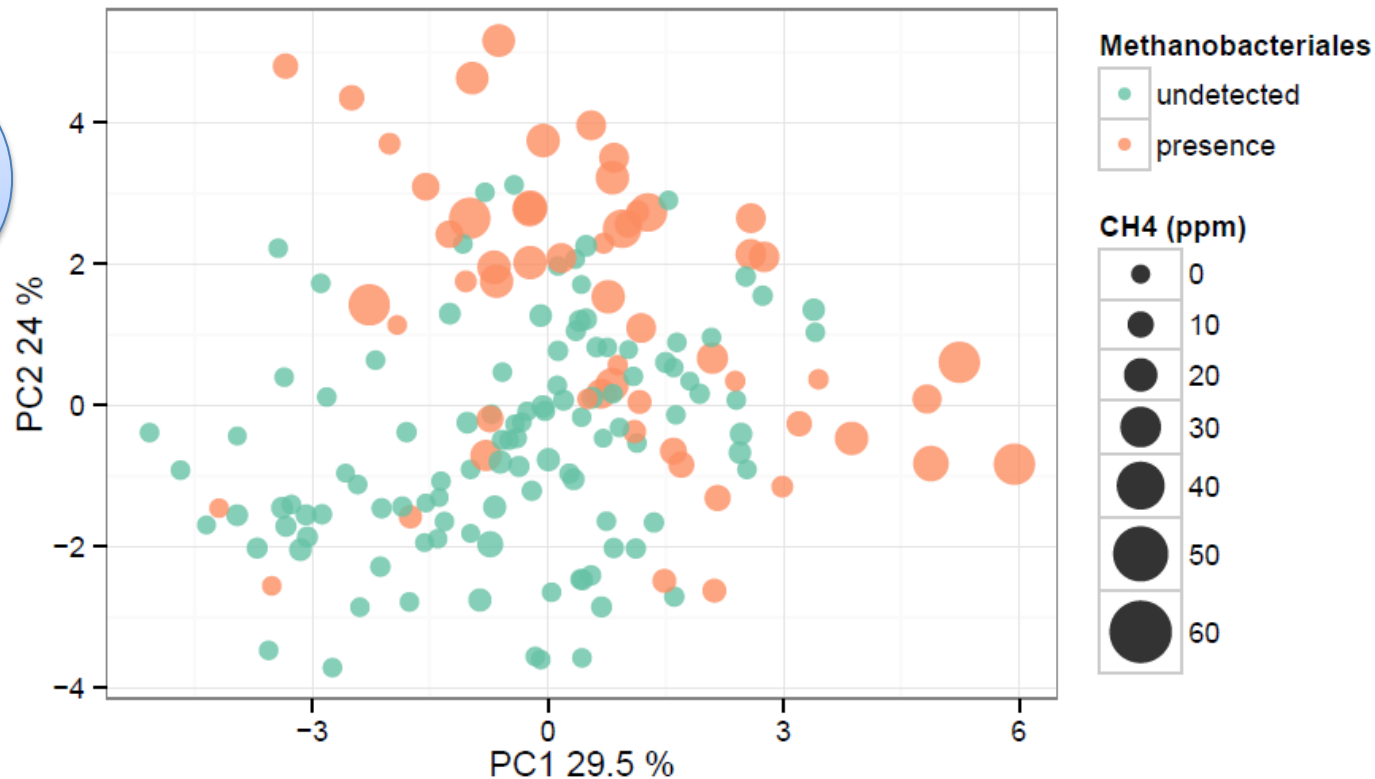
Gut microbial signature for IBS severity is linked with lower microbial richness



Severe IBS  Healthy

Low microbial richness  High microbial richness

Gut microbial signature for IBS severity is linked with exhaled methane

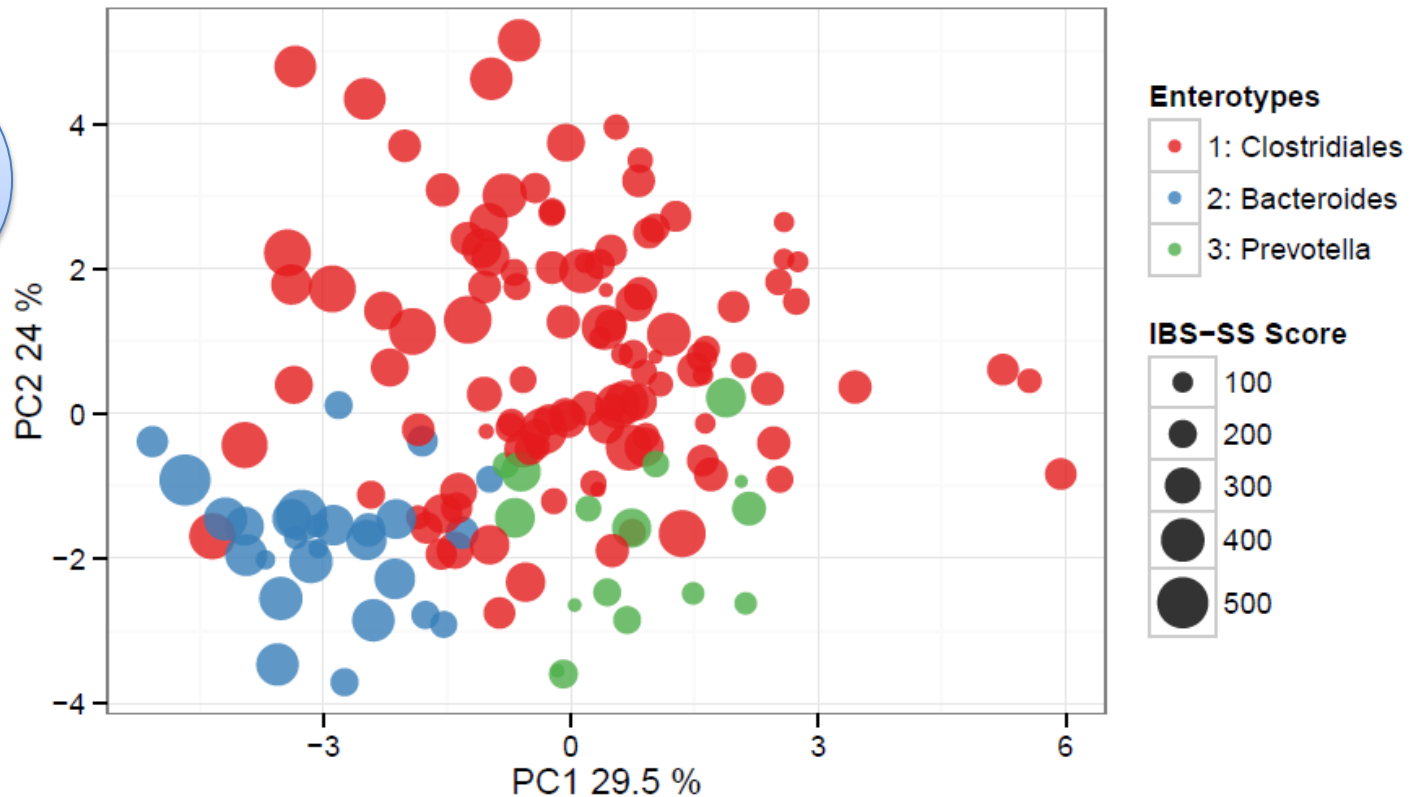


Severe IBS  Healthy

Low microbial richness  High microbial richness

Low CH₄ exhaled  High CH₄ exhaled

Gut microbial signature for IBS severity is linked with enterotypes



Severe IBS  Healthy

Low microbial richness  High microbial richness

Low CH₄ exhaled  High CH₄ exhaled

Bacteroides-type  *Clostridiales* & *Prevotella*-types

Take home message

- IBS symptom severity is associated with a distinct signature at fecal microbiota level
- Gut microbial signature for IBS severity is linked with
 - low microbial richness
 - *Bacteroides* enriched enterotype
 - low Archea methanogens and exhaled CH₄



Acknowledgments



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INRA
SCIENCE & IMPACT

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