Man & Machine
Smart Dietary Assesment
ISBNPA 2017- June 10
Victoria, BC

Man or machine?
How far are we in the field of smart devices for
dietary data collection
Chair: Bent Egberg Mikkelsen. **Co-chair:** Kwabena Titi Ofei
ISBNPA2017 Symposium 6611/S.28
Saturday June 10, 2017

Title of paper	Dura tion/ Min.	Presenter	Authors	Time
Introduction: How far are we in the field of smart devices for dietary data collection	5	Bent	Bent Egberg Mikkelsen	12:05
Relative validity of an image-based method for the assessment of dietary intake in pregnant women.	14	Megan	Megan E. Rollo et al	12:19
Assessing dietary intake among hospital patients using the Dietary Intake Monitoring System (DIMS) to collect data from the Food4FrontStage intervention.	14	Kwabena	Kwabena Titi Ofei & Bent Egberg Mikkelsen	12:35
Identifying which digital image portion estimation wire mesh is best for different types of foods.	14	Tom	Tom Baranowski et	12:49
Mixed Deep learning & Natural language processing approach for food image detection, recognition and analysis aimed to estimate nutritional values,	14	Tome	Tome Eftimov et al	13:05
Discussion.	10	Bent moderates		13:15

Types & amounts

Next generation food ID tools

- Manual input
  - Meal based (breakfast, lunch, dinner)
  - Choosing food by tapping (i.e. meat –> chicken –> nuggets)
  - Writing food name with autocomplete
- Taking a photo of the food
- Scanning a barcode
- Using a scale. DIMS, Mandometer

Man or Machine – or both?

Machine assisted

- Sensecam Microsoft Doherty AR et al 2013
- eButton Sun et al 2012
- Ear-worn micro-cameras. Pettitt et al 2016
- Scale, ID and imaging combo's (DIMS) Ofei et al 2015
- Piezoelectric sensors Delnavaz & Voix, 2014
- Magnetic proximity sensor Chengliu et al 2013

Semi assisted

- Mechanical turk (mTurk) for instance Amazon
- Citizen science & crowd sourced game embedded imagerecognition (Mikkelsen et al 2017)