

**The future of antibiotic free calf rearing-
utopia or reality?**

**How can we influence the
immune system for less
antibiotic usage?**

Hans-Joachim Schuberth
University of Veterinary Medicine, Foundation

1st We have to get rid of REAL Problems

Half of the calves STILL do not receive ENOUGH colostrum

Using serum and plasma samples to assess failure of transfer of passive immunity in dairy calves

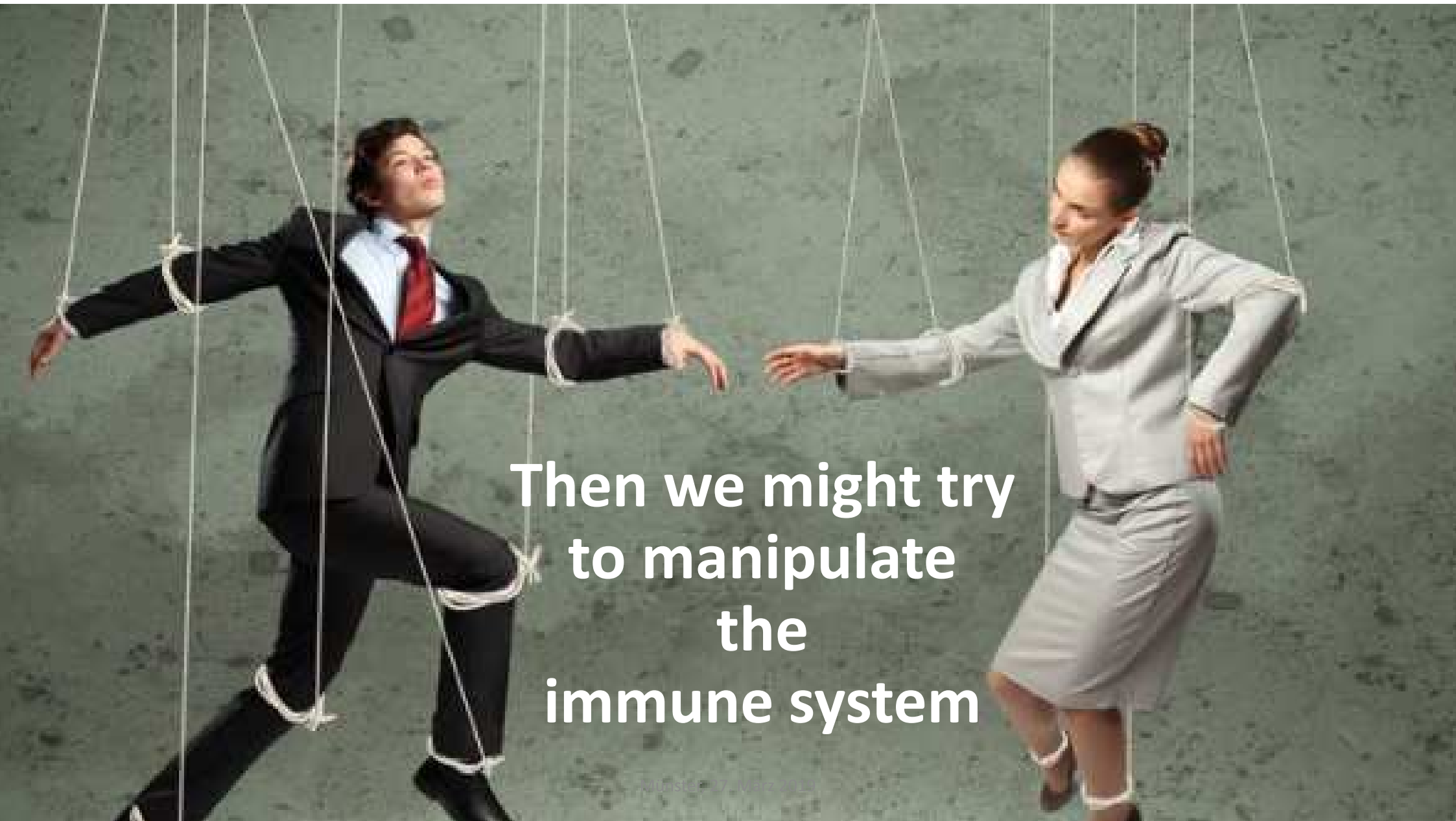
I. Elsohaby^{1, 2} ✉, J.T. McClure¹, L.A. Waite¹, M. Cameron¹, L.C. Heider¹, G.P. Keefe¹

Journal of Dairy Science

Available online 8 November 2018

In Press, Corrected Proof [?](#)

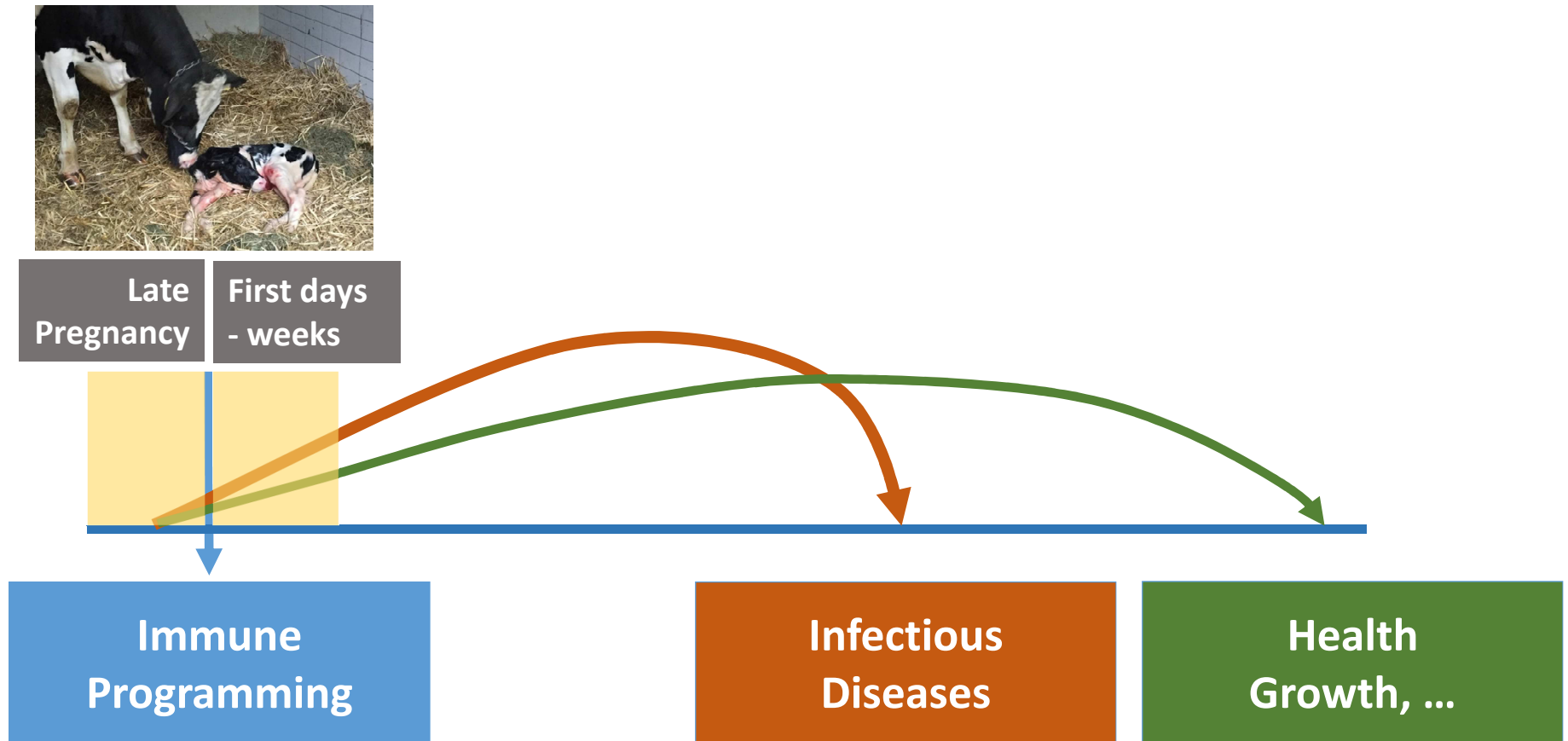
The prevalence of FTPI in serum and plasma samples based on a RID-IgG concentration <10 g/L was 43.3 and 46.5%, respectively.



**Then we might try
to manipulate
the
immune system**

Manipulation aims at *programming* something

2nd Health (Immunity) is programmed



Paradigm shift

The calf needs mainly education & training

The cow mainly programs calf immunity



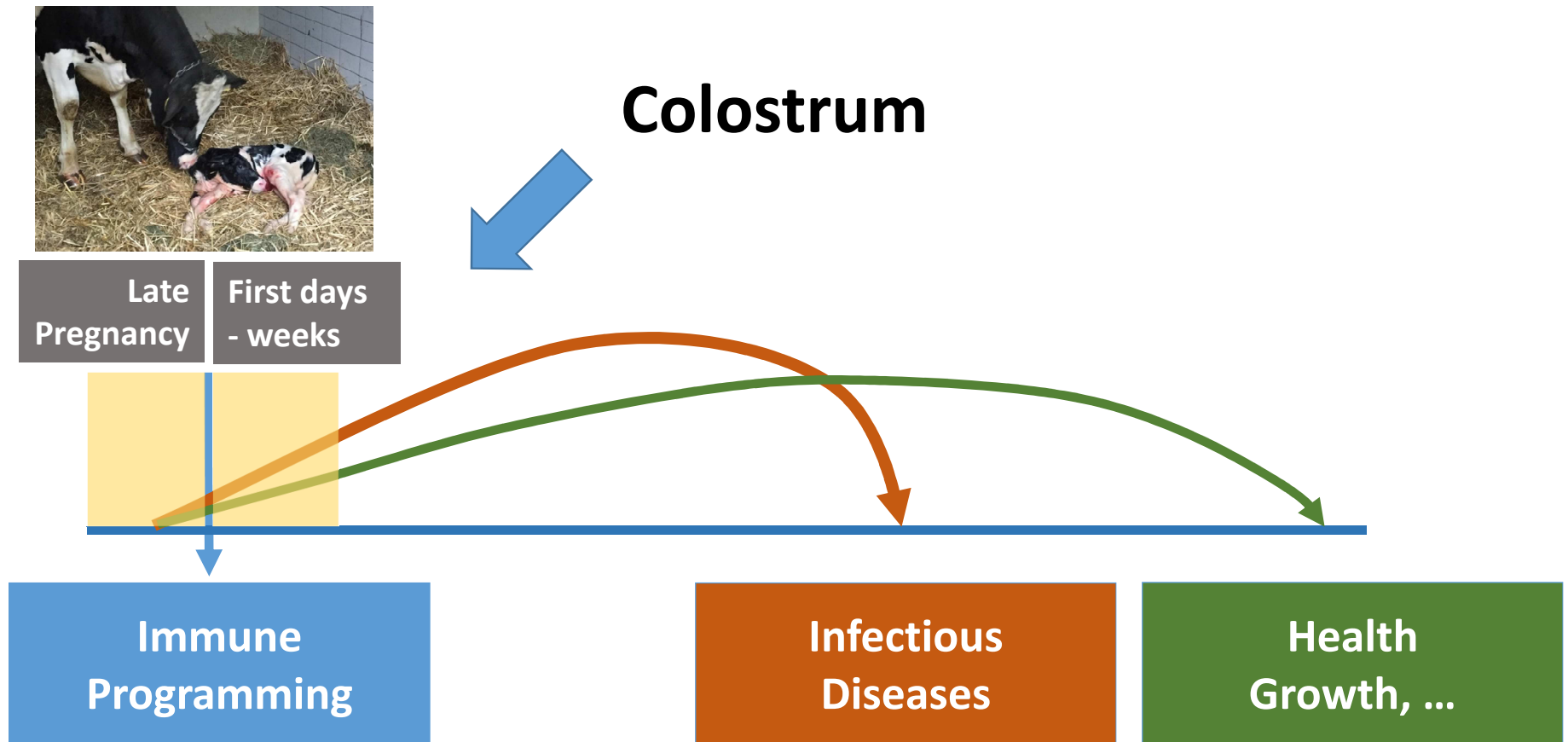
Take more care about late pregnancy cows

Feeding

Heat

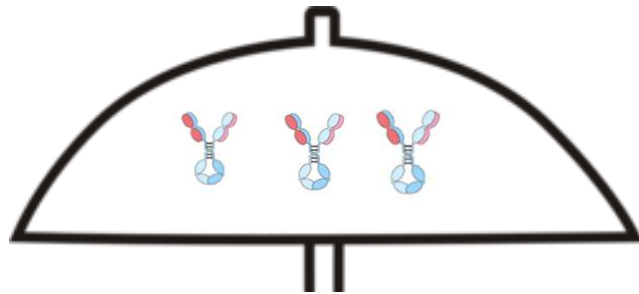
Stress

2nd Health (Immunity) is programmed



Paradigm shift

Colostrum mainly educate and train calf immunity



to support maturation
and modulation
of the immune system

Colostrum *educates* under
an antibody umbrella

How can we influence the immune system for less antibiotic usage?

2

Ensure early uptake of enough colostrum
Re-Define *„good quality“* colostrum
Prolong colostrum feeding

Continuing education!

In concert/combination
With housing/management/etc

How can we influence the immune system for less antibiotic usage?

- 1 Take more care about late pregnancy cows
- 2 Ensure early uptake of enough colostrum
Re-Define *„good quality“* colostrum
Prolong colostrum feeding
- 3 „Training versus protection“
Usage of vaccines with enhanced intention

Continuing education!