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## Shiga toxin-producing Escherichia coli (STEC) from Humans in the Netherlands

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## Stellingen

behorende bij het proefschrift

### **Shiga toxin-producing *Escherichia coli* (STEC) from humans in the Netherlands**

Novel diagnostic approach, molecular characterization and phylogenetic background

Mithila Ferdous

1. Enrichment of stool samples increases the diagnostic yield for the detection of Shiga toxin-producing *Escherichia coli* (STEC) and is a tool to reveal the presence of viable STEC in the sample. (This Thesis).
2. To determine on forehand if a specific STEC strain will cause an outbreak or not is difficult if not impossible. (This Thesis).
3. Mobile genetic elements (MGEs) hamper *E. coli* classification and their virulence prediction. (This Thesis).
4. STEC is not a single *E. coli* pathogroup in evolutionary history, rather originates from multiple pathogroups that have acquired the Shiga toxin (Stx) bacteriophage. (This Thesis).
5. Multiple ecological constraints including antibiotic selective pressure have shaped the divergence and phylogeny of STEC O104:H4. (This Thesis).
6. Whole genome sequencing (WGS) is the best available method to find common ancestors of STEC despite the bacterium's enormous heterogeneity and incorporation of MGEs. (This Thesis).
7. Humans are social creatures and need friends to accompany their life but friends may be the cause of transmission of life-threatening bacteria.
8. Seven (7) is not always a lucky number specially not, if combined with the H serotype of *E. coli* O157.
9. Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid. (Albert Einstein).
10. Highly organized research is guaranteed to produce nothing new. (Frank Herbert).