# Use of E.coli co-culture for antimicrobial production.

Industrial production of value-added products uses axenic / pure cultures with a single strain. Often, this monoculture approach results in metabolic burden and low productive yield. However, unlike in industrial setups, microbes always exist as consortia, co-cultures, or mixed cultures in nature. They exhibit various microbial ecological interactions between them, like mutualism, amensalism, commensalism, etc. The natural habitat of co-existence helps them to support each other for growth and survival. The aim of this project would be to mimic this part of nature in lab and try to use mutualistic Escherichia coli (E. coli) co-cultures which can cross-feed each other in real time, to produce the antimicrobial. The students will get hands-on exposure to cultivate these strains in both adherent and non-adherent states to derive the best strategy that can offer the highest productivity for the target product (Violacein). The position is open now and students can apply if they are interested.

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| **Type of thesis:** | Bachelor's or Master's or both |
| **Start date:** | As soon as possible, flexible |
| **Supervisor:** | shriya.gupta@ibvt.uni-stuttgart.de |
| **Examiner:** | ralf.takors@ibvt.uni-stuttgart.de |
| **Methods:** | Basic knowledge/hands on experience in fermentations and bacterial cultivatio |
| **For study course:** | All biology related courses/ Process Engineering/Techbio |

For further information, contact the supervisor or studierende@ibvt.uni-stuttgart.de