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## Application of transgenic *Chromolaena Odorata* and *Nicotiana Tabacum* for the phyto remediation of soil contaminated with selected pops

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Human activities have lead to the release of large amounts of toxic compounds into the soil. These compounds that include heavy metals, metalloids as well as organic pollutants causes threats to the environment as they accumulate in soil and are readily passed unto man and animals through the food chain. There is an alarming rate of increase in the world's population and the need for improved standard of living. As a result of this, pollution is further being triggered by such increase, which means that the disappearance of these environmental contamination problems is not imminent. Various conventional systems has been employed for the removal of recalcitrant organic contaminants from soil e.g. physical, chemical, microbiological and phytoremediation methods, but such methods are marred by various disadvantages which include environmentally invasiveness, not cost effective and usually results in inefficient clean up. It is therefore imperative that an improved method of remediating such environmental condition be invented. Phytoremediation has been generally accepted as the proven technology for the removal of environmental contaminants due to its minimal energy requirement and the beauty of the technique. However, the efficient nature of phytoremediation technology suffers certain limitations that have affected its field application. This study therefore will aim to explore the effects of genetically modified *Nicotiana tabacum* and *Chromolaena odorata* in the remediation of soil contaminated by high molecular weight PAH and PCB compounds (pyrene, chrysene, perylene and Aroclor) that constitute a complex contaminated soil system and the interaction between those compounds. The completion of this project shall therefore serve as a reference material in the field of environmental science and engineering towards efficient remediation of recalcitrant organic contaminated soil.

### Biography

Raymond Oriebe Anyasi is a doctoral student with the University Of South Africa Department Of Environmental Science, working on environmental pollution control and management projects. He is an undergraduate tutor in Engineering chemistry and General biology and has few publications in various peer reviewed journals.

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