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CODON BIOTECH
B- 38, SECTOR-64, NOIDA – 201301
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PROJECT TOPICS FOR RESEARCH PROJECTS/ INTERNSHIP/ DISSERTATION (1,2,3,4,5 & 6 MONTHS)

PLEASE FIND BELOW THE BROAD TOPIC ARES FOR DISSERTATION. ONCE THE BROAD TOPIC IS DECIDED SPECIFIC TITLES & TOPICS WILL BE ASSIGNED INDIVIDUALLY

RDT and Genomics:

- DNA profiling & fingerprinting of various microbial species.
- Characterization of modified strain *via* genomics & molecular biology techniques.
- Transformation and Cloning of gene of interest.
- Study of Molecular markers in crop plants.
- Isolation of gene of interest from bacteria via PCR.
- Identification of bacterial strains using 16sRNA amplification.
- STR DNA marker analysis for Human Profiling studies
- Mutational studies for enhancement of economically important products.
- Isolation of waste degrading microbes and its identification

Proteomics:

- Analytical Profiling of proteins in plants after usage of pesticides and hormones.
- Soluble protein characterization & profiling from animal and plant tissues.
- Study of herbs as antimicrobial agents & their Phytochemical analysis
- Protein Fingerprinting in plants / animal tissue for development of markers.
- Study protein polymorphism related to abiotic stress.
- Isolation and purification of proteins/enzymes from plant tissues.
- Purification of IgG's and study using proteomic tools

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- Study on IgY purification and characterization from different aves/birds eggs.

IMMUNOLOGY

- Isolation of IgG's from different serum samples and understanding the protein profile changes.
- Purification of IgY's from different aves eggs and its antimicrobial analysis.
- Studying the changing Blood Biochemical parameters from diseased individuals.
- Identification of thanatomicrobiota in blood samples of individuals using drugs.
- Different serum protein analysis from animals.
- Salivary DNA isolation of Humans and their STR study.

Fuel Biotech:

- Isolation of Lignin degrading microbes and their characterization and use in Bioethanol production.
- Bioethanol production from agricultural/ industrial/vegetable/ fruit waste .
- Biobutanol production from bagasse & other lignocellulosic wastes.
- Bioconversion of waste from Biofuels into economically important products using microns & nanoparticles.
- Studies on development of Microbial fuel cells for converting waste into electricity.
- Studies on hydrogen production through microbes.
- Study on Algae, BGA and Diatoms in Biofuel production.
- Biodiesel production studies from oil containing waste.

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Industrial Biotech & Food technology:

- Production of Antibiotics, their purification and stability & activity studies.
- Production of Organic Acids using microbes and their purification.
- Bacterial Secondary metabolite production like color pigments for food.
- Production of Beverages (alcoholic & Non alcoholic)
- Production of Riboflavin from lignocellulosic wastes
- Production of amylases from industrial waste products.
- Studies on Isolation of Probiotic strains and development of Probiotic drinks etc.
- Quality testing for different food items.
- Development of new food products from vegetable & Fruit waste.

Environmental Biotech:

- Studies on microbial degradation of oil spills.
- Studies on lead Remediation by seeds and microbes.
- Studies on microbial degradation of waste plastic / thermocol.
- Studies on industrial dye/effluent degradation.
- Biodiesel waste bioconversion into economically important monomers/polymers.
- Development of marketable formulations for canal & river bioremediation.
- Development of Nanoparticles for pesticide degradation in soil, water.

Plant & Agriculture Biotech:

- Development of pesticide resistant BGA.

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- Studies on importance of BGA as biofertilizer.
- Development and Enhancing the effect of botanical as bio fungicide / biopesticide.
- Analysis of effectiveness of different bio fungicide on plant pathogen.
- Study the antimicrobial / antifungal activity of weeds, Trees , lignocellulosic waste, barks etc
- Studies on Antioxidant properties & phytochemical analysis of different medicinal plants.
- Production of Different nanoparticles for enhancement in plant growth.
- Green Nanoparticle production for pesticide degradation.
- Understanding process of Plant tissue culture and developing callus for plat multiplication.

Forensics:

- Analysis of various techniques used in Forensics.
- Analysis and protein profiling of toxic plants and understanding their relevance in forensics.
- Studies on analysis of fingerprints under different environmental conditions
- DNA fingerprinting and its use in development of markers for forensic studies.
- Analysis of DNA degradation in blood stains present on fibers**.**
- Antimicrobial effect of different inks and dyes on Microbes.
- STR DNA analysis for Forensic studies & evolutionary studies.
- Development of Nanoparticles for drug identification at crime site.

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- Development of on site indicators for toxin & drug use.
- Isolation and identification of Diatoms and development of image glossaries for different water bodies and animal tissues.
- Studies on Pesticide use on vegetables and fruits in different states.
- Identification and differentiation of human & Animal blood on crime sites.

NanoBiotechnology:

- Development of Nanoparticles and study its application in environmental solution.
- Development magnetic nanoparticles and their applications in drug binding and toxin removal.
- Studies on Green synthesis of nanoparticles by plants and microbes.

Bioinformatics:

List of Specific Topics in Bioinformatics related projects :

- Identification of Potential drug targets for *Burkholderia sp.* Using metabolic pathway analysis.
- Identification of Potential drug targets for *Enterococcus sp.* using in silico tools.
- Analysis of commercially available cancer drug against EGFR in case of oral cancer.
- Drug designing for control of infection of *Heliobacter pylori* in Humans.
- Identification of Biomarkers in case of cervical or prostate cancer using Bioinformatic tools.
- In silico Analysis of Inhibitors of ACE receptor with respect to COVID Treatment.
- Understanding the Structures and activity of SARS CoV E receptor protein.
- In silico analysis of drugs against Hemolysin protein produced due to bacterial infections.

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- A review on the Nucleotide and Proteomic In silico data on SARS CoV using different softwares & tools.
- A comparative study of Protein Prediction online tools and their importance in drug designing.
- An in silico analysis on the efficacy of Potential inhibitors for SAR CoV already available.
- A review of different bioinformatic tools being used to study cancer treatment.
- Chikungunya - An in silico analysis of the structural & Non- structural proteins of the virus.

IPR Related:

- Patent landscaping .
- Patent search for specific disease type.
- Patent drafting

For more information contact us- **CODON BIOTECH PVT. LTD.**

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