

# TEQUIP SUMMER INTERNSHIP 2018



भारतीय प्रौद्योगिकी संस्थान हैदराबाद  
Indian Institute of Technology Hyderabad

## **MODELLING OF HUMAN EXPOSURE TO CHEMICALS**

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Research topic : MODELLING OF HUMAN EXPOSURE TO CHEMICALS BY  
INGESTION

Duration: 1 MONTH.

## INTRODUCTION:

- It is an exposure assessment of chemical substances through consumption of food or water.

## OBJECTIVE:

- To Obtain a exposure information to scientists, physicians, and health officials to help to prevent Iron(Fe) intake.

## ALGORITHM FOR UPTAKE OF ORAL EXPOSURE:

$$\mathbf{EHE(oral) = Cf * Wf / BW}$$

EHE(oral) = Uptake of oral exposure in mg/kg/day.

Cf = Concentration of Substance in food in mg/g.

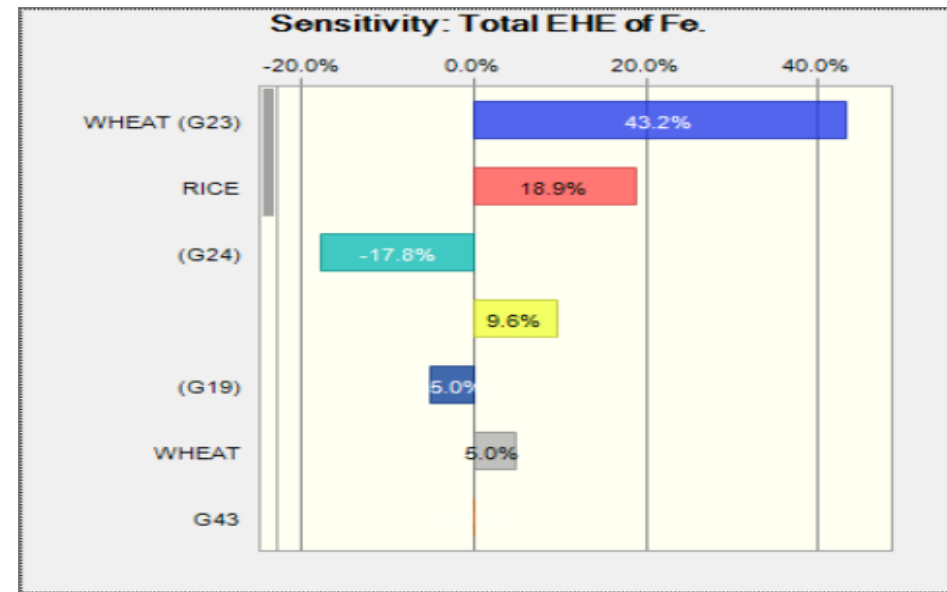
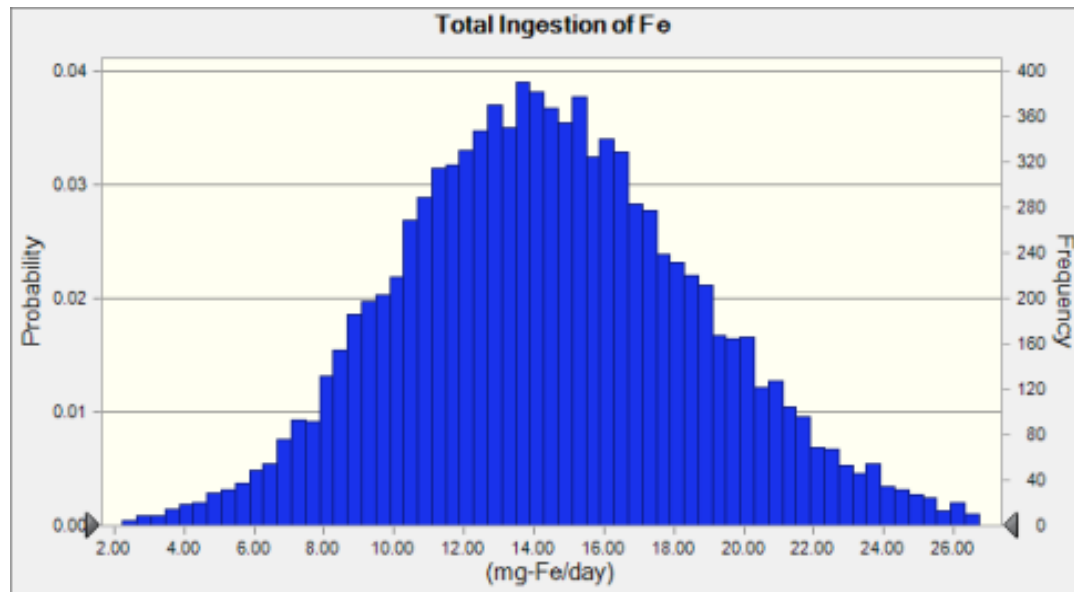
Wf = Amount of food Consumed in mg/day.

BW = Body Weight in kg.

# DATA SHEET: Estimation of Human Exposure to Iron(Fe) by ingestion.

PARTICULARS	FOOD NAME	Iron (Fe)-mg/100g				Intake of Fe (mg-		Intake Fraction	
		M.	S.D	L.R	U.R.	Mean	S.D.	Mean	S.D
	<b>RICE</b>								
Cf (mg/100g)		2.28	1.03	0.32	6.61	0.0747	0.0523	0.3142	0.5833
Wf (mg/day)		200000	70000						
B.W. (Kg)		65	15	50	84.5				
	<b>Wheat</b>								
Cf (mg/100g)		6.43	0.78	5.28	8.28	0.1490	0.0723	0.6271	0.806
Wf (mg/day)		141671.23	50000						
B.W. (Kg)		65	15	50	84.5				

## FORECASTING REPORT:



## FINAL OUTCOME:

- An Amount of 0.01 to 4.56 mg per kg per day Fe is consuming via ingestion of food.
- The maximum human exposure to Fe is from Wheat products.
- Tabulating details of concentration of chemicals in all food items and Amount of food consumed.

*THANK YOU*