

# MATHEMATICAL AND EXPERIMENTAL MODELLING OF FLOWS THROUGH EJECTOR-PUMP SYSTEMS

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# MOTIVATION, CONTEXT AND OBJECTIVES

## MAIN GOAL?

STUDY THE WORKING PRINCIPLE OF STOVE BURNERS

## WHY?

TO BE ABLE TO WRITE GUIDELINES THAT RELATE THE CHARACTERISTICS OF THE BURNER WITH THE USED FUEL

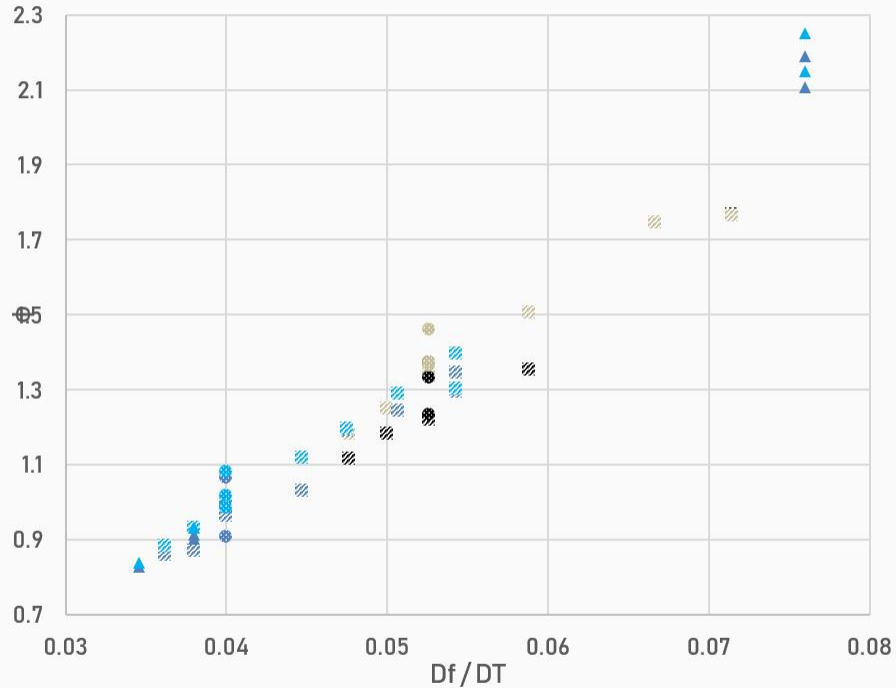
## WHAT FOR?

SO THAT ANYBODY IN THE WORLD HAS THE REQUIRED TOOLS TO BUILD THEIR OWN STOVE BURNER, REGARDLESS OF THE USED FUEL

## HOW?

MATHEMATICALLY, NUMERICALLY AND EXPERIMENTALLY

# MODEL AND RESULTS



**PLOT 1 – EQUIVALENCE RATIO AS A FUNCTION OF THE RATIO BETWEEN THE DIAMETER OF THE INJECTOR AND THE INTERNAL DIAMETER OF THE TUBE**



**PICTURE 1 – STABILITY LIMITS OF A LAMINAR FLAME**



**PICTURE 2 – STABILITY LIMITS OF A TURBULENT FLAME**

