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Nehru Trophy Boat Race

INTERNATIONAL CONFERENCE ON WATER RESOURCES, COASTAL AND OCEAN
ENGINEERING (ICWRCOE 2015)

Modelling and CFD Analysis of Traditional Snake Boats of Kerala

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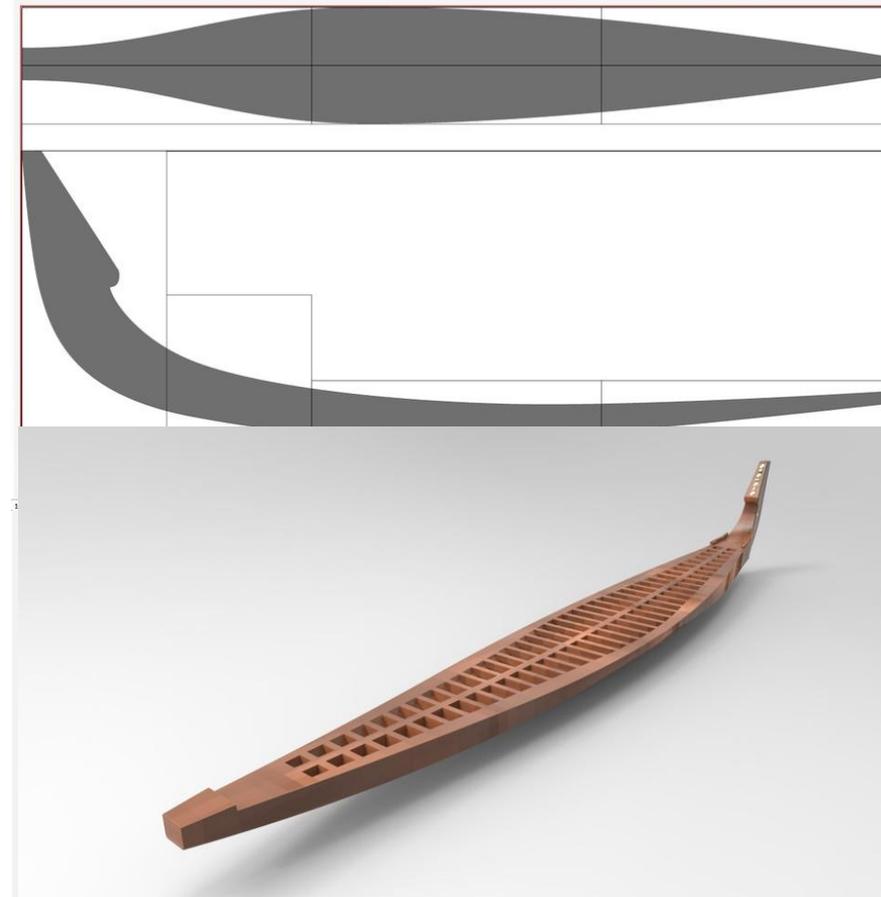
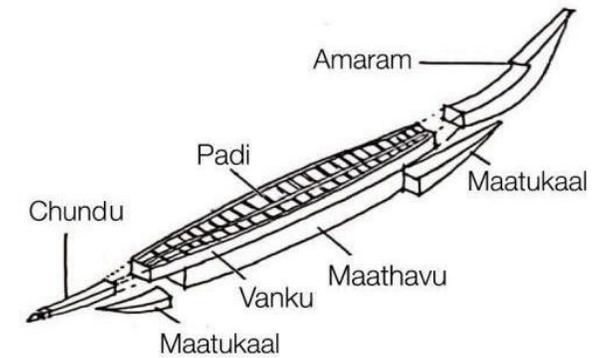
Abstract

Kerala has a rich maritime tradition dating back to several centuries. Snake boats, locally called Chundan vallams, are one of the icons of Kerala. Different types of snake boats take part in Vallamkali, the local name for traditional boat races. This paper presents the preliminary results of a study on a typical ChundanVallam. Data were collected at site using a total station and three dimensional drawings of the boat, required for performing the analysis, were developed using MAXSURF-16 and Rhinoceros-6.0. Hydrodynamic analysis was performed using the commercial CFD software package SHIPFLOW 5.1®. Analysis was performed by employing coarse, medium and fine meshes. Validation of the model was performed by performing simulations with hull series 60 (S_60). The drag coefficient at different Froude numbers for steady turbulent flow was estimated by performing simulations with the data of the snake boat. Velocity vectors as well as contours of pressure distribution, obtained from the simulations, are also presented.

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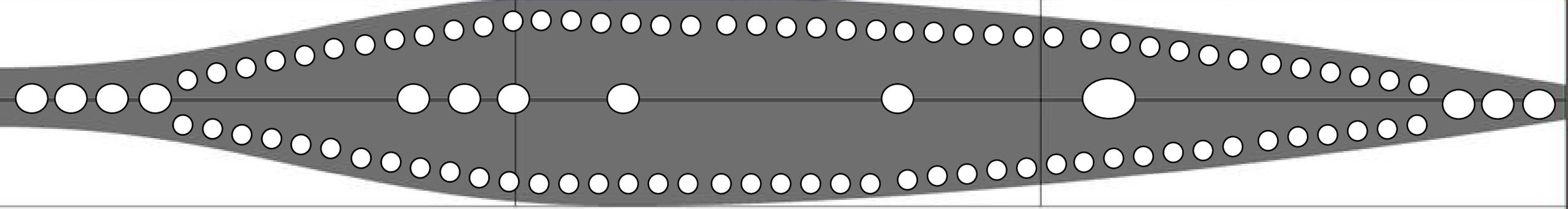
Keywords: Chundan Vallam; Snake Boat; CFD; Hydrodynamic Analysis; Drag Coefficient



- Length of the boat
- Capacity of the boat
- Number of rowers



- Team selection
- Body weight, positions

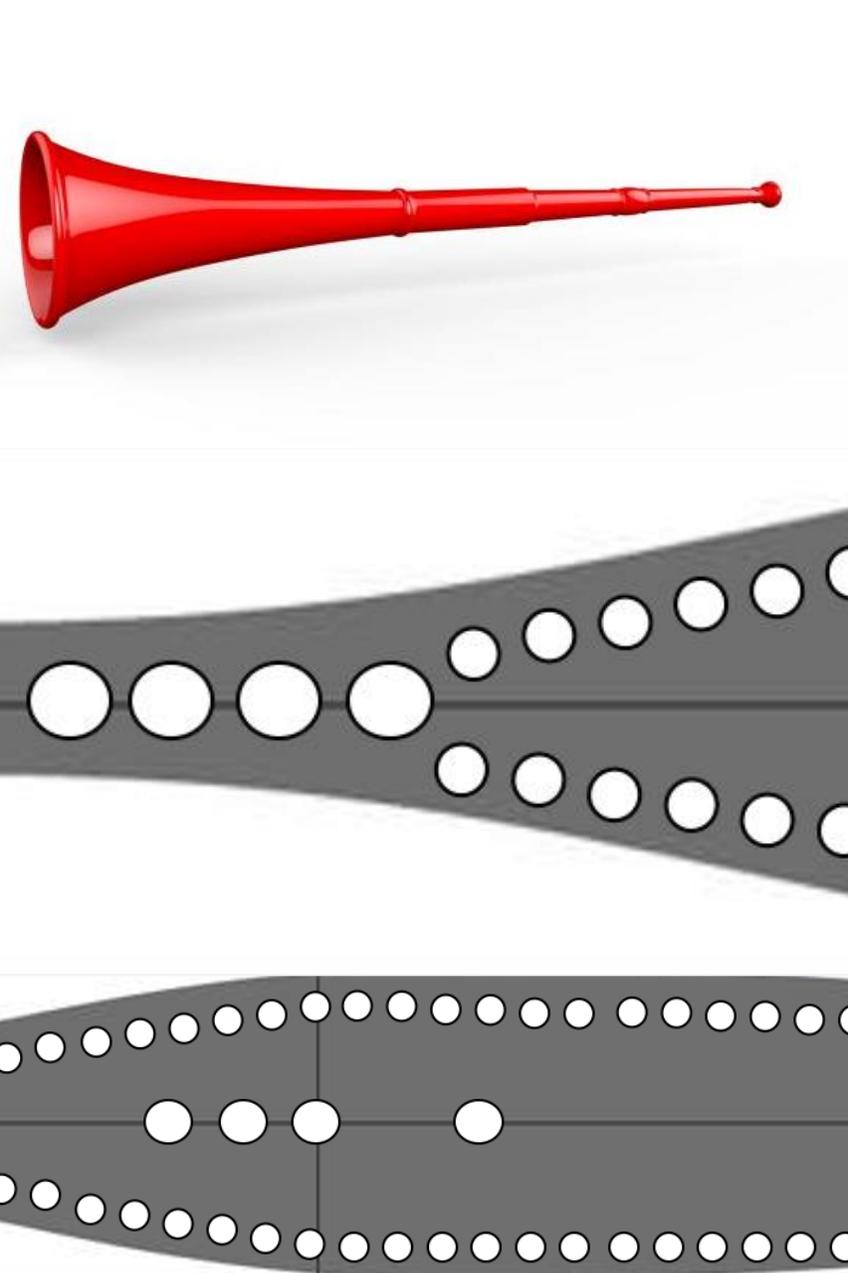


Maintain Direction





Orchestration



Plan



Executors



Orchestrator





Plan



Executors



Orchestrator





Plan



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Orchestrator

Horns

Trumpet 1 2 3

Trombone 1 2 3 4 5 6

Cimbasso

Violin

Viola

Cello

Bass

1 2 3 4 5 6

f *ff* *marc.* *Stripe:* *ord.* *sul pont.*

Build assets,
not liabilities

Widen your
team's skill
spectrum

Develop the
business leader
within you

“Data science is all about asking interesting questions based on the data you have—or often the data you don’t have.”

Sarah Jarvis

Director of Applied Machine Learning
and Data Science at Secondmind



THANK YOU