

Universidade de São Paulo

Instituto de Ciências Matemáticas e de Computação

Departamento de Matemática Aplicada e Estatística



Processamento Geométrico e Mecânica dos Fluidos Computacional

Antonio Castelo Filho





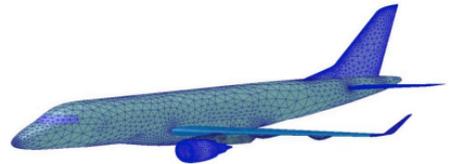
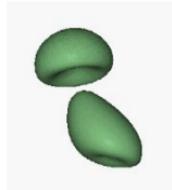
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- Melhoria de Malhas
- Movimento e Adaptatividade de Malhas

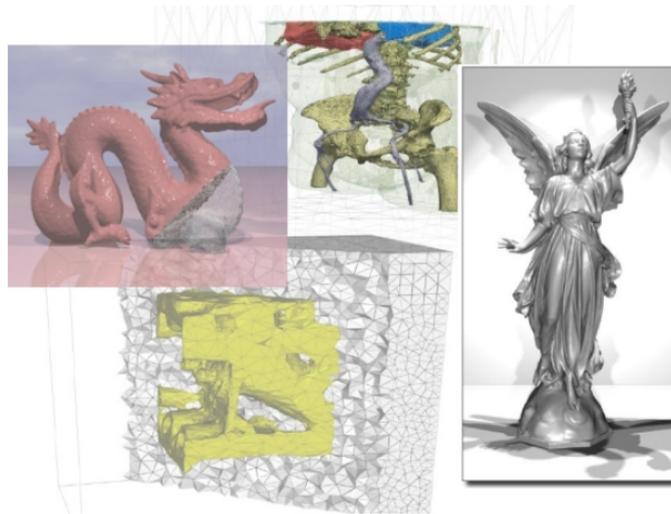
Mecânica do Fluidos Comp.

- Escoamentos com Superfícies Livres
- Escoamentos Multifásicos
- Escoamentos Não Newtonianos



Processamento Geométrico

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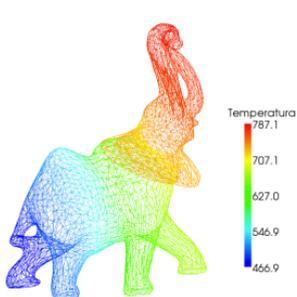




Estruturas de Dados

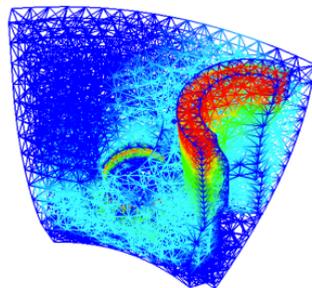
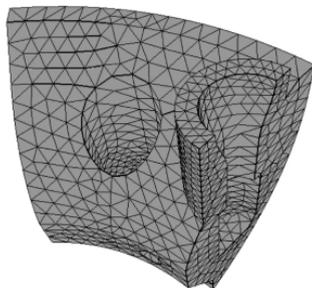
ED Topológicas

- Bidimensionais
- Superficiais
- Tridimensionais



Formas

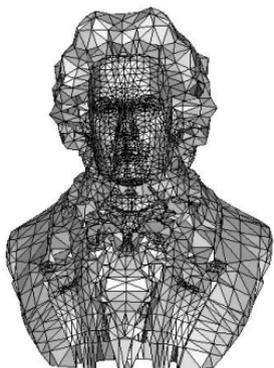
- Explícitas
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Modelagem: Pontos

Técnicas Interpolatórias





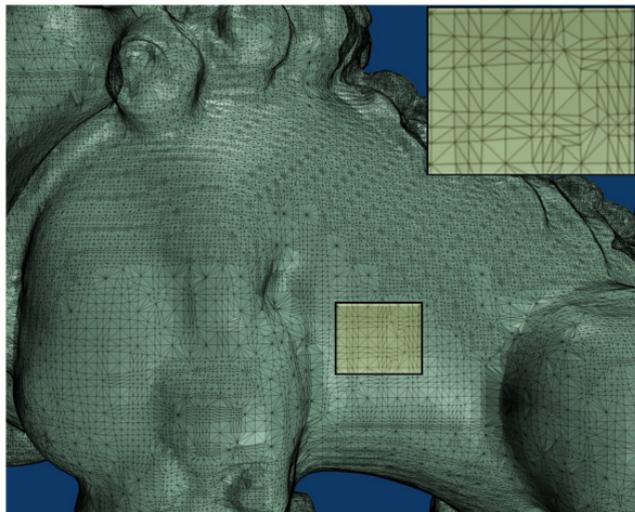
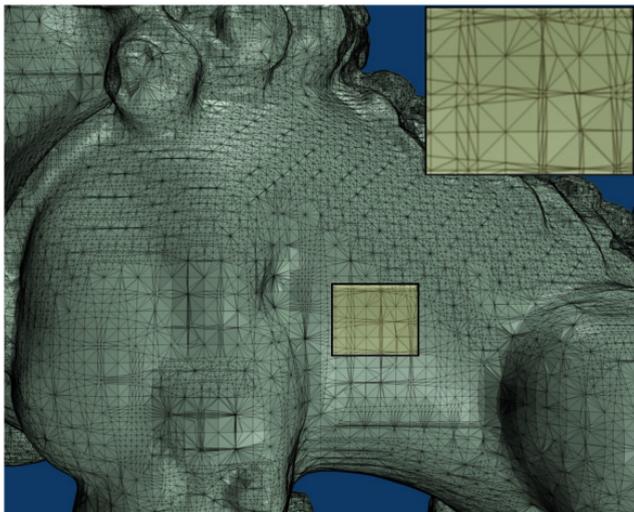
Modelagem: Pontos

Técnicas Baseadas em Funções Implícitas



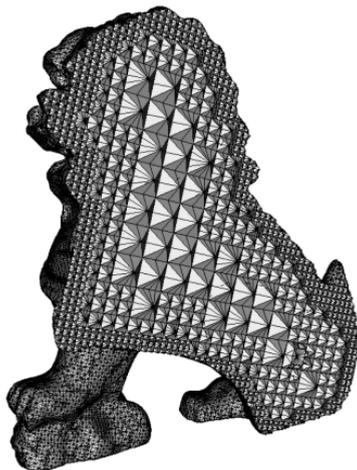
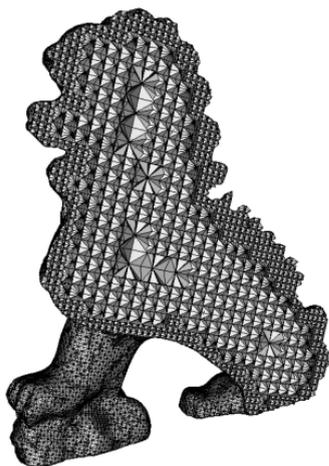


Geração de Malhas





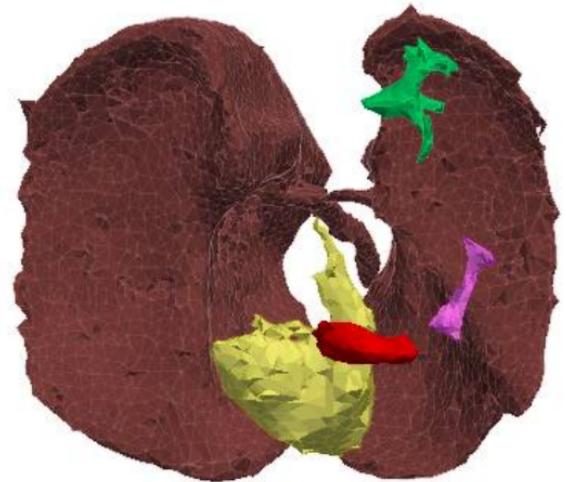
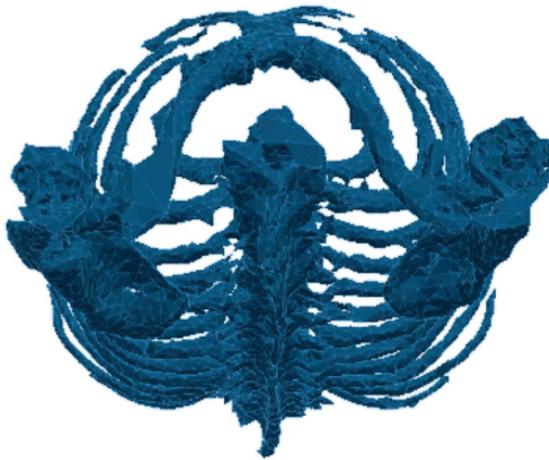
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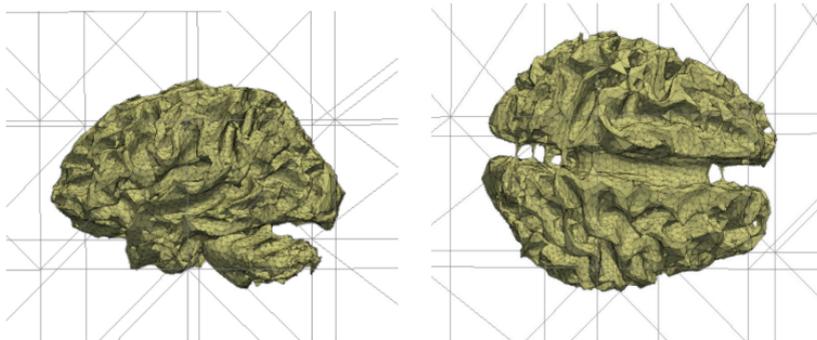
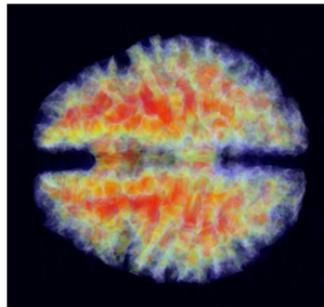
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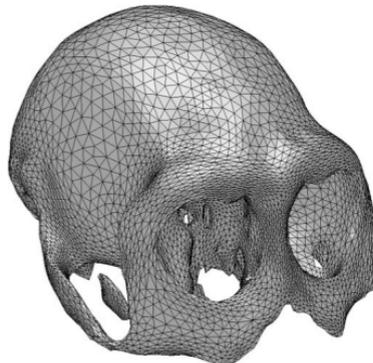
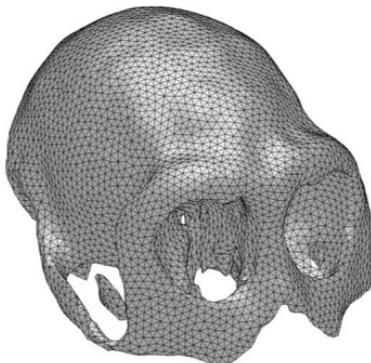
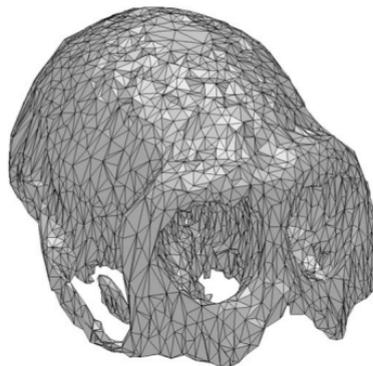
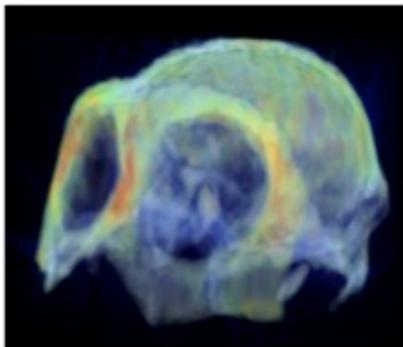
Reconstrução de Imagens



Reconstrução de Imagens

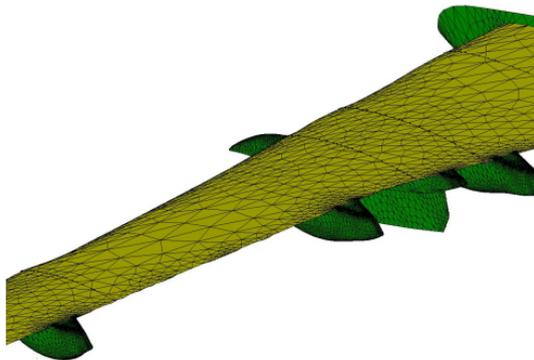
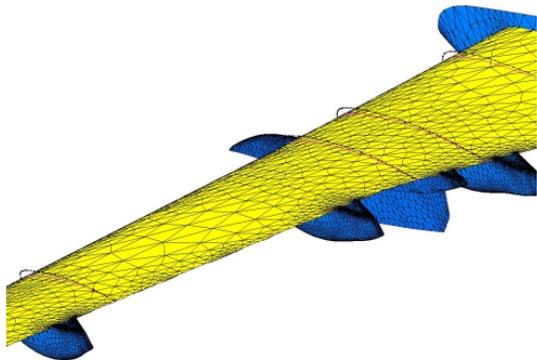
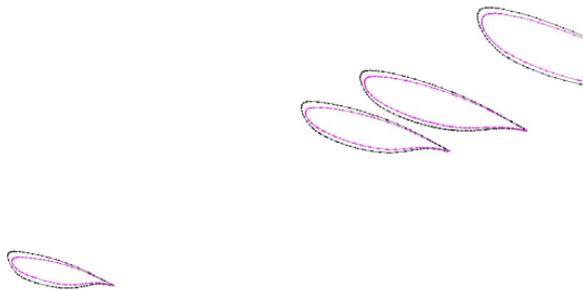


Processamento de Malhas



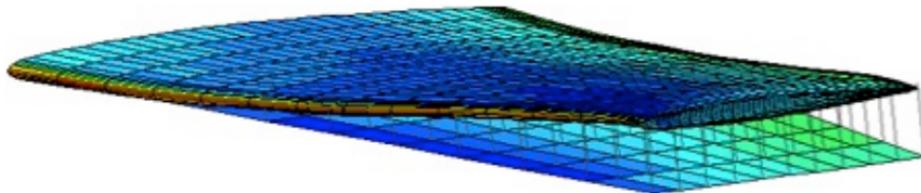
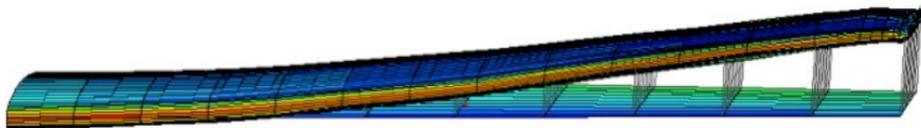
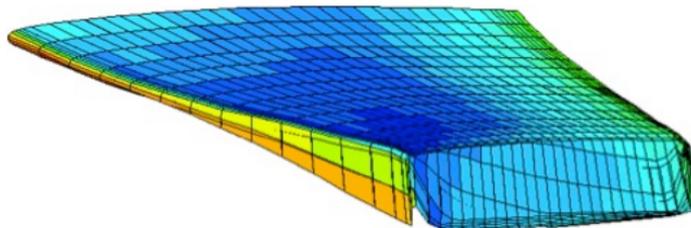
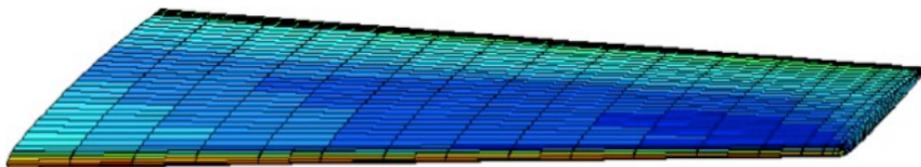


Processamento de Malhas

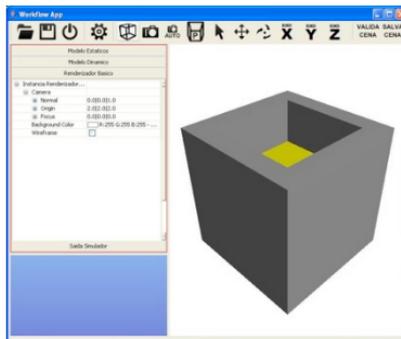
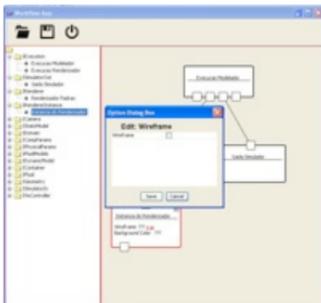
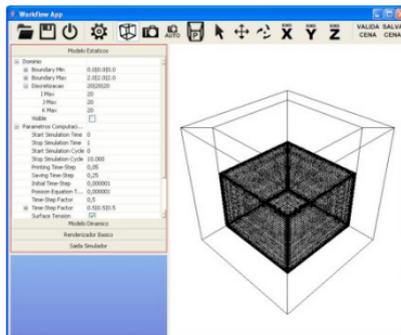
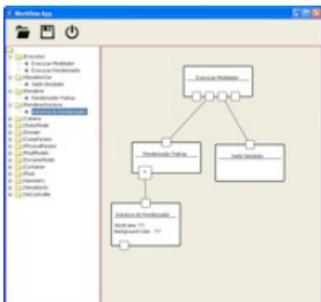




Processamento de Malhas

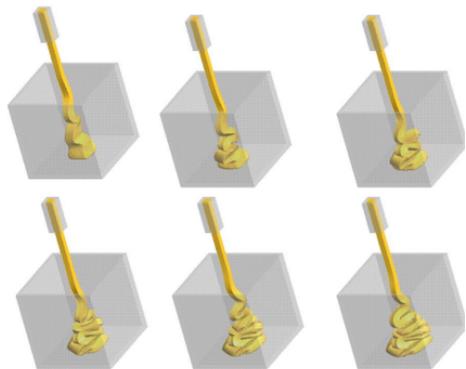
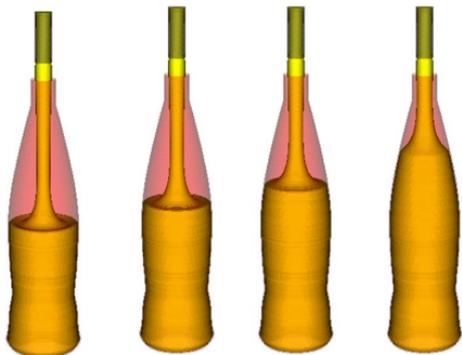


Visualização Científica



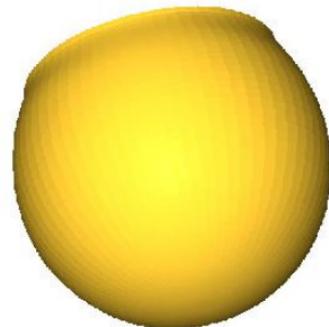
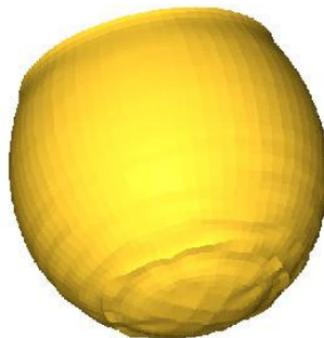
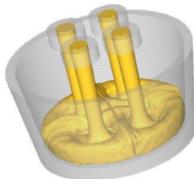
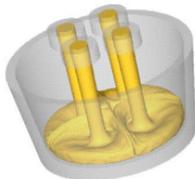
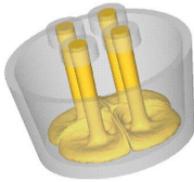
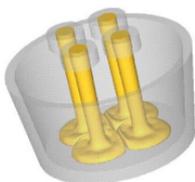
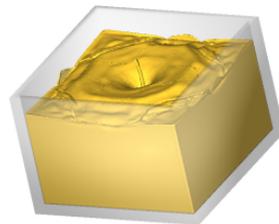
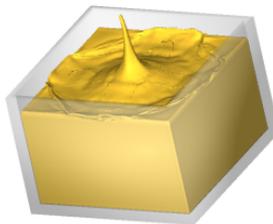
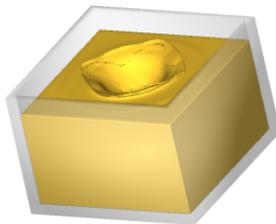
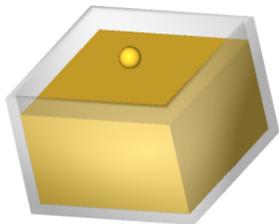


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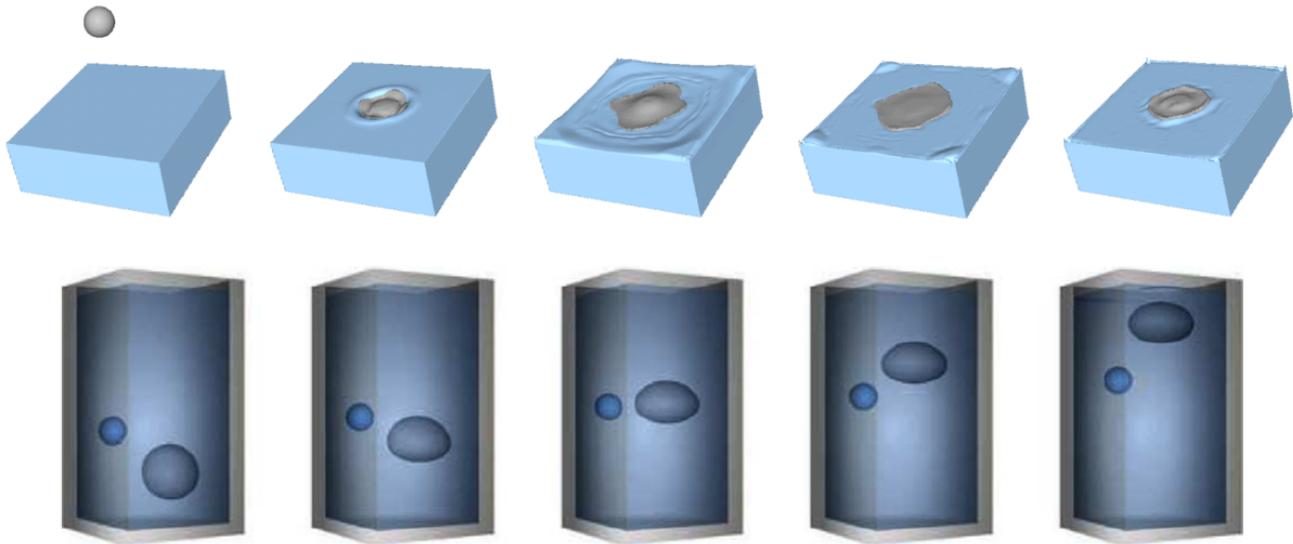


Superficie Livre



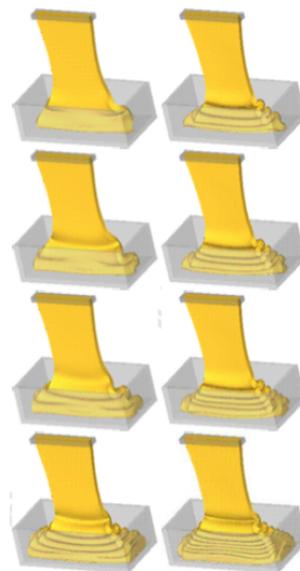
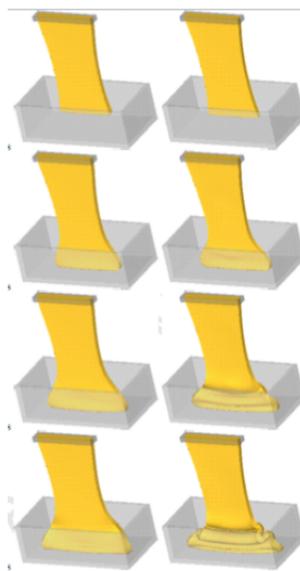
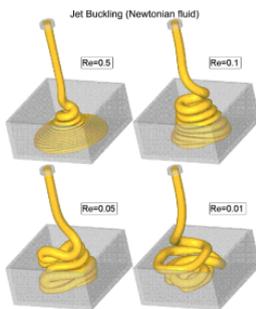
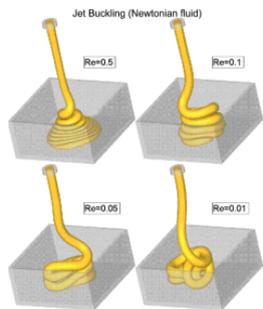
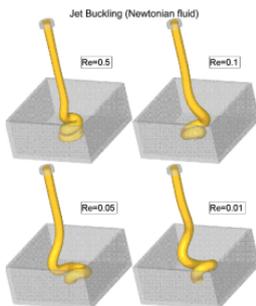
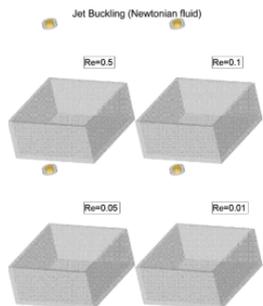


Multifásico





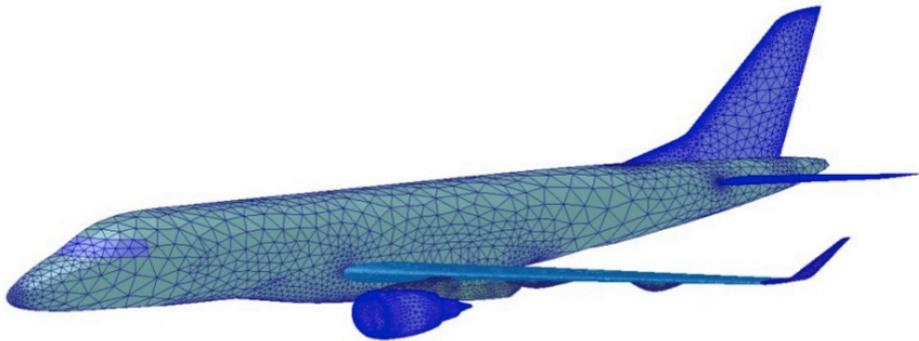
Não Newtoniano



Parceria com Empresas

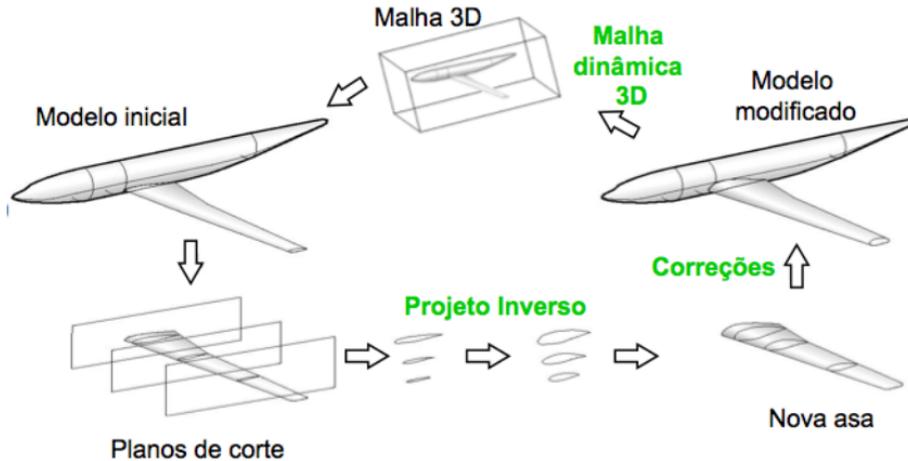
Embraer

- Desenvolvimento de Tecnologia CFD para Aeronaves de Alto Desempenho
- João L. F. Azevedo - José Alberto Cuminato



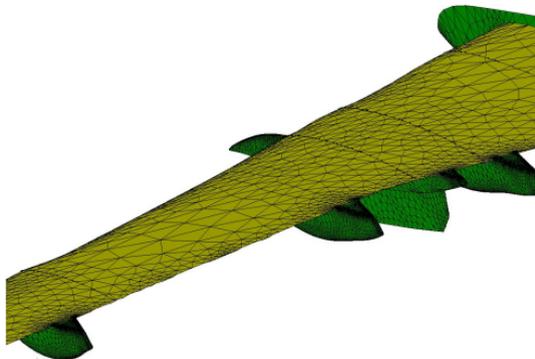
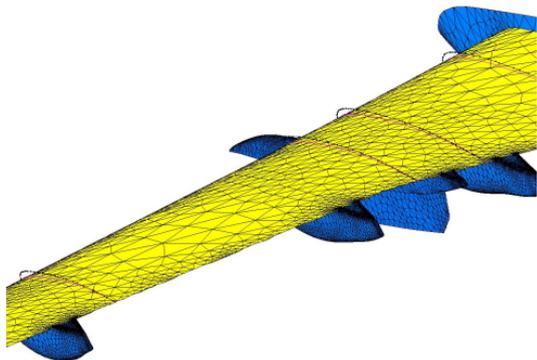
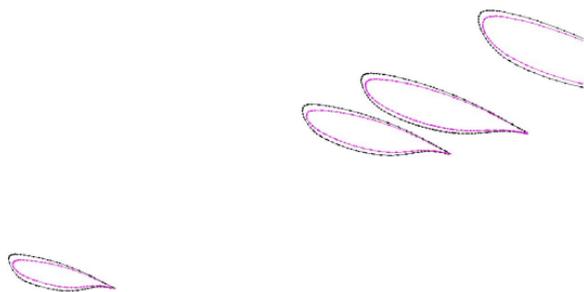


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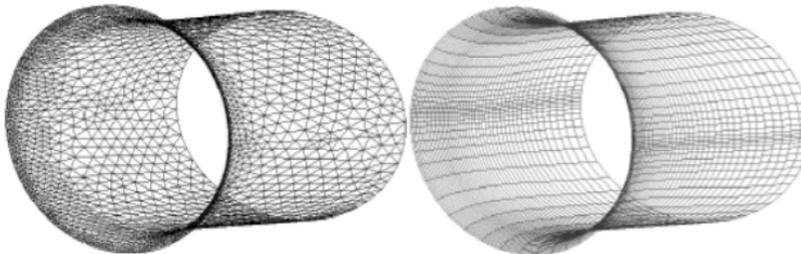
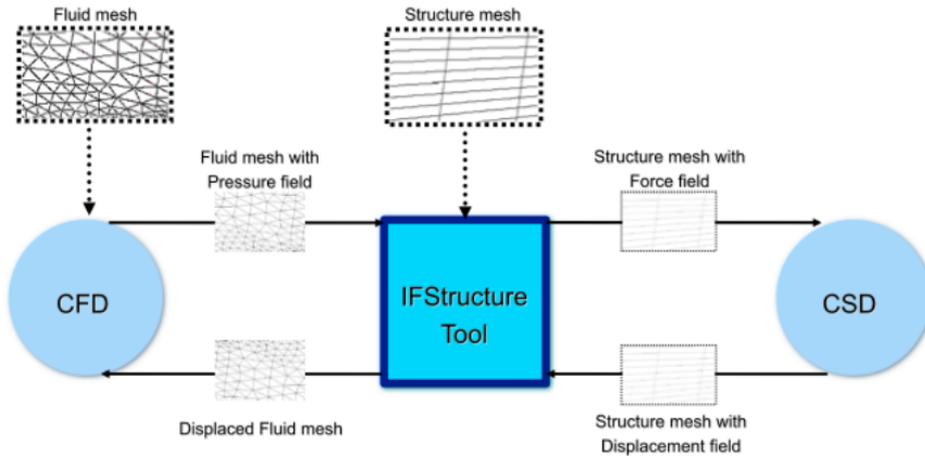


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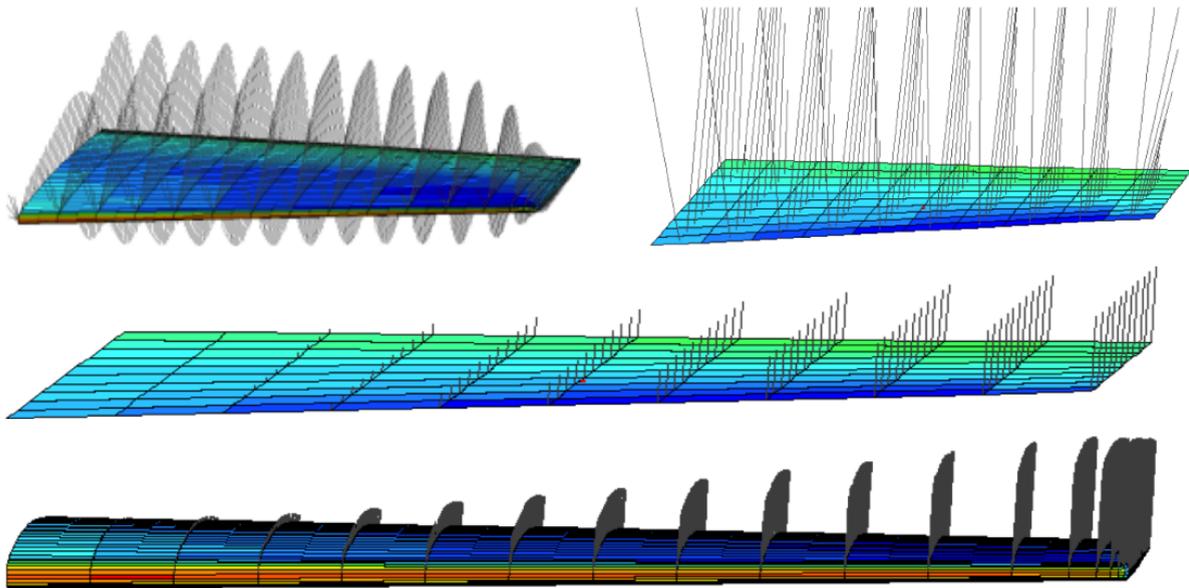


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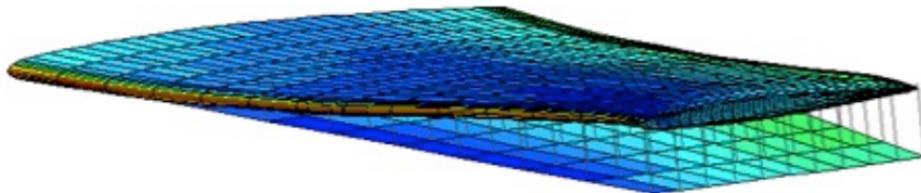
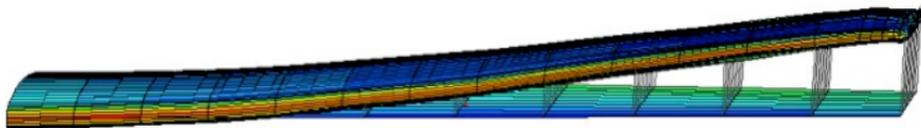
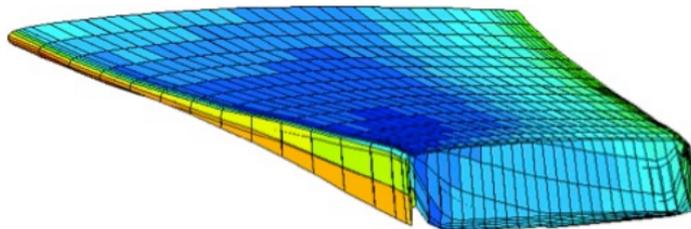
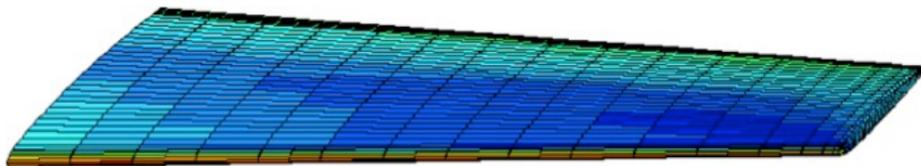


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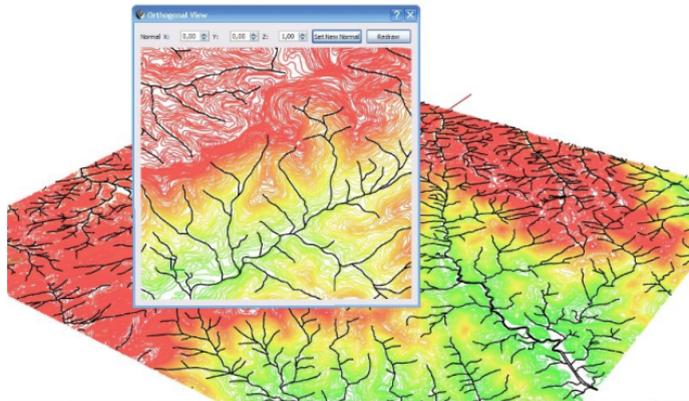
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Parceria com Empresas

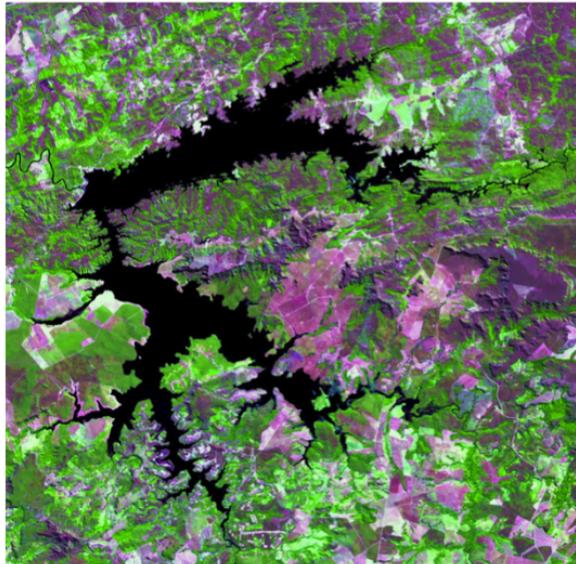
Furnas

- P&D Sistema de simulação da incorporação de biomassa durante o enchimento de compartimentos de reservatórios
- Norberto Mangiavacchi - Antonio Castelo Filho



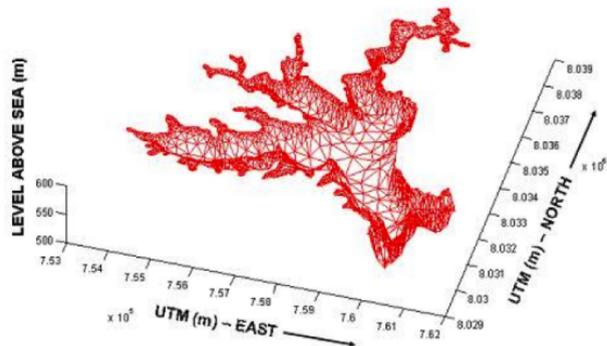
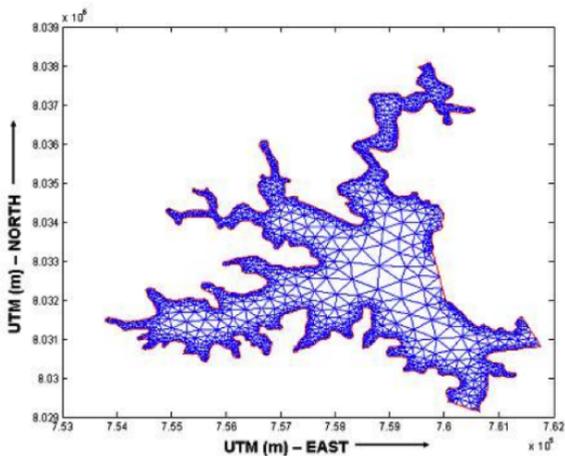


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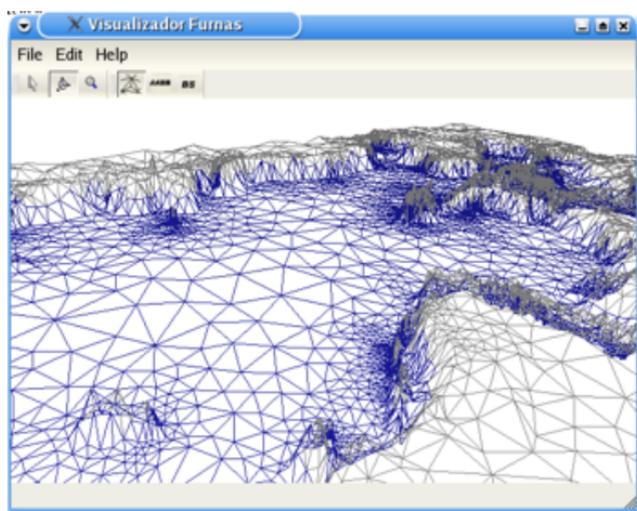
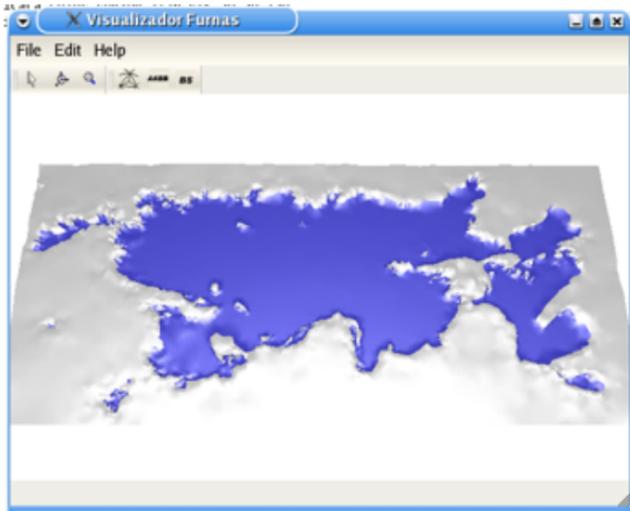


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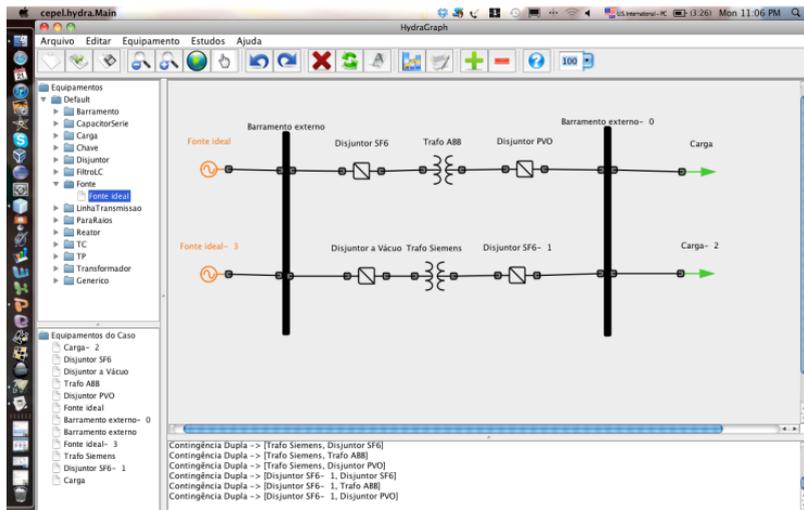
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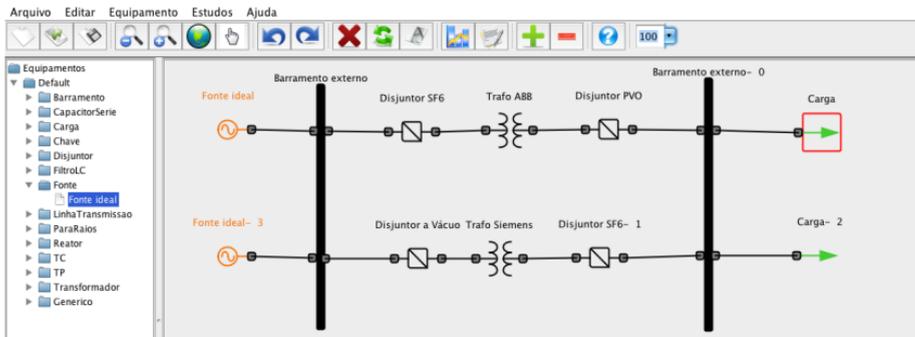
CEPEL

- Projeto Hydra
- Norberto Mangiavacchi - Antonio Castelo Filho





CEPEL



Contingências Passivas para a Carga - Carga- 2:

- Contingências de Primeira Ordem:

Contingência Simples -> [Barramento externo]

Contingência Simples -> [Barramento externo- 0]

- Contingências de Segunda Ordem:

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Parceria com Empresas

Petrobras

- Simulação do fraturamento hidráulico em poços horizontais
- Philippe Devloo - Antonio Castelo Filho

