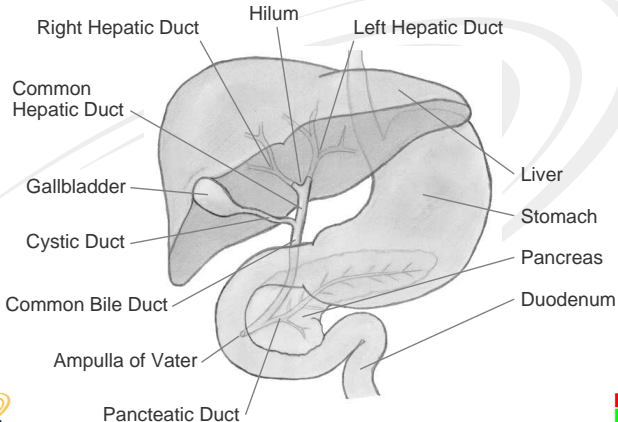


ANALYSIS OF THE PANCREATO-BILIARY SYSTEM FROM MRCP

Kevin Robinson

Vision Systems Group
Dublin City University, Ireland

The Pancreato-Biliary System



Magnetic Resonance Cholangiopancreatography

1. RARE:
2. HASTE:
3. TRUFI:

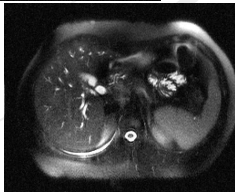


Magnetic Resonance Cholangiopancreatography

1. RARE:



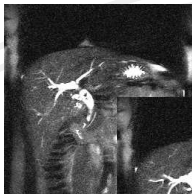
2. HASTE:
(Axial)



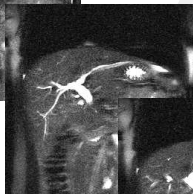
3. TRUFI:

Magnetic Resonance Cholangiopancreatography

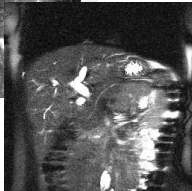
1. RARE:



2. HASTE:
(Coronal)



3. TRUFI:

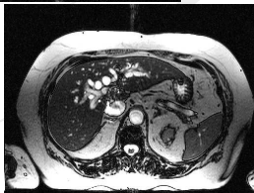
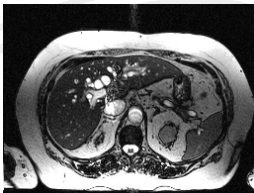


Magnetic Resonance Cholangiopancreatography

1. RARE:

2. HASTE:

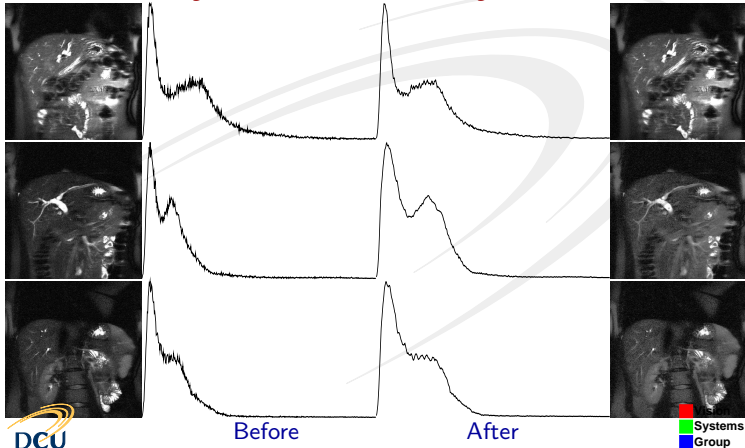
3. TRUFI:



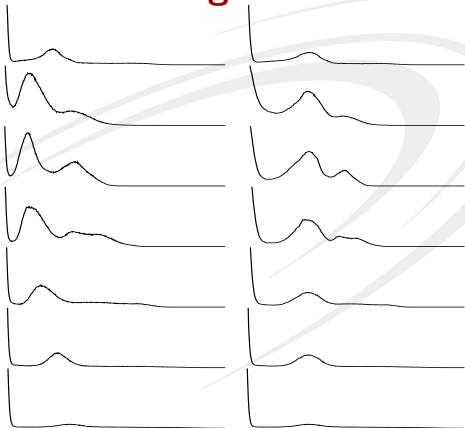
Three Stage Pre-Segmentation Filtering for Coronal HASTE MRCP Data

1. Intensity non-uniformity correction
2. Gradient weighted adaptive smoothing
3. Hybrid morphological reconstruction

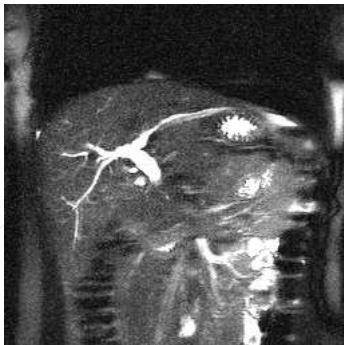
Intensity Non-Uniformity Correction



Histogram Matching in Whole Body MRI

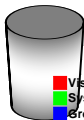
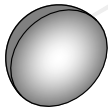
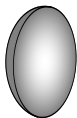
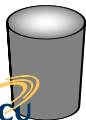
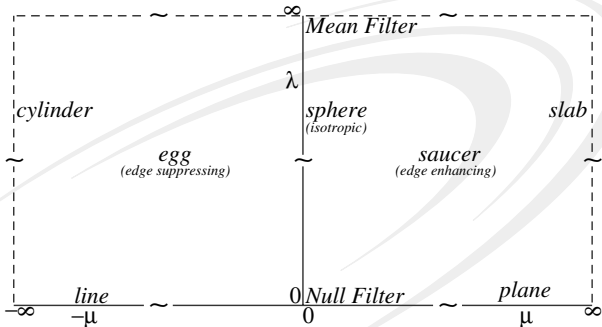


Adaptive Smoothing

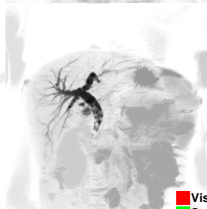
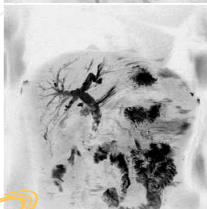
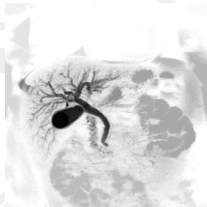
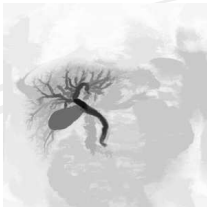
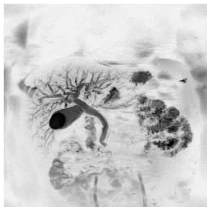


Edge preserving anisotropic filtering

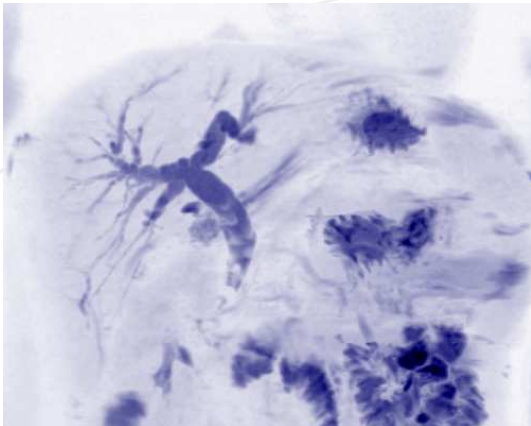
Oriented Ellipsoid Filter Model



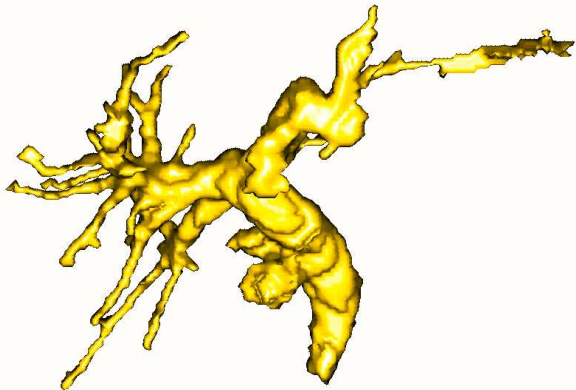
Greyscale Reconstruction



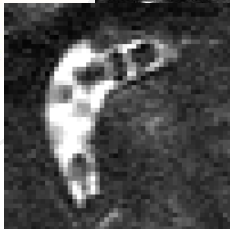
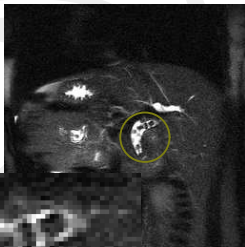
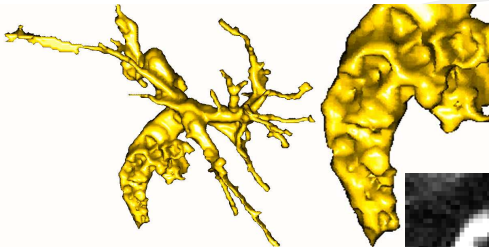
Maximum Intensity Projection



Segmented Biliary Tree Rendering

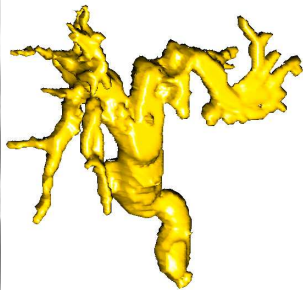
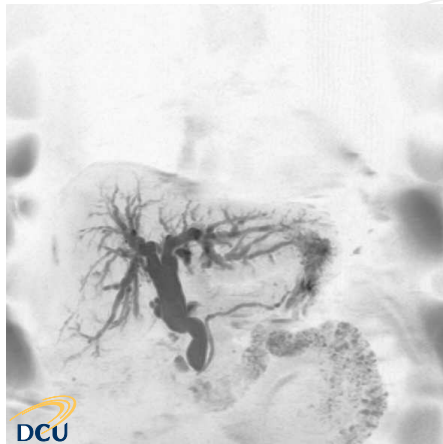


Stones in the Common Bile Duct

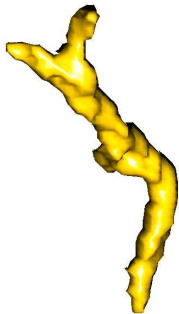
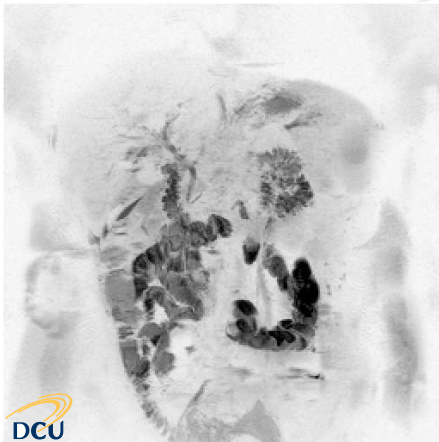


Signal void within the common bile duct corresponds to the location of stones at that site.

Segmentation Results (1 of 3)



Segmentation Results (2 of 3)



Segmentation Results (3 of 3)

