Efforts of European Consortium in MRI (PARENCHIMA)

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WG3 lead – COST action PARENCHIMA
RENAL MRI BIOMARKERS:
- high potential as enrichment/outcome biomarkers (non-invasive, sensitive)
- underused (need for dedicated expertise and development)

Lack of standardization and difficulties in comparing results limits commercial exploitation, and hinders the set-up of multi-center trials/translation into clinics.

PARARCHIMA: Magnetic Resonance Imaging Biomarkers for CKD

Overall aim: to eliminate the main barriers to the broader study, commercial exploitation and clinical use of renal MRI biomarkers
- improving the reproducibility and standardization of renal MRI biomarkers
- increase their availability by developing an open-access toolbox (software/data)
- demonstrate biological validity and clinical utility
PI: Steven Sourbron (Leeds, UK)

Started April 4th 2017
Duration: 4 years

Open and growing network of researchers
25 participant countries (to date)

WG 1
Reproducibility and standardisation

WG 2
Research and development toolbox

WG 3
Multi-centre clinical trial

WG 4
Training programs

WG 5
Dissemination and exploitation

Everyone is invited to join PARENCHIMA
WG1: reproducibility and standardisation

Aim: to improve the standardisation in the acquisition and analysis of renal MRI data - establish clear reference baseline for further development and technical and clinical validation

Engaging experts beyond Europe and/or coordinating similar initiatives to avoid different standards emerging in different parts of the world

1.1: Preclinical book on renal MRI
Aim: write a comprehensive book on preclinical renal MRI
Section editors already decided – chapter authors TBD
If interested contact Andreas Pohlmann (andreas.pohlmann@mdc-berlin.de)

1.2: Recommendations on clinical renal MRI acquisition protocols
Aim: develop detailed recommendations on how to acquire renal MRI biomarkers on clinical scanners of all vendors and all field strengths (evidence-driven consensus formation, dynamic approach)
1.2 Recommendation on clinical renal MRI acquisition

Short-term aim: **international panel of experts around each MRI biomarker**
- Representative of the field (all MRI vendors and application areas)
- Open to any MRI scientist with a publication track record

Same guiding principles (all panels):
- Application-specific optimisation
- A solution for every machine in every hospital
- Evidence-driven consensus formation
- Dynamic and version-controlled
- Qualification of implementations

Stage 1: Review of recent literature
Stage 2: Collection of protocols
Stage 3: Comparison of protocols
Stage 4: Consensus formation
Stage 5: Publication of recommendations

To join a panel: contact the lead (Steven Sourbron - s.sourbron@leeds.ac.uk)
To know more: [http://www.renalmri.org/taskforce/15](http://www.renalmri.org/taskforce/15)
Aim: answer the need for software tools to analyse renal MRI data and lack of access to data from previous studies by delivering an open-source R&D Toolbox consisting of a coherent set of databases and software.

2.1: Database
Aim: to implement a database (anonimised patient registry + image bank) and make it available for secondary research.

Quibim Precision® imaging biomarker platform
so far: pilot data, DCE

Live Webinar: using the QUIBIM database platform (24 Jul 2018 -9am-1pm CEST)
http://www.renalmri.org/action/14

2.2: Software
Aim: to implement a library of core algorithms alongside a graphical user interface

Next project period

Interested in WG2?
contact Frank (frank.zoellner@medma.uni-heidelberg.de)
WG3: multi-center clinical trial

WG3 joins up clinical sites working on renal MRI

Aim: to pave the way for clinical use of renal MRI by addressing the need for stronger evidence in patients.

Before planning anything new: clear picture of what has been done so far

Series of papers on MRI biomarkers in renal disease: a picture of the state of the art, including practical recommendations

- Editorial (doi: 10.1093/ndt/gfy181)
- Position paper (doi: 10.1093/ndt/gfy152)
  * key clinical questions that MRI must address to become more widely used in patients with kidney disease
  * series of practical recommendations to accelerate MRI study and translation

NDT open access special issue coming soon
WG3: multi-center clinical trial

- **3.8 MRI in ADPKD**
  Aim: to secure funding to further validate MRI biomarkers in ADPKD

- **3.9 MRI in renal transplantation**
  Aim: to secure funding to further validate MRI biomarkers in renal transplantation

**Short-term aims:**

- Prepare the ground for a large scale longitudinal multicentre study aimed at providing additional evidence of biological and clinical validity of MRI biomarkers in CKD
- Secure grant funding to validate MRI biomarkers in ADPKD/renal transplantation
- Coordinate smaller scale studies on specific relevant disease areas
- Add MRI to ongoing renal initiative
- Create a study documentation repository, helpful for designing new study protocols

Interested in joining WG3? Contact me (acaroli@marionegri.it)
Aim: to develop training programs and workshops on renal imaging for basic scientists and clinical users.

4.2 Clinical training workshop
Aim: set up and run a clinical training school, introducing renal MRI to a clinical audience
focus: potential clinical utility and application areas; insight into the technology;
hands-on training in the acquisition, processing and interpretation of renal MRI data

first training school: summer 2019 (2/3 days workshop)
Lead: Roslyn Simms (r.simms@sheffield.ac.uk)

No registration fee
US people can be invited to come and give lessons
Open to anyone (US trainees can not be funded)
Aim: to provide the platform for international stakeholders to merge synergies in the promotion of renal MRI biomarkers for CKD

Project website: www.renalmri.org

Bi-annual international scientific meetings on renal MRI:
1 – Bordeaux, France, 2015  ~80 participants
Provided the momentum for the funding application to COST

2 – Berlin, Germany, 2017  ~150 participants
Co-organised by PARENCHIMA

3 – Nottingham, UK, 2019  ~300 expected participants
Co-organised by PARENCHIMA with the UK renal imaging network

4 – outside Europe, 2021
Beyond the funding period of PARENCHIMA
PARENCHIMA will be involved in planning up until May 2021
In summary: how to get involved from the US

To know more: visit the project website – www.renalmri.org  
Twitter handle: @PARENCHIMA

To stay up to date: join our mailing list (email Steven - s.sourbron@leeds.ac.uk)

To join a specific WG / task force: contact the leads
WG1: Preclinical book on renal MRI - andreas.pohlmann@mdc-berlin.de
WG1: Recommendations on clinical MRI acquisition - s.sourbron@leeds.ac.uk
WG2: Upload MRI data to QUIBIM - frank.zoellner@medma.uni-heidelberg.de
WG3: biological and clinical validation of MRI biomarkers – acaroli@marionegri.it
WG4: Clinical training workshop - r.simms@sheffield.ac.uk
WG5: International meetings on renal MRI: s.sourbron@leeds.ac.uk

Short-term scientific missions (STSMs): US people can host STSMs
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Steven Sourbron
COST action PARENCHIMA

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