



# A Muon JRA in FP7 – JRA5





## A broad collaboration

### Partners:

- University of Parma, Italy
- University of Babes-Bolyai, Romania
- PSI Continuous Muon Facility, Switzerland
- ISIS Pulsed Muon Facility, UK (Coordinator)

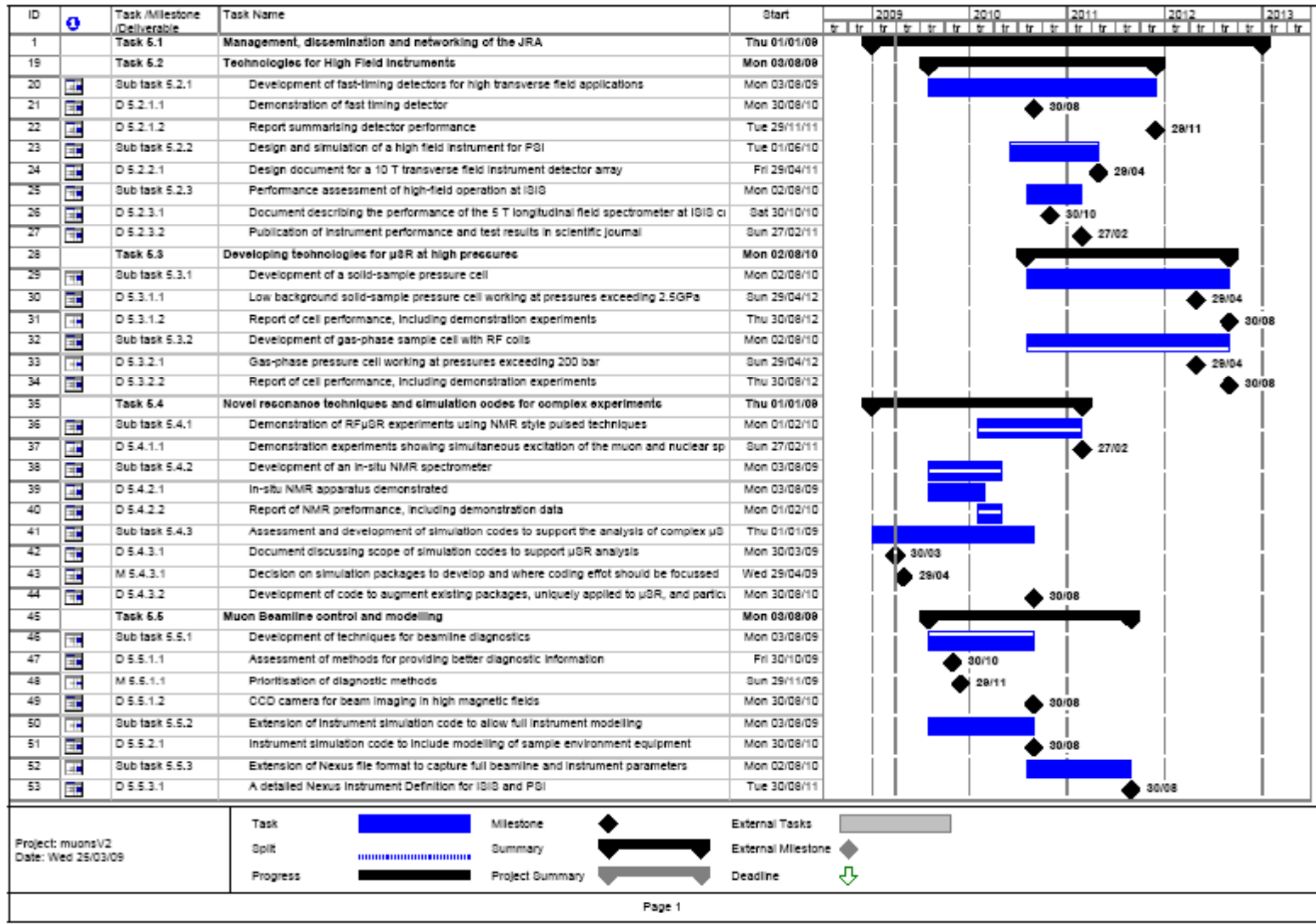
### Collaborators:

- Dubna, Russia
- University of East Anglia, UK
- RIKEN-RAL, Japan/UK
- University of British Columbia, Canada



## Tasks in the JRA

2. Technologies for high-field instruments
  - Fast-timing detectors for high transverse field applications
  - Design and simulation of a high field instrument for PSI
  - Performance assessment of high-field operation at ISIS
3. Developing technologies for  $\mu$ SR at high pressures
  - Development of a solid-sample pressure cell
  - Development of gas-phase sample cell with RF coils
4. Novel resonance techniques and simulation codes for analysis
  - RF $\mu$ SR experiments using NMR style pulsed techniques
  - Development of an in-situ NMR spectrometer
  - Simulation codes to support analysis
5. Muon beamline control and modelling
  - Development of techniques for beamline diagnostics
  - Instrument simulation code to allow full instrument modelling
  - Extension of Nexus file format to capture full parameters





## Resources

Acronym (1)	Staff effort allocated to project (man months)	Staff cost	Consumables	Travel	Overhead Costs (3)	Total	%	EU contribution
STFC	36	130000	62000.00	25000.00	136500.00	353500.00	55%	194425
PSI	36	200000	62000.00	25000.00	66500.00	353500.00	55%	194425
BBU	24	50000	20000.00	10000.00	30000.00	110000.00	75%	82500
UPR	12	25000	6000.00	4000.00	15000.00	50000.00	75%	37500
<b>TOTALS</b>	<b>108</b>	<b>405000</b>	<b>150000</b>	<b>64000</b>	<b>248000</b>	<b>867000</b>	<b>75%</b>	<b>508850</b>

or ...

- Three year Post-Doctoral worker based at STFC,
- Three year Post-Doctoral worker based at PSI,
- Two year Post Doctoral worker based at Babes-Bolyai,
- One year Post Doctoral worker based at Parma

plus some money for consumable and travel





### Muon JRAs – Agenda for satellite meeting, Monday 30<sup>th</sup> March, PSI

9:00 *The JRA in Framework Programme 7*

- |    |                         |     |
|----|-------------------------|-----|
| 1. | Overview of the new JRA | SPC |
|----|-------------------------|-----|

*Task 5.2: Technologies for High Field Instruments:*

- |    |   |      |
|----|---|------|
| 2. | Fast timing detectors for operation in high magnetic fields | AS   |
| 3. | Designing a high Longitudinal Field instrument for ISIS     | PJCK |

*Task 5.3: Developing technologies for  $\mu$ SR at High Pressures:*

- |    |  |     |
|----|--|-----|
| 4. | Development of a solid sample pressure cell          | DA  |
| 5. | Development of a gas-phase sample cell with RF coils | SPC |

*Task 5.4: Novel resonance techniques and simulation codes for complex experiments:*

- |    |  |     |
|----|--|-----|
| 6. | RF $\mu$ SR experiments using NMR style pulsed sequences | NJC |
| 7. | Simulation codes as an aid to experiment analysis        | GA  |

*Task 5.5: Muon beamline control and modelling:*

- |    |   |     |
|----|---|-----|
| 8. | Beamline diagnostics and modelling, and experiment simulation | JSL |
|----|---|-----|

*Discussion*  
*considering post-doc workers; meeting frequency; review of the budget; etc*

12: 30 Lunch

13:30 *Beamline and instrument simulation: results from FP6*

- |    |  |    |
|----|--|----|
| 1. | Modelling a high field instrument for ISIS                           | ZS |
| 2. | Simulations for the ALC upgrade and the high-field instrument at PSI | KS |
| 3. | Towards a general instrument simulation programme                    | TS |
| 4. | Improving muon production characteristics                            | RC |

*Discussion*  
*focussed on the need to preserve the simulation code as an easy to use package*

15:00 Meeting close