

# **The Laser-hybrid Accelerator for Radiobiological Applications**

## *R&D proposal for the preliminary, pre-construction phase*

Author list

### **Executive summary**

**Lead authors:**

### **Lay summary**

**Lead authors:**

## **1. Motivation**

### **1.1 Overview**

**Lead author:**

### **1.2 Scientific case**

**Lead authors:**

### **1.3 Technological advancement**

**Lead author:**

### **1.4 Impact**

**Lead author:**

## **2. LhARA; the Laser-hybrid Accelerator for Radiobiological Application**

### **2.1 Overview**

**Lead author:**

### **2.2 Conceptual design**

**Lead author:**

### **2.3 Staging**

**Lead author:** K. Long, C. Whyte

## **2.3 Timeline for the LhARA initiative**

**Lead author:** K. Long, C. Whyte, T. Kokalova-Wheldon

## **3. Preparatory, pre-construction phase proposal**

### **3.1 Project Management**

**Lead authors:** C. Whyte, J. Parsons

### **3.2 Laser-driven proton and ion source**

**Lead authors:** E. Boella, N. Dover, R. Gray

### **3.3 Proton and ion capture**

**Lead authors:** W. Bertsche, M. Charlton

### **3.3 Real-time dose-deposition profiling**

**Lead authors:** J. Bamber, J. Matheson

### **3.4 Novel, automated end-station development**

**Lead authors:** R. McLauchlan, T. Price

### **3.5 Facility design and integration**

**Lead authors:** J. Pasternak, + TBD

## **4. Summary**

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## **Annex: LhARA preliminary, pre-construction phase project specification**

### **A.1 Introduction**

**Lead authors:** K. Long, C. Whyte

### **A.2 Work package details**

**Lead authors:**

### **A.3 Staff effort**

**Lead authors:**

### **A.4 Overview of preliminary, pre-construction phase project costs**

**Lead authors:** K. Long, C. Whyte

### **A.5 Preliminary, pre-construction phase project schedule and milestones**

**Lead authors:** K. Long, C. Whyte

### **A.6 Preliminary, pre-construction phase project risk analysis**

**Lead authors:** K. Long, C. Whyte

### **A.7 Preliminary, pre-construction phase project schedule and milestones**

**Lead authors:** K. Long, C. Whyte

### **A.8 Outreach and engagement plan**

**Lead authors:**

### **A.9 Project organisation, management, and reporting**

**Lead authors:**