

## JKAN Author Roles/Responsibilities

### 1. Conceptualization or/and Methodology

- Ideas; formulation or evolution of overarching research goals and aims.
- Development or design of methodology; creation of models.

### 2. Data curation or/and Analysis

- Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and late re-use.
- Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.

### 3. Funding acquisition

- Acquisition of the financial support for the project leading to this publication.

### 4. Investigation

- Conducting a research and investigation process, specifically performing the experiments, or data/ evidence collection.

### 5. Project administration or/and Supervision

- Management and coordination responsibility for the research activity planning and execution.
- Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.

### 6. Resources or/and Software

- Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
- Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.

### 7. Validation

Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.

8. Visualization

- Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.

9. Writing: original draft or/and review & editing

- Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
- Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision - including pre- or post-publication stages.