

## Walk-Through of CERR Capabilities

Aditya P. Apte, Ph.D.  
Department of Medical Physics  
Memorial Sloan Kettering Cancer Center  
New York  
[aptea@mskcc.org](mailto:aptea@mskcc.org)

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## CERR: Computational Environment for Radiological Research

- CERR (pronounced 'sir') provides a platform to prototype algorithms for Radiotherapy and Radiomics. (e.g. IMRT, Outcomes research, Image features etc)
- Open source, free: GNU GPL copyleft
- Developers: James Alaly, Aditya Apte, Divya Khullar, Yu Wu and Joseph O. Deasy

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## CERR: Introduction

- Written in Matlab.
  - Source and Compiled versions are available
- Import and display treatment plans from a wide variety of commercial or academic treatment planning systems.
- Provides a common filetype for Research
  - E.g: creation of multi-institutional treatment plan databases for various types of research studies, including dose-volume-outcomes analyses ,IMRT treatment planning comparisons and Radiomics.

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## Documentation | Support | Community

- Wiki:
  - <http://cerr.info/wiki>
- Forum:
  - <http://groups.google.com/group/cerr-forum>
- Download:
  - <http://cerr.info/download.php> (GitHub)
- Citations
  - 261 Web of Science, 379 Google Scholar (June 2015)

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## Outline

- CERR Viewer
  - Dose Distributions
  - Images
  - Structures
  - DVHs
- CERR data structure
- Use Cases
  - IMRTP Research
  - Radiotherapy outcomes modeling
  - Radiomics
- Advanced visualization and analysis tools

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## Getting CERR: Control Panel

➤ **Source version:**  
Add all the sub-folders to Matlab path

➤ **Compiled version:**  
Install Matlab runtime libraries



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