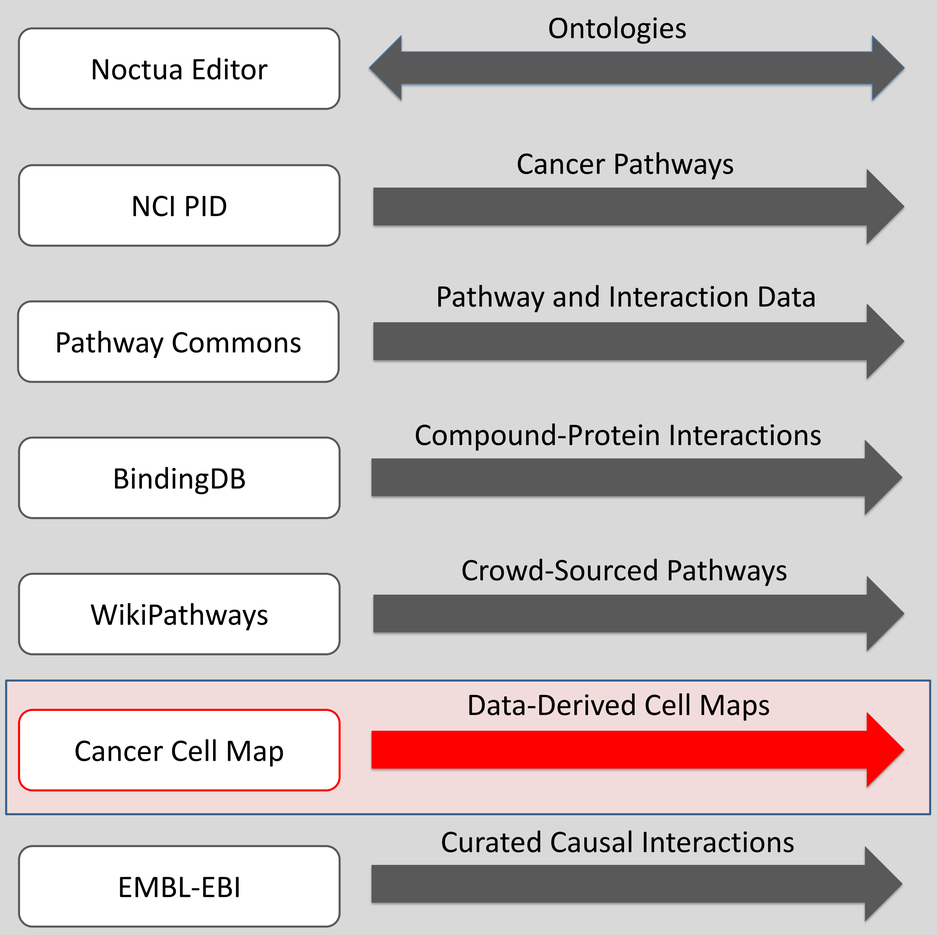
Linking Diverse Network Sources to Analysis, Visualization, and Publication: Applications of the NDEx Framework.

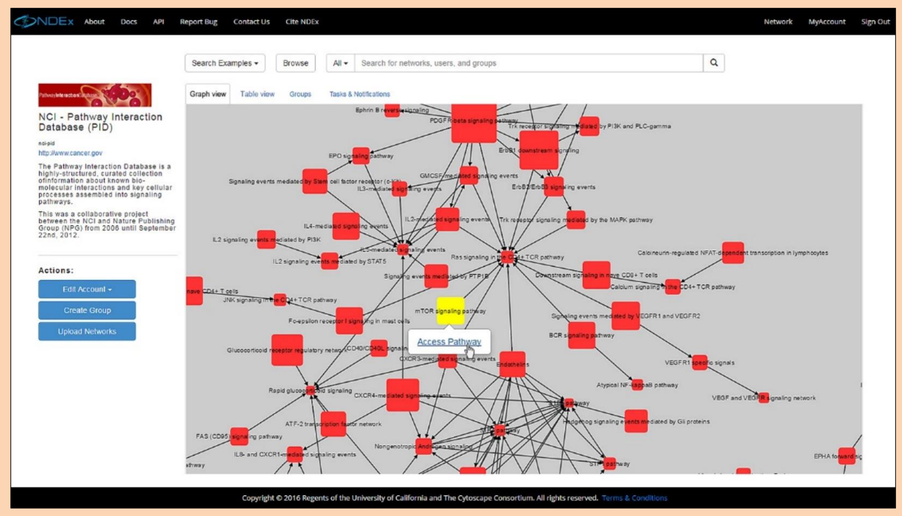
Rudolf T. Pillich, Jing Chen, Vladimir Rynkov, David Welker, Dexter Pratt and Trey Ideker

UC San Diego School of Medicine and the Cytoscape Consortium, La Jolla CA - USA

Abstract

In 2016, the NDEx project is transitioning from creation of core infrastructure to focus on the use of NDEx in science. We are empowering cancer researchers by adding many sources of cancer-relevant networks, integrating them with cancer informatics applications and linking NDEx to the scientific publishing process.



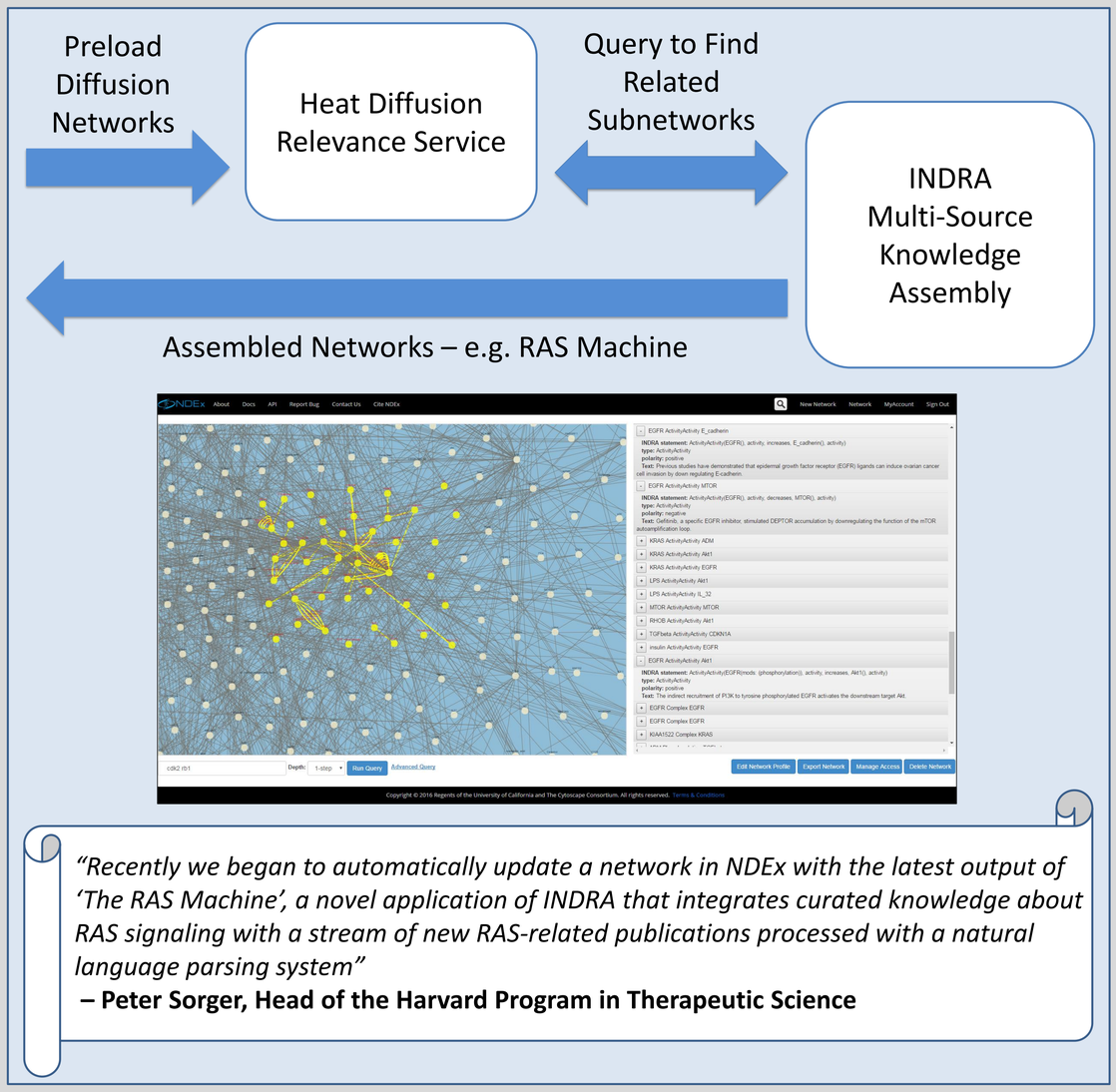


"With the new NDEx Visualizer, network graphics has center stage and the result is a more intuitive and visually enhanced end-user experience."
– Dexter Pratt, Director, The NDEx Project @UCSD

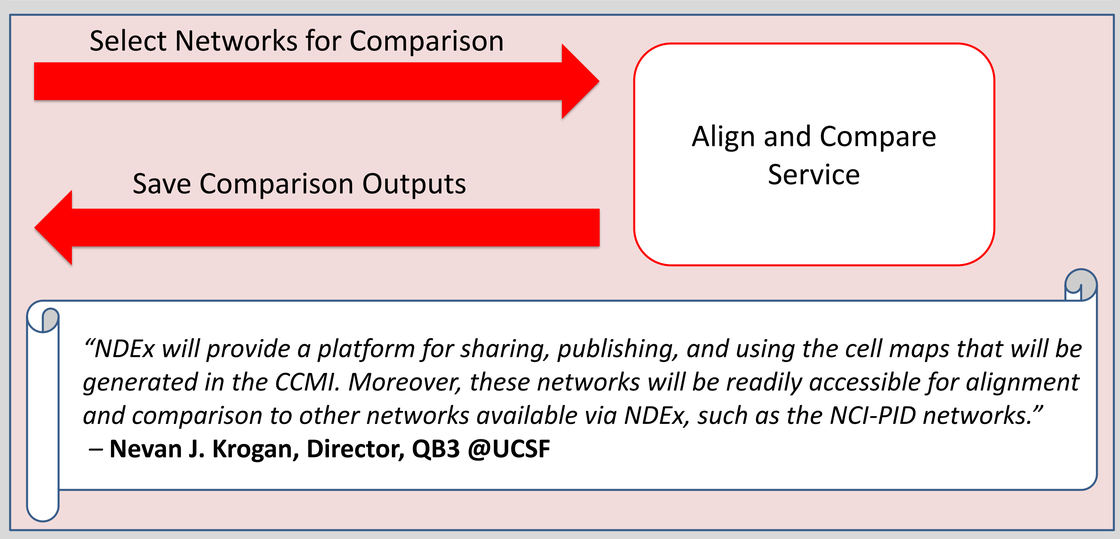
References

- Pratt D, Chen J, Welker D, Rivas R, Pillich R, Rynkov V, Ono K, Miello C, Hicks L, Szalma S, Stojmirovic A, Dobrin R, Braxenthaler M, Kuentzer J, Demchak B, Ideker T (2015). **NDEx, the Network Data Exchange**. Cell Systems, 1(4):302-305.
- Gyori B, Bachman JA, Subramanian K, Muhlich JL, Carlin D, Pratt D and Sorger PK (2016). **Automated assembly of mechanistic pathway models from natural language, literature and databases.** (In preparation)

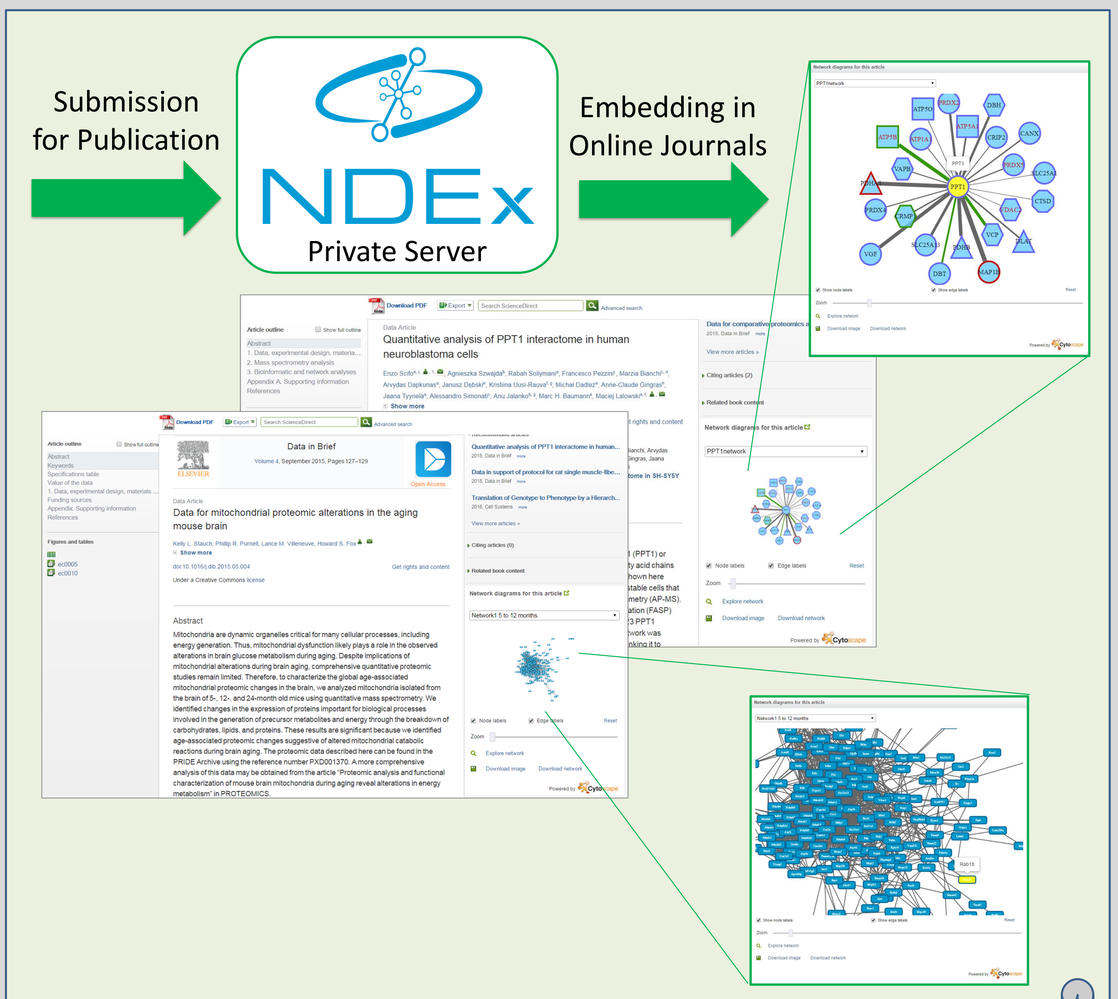
NDEx
Public Server



"Recently we began to automatically update a network in NDEx with the latest output of 'The RAS Machine', a novel application of INDRA that integrates curated knowledge about RAS signaling with a stream of new RAS-related publications processed with a natural language parsing system"
– Peter Sorger, Head of the Harvard Program in Therapeutic Science



"NDEx will provide a platform for sharing, publishing, and using the cell maps that will be generated in the CCMI. Moreover, these networks will be readily accessible for alignment and comparison to other networks available via NDEx, such as the NCI-PID networks."
– Nevan J. Krogan, Director, QB3 @UCSF



"As a logical extension of the Cytoscape viewer functionality on ScienceDirect, we're very interested in exploring how we could further integrate network analysis and communication into the online journal experience…"
– Kaia Motter, Exectutive Publisher Neuroscience , Elsevier