



## Journal of Applicable Chemistry

2021, 10 (1): 108-120  
(International Peer Reviewed Journal)



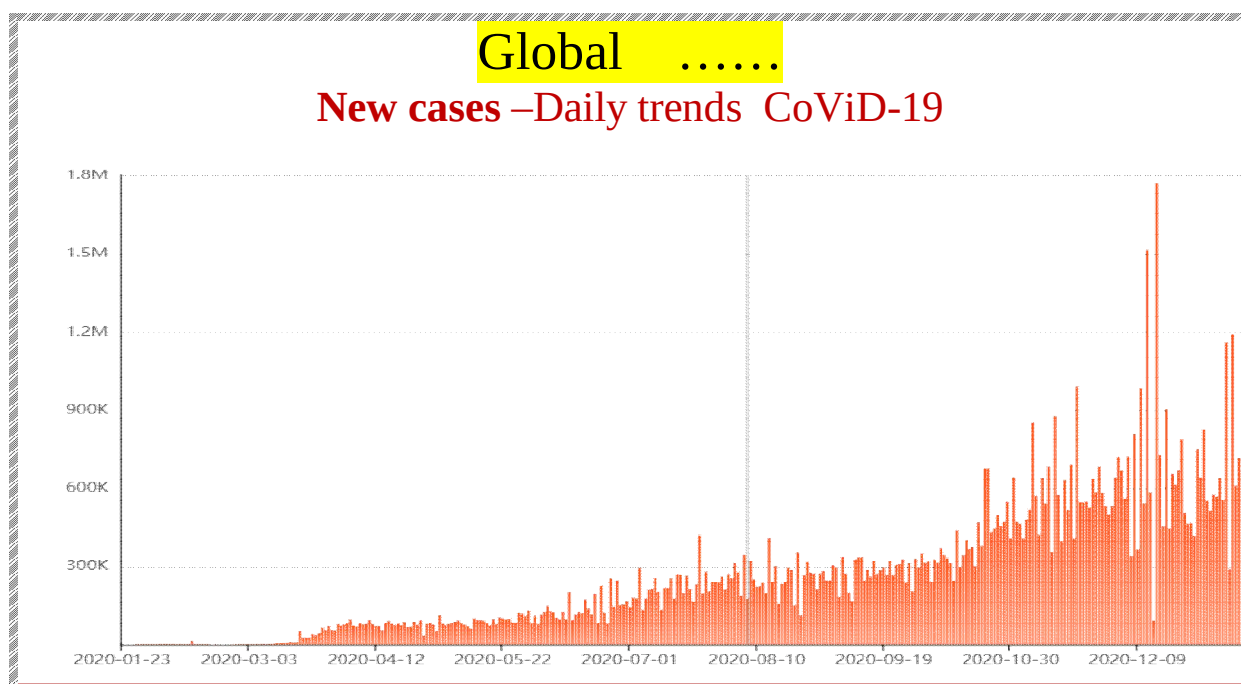
# Knowledge Inn (in nature).15

 **Escape Corona**  
 **Research Profile of Michael Irwin Jordan**

KLab  
[rsr.chem1979](http://rsr.chem1979)

## Escape Corona- Part 5.....

## Time line of Covid-19 (Pandemic infection) critical Data [15-Jan-2021 down to 22-Jan-2020]



## Global

### SARS-CoV-2 (Global)

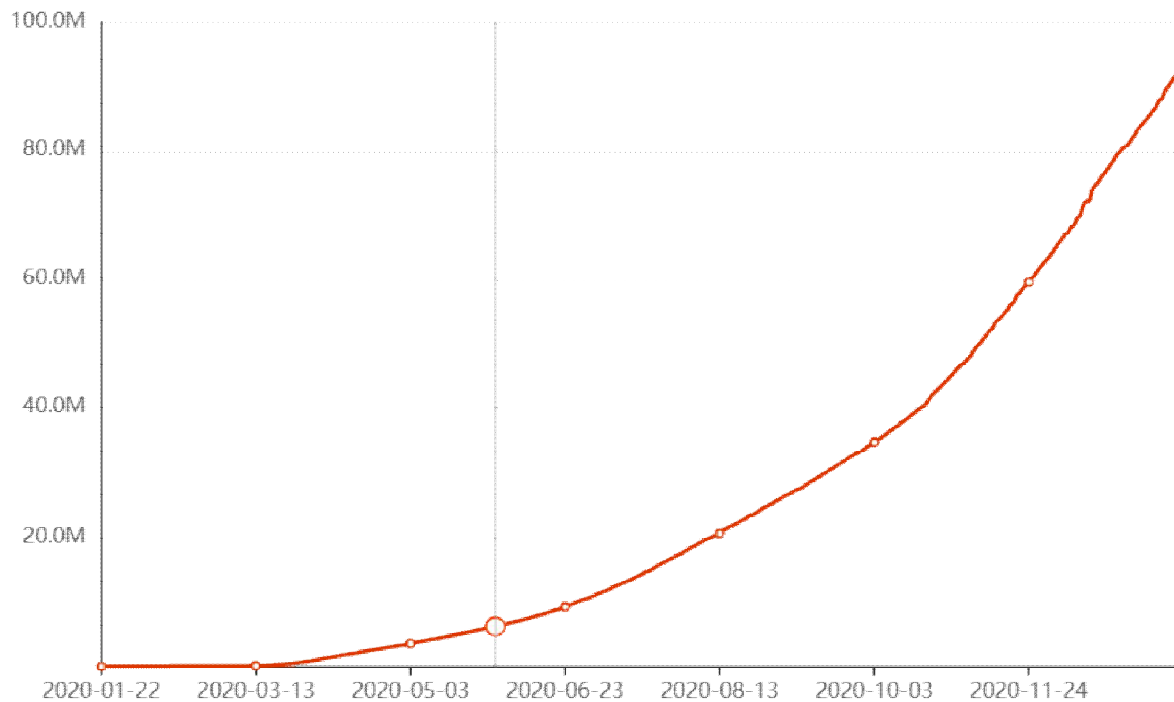
| Up to<br>dd-mm-yy | Infected    | Deaths    |
|-------------------|-------------|-----------|
| 15-01-21          | 9,31,05,607 | 19,93,910 |
| 02-01-21          | 8,39,59,994 | 18,27,176 |
| 15-12-20          | 7,22,21,634 | 16,12,014 |
| 01-12-20          | 6,32,36,804 | 14,67,987 |
| 01-11-20          | 4,59,16,151 | 11,93,070 |
| 01-10-20          | 3,38,32,124 | 10,11,282 |
| 01-09-20          | 2,55,84,820 | 8,48,084  |
| 01-08-20          | 1,75,94,541 | 6,79,439  |

### SARS-CoV-2 (Global)

| Up to<br>dd-mm-yy | Infected    | Deaths   |
|-------------------|-------------|----------|
| 01-07-20          | 1,05,12,383 | 5,12,331 |
| 01-06-20          | 62,46,042   | 3,74,452 |
| 01-05-20          | 33,03,296   | 2,35,290 |
| 01-04-20          | 9,32,605    | 46,809   |
| 01-03-20          | 87,137      | 2,977    |
| 01-02-20          | 11,953      | 0        |
| 22-01-20          | 313         | 0        |

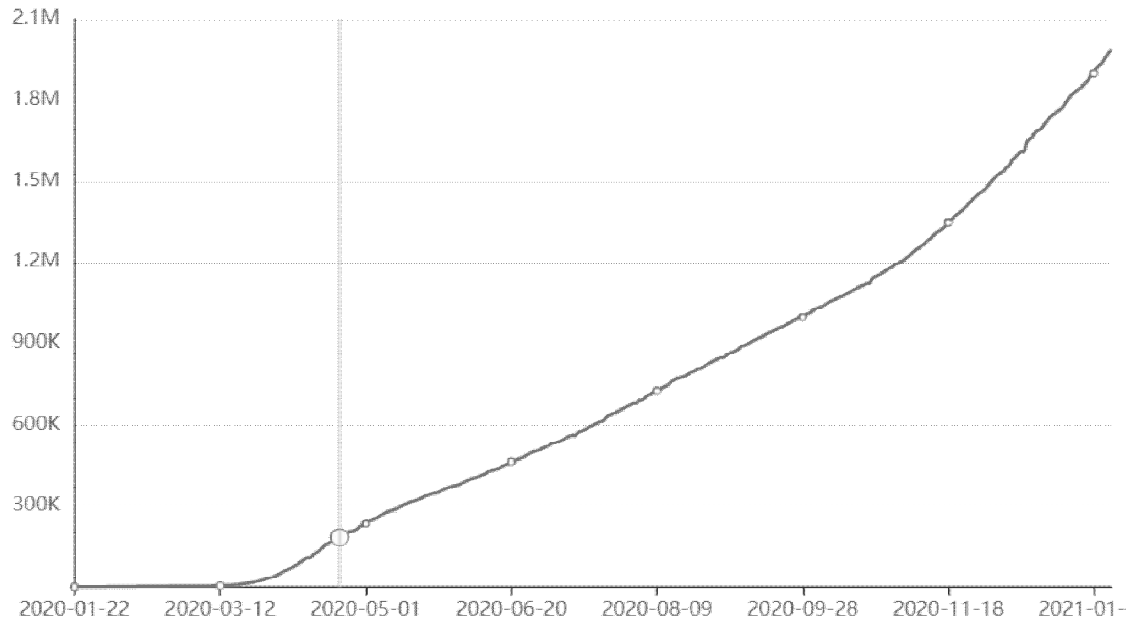
## Global Conformed

Confirmed Active Recovered Fatal



## GlobalFatal

Confirmed Active Recovered Fatal



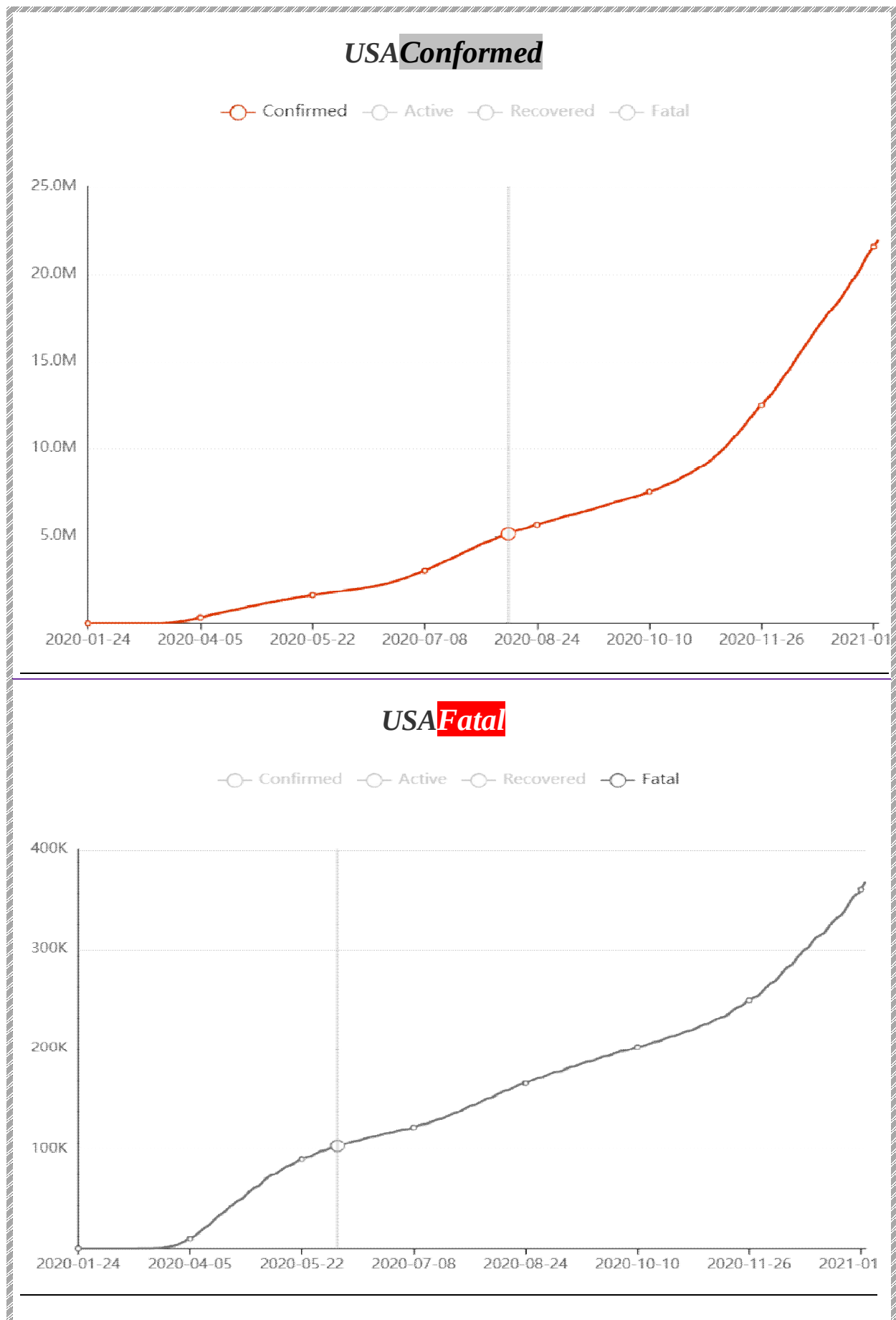
## Time line of Covid-19 (Pandemic infection) typical Data

### ..... USA .....

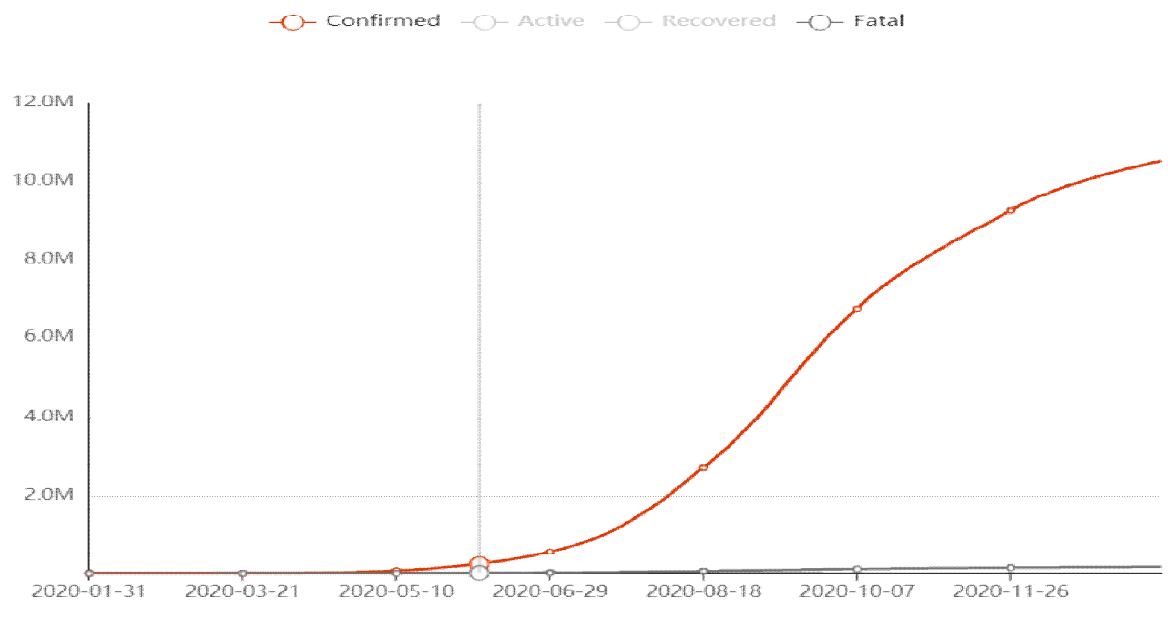
| SARS-CoV-2 (USA) |             |          |             |
|------------------|-------------|----------|-------------|
| Up to dd-mm-yy   | Infected    | Deaths   | Recovered   |
| 15-01-21         | 2,34,89,378 | 3,90,738 | 1,02,62,463 |
| 02-01-21         | 2,03,23,743 | 3,50,710 | 91,70,094   |
| 15-12-20         | 1,65,32,754 | 3,03,482 | 74,84,733   |
| 01-12-20         | 1,36,17,362 | 2,71,296 | 65,94,109   |
| 01-11-20         | 92,22,849   | 2,34,085 | 55,52,170   |
| 01-10-20         | 73,27,224   | 2,10,217 | 39,22,195   |

### ..... India .....

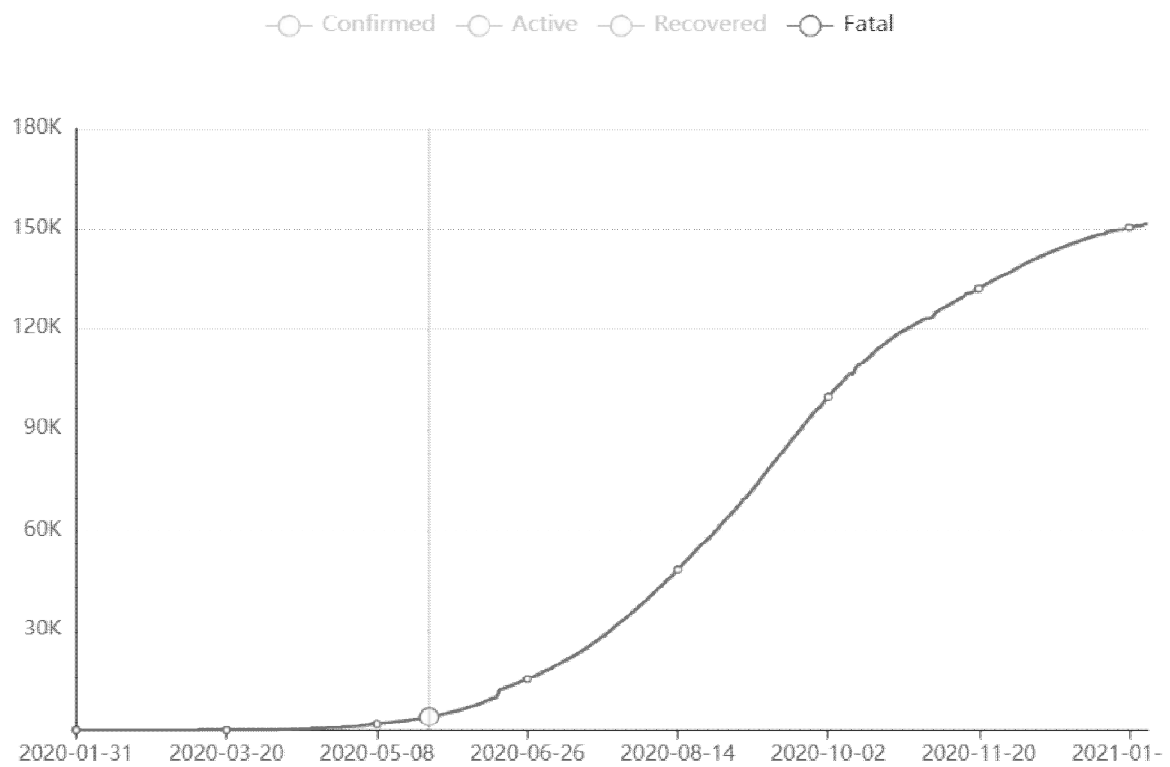
| SARS-CoV-2 (India) |             |          |             |
|--------------------|-------------|----------|-------------|
| Up to dd-mm-yy     | Infected    | Deaths   | Recovered   |
| 15-01-21           | 1,05,28,896 | 1,51,958 | 1,01,62,335 |
| 02-01-21           | 1,03,05,710 | 1,49,243 | 99,04,724   |
| 15-12-20           | 99,06,666   | 1,43,747 | 94,21,965   |
| 01-12-20           | 94,63,254   | 1,37,659 | 88,88,595   |
| 01-11-20           | 85,53,864   | 1,26,653 | 79,15,660   |
| 01-11-20           | 81,82,896   | 1,22,149 | 74,89,227   |
| 01-10-20           | 63,12,584   | 98,708   | 52,73,201   |



## IndiaConformed



## IndiaFatal



## Time line of Covid-19 (Pandemic infection) typical Data

..... UK .....

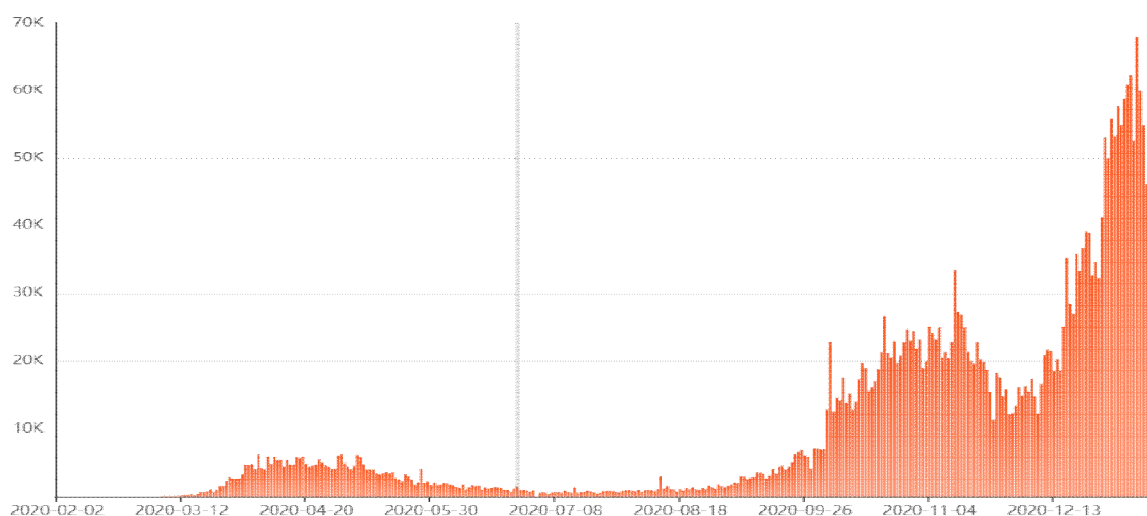
| SARS-CoV-2 + Mutated virus |           |        |
|----------------------------|-----------|--------|
| Up to<br>dd-mm-yy          | Infected  | Deaths |
| 15-01-21                   | 32,60,258 | 86,015 |
| 01-01-21                   | 25,42,065 | 74,125 |
| 15-12-20                   | 18,88,116 | 64,908 |
| 01-12-20                   | 16,43,186 | 59,051 |
| 01-11-20                   | 10,11,660 | 46,717 |
| 01-10-20                   | 4,60,178  | 42,202 |

..... UK .....

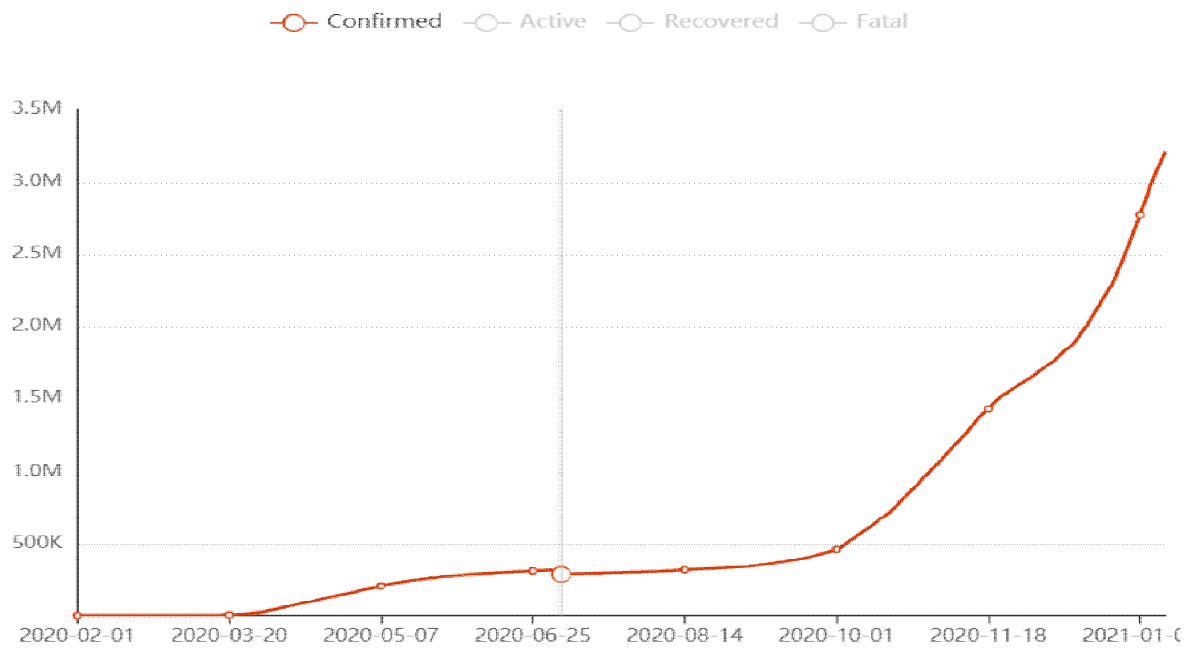
| SARS-CoV-2        |          |        |
|-------------------|----------|--------|
| Up to<br>dd-mm-yy | Infected | Deaths |
| 12-01-21          | 3,164K   | 83K    |
| 09-01-21          | 3,017K   | 81K    |
| 06-01-21          | 2,836 K  | 77K    |
| 03-01-21          | 2,654 K  | 75K    |
| 30-12-20          | 2,433 K  | 73K    |
| 25-12-20          | 2,221 K  | 70K    |
| 20-12-20          | 2,040 K  | 67 K   |
| 15-12-20          | 1,886 K  | 65 K   |
| 10-12-20          | 1,788 K  | 63 K   |
| 05-12-20          | 1,706 K  | 61 K   |

### United Kingdom Conformed

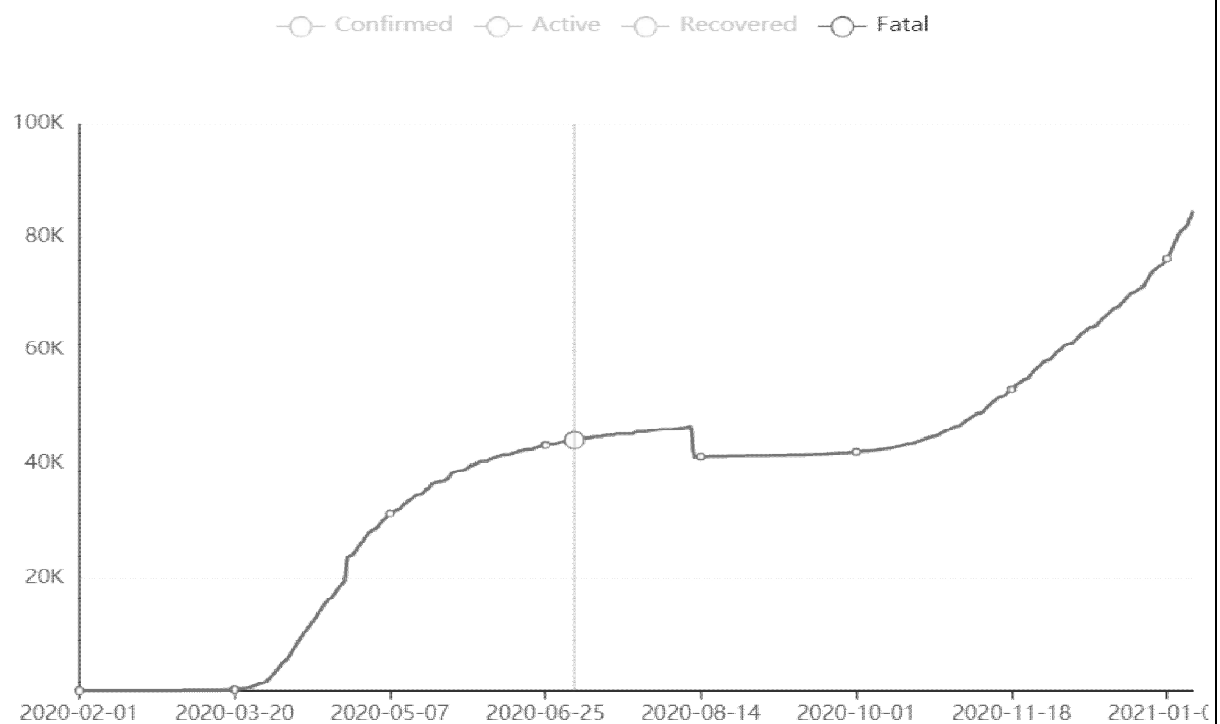
#### Daily

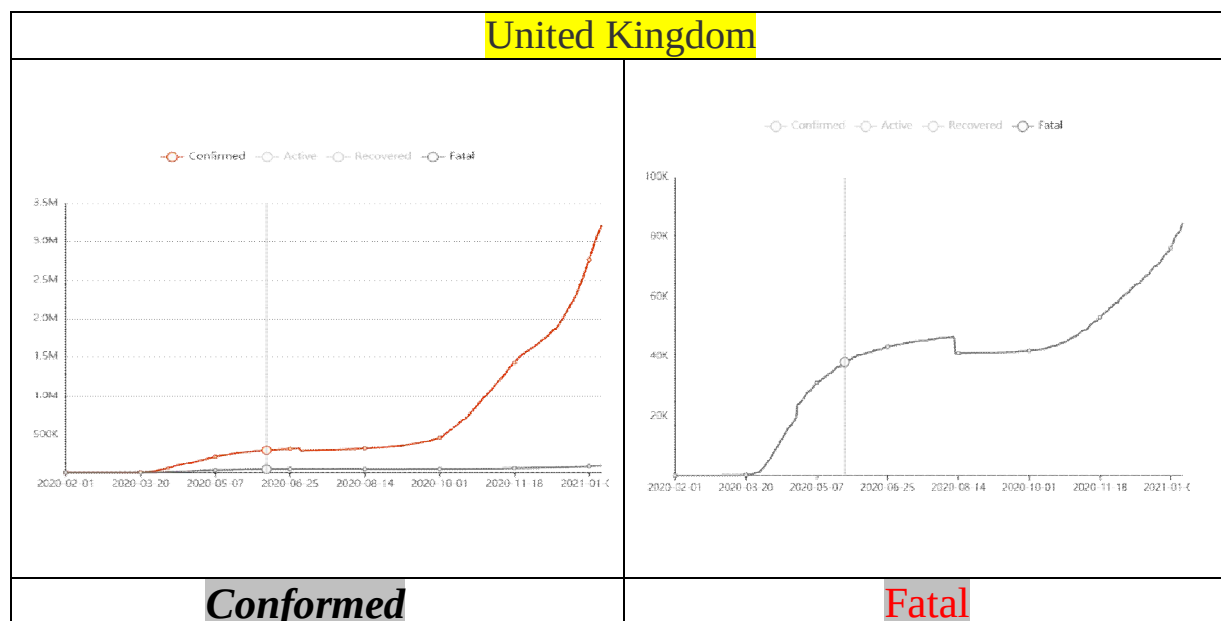


## Cumulative



## United Kingdom Fatal





| SARS-CoV-2        |                       |                         |          |
|-------------------|-----------------------|-------------------------|----------|
| 15-01-2021        |                       |                         |          |
| UK, Europe, ..... |                       |                         |          |
| Infected          | Country               | Country                 | Infected |
| 83,26,115         | <b>Brazil</b>         | <b>Canada</b>           | 6,88,891 |
| 34,95,816         | <b>Russia</b>         | <b>Switzerland</b>      | 4,92,832 |
| <b>32,60,258</b>  | <b>United Kingdom</b> | <b>Japan</b>            | 3,02,623 |
| 28,51,670         | <b>France</b>         | <b>Egypt</b>            | 1,53,741 |
| 23,36,279         | <b>Italy</b>          | <b>China (mainland)</b> | 87,844   |
| 22,11,967         | <b>Spain</b>          | <b>Singapore</b>        | 59,029   |
| 20,03,985         | <b>Germany</b>        | <b>Greenland</b>        | 28       |
| 8,95,687          | <b>Netherlands</b>    | <b>Marshall Islands</b> | 4        |

### References

|         |                                                         |
|---------|---------------------------------------------------------|
| Title   | EscapeCorona – Part 4<br>Knowledge Inn (in nature)      |
| Journal | Journal of Applicable Chemistry, 2020, 9 (6): 1053-1067 |
| Authors | R.Sambasiva Rao                                         |



|         |                                                       |
|---------|-------------------------------------------------------|
| Title   | EscapeCorona – Part 3<br>Knowledge Inn (in nature)    |
| Journal | Journal of Applicable Chemistry, 2020, 9 (5): 833-840 |
| Authors | R.Sambasiva Rao                                       |

|         |                                                       |
|---------|-------------------------------------------------------|
| Title   | EscapeCorona – Part 2<br>Knowledge Inn (in nature)    |
| Journal | Journal of Applicable Chemistry, 2020, 9 (4): 671-681 |
| Authors | R.Sambasiva Rao                                       |

|         |                                                                                 |                                                         |
|---------|---------------------------------------------------------------------------------|---------------------------------------------------------|
| Title   | Evolutionary-scientific-cure[Esc.]:Part 1.<br>Corona virus disease [CVD]        | .....<br><b>EscapeCovid-19..</b><br>... ??? ... !!! ... |
| Journal | Journal of Applicable Chemistry, 2020, 9 (3): 344-361                           |                                                         |
| Authors | K. Somasekhara Rao, K. Ramakrishna, Ch. V. Kameswara<br>Rao and R.Sambasiva Rao |                                                         |

## Research Profile of Michael Irwin Jordan

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div style="text-align: center; border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b style="color: red;">Michael Irwin Jordan</b> </div> <p style="text-align: center;">Email: <a href="mailto:jordan@cs.berkeley.edu">jordan@cs.berkeley.edu</a></p> <ul style="list-style-type: none"> <li>☞ American scientist, Depart of Electrical Engineering and Computer Sciences</li> <li>☞ Professor at Univ of California, Berkeley</li> <li>☞ Researcher in machine learning, statistics, and artificial intelligence,<br/>Department of Statistics, Univ of California Berkeley, CA 94720-1776</li> </ul> | <p style="text-align: center;">Born on 25 February 1956;</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Ponchatoula, Louisiana,<br/>United States</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Academic profile of <b>Michael Irwin Jordan</b> |                                     |      |
|-------------------------------------------------|-------------------------------------|------|
| PhD in Cognitive Science                        | University of California, San Diego | 1985 |
|                                                 | <b>Doctoral advisors</b>            |      |
|                                                 | o David Rumelhart                   |      |
|                                                 | o Don Norman                        |      |
| MS in Mathematics (Statistics)                  | Arizona State University            | 1980 |
| BS magna cum laude in Psychology                | Louisiana State University          | 1978 |

At the University of California, San Diego, Jordan was a

-  Student of David Rumelhart
-  Member of the PDP Group in the 1980s

| Employment Michael Irwin Jordan |                                 |                                                                                                                                                                                  |
|---------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017-to- present                | Professor                       | <ul style="list-style-type: none"> <li>Department of Industrial Engineering and Operations Research University of California Berkeley</li> </ul>                                 |
| 1998 -to- present               | Professor                       | <ul style="list-style-type: none"> <li>Department of Electrical Engineering and Computer Sciences</li> <li>Department of Statistics University of California Berkeley</li> </ul> |
| 1997-to- 1998                   | Professor                       | <ul style="list-style-type: none"> <li>Department of Brain and Cognitive Sciences Massachusetts Institute of Technology</li> </ul>                                               |
| 1994-to- 1997                   | Associate professor with tenure | <ul style="list-style-type: none"> <li>Department of Brain and Cognitive Sciences Massachusetts Institute of Technology</li> </ul>                                               |
| 1992-to- 1994                   | Associate professor             | <ul style="list-style-type: none"> <li>Department of Brain and Cognitive Sciences Massachusetts Institute of Technology</li> </ul>                                               |
| 1988-to-1998                    | Full professor                  | <ul style="list-style-type: none"> <li>Department of Statistics and the Department of EECS Department of Brain and Cognitive Sciences at MIT</li> </ul>                          |
| 1988 -to-1992                   | Assistant professor             | <ul style="list-style-type: none"> <li>Department of Brain and Cognitive Sciences Massachusetts Institute of Technology</li> </ul>                                               |
| 1986 -to-1988                   | Postdoc researcher              | <ul style="list-style-type: none"> <li>Department of Computer and Information Science University of Massachusetts Amherst</li> </ul>                                             |

| Expertise of Michael Irwin Jordan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Advocated</b></p> <ul style="list-style-type: none"> <li>Networks as thinking models with             <ul style="list-style-type: none"> <li>Background more from traditional statistics</li> <li>Less from cognitive perspective</li> </ul> </li> </ul> <p><b>Popularized</b></p> <ul style="list-style-type: none"> <li>Bayesian networks in the machine learning community</li> <li>Expectation-maximization algorithm [14] in machine learning</li> <li>Prominent in the formalisation of variational methods for approximate inference</li> </ul> <p><b>Bridged the gaps in</b></p> <ul style="list-style-type: none"> <li>Computational, statistical, cognitive and biological sciences</li> </ul> <p><b>Focused on</b></p> <p>Bayesian-nonparametric-analysis, probabilistic graphical models, spectral methods, kernel machines</p> <p><b>Research interests in applications of</b></p> <ul style="list-style-type: none"> <li>Distributed computing systems,</li> <li>Natural language processing,</li> <li>Signal processing</li> <li>Statistical genetics</li> </ul> |

| Expertise. Michael Irwin Jordan                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Statistical Machine Learning</li> <li>Bayesian Nonparametric Statistics</li> <li>Variational Inference</li> <li>Optimization Theory</li> <li>Control Theory</li> <li>Distributed Statistical Inference</li> <li>Graphical Models</li> </ul> | <ul style="list-style-type: none"> <li>Artificial Intelligence</li> <li>Signal Processing</li> <li>Theory</li> <li>Machine Learning</li> <li>Biosystems</li> <li>Computational Biology</li> <li>Control Intelligent Systems</li> <li>Robotics</li> </ul> |
| <div> <ul style="list-style-type: none"> <li>! Computational Biology</li> <li>! Statistical Genetics</li> <li>! Human Motor Control</li> <li>! Speech Production</li> <li>! Cognitive Modeling</li> </ul> </div>                                                                   |                                                                                                                                                                                                                                                          |

| Honorary positions. Michael Irwin Jordan |                    |                                                   |
|------------------------------------------|--------------------|---------------------------------------------------|
| 2018 present                             | Honorary Professor | o Peking University                               |
| 2019 present                             | Honorary Professor | o Tsinghua University                             |
| 2015-2017                                | Chair              | o Dept of Statistics, Univ of California Berkeley |
| 2012                                     | Chaired'Excellence | o Foundation Sciences Mathematiques de Paris      |

| Honorary Degrees Michael Irwin Jordan                                                                                                                                                                                                             |                                                                                     |                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------|
| 2020                                                                                                                                                                                                                                              | Honorary Doctorate of Engineering and Technology                                    | o Yale University     |
| 2017 -to- 2019                                                                                                                                                                                                                                    | Distinguished Visiting Professor                                                    | o Tsinghua University |
| Recognition. Michael Irwin Jordan                                                                                                                                                                                                                 |                                                                                     |                       |
| 2016                                                                                                                                                                                                                                              | ! Science reported <b>Jordan</b> as the world's most influential computer scientist | ▪ Wikipedia           |
| Books. Michael Irwin Jordan                                                                                                                                                                                                                       |                                                                                     |                       |
|  Graphical Models, Exponential Families, and Variational Inference<br> .... |                                                                                     |                       |

| Elected Publications. Michael Irwin Jordan                                                                                                                                                                                                                                                                                                                                              |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| J. D. Lee M. Jordan B. Recht and M. Simchowitz "Gradient Descent Only Converges to Minimizers "in Proceedings of the 29th Conference on <b>Learning</b> Theory {COLT} 2016 New York USA June 23-26 2016 2016 pp. 1246--1257( <a href="http://jmlr.org/proceedings/papers/v49/lee16.html">http://jmlr.org/proceedings/papers/v49/lee16.html</a> )                                        |  |
| X. Pan M. Lam S. Tu D. Papailiopoulos C. Zhang M. Jordan K. Ramchandran C. Re and B. Recht "Cyclades: Conflict-free Asynchronous MachineLearning " in Advances in Neural Information Processing Systems 29 2016.( <a href="https://arxiv.org/pdf/1605.09721.pdf">https://arxiv.org/pdf/1605.09721.pdf</a> )                                                                             |  |
| X. Pan D. Papailiopoulos S. Omyak B. Recht K. Ramchandran and M. Jordan "Parallel correlation clustering on big graphs " in Advances in Neural Information Processing Systems 28 2015 pp.82--90.( <a href="http://papers.nips.cc/paper/5814-parallel-correlation-clustering-on-big-graphs.pdf">http://papers.nips.cc/paper/5814-parallel-correlation-clustering-on-big-graphs.pdf</a> ) |  |

X. Pan S. Jegelka J. E. Gonzalez J. K. Bradley and M. Jordan "Parallel Double Greedy Submodular Maximization " in Advances in Neural Information Processing Systems 27 2014.(<http://papers.nips.cc/paper/5491-parallel-double-greedy-submodular-maximization.pdf>)

X. Pan J. E. Gonzalez S. Jegelka T. Broderick and M. Jordan "Optimistic concurrency control for distributed unsupervised learning " in Advances in Neural Information Processing Systems 26 2013 pp. 1403--1411.(<http://papers.nips.cc/paper/5038-optimistic-concurrency-control-for-distributed-unsupervised-learning.pdf>)

B. Taskar S. Lacoste Julien and M. Jordan "Structured prediction dual extragradient and Bregman projections " J. Machine Learning Research vol. 7 pp. 1627-1653 Dec. 2006.(<http://portal.acm.org/citation.cfm?id=1248607&dl=&coll=>)

F. R. Bach and M. Jordan "Learning spectral clustering with application to speech separation " J. Machine Learning Research vol. 7 pp. 1963-2001 Dec. 2006.(<http://portal.acm.org/citation.cfm?id=1248618&dl=&coll=>)

Y. W. Teh M. Jordan M. J. Beal and D. M. Blei "Hierarchical Dirichlet processes " J. American Statistical Association vol. 101 no. 476 pp. 1566-1581 Dec. 2006.(<http://dx.doi.org/10.1198/016214506000000302>)

M. Jordan "Graphical models " Statistical Science:Special Issue on Bayesian Statistics vol. 19 no. 1 pp. 140-155 Feb. 2004.(<http://links.jstor.org/sici?sici=0883-4237%28200402%2919%3A1%3C140%3AGM%3E2.0.CO%3B2-F>)

D. M. Blei A. Y. Ng and M. Jordan "Latent Dirichlet allocation " J. Machine Learning Research vol. 3 pp.993-1022 Jan. 2003.(<http://jmlr.csail.mit.edu/papers/v3/blei03a.html>)

M. Jordan Z. Ghahramani T. S. Jaakkola and L. K. Saul "An introduction to variational methods for graphical models " Machine Learning vol. 37 no. 2 pp. 183-233 Nov. 1999.(<http://www.springerlink.com/content/n811m25287935571/?p=f89e04749ddd48cf81aef1576c71b2cf&pi=3>)

D. Wolpert Z. Ghahramani and M. Jordan "An internal forward model for sensorimotor integration Science vol. 269 pp. 1880-1882 Sep. 1995.([http://www.sciencemag.org/cgi/search?volume=269&firstpage=1880&journal\\_search\\_volume\\_go.x=6&journal\\_search\\_volume\\_go.y=9&journal\\_search\\_volume\\_go=go&andorexactfulltext=and&ando](http://www.sciencemag.org/cgi/search?volume=269&firstpage=1880&journal_search_volume_go.x=6&journal_search_volume_go.y=9&journal_search_volume_go=go&andorexactfulltext=and&ando))

M. Jordan and R. A. Jacobs "Hierarchical mixtures of experts and the EM algorithm " Neural Computation vol. 6 no. 2 pp. 181-214 March 1994(<http://ieeexplore.ieee.org/iel4/5797/15523/00716791.pdf>)

#### **Named Lectures. Michael Irwin Jordan**

 Indira Foundation Lecture Indian Institute of Technology Bombay 2019.

 Fields Institute Distinguished Lecture in Statistical Sciences Toronto 2019.

 J. Mark Sowers Distinguished Lecture Virginia Tech 2019.

-  Warren Center Distinguished Lecture University of Pennsylvania 2019.
-  Taskar Lecture University of Washington 2018.
-  Milne Lecture Oregon State University 2017.
-  Challis Lecture University of Florida 2017.
-  Wilks Memorial Lecture Princeton University 2016.
-  Jon Postel Lecture University of California Los Angeles 2016.
-  Gene Brice Colloquium Rice University 2016.
-  John von Neumann Lecture Brown University 2015.
-  Coxeter Lecture Series Fields Institute for Research in Math Sci. 2015.

-  Bahadur Memorial Lecture University of Chicago 2015.
-  Harry Nyquist Distinguished Lecture Yale University 2013.
-  Vincent Meyer Colloquium Israel Institute of Technology 2012.
-  Constance van Eeden Colloquium University of British Columbia 2012.
-  Neyman Lecture Institute of Mathematical Statistics 2011.

-  Ernst Ising Lecture Brown University 2011.
-  Dertouzos Lecture Massachusetts Institute of Technology 2011.
-  George A. Bekey Lecture University of Southern California 2011.
-  Thomas E. Noonan Lecture Georgia Institute of Technology 2011.
-  R. L. Anderson Lecture University of Kentucky 2011.

-  S. James Press Endowed Lecture University of California Riverside 2010.
-  Posner Lecture Neural Information Processing Systems Annual Conference 2010.
-  Morris H. DeGroot Memorial Lecture Carnegie Mellon University 2009.
-  Pao-Lu Hsu Lecture Beijing University 2009.
-  Institute Medallion Lecturer Institute of Mathematical Statistics 2004.
-  Paul Rockwood Memorial Lecture Institute for Neural Computation 1996

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