

Brookhaven National Laboratory Report

A.A. Sonzogni

National Nuclear Data Center



U.S. DEPARTMENT OF
ENERGY

Office of
Science



Outline

- Staff
- Metrics
- Future Activities

Current NNDC Staff as of April 2019

6.0 Scientific FTEs and 3.0 Tech/Admin FTEs



#	Name	Primary duties
1	Ramon Arcilla	Servers, ENDF validation
2	Kalle Auranen	Experiments, ENSDF (post-doc)
3	David Brown	ENDF, EMPIRE
4	Letty Krejci	Secretary
5	Libby McCutchan	ENSDF, XUNDL, NDS, Experiments
6	Gustavo Nobre	ENDF, EMPIRE
7	Boris Pritychenko	NSR, EXFOR
8	Alejandro Sonzogni	Admin., Web
9	Joan Totans	Library, NSR
	Norman Holden (retired)	Abundances, IUPACC

Personnel Changes



- Mike Herman retired on June 2018, now at LANL.
- Said Mughabghab passed away on July 2018.
- Ted Barnes, DoE manager, retired on August 2018.
- Tim Johnson left on March 2019.
- Kalle Auranen, PhD from Jyvaskyla and post-doc at ANL joined the NNDC on March 2019.
- Shaofei Zhu, staff at ANL will join us this May.
- Andrea Mattera, PhD from Jyvaskyla on fission yields will join in June as a postdoc.
- Matteo Vorabbi, currently postdoc in TRIUMF will join in September to work on ENDF as a postdoc.
- Another post-doc will join later in the year

NNDC contractors during FY19



#	Name	Current/Former Affiliation	Activity
1	Balraj Singh	McMaster	ENSDF, XUNDL, NSR
2	Emil Betak	Bratislava	NSR
3	Stanislav Hlavac	Bratislava	EXFOR
4	Otto Schwerer	IAEA	EXFOR
5	Olena Gristvay	Kiev	EXFOR – new this year
6	Pavel Oblozinsky	Bratislava	NDS – last year with us
7	Allan Carlson	NIST (retired)	Cross Section Standards, new this year

Changes since last NSDD:

- Eddy Browne, now under contract with LBNL
- Ninel Nica receiving funds directly from DoE

Evaluation, Compilation & Dissemination Metrics



FY	# ENSDF Nuclides	# XUNDL compilations	NSR Compilations	Disseminations
2017	117	168.5	3,277	4.413×10^6
2018	80	253	3,714	4.496×10^6

Additional Projects:

- Beta-delayed neutron emitters CRP (Johnson, McCutchan, Sonzogni).
- Highly-precise decay measurements (McCutchan).
- B(E2) evaluations (Prytichenko, Singh).
- Decay data use in nuclear reactor antineutrino calculations (McCutchan, Sonzogni)
- XUNDL PRC project (McCutchan)

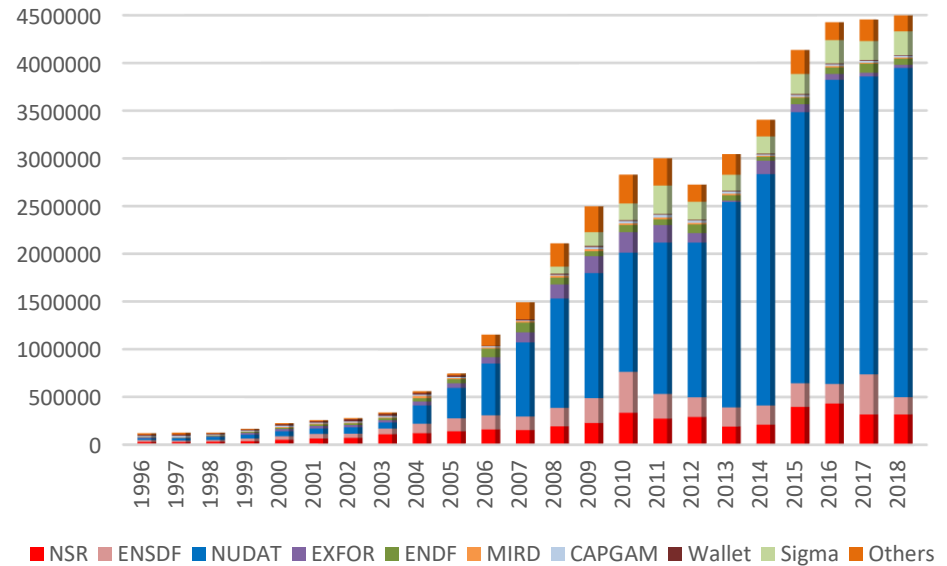
Web Disseminations

Lab	# FY18 retrievals (thousands)
BNL	4,496
ORNL	82
TUNL	117

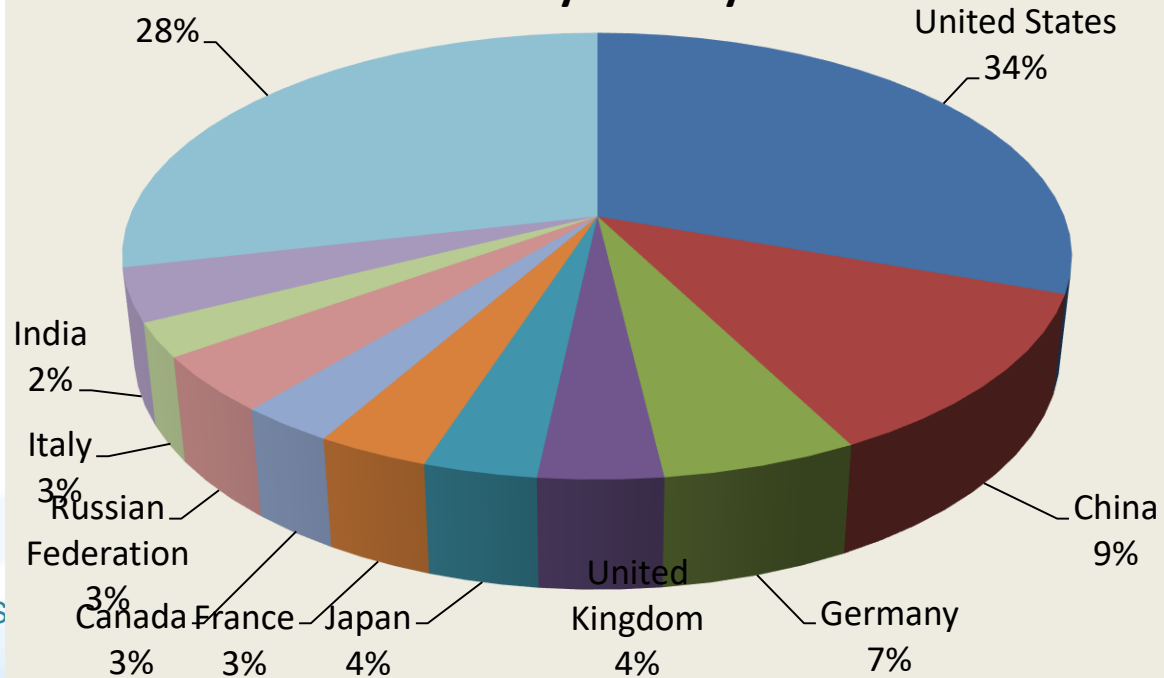
BNL Highlights

- We passed cybersecurity audit with **ZERO** vulnerabilities.
- All 6 servers were replaced without additional funds.
- Robust architecture, new software. Should provide solid services for the next 5 years.
- Will be upgrading cluster this year.

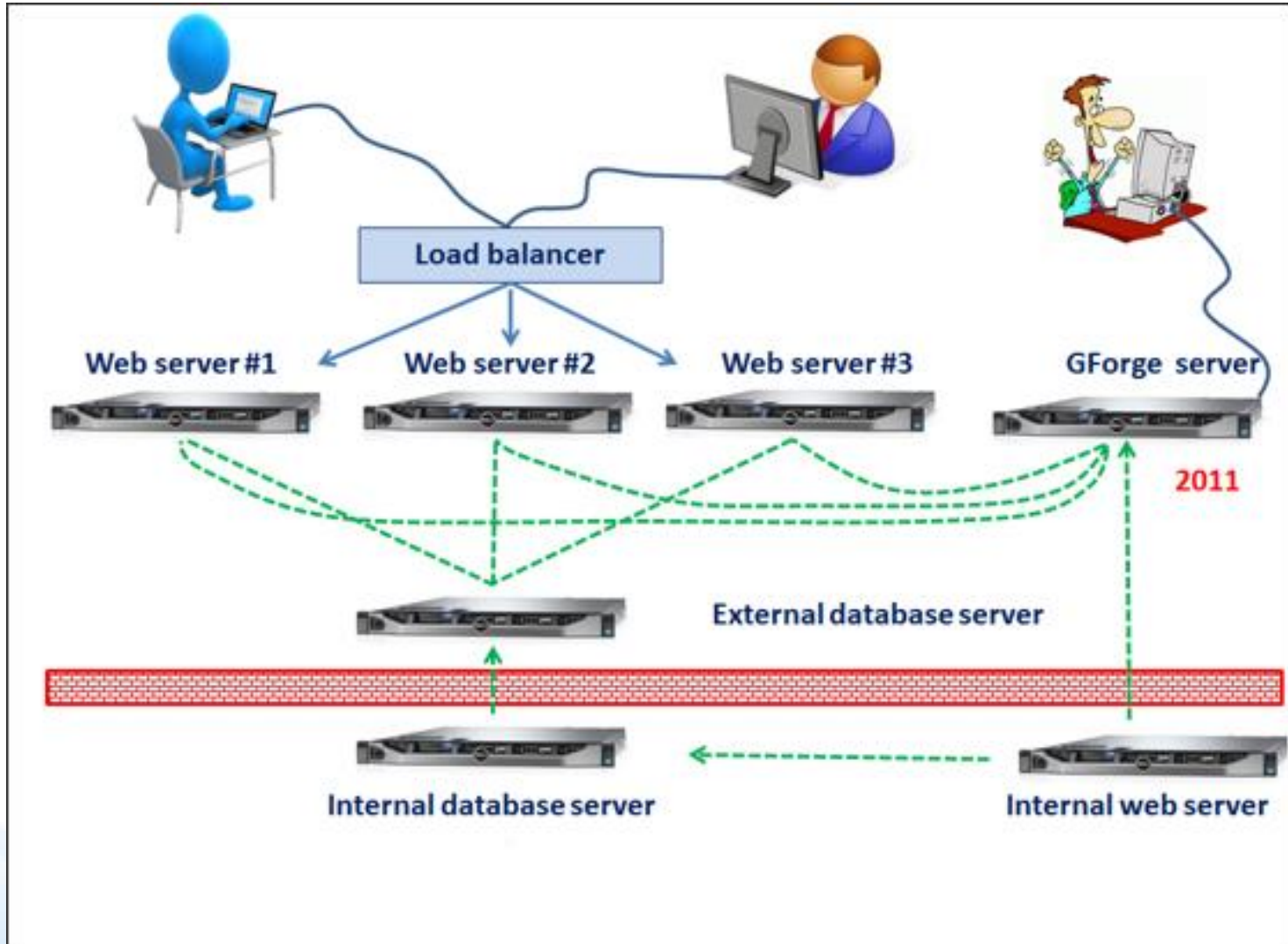
NNDC Web Retrieval 1996-2018



Web Dissemination by country for FY2018



New BNL Server Layout (5 servers bought in 2018)

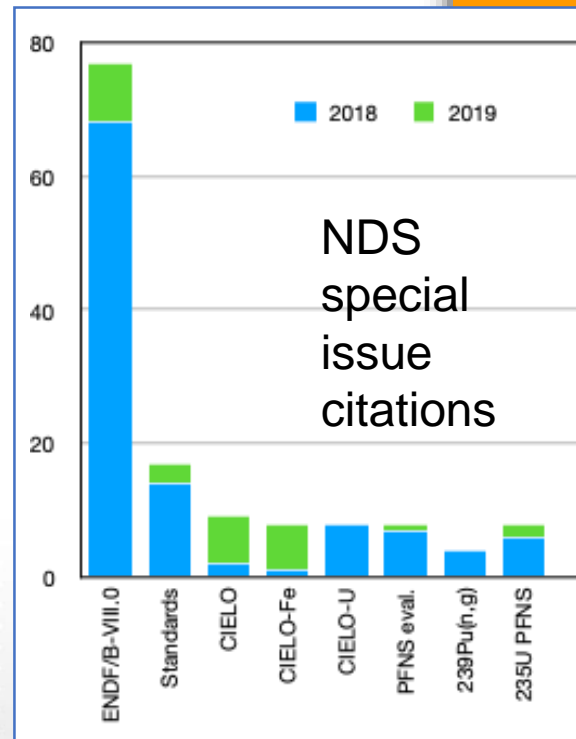


ENDF/B-VIII.0 released February 2018, very well received

- 7+ Invited talks
- 2 Special sessions at ANS meetings
- 77+ citations
- 251 full library download (as of 9/2018)
- 173 neutron sub-library downloads (as of 9/2018)
- Eventually will be default library for SCALE, MCNP

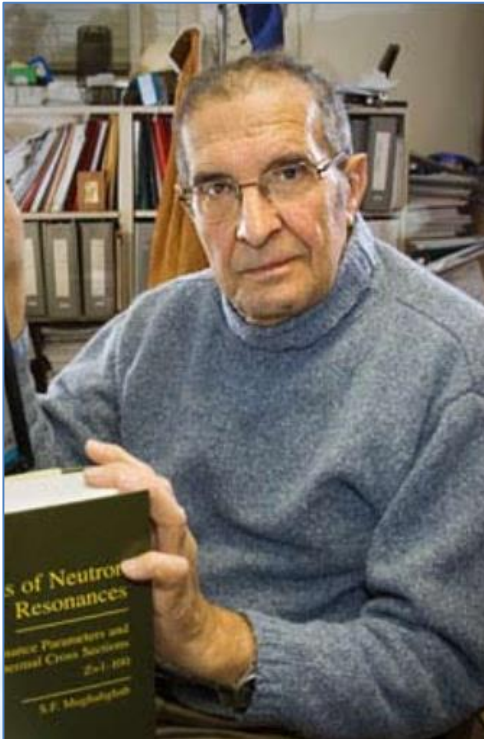
Happy
50th
Anniversary!

ENDF B-VIII.0



Atlas of Neutron Resonances

6th edition

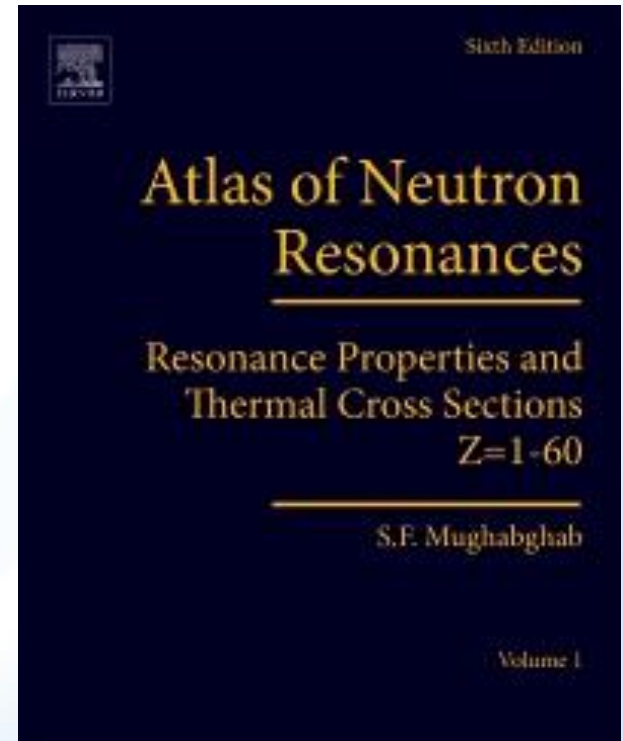


Said Mughabghab
(emeritus at BNL)
passed on July 6, 2018.

We last saw him by the
end of April when copies
of the new Atlas arrived.

Said worked for more
than 5 years on the new
Atlas at no cost.

Unique resource, will be
used in future
evaluations.



Future Activities



- Increase ENSDF activities at the NNDC with new hires
- Next Nuclear Data Week on November 4-8, 2019.