2017 ALCF User Survey Results

Introduction

Each year, the ALCF conducts a survey to gather its users' opinions on various aspects of its services and operations. All ALCF users are invited to participate. This year, 46.9% of all eligible participants completed the survey.[1] The primary data contained in this document are the frequencies, percentages, or averages, as appropriate, of the responses for each question. What follows are the findings of the ALCF 2017 User Survey.

Survey Design

The 2017 survey was structured to allow respondents to proceed quickly through a series of filtering yes/no questions and proceed accordingly within each section to a set or sets of questions that relied on rating scales designed to collect Likert-type data. Some sections provided additional opportunities to write comments within a set number of categories ranging from praise to complaint.

The survey was designed and managed in consultation with Marketing Synergy, a digital marketing and monitoring company. The survey also incorporated lessons learned and was reviewed by ALCF staff and leadership, the User Advisory Council, and DOE's ASCR program—resulting in a shorter, more streamlined approach that yielded a more representative response among the various types of ALCF users.

Demographics

ALCF users are globally distributed and represent several different types of allocations: Director's Discretionary (DD), Early Science Program (ESP), Innovative & Novel Computational Impact on Theory and Experiment (INCITE), and ASCR Leadership Computing Challenge (ALCC). The pie chart below shows the distribution of users across these different allocation programs. Users were categorized by their most substantial allocation program. The table shows the top five countries where the highest percentage of users reside. The top 20 countries are as follows: U.S.A., China, Switzerland, India, France, South Korea, Japan, Austria, United Kingdom, Taiwan, Germany, Sweden, Hungary, Belgium, Canada, Italy, Finland, Spain, Norway and Israel.
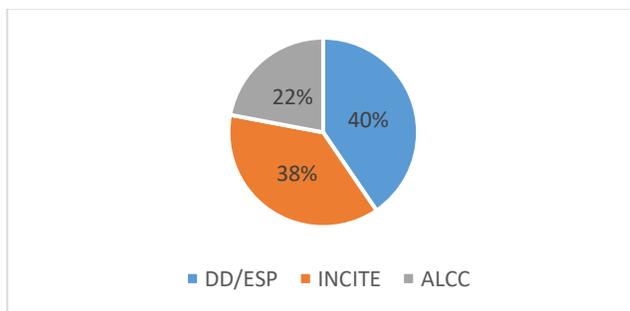
Country	Pct. Total
United States	84.5%
China	2%
Switzerland	1.7%
India	1.5%
France	1.3%

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[1] Users as defined by DOE include project PIs and users with awards at ALCF and who have logged into facility resources. Partially completed surveys were considered responses. Note that the response rate of 46.9% is higher than normal.

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Evaluation of ALCF performance

Part one of the survey consisted of 7 mandatory questions covering overall satisfaction, science at ALCF, and user support.

Overall Satisfaction

Respondents seem to be highly satisfied with the facility overall, with 91 percent classifying their user experience as 'excellent' or 'above average.' These results are further reinforced by the related data contained in more specific survey questions.

Question Subject	Excellent	Above Average	Average	Below Average	Poor
Overall Satisfaction	293 (64%)	123 (27%)	36 (8%)	5 (1%)	1 (<1%)

Science at ALCF

The ALCF's mission is to enable breakthrough science on some of the world's most powerful computing resources. The survey inquired into whether users had made satisfactory progress towards their 2017 science goals using their award allocation and the degree to which the ALCF has enabled that progress:

Here is a breakdown of responses about whether satisfactory progress toward science goals had been made:

Response	Frequency	Percentage
yes, completely	265	57.9
yes, partially	172	37.5
no, not really	21	4.6

Here is a breakdown of responses about ALCF's role in advancing those science goals:

Response	Frequency	Percentage
very important	317	69.2
somewhat important	122	26.6
not important	19	4.2

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Users were given the option of writing additional comments in this section by choosing from among the following categories: praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	280
Suggestions for Improvement	55
Problem Experienced	22
Complaint	1

User Support

Respondents were asked to rate the overall quality of ALCF support in several areas. Here is the breakdown of responses:

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
Professional/Courteous	332	94	14	1	1	16
Support Availability	275	136	27	2	2	16
Easy to Find Online Support through Documentation	181	172	68	14	5	18
Staff provides accurate, complete assistance.	273	122	24	0	2	37
Prompt	332	94	14	1	1	16

The 108 respondents who further stated that they had interacted with a staff computational scientist (Catalyst) as part of their research were given an additional set of questions. Here is the breakdown of those responses:

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Prompt/Professional	85	18	4	1	0
Able to assist	82	20	3	2	1
Catalyst is Beneficial	85	15	5	3	0

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The following optional sections were designed to delve into the quality of users' interactions with the facility. Note that in cases where respondents are asked to select 'all that apply,' response percentages can exceed 100 percent. Only users who responded 'yes' to the initial filter question in each section were permitted to proceed.

User Support and Services

This section pertained to the facility's handling of support requests submitted by users via e-mail to support@alcf.anl.gov, by phone, or in-person.

225 respondents answered 'yes' and 231 respondents answered 'no' to the filter question of "Did you use ALCF's user support and Services?" and proceeded to answer two questions about ALCF's use of Crypto card technology. Here is the breakdown of those responses:

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
Easy to Apply for User Account	126	59	13	1	1	23
Wait Time for Crypto Card Reasonable	117	52	13	11	3	28

Users were also given the option of writing comments in this section about any aspect of ALCF's user support and services by choosing from among the following categories: praise, suggestion for improvement, problem, or complaint.

Type of Comment	Frequency
Praise	153
Suggestion for Improvement	21
Problem Experienced	5
Complaint	2

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Operations, Infrastructure and Software

This section focused on the computing environment: the scheduler, hardware, operating system, basic libraries, storage/tape, and visualization hardware.

392 respondents answered 'yes' and 64 respondents answered 'no' to the filter question of "Have you used Mira, Theta, or other ALCF computing services?" and proceeded to answer several sets of questions on various topics. Here is the breakdown of those responses:

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
Scheduling Turnaround	135	162	52	26	8	8
Availability of Tools	145	127	48	6	2	60
Visual/Analysis Met Needs	103	105	50	7	2	120
Availability of Libraries	167	145	37	20	4	16

A set of questions also asked about the operating environment.

Question Subject	Extremely Satisfied	Somewhat Satisfied	Neither	Somewhat Dissatisfied	Extremely Dissatisfied	NA
Systems Reliability	252	113	8	6	3	6
Build Environment	232	97	27	19	3	11
Communicating Updates	268	78	24	1	1	17

Users were given the option of writing additional comments in this section by choosing from among the following categories: praise, suggestion for improvement, problem, or complaint.

Type of Comment	Frequency
Praise	238
Suggestion for Improvement	52
Problem Experienced	15
Complaint	2

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Science and Technical Support

This section of the survey addressed the effectiveness of ALCF's science and technical support aimed at problem resolution.

305 respondents answered 'yes' and 151 respondents answered 'no' to the filter question of "Did you request ALCF support to resolve a problem during your 2017 allocation?" and were then prompted to provide further details about their particular request. Here is the breakdown of those responses:

Primary reasons for using ALCF science and technical support	Frequency
Gaining access to the leadership computing systems.	58
Scheduling Jobs	51
Improving code performance.	41
Communicating with subject matter experts.	28
Needing help finishing project.	23
Providing quarterly reports to ALCF.	12
Preparing an INCITE proposal.	11
Preparing an ALCC proposal.	2
Other Reasons	32

Users were given the option of writing additional comments in this section by choosing from among the following categories: praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	104
Suggestion for Improvement	11
Problem	3
Complaint	1

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Code Development

This section of the survey asked questions related to code development on ALCF resources.

299 respondents answered 'yes' and 153 respondents answered 'no' to the filter question of "Did you compile code that ran on any of ALCF's systems Mira or Theta?" and proceeded to answer several sets of questions. Here is the breakdown of those responses:

Users were asked to choose from the following list of performance tools that they use on their laptop/desktop, on cluster-based systems, or on ALCF systems.

Performance Tool	Frequency
gprof	62
HPCToolkit	53
TAU	52
PAPI	36
mpiP	19
Vampir	10
HPCTW	10
OpenSpeedShop	7
Scalasca	3
Other (please specify)	34

Subsequently, users were asked to respond to questions about whether they used the above tools for code performance improvements on various platforms. This provides ALCF insights into how users use these performance tools.

Question Subject	Yes	No
On your laptop (or desktop) prior to running on ALCF systems?	91	63
On cluster-based systems prior to running on ALCF systems?	106	54
On ALCF systems?	103	57

Users also asked if those code improvement tools were helpful with respect to running their program on ALCF systems.

Response	Frequency	Percentage
Yes	141	87.0
No	21	13.0

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Users chose from the following list of debugging tools that they use on their laptop/desktop, on cluster-based systems, or on ALCF systems.

Response	Frequency
gdb	149
DDT	64
bgq stack	53
TotalView	39
coreprocessor	18
STAT	6
Other	21

Users were then asked if they had experienced any of the following issues when using debuggers.

Response	Frequency	%
Need more training (e.g. in-person or video conference)	40	31%
Need more documentation	39	30%
Tool crashes or otherwise can't handle my code	17	13%
Tool I prefer is not available on the system I need it for	16	12%
Other	18	14%

Users were given the option of writing additional comments about their debugging experiences by choosing from among the following categories: praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	162
Suggestion for Improvement	26
Problem	5
Complaint	1