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|   | **FINAL LIST OF EFRI INDICATORS AND SOURCES OF DATA (10/25/12)** |   |  |
|   | **DIMENSION/INDICATOR** | **Data Collection Instrument** | **Notes** |
| Indicator # |  |   |  |
| Classifier | Grand Challenge or National Need that this project addresses as stated in the proposal | proposal | New indicator; Changed collection instrument from RPPR |
|   | **PROJECT OUTPUTS/ KNOWLEDGE TRANSFER ACROSS DISCIPLINES**  |   |  |
| 1 | ••Number of Interdisciplinary collaborations (or percentage of grants with this characteristic) | Monitoring System |  |
| 2 | ••Number of papers with co-authors from different disciplines | Monitoring System | Changed from RPPR |
| 3 | ••Number of citations/seminal highly referenced publications | External Consultant/Google Scholar | Added “# of citations”Added external consultant  |
| 4 | List of PI achievements (awards, leadership, promotions, etc) | Monitoring System | New indicator |
|   |   |   |  |
|   | **INNOVATION OF IDEAS IN AREAS OF GREATER OPPORTUNITY**  |   |  |
| 5 | ••Number of follow on grants supported by other agencies (or percentage of grants with this characteristic) after an EFRI award  | Monitoring System |  |
| 6 | ••Number of researchers (PIs, post-docs, graduate, undergraduate and other research assistants) exchanged across laboratories (inter-disciplinary, inter-institutional) | Monitoring System |  |
| 7 | Number of government agencies co-funding EFRI research  | Monitoring System (EFRI officers) | Info will be collected by officers in the monitoring sys |
| 8 | ••Number of grants with International collaborations (or percentage of grants with this characteristic) | Monitoring System | Indicator added back |
| 9 | National need(s)/ grand challenge(s) addressed by the completed research or research in progress (have there been any changes in the scope of the research?) | Monitoring System | New indicator |
|   |   |   |  |
|   | **POTENTIAL FOR TRANSLATIONAL RESEARCH**  |   |  |
| 10 | ••Number of PIs with additional continuation funding at larger scale from other agencies (or percentage of grants with this characteristic) | Monitoring System |  |
| 11 | ••Number of start-up companies whose formation an EFRI award contributed (# of jobs, including founder) | Monitoring System |  |
| 12 | •• Number of patent citations  | Google Scholar | Split this into two indicators |
| 13 | Licensing activity | Monitoring System | Added new indicator |
| 14 | ••Number of companies interested in partnering with EFRI awardees | Monitoring System |  |
| 15 | Number of new techniques, tools, resources, equipment, methods of research, models, etc. | Monitoring System | New indicator |
|   |   |   |  |
|   | **INNOVATIVE RESEARCH METHODS OR DISCOVERIES ARE INTRODUCED TO THE CLASSROOM** |   |  |
| 16 | ••Number of topics that have generated curriculum changes or inclusions of modules to teach methods, discoveries or innovations funded by EFRI at college level | Monitoring System |  |
| 17 | ••Number of topics that have generated curriculum changes or inclusions of modules to teach methods, discoveries or innovations funded by EFRI at PK-12 levels | Monitoring System |  |
|   |   |   |  |
|   | **PROJECT RESULTS ADVANCE THE FRONTIER / CREATION OF NEW FIELDS OF STUDY**  |   |  |
| 18 | ••New academic programs around EFRI topics | Monitoring System |  |
| 19 | ••Number of grants that develop out-of-the-box approaches or what disciplinary experts would consider new methods or methodologies (or percentage of grants with this characteristic) | External contractor |  |
| 20 | ••Number of EFRI students who become involved in high risk research in their portfolio after graduation | Monitoring System : tracking students' trajectories |  |
| 21 | Creation of communication medium on new topic, i.e., new conferences, new journals, working groups, congressional hearings, etc.  | Monitoring System | New indicator |
|   | **FOSTERING PARTICIPATION OF UNDEREPRESENTED GROUPS IN SCIENCE**  |   |  |
| 22 | ••Number of participants and research assistants from underrepresented groups in research activities  | Monitoring System | Combined participants and research assistants into one indicator |
| 23 | ••Percentage of participants from underrepresented groups who stated their EFRI experience (lab and interactions with research group) influenced positively their decisions and career path | Survey reported in monitoring system |  |