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ANDREI Neculai
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Evaluation Sheet

Legend

Evaluator 1 - Panel Finalized without Consensus
Evaluator 2 - Panel Finalized without Consensus
Evaluator 3 - Panel Finalized without Consensus
Evaluator 4 - 4th evaluation - Finalized

1 . Principal Investigator (60%)

1.1 . How would you rate the PI's professional prestige and international visibility in his/her research field? (20%)

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.1 .] = ***16.00***

The PI has contributed extensively to new versions of conjugate gradient algorithms. His work has been cited by leading researchers in the area.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.1 .] = ***16.00***

The efforts of this PI are rather local, and he has almost no co-authors. He is in the editorial board of 2 well known international journals. Other activities are much more local Romanian. His software may help to spread his name, but I doubt that it is widely known. If it is not integrated in e.g. matlab or a free variant of it, it will be difficult to make it well known worldwide.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	X	-	-

Score for Criterion [1.1 .] = ***12.00***

According to the limited number of citations, the PI's work does not appear to be well known internationally.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.1 .] = ***16.00***

The PI is an expert in the scientific computing and application to optimization problems. He has a large experience and significant contributions either in the form of computing codes or publications. His international visibility is good.

1.2 . How do you assess the quality of the PI's publications in his/her field of research? (15%)

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.2 .] = ***12.00***

The PI has published in internationally reputed journals. His articles have been cited widely.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.2 .] = ***12.00***

His books and journal papers are again mostly local publications. Although the ones that are listed in his proposal (more are on his website) are in good journals, but there are only few, giving a low h-index (4).

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	X	-	-

Score for Criterion [1.2 .] = ***9.00***

Most of the publications of the PI appear in relatively good (but not top) journals. The overall publication record is fair.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	X	-	-

Score for Criterion [1.2 .] = ***9.00***

Som publications in international (but not top) journals are good. Most publications are in national journals.

1.3 . How relevant is the PI's expertise, as derived from his/her publications and background, for the proposed objectives? (15%)

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	-	X

Score for Criterion [1.3 .] = ***15.00***

The PI's expertise in conjugate gradient algorithms lays the ground for the proposed research which is in the same area.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	-	X

Score for Criterion [1.3 .] = ***15.00***

The PI has proposed a continuation of his work. What is proposed here is based on software and analysis. He has experience in both of these domains. Perhaps his lack of collaboration may be a handicap.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.3 .] = ***12.00***

Judging from the curriculum vitae, the PI expertise appears suitable to reach the objectives of the proposal.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.3 .] = ***12.00***

The PI is a specialist in this field.

1.4 . How would you rate the level of originality and creativity of the previous results of the PI? (10%)

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.4 .] = ***8.00***

The PI's articles have had some impact in the area of numerical methods for large scale optimization problems.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	X	-	-

Score for Criterion [1.4 .] = ***6.00***

Unconstrained optimization has known a book some 50 years ago, although it is still of interest in a large-scale context. It is however my opinion that the international focus has now shifted to much more complicated problems with complex constraints. Of course the basic unconstrained techniques are still an essential building block but it seems to me that that field has been ploughed too many times already. Major improvements are not expected anymore.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	X	-	-	-

Score for Criterion [1.4 .] = ***4.00***

The PI focused his work mainly on unconstrained optimization, which is certainly a relevant field in numerical optimization. However, the focus of the PI' research appears limited on acceleration methods.

Absent	Very Poor	Poor	Fair	Good	Very Good
-	-	-	-	X	-

Score for Criterion [1.4 .] = ***8.00***

The PI has developped several computing codes in fortran langage. He has also theoretical contributions in numerical optimization and control theory of good level.

not expected anymore.

2 . Proposal and budget (40%)

2.1 . Significance. How would you rate the level of importance of the specific problem studied and the potential impact of the proposed objectives for science, society or technology? (10%)

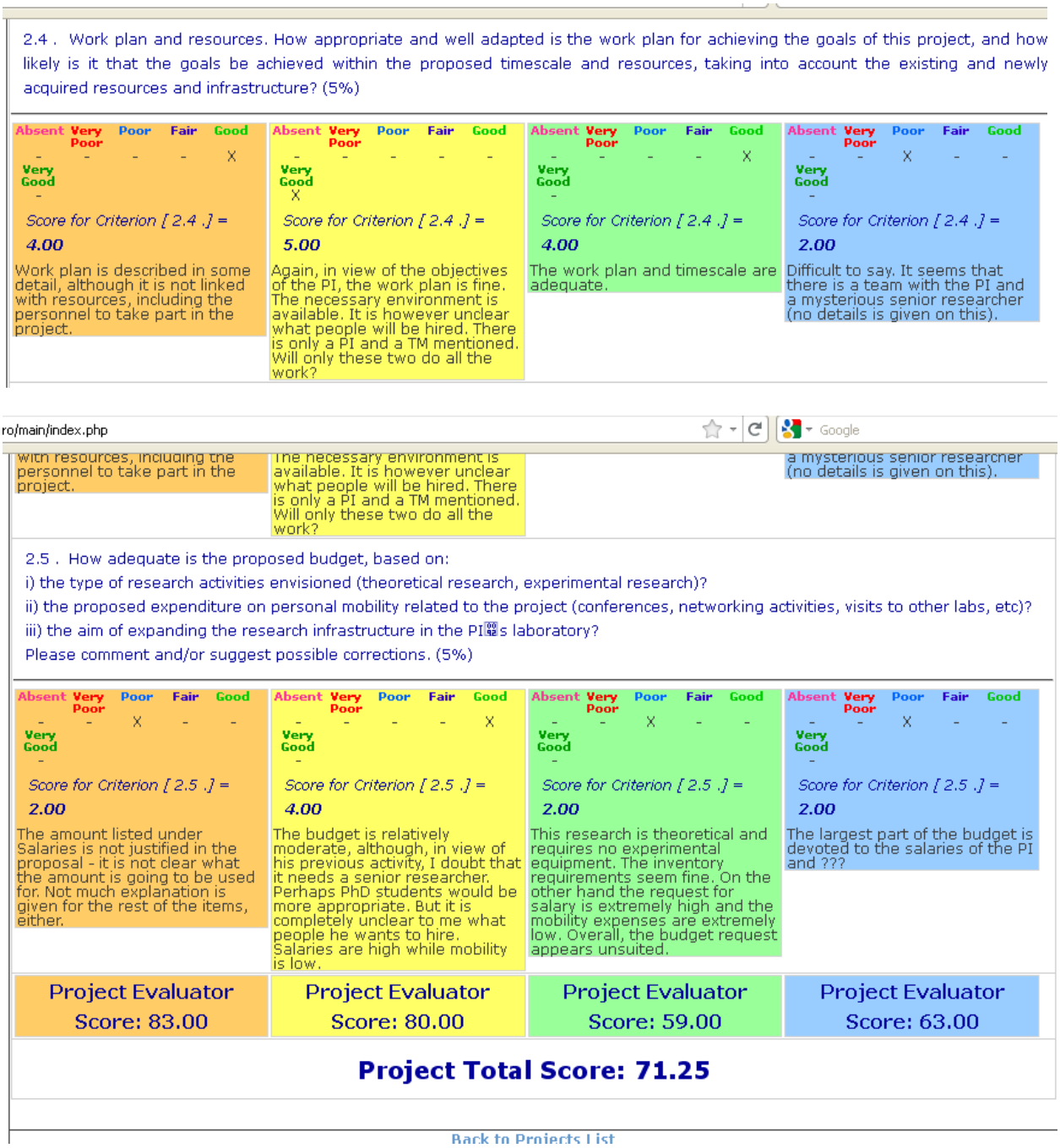
Absent	Very Poor	Poor	Fair	Good	Very Good	Score for Criterion [2.1 .] =	
-	-	-	-	-	X	*10.00*	Conjugate gradient methods have a long history but are still important especially for solving large-scale optimization problems. These problems are found in many areas of science and technology.
-	-	-	X	-	-	*6.00*	I may not be fully aware of its importance, but it seems to me that the PI mainly wants to extend his software package besides the existing packages. It will most probably have a better performance for some problems compared to what exists already but it seems like a big effort to obtain only minor improvement of what exists.
-	-	X	-	-	-	*4.00*	The main goals and results of the project are expected to be ISI journal publications (approximately 2 papers per year), research reports and numerical software. However, these goals are not expected to have a practical relevance.
-	-	X	-	-	-	*4.00*	The design/improvement of algorithms for unconstrained optimization as well as their numerical implementation are important for solving many problems in applied mathematics and engineering. However, the state of the art and the challenges are, in a large part, out of the scope of the proposal

2.2 . Approach. To what extent are the methods, design and investigation tools adequately selected and/or developed, well integrated, well reasoned, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative approaches ? (10%)

Absent	Very Poor	Poor	Fair	Good	Very Good	Score for Criterion [2.2 .] =	
-	-	-	-	-	X	*10.00*	The approach is sound, well-founded by earlier work by the applicant.
-	-	-	-	-	X	*10.00*	What is proposed is indeed appropriate to obtain what the PI has in mind. I do not see that anything can go terribly wrong. It will probably work out as expected and he has the expertise to do it.
-	-	-	-	X	-	*8.00*	The project description is fair and the proposed method seems fine. Different specific topics are expected to be covered within the duration of the project.
-	-	-	X	-	-	*6.00*	The strategy followed in the project is coherent with the proposal.

2.3 . Innovation. Is the project original and innovative? For example: Does the project challenge existing paradigms or address an innovative hypothesis or critical barrier to progress in the field? Does the project develop new methods/technologies or significantly extend/improve previous ones? Does the project employ novel concepts, approaches, tools, or technologies within the specific area? (10%)

Absent	Very Poor	Poor	Fair	Good	Very Good	Score for Criterion [2.3 .] =	
-	-	-	X	-	-	*6.00*	One innovation of the project is described by the applicant as "the new ideas of using the sufficient and conjugacy conditions, of second order information and the structure of the problem". It is not clear how these will be achieved though, as well as efficiency of the new algorithms in terms of the number of iterations, function evaluations and the CPU time. These are not explained well in the proposal.
-	-	-	X	-	-	*6.00*	See also 2.1 above. I do not see very original tools that will be used in the project that do not exist already. It involves his hybrid method and use of second order information, but the titles of the 4 work packages listed in the project could have been titles of work packages in a project 30 or 40 years ago.
-	-	X	-	-	-	*4.00*	The main objective of the project appears to be a small improvement in the same line of research of acceleration methods for unconstrained optimization. As such, it does not represent an original and breaking proposal.
-	-	X	-	-	-	*4.00*	The programming languages, the environnement of programming, the ability of the machines and the size of problems to solve are beyond the scope of the proposal which focuses on a particular and restricted point.



2.4 . Work plan and resources. How appropriate and well adapted is the work plan for achieving the goals of this project, and how likely is it that the goals be achieved within the proposed timescale and resources, taking into account the existing and newly acquired resources and infrastructure? (5%)

Absent	Very Poor	Poor	Fair	Good	Very Good	Score for Criterion [2.4 .] =	
-	-	-	-	X	-	4.00	Work plan is described in some detail, although it is not linked with resources, including the personnel to take part in the project.
-	-	-	-	-	X	5.00	Again, in view of the objectives of the PI, the work plan is fine. The necessary environment is available. It is however unclear what people will be hired. There is only a PI and a TM mentioned. Will only these two do all the work?
-	-	-	-	X	-	4.00	The work plan and timescale are adequate.
-	-	X	-	-	-	2.00	Difficult to say. It seems that there is a team with the PI and a mysterious senior researcher (no details is given on this).

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Google

with resources, including the personnel to take part in the project.

The necessary environment is available. It is however unclear what people will be hired. There is only a PI and a TM mentioned. Will only these two do all the work?

a mysterious senior researcher (no details is given on this).

2.5 . How adequate is the proposed budget, based on:
i) the type of research activities envisioned (theoretical research, experimental research)?
ii) the proposed expenditure on personal mobility related to the project (conferences, networking activities, visits to other labs, etc)?
iii) the aim of expanding the research infrastructure in the PI's laboratory?
Please comment and/or suggest possible corrections. (5%)

Absent	Very Poor	Poor	Fair	Good	Very Good	Score for Criterion [2.5 .] =	
-	-	X	-	-	-	2.00	The amount listed under Salaries is not justified in the proposal - it is not clear what the amount is going to be used for. Not much explanation is given for the rest of the items, either.
-	-	-	-	X	-	4.00	The budget is relatively moderate, although, in view of his previous activity, I doubt that it needs a senior researcher. Perhaps PhD students would be more appropriate. But it is completely unclear to me what people he wants to hire. Salaries are high while mobility is low.
-	-	X	-	-	-	2.00	This research is theoretical and requires no experimental equipment. The inventory requirements seem fine. On the other hand the request for salary is extremely high and the mobility expenses are extremely low. Overall, the budget request appears unsuited.
-	-	X	-	-	-	2.00	The largest part of the budget is devoted to the salaries of the PI and ???

Project Evaluator	Project Evaluator	Project Evaluator	Project Evaluator
Score: 83.00	Score: 80.00	Score: 59.00	Score: 63.00

Project Total Score: 71.25

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