##### TITLE

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**Absract:** The abstract should summarize the contents of the paper in short terms. Please, avoid the use of symbols, special characters, footnotes, or formulas in the abstract as well as in the title.

**Keywords:** The list of comma separated keywords is going here.

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## 1. Introduction

This document describes in some detail preparation of articles to be submitted for publication in the Annual of Sofia University “St. Kliment Ohridski” Faculty of Mathematics and Informatics.

In tex file the authors should use the standard LaTeX commands. Personal macros should be used only when it is absolutely necessary and have to be put always in the preamble. Please, do not use \def and \renewcommand commands.

## 2. Typing text and formulas

 Definitions, propositions, lemmas, theorems, equations, etc., should be introduced using the appropriate theorem-like environment and labeled. Please, make use of the respective labels when you refer to any of them.

Some examples of how these should look like follow.

**Definition 2.1.**  *The norm of the Banach space is smooth if for any there is a unique such that and .*

**Example 2.2.**  *The spaces , , are strictly convex and smooth, while the spaces and are neither strictly convex nor smooth.*

**Lemma 2.3.**  *The norm of is Fréchet differentiable at if and only if*

*uniformly for each in the unit sphere* .

**Theorem 2.4.**  *For given Banach space with dual space and , the following are equivalent:*

 i)  *is Fréchet differentiable at ;*

 ii) *For all , if , then*

.

*Proof.* (i)(ii). Since the norm of is Fréchet differentiable at , by Lemma 2.3 for each there exists such that

for any with . There exists such that and for each . Then we have

 (2.1)

 Hence for each by (2.1) we have

(ii)(i) is proved by arguing by contradiction.

A direct application of mulian’s theorem gives the following result.

**Corollary 2.5.** *If the dual norm of is Fréchet differentiable, then is reflexive.*

**Remark 2.6.** *A good guide for writing scientific papers can be found on Terence Tao’s web page* [6]*.*

## 3. Including tables and figures

Table(s) and Figure(s) are “float elements” which should be inserted in the text as close to the point of reference as possible.

In table, please do not use any colours. Some space should be left above and below the table. In tex file this should be done using the environment table (see Table 1).

Table 1: Baseline characteristics of the PCOS classical phenotype patients and control group

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristic | PCOS group | Control group |  value |
| Number of cycles ICSI | 109 | 387 |  |
| Age (y) | 30 | 32 | NS |
| BMI (kg/m) |  |  | 0.0001 |
| AMH (pmol/L) |  |  |  |
| PCOS type I or II | yes | no |  |

PCOS = US characteristics of PCO morphology, clinical and/or biochemical

hyperandrogenemia and ovarian dysfunction

Figure in the tex file should be inserted using

\begin{figure}[ht]

\centering

\includegraphics[width=XXX]{file-name}

\caption{Text of the figure caption\label{fig:1}}

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which will produce Figure 1.

XXX indicates the width of the figure in millimeters, e.g. width=40mm.

file-name is the name of the file of the figure[[1]](#footnote-1).



Figure 1: Text of the figure caption

The submitted graphics are expected to be in one of the following graphic formats: jpg, png, pdf or eps. If they are prepared via some graphics package, scanning photographs or other computer apps for generating images the authors should avoid the use of any lines thinner than points of width, on the one hand, and blank space around the figures, on the other. The resolution of the figures and other illustrations should be not less than 300 dpi.

All illustrations are to be in gray scale or black-and-white, else appropriate conversion will be done. If the manuscript is accepted, all figure files should be submitted separately of the source tex or docx file.

## Acknowledgements

Write here your acknowledgements to respective persons for help or to institutions for grant funding.

The last section contains the list of references. It should be ordered alphabetically by the last name of the first author. In the text the references should be indicated by square-bracketed numbers. Please, follow exactly the samples given below in the bibliography section for journal articles [1, 3, 4, 7], books [5, Ch. 2.12], papers in proceedings volumes [2, p. 432], and web pages [6].

**References**

[1] J. M. Borwein and D. Preiss, A smooth variational principle with applications to subdifferentiability and to differentiability of convex functions, Trans. Amer. Math. Soc. 303(2) (1987) 517–527.

[2] R. Deville and N. Ghoussoub, Perturbed minimization principles and applications, in: Handbook of the geometry of Banach spaces, ed. by W. B. Johnson and J. Lindenstrauss, vol. 1, North-Holland, Amsterdam, 2001, 393–435.

[3] M. Fréchet, Toute fonctionnelle continue est développable en série de fonctionnelles d’ordres entiers, C. R. Acad. Sci. Paris 148 (1909) 155–156 (in French).

[4] A. Molto, J. Orihuela, S. Troyanski and V. Zizler, Strictly convex renormings, J. London Math. Soc. 75 (2007) 647–658.

[5] R. R. Phelps, Convex functions, monotone operators and differentiability, Second Edition, Lecture Notes in Mathematics, 1364 Springer-Verlag, Berlin, 1993.

[6] T. Tao, On writing, <https://terrytao.wordpress.com/advice-on-writing-papers/>

[7] S. L. Troyanski, An example of smooth space whose dual is not strictly convex, Studia Math. 35 (1970) 305–309 (in Russian).

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1. pdf file of Figure 1 can be found on http://tug.ctan.org/macros/latex/contrib/mwe/example-image.pdf. [↑](#footnote-ref-1)