

## NEW BOOK PROPOSAL

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### AUTHOR/EDITOR AND TITLE INFORMATION

1. Tentative book title and subtitle (if any):

Plasma assisted combustion, gasification, and pollution control

2. Authors/Editors full name/s:

Dr. Igor Matveev

3. Position and affiliation:

President, International Plasma Technology Center, Corp.

4. Full mailing address/es:

1729 Court Petit, McLean, VA 22101

5. Name/telephone number/email of administrative assistant, if applicable:

See p. 6

6. Authors/Editors phone, fax, email:

Name	Telephone:	Fax	Email
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Igor Matveev	703-560-9569	703-849-8417	i.matveev@att.net

- a. If an edited book, approximately how many contributors do you expect to comprise the book?  
*About 30*

## SUBJECT MATTER

7. a. **Definition of topic (in laymen's terms—so that a non-scientist can understand why this area of science/engineering is important):**

The scope of the proposed book covers such fields as power generation; propulsion; the conversion of coal, municipal/industrial waste, and biomass into energy processing; new materials synthesis; and pollution control.

- b. Short “blurb”/brief description of topic which could be used for promotional purposes  
Plasma-assisted combustion: providing the world with novel, clean energy sources.

- c. **Description of the proposed book, including aims of the book/scope of coverage/key subspecialties address, if applicable**

This book will be the world's first collection of fundamental knowledge, modeling, experimental investigation results, design, prototyping, and commercialization of new products, visions of future prospects for the technology and trends in this new field of science - plasma assisted combustion (PAC). It will be addressed to a wide audience from engineering and science students to researchers, and industry specialists.

The book will consist of two parts and be written by an international team of over 30 specialists from the USA, Canada, Russia, Ukraine, Germany, Belgium, and Czech Republic.

This is the first project of the non-profit organization International Plasma Technology Center, Corp. (USA), which hosts an annual international conference on Plasma Assisted Combustion (IWEPEC) and supports publishing of an annual issue under the IEEE Transactions on Plasma Science umbrella.

- d. Outline your reasons for proposing a new book in this area:  
The authors represent a plasma assisted combustion community, which has accumulated enough research results to be shared and of interest in a much broader format.

- d. **List several (4-6) unique features of your book which will attract prospective buyers:**

As the first book in a new field, it will be written by internationally-recognized scientists and include plasma fundamentals, a wide variety of plasma source development for PAC, and practical results related to the engineering and commercialization of real PAC technologies , including ignition, combustion, and gasification.

- e. What are the benefits of this book for the reader?

The book will contain both overviews of the subject matter of the book, plus detailed descriptions of example technologies. It will enable a diverse group of readers to become acquainted with the science and technology of the field.

- f. **Attach proposed contents, including chapter headings. Please outline the information each chapter will contain:**

Brat: I think you have this.

- g. Please list search terms and phrases the book's audience would likely use in researching the subject either in a formal database (e.g ISI Science Citation) or via search engine

Plasma, plasma-assisted combustion, fuel conversion, synthesis gas, hydrogen.

- h. If the proposed work is to be a textbook, please provide a list of courses for which the text would be suitable.

Not a textbook.

## MANUSCRIPT INFORMATION

8. Approximately how many manuscript (typewritten, double-line spaced) pages do you expect your book to be?

Over 800 pages

9. How many illustrations, excluding tables, do you expect to have in the book?

Over 50

10. List any special physical features you expect to include (problems/solutions, photographs, disks, etc.)

Photographs.

11. Do you have the ability to prepare both the text and the illustrations electronically?

Yes

Can you provide a .pdf source file of the manuscript?

Yes

12. If so, what software will you be using?

MS Word, MS Office, Adobe Acrobat

***Manuscript Delivery Date***

13. How long do you estimate it will take for completion of the entire manuscript?  
6-8 months

## THE MARKET

14. Identify the readership for your book

PRIMARY MARKET (include level—graduate-level textbook, professional, reference—as well as job titles of prospective readers):

Academic – undergraduate and post-graduate students, researchers. Courses – combustion, gasification, power generation, plasma generation, aerospace propulsion, plasma chemistry

SECONDARY MARKET (include level— graduate-level textbook, professional, reference—as well as job titles of prospective readers):

Industry experts in the fields of power generation, new materials synthesis, waste treatment, coal gasification, clean energy, pollution control, hydrogen production, coating, metallurgy, nano-powder production, aerospace propulsion,

What do you believe is the overall size of the market for this title in terms of relevant institutes and practitioners (estimate to the extent possible)?

From 1,000 to 2,000

If applicable, please estimate if possible the level of funding connected to research in the area of your proposed book.

Hundreds of million US dollars

15. Indicate any societies, professional organizations, companies or other groups that might purchase your book in quantity, or key contacts that could help us to promote the book:

INDUSTRY: Power generation, aerospace, waste management, coal processing, steel, microelectronics, new materials, nano-powders, fuel, chemical engineering, pollution control, hydrogen production, food storage, etc.

GOVERNMENT: DOD, DOE, EPA, FDA,

SOCIETIES:

OTHER ORGANIZATIONS

16. List key journals and their publishers in this area:

IEEE Transactions on Plasma Science, Special Issue on Plasma Assisted Combustion (institute of Electrical and Electronic Engineers) – both guest editors are the book coauthors. Combustion and Flame (

17. List key meetings/conferences in this area:

International Workshop and Exhibition on Plasma Assisted Combustion

(<http://www.plasmacombustion.com/iwepac.html>) - I am a conference chair

AIAA Annual Aerospace Meeting and Conference

## Competition

18. Please list in order of importance any books that compete directly with or are similar to your book. Please supply (if possible) author/editor, publisher, publication date/year, price and any further information you feel is relevant (use separate sheet, if necessary):

a) Plasma Physics and Engineering, Fridman, Alexander A.; Kennedy, Lawrence A., 2004  
**Publisher:** Taylor & Francis Routledge., \$ 170-200.

b) Plasma Chemistry, Alexander Fridman, Drexel University, Philadelphia  
Publisher: Cambridge University Press

([http://www.cambridge.org/gb/knowledge/isbn/item1172500/?site\\_locale=en\\_GB](http://www.cambridge.org/gb/knowledge/isbn/item1172500/?site_locale=en_GB) )

ISBN: 9780521847353

Publication date: July 2008

In stock, £95.00

**Please note: if you are inclined to answer “none” to this question,** please tell us where your intended audience currently gets information about this topic...e.g., conferences, tutorials, journal articles, web forums, etc...please be as specific as you can.

International Workshop and Exhibition on Plasma Assisted Combustion

(<http://www.plasmacombustion.com/iwepac.html> ) - I am a conference chair

IEEE Transactions on Plasma Science, Special issue on Plasma Assisted Combustion – both guest editors are the book coauthors

AIAA Annual Aerospace Meeting and Conference

19. Outline in what ways your book is better than and differs from the competitors mentioned in Section 18:

As the first book in a new field, it will be written by internationally-recognized scientists and include plasma fundamentals, a wide variety of plasma source development for PAC, and practical results related to the engineering and commercialization of real PAC technologies , including ignition, combustion, and gasification.
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## OTHER

20. Please attach a recent copy of your CV.

See attached

21. Please list several people (including affiliations and email addresses if available) whose comments on your proposal you would value. These comments are important for our internal evaluation of your proposal. The more people you can suggest, the better, since not everybody we approach will take on the task and, sadly, not everyone who agrees to take on the task will complete the effort in a timely manner. Ideally, we like to use a mix of reviewers from both academia and industry, assuming your book has an audience in both communities; also, we like to use a geographically diverse (globally) group of reviewers as well, again assuming that your book's audience is spread

globally.

Prof. Homero Maciel, Institute of Aerospace Technologies, Brazil, e-mail: [homero@ita.br](mailto:homero@ita.br)

Prof. Heon-Ju Lee, Cheju National University, South Korea, e-mail: [hjlee@cheju.ac.kr](mailto:hjlee@cheju.ac.kr)

Prof. Edbertho Leal, University of South California, e-mail: [edbertho@gmail.com](mailto:edbertho@gmail.com)

Prof. Mark Cappelli, Stanford University, e-mail: [cap@stanford.edu](mailto:cap@stanford.edu)

Prof. Monika Auweter-Kurtz, German Aerospace Academy, Stuttgart University, e-mail: [m.auweter-kurtz@german-asa.de](mailto:m.auweter-kurtz@german-asa.de)

Prof. Dominique Thevenin, University of Magdeburg, e-mail: [thevenin@ovgu.de](mailto:thevenin@ovgu.de)

Prof. Vladimir Bychkov, Moscow State University, e-mail: [bychvl@orc.ru](mailto:bychvl@orc.ru)