



## **Criteriaul I – Output 2264.11 puncte**

### **1. Articole științifice publicate în reviste indexate ISI (cu menționare factorului de impact în cazul celor cotate)**

Nr. crt.	Detalii articol	FI ISI	Punctaj
1	<b>S.D.Anghel</b> , A.Simon and T.Frentiu <i>Characterization of a very low Ar CCP</i> <b>J.Anal.At.Spectrom</b> 20, 966-973, (2005).	3.64	<b>364</b>
2	A.Simon, <b>S.D.Anghel</b> , T.Frentiu and S.Simon <i>Investigation of a medium power rf CCP and its application to high-temperature superconductor analysis via AES</i> <b>J.Anal.At.Spectrom</b> 20, 957-965 (2005).	3.64	<b>273</b>
3	<b>S D Anghel</b> and A Simon <i>Measurement of electrical characteristics of atmospheric pressure non-thermal He plasma</i> <b>Meas. Sci. Technol.</b> 18, 2642-2648 (2007).	1.297	<b>194.55</b>
4	<b>S D Anghel</b> and A Simon <i>An alternative source for generating atmospheric pressure non-thermal plasmas</i> <b>Plasma Sourc. Sci. and Technol.</b> 16, B1-B4 (2007).	2.346	<b>351.9</b>
5	A. Simon, <b>S.D. Anghel</b> and J. Pap <i>Optimum working parameters for plasma needle used for bacterial deactivation</i> <b>Journ. Optoe. Adv. Mater.</b> 10, 2077-2081 (2008).	1.107	<b>110.7</b>
6	<b>S. D. Anghel</b> , A. Simon and T. Frentiu <i>Spectroscopic investigations on low power atmospheric pressure capacitively coupled helium plasma</i> <b>Plasma Sourc. Sci. and Technol.</b> 17 (2008) 045016.	2.685	<b>268.5</b>
7	<b>S. D. Anghel</b> , A. Simon, A. I. Radu and I. J. Hidi <i>Spectroscopic Characterisation of a Cross-Flow Plasma Jet</i> <b>Nucl. Instr. and Methods in Phys. Research Sect. B: Beam Interactions with Materials and Atoms</b> , B 267 (2009) 430-433; doi:10.1016/j.nimb.2008.10.026.	1.00	<b>75</b>
8	A. Simon, <b>S.D. Anghel</b> , M. Papiu and O. Dinu <i>Diagnostics and Active Species Formation in an Atmospheric pressure Helium Sterilization Plasma Source</i> <b>Nucl. Instr. and Methods in Phys. Research Sect. B: Beam Interactions with Materials and Atoms</b> B 267(2009) 438-441; doi: 10.1016/j.nimb.2008.10.028.	1.00	<b>75</b>
9	<b>S.D. Anghel</b> , A. Simon, A.I Radu and I.J Hidi <i>Low power cross-flow atmospheric pressure Ar+He plasma jet. Spectroscopic diagnostic and excitation capabilities</i> <b>Spectrochim. Acta Part B</b> , doi:10.1016/j.sab.2010.01.005	2.853	<b>213.98</b>
10	A. Simon, <b>S.D. Anghel</b> , M. Papiu and O. Dinu <i>Physical and analytical characteristics of an atmospheric pressure argon-helium radiofrequency capacitively coupled plasma</i> <b>Spectrochimica Acta Part B</b> , doi: 10.1016/j.sab.2010.02.002	2.853	<b>213.98</b>
11	<b>S.D. Anghel</b> and A. Simon <i>Preliminary investigations of a very low power atmospheric pressure Helium plasma,</i> <b>Roum. Journ. Phys.</b> 55, 2010	0.33	<b>49.33</b>
<b>TOTAL</b>			<b>2190.11</b>

### **2. Articole științifice publicate în ISI proceedings**

Nr. crt.	Detalii articol	Punctaj
1	<b>S.D.Anghel</b> and A.Simon: <i>Electrical and thermal characterization of a very low power atmospheric pressure plasma</i> , Proceedings of 28 <sup>th</sup> ICPIG Prague 2007, pp.877-880, ISBN 987-80-87026-01-04.	<b>10p</b>
2	A.Simon, <b>S.D.Anghel</b> and J. Papp: <i>Operating stability diagram for the plasma needle used as deactivation agent for E. Coli bacteria</i> , Proceedings of 28 <sup>th</sup> ICPIG Prague 2007, pp.2063-2066, ISBN 987-80-87026-01-04.	<b>6.67p</b>
<b>TOTAL</b>		<b>16.67</b>

### **3. Articole științifice indexate în BDI (din lista CNCSIS) și în reviste românești recunoscute de CNCSIS tip B și B<sup>+</sup>**

Nr. crt.	Detalii articol	Punctaj
1	<b>S.D.Anghel</b> , A.Simon and E.Hainal-Filla <i>Preliminary Studies on the Plasma Needle</i> <b>Studia Univ."Babes-Bolyai" Cluj, Physica</b> , L, nr.2, 51-56 (2005).	<b>3.33</b>
2	A.Simon, <b>S.D.Anghel</b> , I. G. Deac, T.Frentiu, G.Borodi and S. Simon <i>Effect of annealing time on <math>Bi_{1.6}Pb_{0.4}Sr_{1.6}Ca_{2.0}Cu_{2.8}O_x</math> system</i> <b>Studia Univ."Babes-Bolyai" Cluj, Physica</b> , L, nr.2, 93-98 (2005).	<b>1.67</b>
3	A. Simon and <b>S.D. Anghel</b> <i>Operating Stability Diagram for the Plasma Needle</i> <b>Studia Univ."Babes-Bolyai" Cluj, Physica</b> , LI, nr.2, 27-33 (2006).	<b>5.00</b>
4	<b>S.D. Anghel</b> , T. Frentiu and A. Simon <i>Atmospheric Pressure Plasmas in Resonant Circuits</i> The Open Plasma Phys. Journ. 2, 8-16 (2009).	<b>3.33</b>
	<b>TOTAL</b>	<b>13.33</b>

## 6. Cărți științifice publicate în edituri naționale acreditate

**S.D.Anghel**

*Bazele electronicii analogice și digitale*

Ed. Presa Universitară Clujeană, Cluj-Napoca 2007. (220 pagini)

**44p**

## **Criteriul II – Prestigiu profesional 543.38 puncte**

### **1. Citări ale articolelor ISI listate la Criteriul I 120 puncte**

Title: **Measurement of electrical characteristics of atmospheric pressure non-thermal He plasma**

Author(s): **Anghel, SD** and Simon A

Source: **MEASUREMENT SCIENCE & TECHNOLOGY** Volume: 18 Issue: 8 Pages: 2642-2648 Published: AUG 2007

**FI ISI 1.297**

**4 citări**

**40 p**

Title: **Characterization of Atmospheric Pressure Microplasma Jet Source and its Application to Bacterial Inactivation**

Author(s): Kim SJ, Chung TH, Bae SH, et al. Source: **PLASMA PROCESSES AND POLYMERS** Volume: 6 Issue: 10 Pages: 676-685 Published: **OCT 14 2009**

Title: **Handheld Flyback driven coaxial dielectric barrier discharge: Development and characterization**

Author(s): Law VJ, Milosavljevic V, O'Connor N, et al. Source: **REVIEW OF SCIENTIFIC INSTRUMENTS** Volume: 79 Issue: 9 Article Number: 094707 Published: **SEP 2008**

Title: **Radio Frequency metrology for mobile atmospheric pressure plasma devices**

Author(s): Law VJ, O'Connor N, Daniels S Conference Information: Progress in Electromagnetics Research Symposium (PIERS 2008), JUL 02-06, 2008 Cambridge, MA Source: **PIERS 2008 CAMBRIDGE, PROCEEDINGS** Book Series: **Progress in Electromagnetics Research Symposium** Pages: 27-31 Published: **2008**

Citat pe Site-ul companiei americane **Surfx®Technologies LLC** printre cele 144 de articole relevante în domeniu în perioada 1998-2009. Producția companiei se bazează exclusiv pe patente ale căror licențe sunt deținute de către University of California, Los Angeles (**UCLA**).

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Title: **An alternative source for generating atmospheric pressure non-thermal plasmas**

Author(s): **Anghel, SD** and Simon A

Source: **PLASMA SOURCES SCIENCE & TECHNOLOGY** Volume: 16 Issue: 3 Pages: B1-B4 Published: AUG 2007

**FI ISI 2.346**

**4 citări**

**40p**

Title: **An Atmospheric-Pressure Helium Plasma Jet Induced by an Atmospheric-Pressure Argon Plasma Discharge in a Single-Electrode Configuration**

Author(s): Li SZ, Huang WT, Wang DZ Source: **IEEE TRANSACTIONS ON PLASMA SCIENCE** Volume: 37 Issue: 9 Pages: 1825-1829 Part: **Part 2** Published: **SEP 2009**

Title: **Characterization of a capillary dielectric barrier plasma jet for use as a soft ionization source by optical emission and ion mobility spectrometry**

Author(s): Olenici-Craciunescu SB, Michels A, Meyer C, Heming R, Tombrink S, Vautz W, Franzke J Source: **SPECTROCHIMICA ACTA PART B** 64 (2009) 1253-1258 Volume: 64 Pages: 1253-1258, Published: **2009**

Title: **Preliminary study on applications of an atmospheric-pressure argon plasma discharge with a single-electrode configuration**

Author(s): Huang, W.-T., Li, S.-Z.

Source: **2010 IEEE Transactions on Plasma Science** 38 (2), art. no. 5371865, pp. 121-126

Title: **Optical emission spectroscopy diagnostics of an atmospheric pressure direct current microplasma jet**

Author(s): Sismanoglu, B.N., Amorim, J., Souza-Corrêa, J.A., Oliveira, C., Gomes, M.P.

Source: **2009 Spectrochimica Acta - Part B Atomic Spectroscopy** 64 (11-12), pp. 1287-1293

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Title: **Spectroscopic investigations on low power atmospheric pressure capacitively coupled helium plasma**

Author(s): **S. D. Anghel**, A. Simon and T. Frentiu

**Plasma Sourc. Sci. and Technol.** 17 (2008) 045016.

**FI ISI 2.685**

**o citare**

**10p**

Citat pe Site-ul companiei americane **Surfx®Technologies LLC** printre cele 144 de articole relevante în domeniu în perioada 1998-2009. Producția companiei se bazează exclusiv pe patente ale căror licențe sunt deținute de către University of California, Los Angeles (**UCLA**).

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Title: **Characterization of a very low power argon CCP**

Author(s): **Anghel, SD**, Simon, A and Frentiu, T  
Source: **JOURNAL OF ANALYTICAL ATOMIC SPECTROMETRY** Volume: 20 Issue: 9 Pages: 966-973 Published: 2005

**FI ISI 3.64**

**2 citări**

**20p**

Title: [Atomic spectrometry update. Advances in atomic emission, absorption and fluorescence spectrometry, and related techniques](#)

Author(s): Evans EH, Day JA, Palmer C, et al.

Source: **JOURNAL OF ANALYTICAL ATOMIC SPECTROMETRY** Volume: 21 Issue: 6 Pages: 592-625

Published: **JUN 2006**

Title: [Atomic spectroscopy](#)

Author(s): Bings NH, Bogaerts A, Broekaert JAC

Source: **ANALYTICAL CHEMISTRY** Volume: 78 Issue: 12 Pages: 3917-3945 Published: **JUN 15 2006**

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Title: [Investigation of a medium power radiofrequency capacitively coupled plasma and its application to high-temperature superconductor analysis via atomic emission spectrometry](#)

Author(s): Simon, A, **Anghel, SD**, Frentiu, T and Simon, S

Source: **JOURNAL OF ANALYTICAL ATOMIC SPECTROMETRY** Volume: 20 Issue: 9 Pages: 957-965 Published: 2005

**FI ISI 3.64**

**0 citare**

**10 p**

Title: [Atomic spectrometry update. Advances in atomic emission, absorption and fluorescence spectrometry, and related techniques](#)

Author(s): Evans EH, Day JA, Palmer C, et al. Source: **JOURNAL OF ANALYTICAL ATOMIC**

**SPECTROMETRY** Volume: 21 Issue: 6 Pages: 592-625 Published: **JUN 2006**

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## 2. Alte citări ale lucrărilor listate mai sus

### 3. Citări în perioada 2005-2009 ale articolelor anterioare anului 2005

**100 puncte**

Title: [Investigation of medium power radiofrequency capacitively coupled plasmas and their application to atomic emission spectrometry for the determination of aluminium in water samples](#)

Author(s): Frentiu, T, Ponta, M, **Anghel, SD**, Simon, A, Incze, AM and Cordos, EA

Source: **MICROCHIMICA ACTA** Volume: 147 Issue: 1-2 Pages: 93-103 Published: JUN 2004

**FI ISI 0.851**

**4 citări**

**40p**

Title: [Validated flow-injection method for rapid aluminium determination in anti-perspirants](#)

Author(s): Lopez-Gonzalvez A, Ruiz MA, Barbas C Conference Information: 12th Meeting on Recent

Developments in Pharmaceutical Analysis (RDPA 2007), SEP 23-26, 2007 Elba, ITALY Source: **JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL ANALYSIS** Volume: 48 Issue: 2 Special Issue: **Sp. Iss. SI** Pages: 340-346 Published: **SEP 29 2008**

Title: [Atomic spectroscopy](#)

Author(s): Bings NH, Bogaerts A, Broekaert JAC Source: **ANALYTICAL CHEMISTRY** Volume: 78 Issue: 12

Pages: 3917-3945 Published: **JUN 15 2006**

Title: [Atomic spectrometry update. Environmental analysis](#)

Author(s): Butler OT, Cook JM, Harrington CF, et al. Source: **JOURNAL OF ANALYTICAL ATOMIC**

**SPECTROMETRY** Volume: 21 Issue: 2 Pages: 217-243 Published: **FEB 2006**

Title: [Atomic spectrometry update. Advances in atomic emission, absorption and fluorescence spectrometry, and related techniques](#)

Author(s): E. H. Evans, J.A. Day, C.D. Palmer, W.J. Price, C.M. M. Smith and J.F. Tyson, Source: **J. Anal. At.**

**Spectrom.** 20, 562 - 590, DOI: 10.1039/b505062f 2005

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Title: [Characterization of a very low power argon CCP](#)

Author(s): **Anghel, SD**

Source: **IEEE TRANSACTIONS ON PLASMA SCIENCE**, 30, 660 (2002).

**FI ISI 1.227**

**0 citare**

**10p**

Title: [Development of novel potential of plasma polymerization techniques for surface modification](#)

Author: T. P. Kasih

Doctor thesis, Graduate School of Engineering Gunma University, India 2007

Title: [Remote AP-PECVD of Silicon Dioxide Films from Hexamethyldisiloxane](#)  
Authors: S. E. Alexandrov , N. McSporry , M. L. Hitchman  
Source: **Chemical Vapor Deposition**, Vol. 11, Issue 11-12, **48 –490**, 2005.

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Title: [Cadmium determination in sedimented dust by atomic emission spectrometry with a new radiofrequency capacitively coupled plasma source](#)

Author(s): Frentiu, T, Ponta, M, Rusu, A, **Anghel, SD**, Simon, A and Cordos EA  
Source: **ANALYTICAL LETTERS** Volume: 33 Issue: 2 Pages: 323-335 Published: 2000

**FI ISI 0.968**

**o citare**

**10p**

Title: [Cd\(II\) PVC-Based membrane sensor based on N '-\[1-\(2- furyl\)methylidene\]-2-furohidrazide](#)  
Author(s): Zamani HA, Ganjali MR, Adib M Source: **SENSOR LETTERS** Volume: 4 Issue: 4 Pages: **345-350**  
Published: **DEC 2006**

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Title: [Atmospheric pressure capacitively coupled plasma source for the direct analysis of non-conductive solid samples](#)

Author(s): **Anghel, SD**, Cordos, EA, Frentiu, T, Popescu, A and Simon A  
Source: **JOURNAL OF ANALYTICAL ATOMIC SPECTROMETRY** Volume: 14 Issue: 4 Pages: 541-545 Published: APR 1999

**FI ISI 3.677**

**4 citări**

**40p**

Title: [Electrical generators driving microhollow and dielectric barrier discharges applied for analytical chemistry](#)  
Author(s): Heming R, Michels A, Olenici SB, et al. Source: **ANALYTICAL AND BIOANALYTICAL CHEMISTRY**  
Volume: **395** Issue: 3 Pages: **611-618** Published: **OCT 2009**

Title: [Spectroscopic characterization of a microplasma used as ionization source for ion mobility spectrometry](#)  
Author(s): Michels A, Tombrink S, Vautz W, et al. Source: **SPECTROCHIMICA ACTA PART B-ATOMIC SPECTROSCOPY**  
Volume: **62** Issue: **11** Pages: **1208-1215** Published: **NOV 2007**

Title: [Computer simulations of a dielectric barrier discharge used for analytical spectrometry](#)  
Author(s): Martens T, Bogaerts A, Brok W, et al. Source: **ANALYTICAL AND BIOANALYTICAL CHEMISTRY**  
Volume: **388** Issue: 8 Pages: **1583-1594** Published: **AUG 2007**

Title: [Modeling Surface Discharge Effects of Atmospheric RF on Gas Flow Control](#)  
Author(s): S.Roy and D.V.Gaitonde, Source: **43<sup>rd</sup> AIAA Aerospace Sciences Meeting and Exhibit**, 10-13 Jan **2005**, Reno, Nevada, USA

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#### **4. Distincții, premii și alte recunoașteri naționale și internaționale**

Lucrarea: **S D Anghel** and A Simon, *An alternative source for generating atmospheric pressure non-thermal plasmas*, **Plasma Sourc. Sci. and Technol.** 16, B1-B4 (2007), **ISI: 2.12**  
a fost clasificată de către editor **printre cele mai vizibile 10 lucrări publicate in 2007 in revista menționată** (<http://herald.iop.org/pssthlights/m39/kaa/264635/link/1305>).

**10p**

**Chairman** la Secțiunea *Plasma Spectroscopy, Colloquium Spectroscopicum Internationale XXXVI*, 30 Aug-3 Sept, Budapesta 2009 (372 de participanți de pe toate continentele).

**10p**

#### **5. Studenți naționali atrași (activități de coordonare științifică și didactică)**

- Îndrumare lucrări de licență (număr lucrări susținute) – **9** **27p**
- Îndrumare lucrări de disertație (număr lucrări susținute) – **1** **4p**
- Doctoranzi (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute)

1. TUDORAN CRISTIAN DANIEL

**6p**

- Post-doctoranzi (lista nominală)

#### **6. Studenți internaționali atrași (activități de coordonare științifică și didactică)**

#### **8. Membru in comitetul de redacție la reviste BDI**

5p

**10. Participări la programe/granturi finanțate din sursă națională (se menționează și valoarea)**

1. *Studiul mecanismelor de generare a plasmei non-termice și al influența ei asupra unor compuși biologici*

Grant Academia Romana, 2007-2008

Valoare: **7200 RON**

0.72p

2. *Investigarea și caracterizarea plasmelor nontermice generate la presiune atmosferică cu aplicații în tratamentul unor materiale termosensibile. Studiu comparativ pe patru domenii de frecvență.*

Grant ID\_CNCSIS, 2009-2011

Valoare: 954155 RON

95.42p

3. *Reducerea emisiilor de gaze cu efect de sera folosind catalizatori metalici suportati. Tehnologie de obtinere, preparare si caracterizare fizico-chimica - REGES*

Proiect PNCDI II 22-098/2008

Valoare: **200000 RON**

20p

4. *Materiale magnetice nanocompozite intarite prin schimb-NANOMAT*

Proiect PNCDI II 72-186/2008

Valoare: **580000 RON**

58p

5. *Tehnologia de obtinere, caracterizarea structurala si electronica a catalizatorilor metalici suportati cu aplicatii directe in protectia mediului - TOCSEM*

Proiect PNCDI II 32-119/2008

Valoare: **200000 RON**

20p

**12. Coordonări de programe/granturi finanțate din sursă națională (se menționează și valoarea)**

1. *Studiul mecanismelor de generare a plasmei non-termice și al influența ei asupra unor compuși biologici*

Grant Academia Romana, 2007-2008

Valoare: **7200 RON**

**DIRECTOR**

1.9p

2. *Investigarea și caracterizarea plasmelor nontermice generate la presiune atmosferică cu aplicații în tratamentul unor materiale termosensibile. Studiu comparativ pe patru domenii de frecvență.*

Grant ID\_CNCSIS, 2009-2011

Valoare: **954155 RON** (din care intrat in UBB – 81400RON)

**DIRECTOR**

20.34p

**14. Membru în comisii profesionale relevante, cu titlu oficial**

*O comisie de doctorat la UAIC Iași (drd.Ionuț Topală)*

5p

**16. Membru în comitete de organizare sau științifice ale unor conferințe internaționale**

XIII<sup>th</sup> *Conference on Plasma Physics and Applications*, Iasi 2005

20p

XIV<sup>th</sup> *Conference on Plasma Physics and Applications*, Brasov 2007

20p

### III. Realizare remarcabilă

Consider că cea mai importantă realizare științifică personală din ultimii 5 ani este proiectarea și realizarea unui generator de plasmă non-termică de He sau He+Ar la presiune atmosferică pentru tratamente neconvenționale ale unor materiale termosensibile. Detaliile privind construcția, principiul de funcționare precum și modelarea electrică a dispozitivului pe baza căreia se poate face o diagnosticare a plasmiei au fost publicate în articolele [3,4] menționate la Criteriul I. De altfel, unul dintre ele, [4], a fost nominalizat printre cele mai vizibile 10 articole publicate în anul 2007 în *Plasma Sources Science and Technology* (factor de impact ISI `2.346). Extrasele din câteva mail-uri prezentate mai jos vin în sprijinul celor afirmate.

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1. From: "Caroline Wilkinson" <psst@iop.org> Subject: Plasma Sources Science and Technology highlights of 2007 Date: Wed, January 30, 2008 2:30 pm To: anghels@phys.ubbcluj.ro

Dear Dr Anghel

I am delighted to let you know that your paper '*An alternative source for generating atmospheric pressure non-thermal plasmas*' has been selected as a **highlight of those articles published in *Plasma Sources Science and Technology in 2007***. A special collection of 'highlight' articles has been created at ..... The articles included in this collection have received outstanding reports from referees during the review process or been among the most popular articles downloaded from the journal website in 2007. All 10 articles will be free to access until 31 December 2008, providing widespread visibility for your work.

Thank you for your support of Plasma Sources Science and Technology, we look forward to working with you again soon.

Congratulations and best wishes

Caroline Wilkinson, Publishing Editor on behalf of Mark Kushner, Editor-in-Chief Plasma Sources Science and Technology

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2. From: "Alberts, Lukas" <lukas.alberts@ict.fraunhofer.de> Subject:  $\mu$ -Plasma Torch Date: Fri, August 10, 2007 10:52 am To: anghels@phys.ubbcluj.ro

Dear Mr Anghel,

I read with attention your Paper in Plasma Sources Sci. Technol. 16 (2007) B1-B4, *An alternative source for generating atmospheric pressure non-thermal plasmas*. We would like to fabricate such a device. .... could you tell us how to make them? The glas nozzle and the inside electrode parts seem to be well optimised. How easy is it to make them? I am making a microwave driven  $\mu$ -Torch, but that is not really ready. It is much more hot than your device.

Thank You very much.

Dr. Lukas Alberts

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3. From: "barnard Onyenucheya" <bno35@gmail.com> Subject: Plasma Date: Thu, June 26, 2008 8:22 pm To: anghels@phys.ubbcluj.ro

Dear Prof. Anghel

I would like to thank you for your help and assistance in building the Plasma Needle. As of today's date we were able to construct and produce the plasma. I greatly thank you for the time you set aside to respond to my emails. If you have any questions please let me know.

Thank You,

Barnard

University at Buffalo  
The State University of New York

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Data: 15 martie 2010

Semnătura:

**Certific validitatea datelor prezentate**

Sef de catedră,

Prof.univ.dr Simion SIMON

