CURRICULUM VITAE

1. Full name and date:

Name: SIVONEN, ANNA KAARINA

Gender: Female

Date of writing the CV: 2.11.2015

2. Date and place of birth, nationality, current residence

Date and place of birth: August 23, 1954, Kiuruvesi, Finland,

Citizenship: Citizen of Finland

Office address: Department of Food and Environmental Sciences, Division of Microbiology and Biotechnology, P.O.Box 56, Viikki Biocenter, Viikinkaari 9, FIN-00014 University of Helsinki,

FINLAND; Phone: +358-2-941 59270; E-mail: kaarina.sivonen@helsinki.fi

3. Education and degrees awarded:

Docent (adjunct professorships) in Microbiology at the University of Helsinki
Doctoral dissertation in Microbiology approved by the University of Helsinki, Faculty of
Agriculture and Forestry. Title "Toxic cyanobacteria in the Finnish freshwater and the Baltic Sea"
1974-1982 M.Sc. degree. University of Helsinki, Faculty of Agriculture and Forestry, Laudatur from
the Master thesis (environmental conservation, microbiology, limnology, chemistry, biochemistry).

4. Linguistic skills:

Mother tongue: Finnish; Other languages: English (fluent), Swedish, German

5. Current position: Full Professor in Microbiology at the University of Helsinki (started 1.8.2010, nomination in 2009 - permanent) – Mikrobiologian professori, Level 4

6. Previous work experience:

1.8. 2000 -31.7. 2010 Academy Professor (two 5 year periods), Akatemiaprofessori

Nomination in 2007 Professor in Limnology, University of Helsinki, Limnologian professori
Nomination 1.8.2004 - 1.5.2007 Lecturer in Microbiology, University of Helsinki, Yliopistonlehtori
1997-2000 Senior Scientist of the Academy of Finland, Project Leader, 1.8.1997-31.7.2000
1996-1997 Research Scientist, Project Leader, University of Helsinki, 1.8.1996-31.7.1997

1994 Acting Assistant Professor at the University of Helsinki, Department of Applied

Chemistry and Microbiology, Division of Microbiology. 02.-03.1994.

1990-1996 Research Scientist of the Academy of Finland (Project leader), 1.8.1990-

31.07.1996. Suomen Akatemian nuorempi tutkija

1986-1990 Research Assistant of the Academy of Finland. 1.8.1986-31.7.-90. Suomen

Akatemian tutkimusassistentti

1984-1986 Research scholarship from the University of Helsinki. Helsingin yliopiston nuoten

tutkijain apuraha, 1.9.1984 - 31.7.1986

1982 and 1983 Teaching courses at the Department of Microbiology. Exercises.

1982-1984 Research Assistant, Department of Microbiology, Univ. of Helsinki (project:

Cyanobacterial biotechnology).

1977-1980 and 1983 Technical assistant/course teacher, Dept. of Limnology, University of Helsinki

Long-term visits abroad:

1991-1992 Visiting Research Associate at the University of Chicago, Department of Molecular

Genetics and Cell Biology, Chicago, Illinois, USA. 17.7.1991-31.12.1992.

1990-1991 Visiting Scientist at Wright State University. Department of Biological Sciences,

Dayton, Ohio, USA. 15.11.1990-15.07.1991.

1988 Visiting Scientist at Wright State University, Department of Biological Sciences,

Dayton, Ohio, USA. 10.05.-12.09.1988.

1979-1980 Scholarship, Hungarian-Finnish Cultural Exchange program, (from the Ministry of

Education), Eötvös Lorand Univ., Dept. of Microbiology, Budapest, Hungary.

15.10.1979-15.04.1980.



7. Research funding as well as leadership and supervision:

Major research funding in recent years, K. Sivonen as PI:

Receiver of the most competed funding in Finland: Academy professorship twice 2000-2005 and 2005-2010, Center of Excellence Status once from the University of Helsinki (1994-1999), twice from the Academy of Finland for years 2002-2007 and 2008-2013. International funding: participant in 11 EU-Projects.

- * The Academy of Finland, Research Center of Excellence status, 2002-2007.
- * The Academy of Finland, RCBER, grant of the academy professors 2005-2010.
- * The Academy of Finland, Research Center of Excellence status, 2008-2013 (Our share total of 1 636750 €includes 12 % overhead).
- * The Academy of Finland, research grant titled "Novel bioactive compounds from cyanobacteria: structures, biosynthesis and mechanisms of action", 2012-2016 (Total of 660785 €includes 112 % overhead).
- * EU- Life Sciences and Health, partner, PROKINASE 2004-2009 (Total of 789720 €includes 20% overhead).
- * Waterchip-TEKES (the Finnish Funding Agency for Technology and Innovation) project titled "Low-cost, fast, miniaturised solutions for water quality assessment", 2011-2013 (TEKES share 60% = 117876 €).
- * ERA-IB 6th EU Framework Programme MESIAB "Multi enzyme systems involved in astin biosynthesis and their use in heterologous astin production" (Funding from TEKES), 2011-2014 (TEKES share 70% = 298000 €).
- * Joint Academy and Brazilian FASEP project to prof. K. Sivonen (273798) for years 2014-2017 (Total of 556384 €includes 128 % overhead).
- * BONUS project BLUEPRINT "Biological lenses using gene prints", 2014-2017 (funded by Academy of Finland and EU) (Total of 169686 €includes 20 % overhead).
- * BLUE&GREEN, Horizon2020 EU- twining project, 2016-2018 (Total of 119158 € 25 % overhead). In last 5 years (2011 onwards) I have obtained grants amounting total of 2.804 889 € (average of 560 000/year) including overheads. Total amount of grants to be utilized on actual research is 1.568 853 €(no overheads included).

<u>Leadership in research work:</u>

Independent P.I. since 1990; 2002-2007 Director of the National Research Center of Excellence "Microbial resources" (selected by the Academy of Finland); 2008- 2013Vice director of the National Research Center of Excellence "Integrated photosynthesis, bioactive compound and biohydrogen research" (selected by the Academy of Finland)

<u>Supervision of post-doc researchers:</u> Total of 14, KS as responsible supervisor in all: Chantal Vezie (French), 1997 - 1998, 16 mo; Sari Repka, 1999 - 2003, 58 mo; Jaana Lehtimäki, 2000 - 2003, 24 mo; Kaisa Haukka, 1997 - 2005, 72 mo, Berit Siemer (Danish), 1999 - 2000, 20 mo; Anja Lampio, 2000-2002, 34 mo; Vesa Harjunpää, 2000 - 2001, 10 mo; Christina Lyra, 2002-2006, 44 mo; Leo Rouhiainen, 2004 – 2010, 72 mo; David Fewer, 2001 – presently as independent P.I.; Jouni Jokela, 2002 – presently as senior researcher; Anne Rantala (Ylinen), 2007 – 2013 (senior researcher); Teppo Hiltunen, 2011 – present; Kaisa Haukka, 2012 – 2013 (senior scientist).

Theses supervised:

Supervisor/cosupervisor of 19 completed PhD theses: (J. Rapala, J. Lehtimäki, M. Laamanen, C. Lyra, I. Oksanen, L. Rouhiainen, P. Wacklin, J. Vaitomaa, A. Rantala, K. Halinen, K. Berg, N. Leikoski, H. Sinkko, H. Wang, L. Liu, T. Shishido, S. Suurnäkki and two for foreign universities (M. Gugger, S. Gkelis), a licenciate thesis (M. Färdig).

Supervisor/cosupervisor of 30 Master's theses (J. Lehtimäki, J. Rapala, L. Räsänen, P. Lehtinen, M. Koivula, J. Kukkonen, K. Halinen, L. Sihvonen, K. J. Laakso, K. Koskenniemi, E. Eronen, N. Lehtonen, M. Köykkä, H. Hirvonen, K. Rantasärkkä, U. Kaasalainen, H. Wang, A. Quesada, J. Vestola, S. Känä, S. Narayanasamy, G. V. Gómez Sáez, S. Jäppinen, J. Teikari, C.-T. Kumer, E. Paukku, S. Suominen, P. Alakoski, A. Humisto, J. Cairns).

8. Merits in teaching and pedagogical competence:

I am responsible for organizing both undergraduate (major teaching responsibilities currently "Microbial structure and function" lecture course for 175 students, master theses and candidate theses evaluation, final examinations) and graduate student courses (total of 18 Ph D courses organized in various topics including several international courses over the years) as a professor in microbiology and board member of the graduate programs. I will give annually about 1215 credit points for the students (includes bot undergraduate and graduate students). I also have formal pedagogical education at the Helsinki

University (5 ECTS) as well as leadership. About 6 master and 6 Ph D student graduate thru my involvement as responsible teacher.

Distinctions received by PhD and Master students supervised/co-supervised by K. Sivonen:

- * Rector of Helsinki University awarded the Great Ph.D. Thesis Award to Ilona Oksanen in 2004 and in 2008 to Anne Rantala for their Ph D theses.
- * Jaana Lehtimäki was selected in 2001 by Finnish Environmental Science Society as the Recipient of the Best Thesis Price in Finland for her thesis.
- * Grading Committees (external evaluators) rated the Ph.D. theses of Jaana Lehtimäki, Ilona Oksanen, Leo Rouhiainen, Anne Rantala, Niina Leikoski and Tania Shishido with the highest possible grade, "Approved with distinction".
- * The undergraduate students (18 out of 30) Kati Laakso (2004), Kerttu Koskenniemi (2005), Eeva Eronen (2007), Niina Lehtonen (2007), Miikka Köykkä (2007), Hao Wang (2008), Ulla Kaasalainen (2008), Alba Quesada (2010), Johanna Vestola (2011), Suvi Känä (2011) Shaman Narayanasamy (2012), Gonzalo V. Gómez Sáez (2012 awarded), Clara-Teresia Kumer (2013), Eeva Paukku (2013), Saara Suominen (2014) and Pirita Alakoski (2014), Anu Humisto (2014) and Johannes Cairns (2015) received the highest or second highest grade from their Master Degree theses. Kerttu Koskenniemi and Hao Wang received the best thesis in Biotechnology in the year 2005, 2008 awards from the Biotechnology Division of Finnish Chemical Society and Clara Teresia Kumer obtained the best thesis award in 2013 from the Faculty.

9. Awards, prizes and honours:

| 2000 - 2010 | Academy Professorship (the Academy of Finland, two 5 year periods) |
|-------------|---|
| 2001 | Science award from the Helsinki City for excellent research on cyanobacteria |
| 2002 | Elected member of the National Academy of Sciences and Letters (Biosciences) |
| 2002 - 2007 | Director of the National Research Center of Excellence "Microbial resources" |
| | (selected by the Academy of Finland) |
| 2008 - 2013 | Vice director of the National Research Center of Excellence "Integrated |
| | photosynthesis, bioactive compound and biohydrogen research" (selected by the |
| | Academy of Finland) |

Invited keynote speaker/invited oral presentations and lectures total of 53.

Invitations to chair sessions in the international conferences: 25.

10. Other academic merits:

Scientific expert positions:

Pre-examiner of 22 doctoral dissertations: S. Jansson, 1995, Stockholm University; A. Soitamo, 1997, University of Turku; M. Grahn, 1997, University of Helsinki; P. Hobson, 2001, Flinders University of South Australia; V. Sipiä, 2001, Åbo Academy University; M. Kaebernick, 2002, University of Sydney; K. Fergusson, 2003, Univ. of South Australia; M. Metsä-Ketälä, 2003, Univ. of Turku; C. Garnett, 2005, Univ. of Queensland; M. Herranen, 2005, Univ. of Turku; J. Oberholster, 2005, Univ. of Pretoria; P. Zhang, 2006, University of Turku; K. R. Conradie, 2008, North-West University; H. Juottonen, 2008, Univ. of Helsinki; J. Hultman, 2008 Univ. of Helsinki; S. Giglio, 2010, University of South Australia; J. Larsson, 2011, Univ. of Stockholm; M. Pitkäränta 2011, Univ. Helsinki; D. Carmel, 2011, Univ. of Turku, T. Oja, 2012, Univ. of Turku; A. Atanasova 2013, Univ. Helsinki; A.-M. Örmälä-Odegrip 2015, Univ. Helsinki.

Official opponent for 11 doctoral dissertations: C. Vezie, 1995, Univ. of Rennes; P. Henriksen, 1997, Univ. of Copenhagen; S. Lyck 2001, Univ. of Copenhagen; C. Engelke, 2001, Univ. of Aberdeen; C. Lugomela, 2002, Univ. of Stockholm; D. Papaefthimiou, 2007, Univ. of Stockholm; M. Paavelainen, 2008, Univ. of Helsinki; M. Hamisi, 2010, Univ. of Stockholm, H. E. Nonga 2011, Norwegian School of Veterinary Science, L. Giaramida 2013 Univ. of Aberdeen, R. Rahkila 2015, Univ. of Helsinki and a Licenciate thesis (Liang Ran, 2005, Stockholm University).

CUSTOS and Member of Evaluation Committees of 17 Ph D Students (excluding own students) in the University of Helsinki in years 2010-2015.

Examiner for 9 docent qualifications (K. Ylihonko, 1999, T. Tyystjärvi, 2004, Univ. of Turku; V. Sipiä, 2004, Univ. of Helsinki; E. Torvinen, 2008, Univ. of Kuopio; S. Suikkanen 2013, Univ. of Helsinki; M.

Metsä-Ketälä 2013, Univ. of Turku; R. Foster 2014, Univ. of Stockholm; Rauni Kivistö ja Elina Säde, 2015, Univ. of Helsinki).

Evaluator for the qualification for academic positions: Evaluator of group leader position at CNRS, France, 2005. Researcher position at University of California, Santa Cruz, 2005. External evaluator of adjunct Associate Professor in the Department of Life Sciences at Ben-Guron University, Israel 2005. Researcher position for the National Research Foundation, South Africa, in 2006, 2010, Evaluator for professorship 2007 Univ. of Tennessee, USA. Evaluator of professorship in microbial ecology, Univ. of Telemark (Høgskolen i Telemark), Norway 2011. Evaluator of full professorship, The University of Tromsø, Norway 2015. Examiner of foreign and national research grant applications annually. *Editorial board memberships and referee for scientific journals:*

* Regional editor of **Environmental Toxicology** (2002 --); Member of the editors of **International Journal of Microbiology** (2008 --): Member of the Editorial Board of **Applied and Environmental Microbiology** (2003 - 2014), **TOXICON** (started 1.10 2003--) **Frontiers in Aquatic Microbiology** (2010 --): Proceedings Editor of Phycologia 1996 "1st International Conference on Toxic Cyanobacteria"; **Referee for 40 Scientific Journals**.

Scientific positions of trust and administration:

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|----------------|---|
| 2014 – current | Council member of the Department of Food and Environmental Sciences |
| 2013 – current | Board member of the Doctoral Programme in Microbiology and Biotechnology |
| 2007 – current | Biocentrum Helsinki - Member of the steering committee |
| 2009 - current | Vice-director of VALUE nation-wide Graduate Program (will end 2015) |
| 2012 – current | Board member (MC) and vice leader of the WP1 of the European-wide COST action |
| | ES1105 "Cyanobacterial blooms and toxins in water resources: Occurrence, impacts and management" |
| 2010 - 2014 | Member of the national standardisation committee on water microbiological methods. |
| 2011 | Co-ordinator of MICRO-group (85 persons) in the Helsinki University Research |
| | Evaluation |
| 2003 - 2013 | Viikki Graduate Program in Biosciences – Member of the steering committee |
| 2007 - 2009 | Representative of Faculty of Agriculture and Forestry in collaboration committee of Helsinki University and Finnish Institute of Marine Research. |
| 1999 - 2004 | Member of the steering committee of Nordic Research Network (NorFa) |
| | "Cyanobacteria, toxins, water quality and health" |
| 1998 - 2003 | Member of the steering committee of the European Science Foundation program |
| | "CYANOFIX - Cyanobacterial nitrogen fixation" |
| 1996 - 2002 | Board Member of Societas Biochemica Biophysica et Microbiologica Fenniae |
| 1996 - 2000 | Coordinator of the Biocenter Viikki Research Program "Microbial ecology |
| | and -biotechnology" |

<u>Recent conference organization:</u> Organizer or member of organizing committee total of six since 2003. <u>Memberships in International Scientific Organisations:</u>

1996 --Member of the International Society of Toxicology; 2001-- Member of the American Society of Microbiology; 2005-- Member of International Society of Microbial Ecology

11. Scientific and societal impact of research:

Scientific papers in international refereed journals (published or in press): 195. In books and printed international conference proceedings with peer-review: 22. Finnish journals and books: 19. Popularisation of science (in Finnish): 16. Chairperson in international meetings: 25. Invited lectures in international conferences, foreign universities and research institutes: 53. Contributed papers in international meetings: 79. Two Finnish patent applications filed in May 2003. One patent continued in Europe [EP1629114 (A2)] and USA, US patent no. 20070059699. One pre-patent application filed May 2006. Date of International patent publication 06.12.2007, PTC/FI2007/050312.

K. Sivonen in Web of Science (2.11.2015 - all databases): H-index 53, sum of times cited 8610 (excluding self-citations 7620), average citations per item 40. K. Sivonen is the first in Web of Sci authors list with a key word "cyanobacteria" (appr. 59 119 entries).

Helsinki 2.11.2015 Kaarina Sivonen