

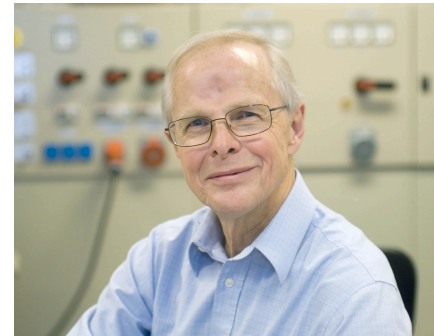
Curriculum Vitae (short) GUSTAF OLSSON

Personal profile

Born in Sweden 1940. Married, wife Kirsti.
Home address: Seglaregatan 10, SE-41457 Göteborg, Sweden
Professor em. in Industrial Automation,
Div. of Industrial Electrical Engineering and Automation (IEA),
Dept. of Biomedical Engineering (BME),
Lund University,
Box 118, SE-22100 Lund, Sweden

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Recent Appointments

- Professor emeritus in Industrial Automation, Lund University, Lund, since January 2006.
- Part time professor in Electrical Power Systems (25%) at the Chalmers University of Technology, Göteborg, Sweden, 2006 - 2008
- Honorary visiting professor at the University of Exeter, UK, since 2010.
- Guest professor, Technical University of Malaysia, Johor Bahru, Malaysia: about 1 month/year since 2006
- Guest professor, School of Environment, TsingHua University., Beijing, China: about 1 month/year since 2007

Research Interests

Automation and control applied to

- Water and energy
- Environmental Systems
- Electrical power systems
- Industrial systems

Other Current Professional Activities

Editor scientific journals

- The journals *Water Science and Technology* and *Water Science and Technology: Water Supply*, and the online journal *Water Practice and Technology*, published by IWA (International Water Association), London: Editor-in-Chief 2005-2010, Editor 2010-
- Journal *Global Challenges: Water* (Wiley), Editor, 2015 –
- The journal *Frontiers of Environmental Science and Engineering* (Springer): member of the Advisory Board and Editor, 2011 –
- Journal *Ambiente e Agua*, An Interdisciplinary Journal of Applied Science, Brazil. Member of the Editorial Board 2014 –
- Journal *Water SA*, South Africa. Member of the Editorial Board 2014 –

Scientific advisory roles

- Safe & SuRe Fellowship research program, University of Exeter, UK: Chairman of the Steering Group, 2013 - 2018.
- Technical University of Malaysia (UTM): member of the International Advisory Group, since 2013.
- Swedish research cluster “Mälardalsklustret”, on *control of wastewater treatment systems*: member of the Advisory Group, 2010 - .
- Future Technologies Program, Cooperative Research Centre on *Water Sensitive Cities* (watersensitvecities.org.au), Advanced Water Management Centre, Univ. of Queensland, Brisbane, Australia: member of the International Advisory Group, 2013 - 2016.

- Catalan Institute for Water Research (ICRA), Girona, Spain: member of the International Scientific Committee, 2007 -
- World Energy Council, member of the *Knowledge Network on World Energy Resources*, since 2014.

Other professional activities

- Member of the *European Academy of Sciences and Art* (www.advances.de), since 2004.
- Elected member of the Kungliga Fysiografiska sällskapet (The Royal Physiographical Society) in Lund, since 2002.
- Center for Sustainable Development of Africa (CSDA a United States based nonprofit organization with the vision of a sustainable Africa through innovative entrepreneurship, 1300 Pennsylvania Ave, Washington DC 20004): member of the International Advisory Board (www.csdaf.org), since 2013.
- Bioprocess Control Inc., Lund, Sweden: a company making advanced instrumentation and control technologies for biogas production. Co-founder of the Company in 2006, Board member 2006 – 2016, chairman of the Board since 2017.

Other Recent Professional Activities

- Director of IWA (International Water Association) Board, London, 2007-2010, <http://www.iwahq.org>
- The Swedish Foundation for Strategic Research (SSF), (<http://www.stratresearch.se>): member of the programme committee for process industries (PIC programme), 2006 - 2015.
- Advisory Board for the Tisso II water supply project, Kalundborg Utility, Denmark, 2015-2016
- Member of the Steering Committee, Water for Energy Framework (W4EF), project organized by EDF (Electricité de France), presented at the World Water Forum in 2015, 2013-2015.
- “Honorary technical consultant” to Beijing Urban Planning & Design Institute, TsingHua University, since 2007-2014
- SANITAS, a European project working to meet the deficiencies in human resources in European Urban Water Systems management. Member of the international advisory group 2012 – 2015.
- British research consortium ReVISIONS, including six British universities: member of the International Advisory Group. The project aim was to link planners’ land use transport models with utility service models, 2010-2012.
- SPRING - a supporting action under EU FP7 Environment theme, with the main objective of creating and providing a solid basis for future EU-China collaboration in environmental research: member of the Expert Advisory Panel 2010 – 2013.
- *International Water Association* (IWA), London: member of the Publishing Committee, 2005-2010.
- *International Water Association (IWA) Strategic Council* (<http://www.iwahq.org>): member 2002-2011.
- *Advances in Industrial Control*, Springer-Verlag, London Ltd: member of the Editorial Board 2001 - 2012.
- IWA Specialist group on Instrumentation, Control and Automation 1997-2001: member of the Group Management Team 1975 – 2009; Chairman 1997-2001.
- *Journal of Environmental Engineering and Science*, Canada, (<http://pubs.nrc-cnrc.gc.ca/cgi-in/rp/>): Associate editor 2001-2008.
- Swedish Research Council (Vetenskapsrådet): member of Evaluation Group 2000-2005.
- Singapore International Water Week: member of the International Advisory Group, 2008 - 2012.
- Advanced Water Management Centre, Univ. of Queensland, Brisbane, Australia (<http://www.awmc.uq.edu.au>), International advisor 1993 – 2008
- Senior consultant (part time), Gothia Power AB, Göteborg, Sweden, 2006-2016.
- SIWI (Stockholm International Water Institute) Associate, 2012-2016.

Awards

- IWA (International Water Association) *Distinguished Fellow*, September 2014.
- Honorary Doctor (*Doctor honoris causa*) at the Technical University of Malaysia (Universiti Teknologi Malaysia), UTM, 13 October 2012.
- Honorary member IWA (International Water Association), September 2012
- IWA (International Water Association) Publication Award 2010.
- Honorary member of the *Swedish Water Association* 2008.

- *Vattenpriset* 1996, the highest award by the Swedish Association for Water Hygiene (now the *Swedish Water Association*)
- *The teacher of the year* 1993, elected by the students of the Lund Institute of Technology, Lund University, Sweden.
- The *Lund University educational award* in 1987 for "Distinguished achievements in the education"
- The *Boliden Price* by the *Swedish Water Association* in 1983 for successful research in wastewater system control.

Research Supervision

- The main supervisor and examiner at Lund University for
 - 23 PhDs,
 - 17 Techn. Licentiates, and
 - 100++ MSc students;
- Co-supervisor for 20+ PhD students at the Tsinghua University (Beijing) and the Technical University of Malaysia (UTM).
- Invited speaker in 19 countries outside Sweden.

Publications

Including 11 international books (some of them translated into German, Russian, Korean and Chinese), chapters in another 19 books, 4 undergraduate lecture books, and around 190 peer-reviewed scientific papers.

Publications recent years:

2018

Book:

Olsson G. (2018). Clean water using solar and wind: outside the power grid. IWA publications, London.

Book chapters:

Olsson G., Åmand L, Rieger L. and Carlsson B. (2018). Aeration control – fundamentals. Chapter 4 in *Aeration, mixing and energy. Bubbles and sparks*. (D Rosso, editor), IWA Publishing, London.

Olsson G., Åmand L, Rieger L. and Carlsson B. (2018). Aeration control – implementation. Chapter 5 in *Aeration, mixing and energy. Bubbles and sparks*. (D. Rosso, editor), IWA Publishing, London.

Olsson G. and Ingildsen P. (2018). Making water operations smarter. Chapter 10 in *Advances in Wastewater Treatment* (Mannina, G., Ekama, G., Ødegaard, H. and Olsson, G., Editors). IWA Publishing, London.

Papers:

Olsson G. (2018). Controlling urban drainage systems. Invited keynote presentation, Urban Drainage Modelling (UDM) conference, Palermo, Sep 2018. Published in *New trends in Urban Drainage Modelling* (G. Mannina, Ed.), pp 191-208. Springer Verlag. ISBN 978-3-319-99866-4

Wang C, Olsson G., Liu Y (2018). Coal-fired power industry water-energy-emission nexus: A multiobjective optimization. *Journal of Cleaner Production*, 203, 367-375.

Corominas, Ll., Garrido-Baserba, M., Villez, K., Olsson, G., Cortés, U., Poch, M. (2018). Transforming data into knowledge for improved wastewater treatment operation: A critical review of techniques. *Environmental Modelling and Software*, 106, 89-103. Available online: <http://authors.elsevier.com/sd/article/S1364815217302359>

2017

Yu Min, Wang Chaoran, Liu Yi, Olsson Gustaf, Wang Chunyan (2017). Sustainability of Mega Water Diversion Projects: Experience and Lessons from China. *Science of the Total Environment* (Elsevier), accepted.

Yu Min, Wang Chaoran, Liu Yi, Olsson Gustaf, Bai Hua (2017). Water and related electrical energy use in urban households – Influence of individual attributes in Beijing, China, *Resources, Conservation and Recycling* (Elsevier), 130, 190-199

Olsson, G. (2017). Looking at ICA in water through a power engineering lens. Keynote presentation, 12th IWA Specialized Conf. on Instrumentation, Control & Automation, Québec City, Canada

Corominas, Ll., Garrido-Baserba, M., Villez, K., Olsson, G., Cortés, U., Poch, M. (2017). Turning passive data into knowledge - a review of wastewater treatment monitoring methods. 12th IWA Specialized Conf. on Instrumentation, Control & Automation, Québec City, Canada

- Olsson, G., Lund, P. (2017). Special Issue on Water and energy – editorial. *Global Challenges* (in print)
- Zabbey, N., Olsson, G. (2017). Conflicts – oil exploration and water, *Global Challenges*, Special issue on Water and energy, <http://onlinelibrary.wiley.com/doi/10.1002/gch2.201600015/full>
- Jones, L., Olsson, G. (2017). Solar PV and wind energy providing water, *Global Challenges*, Special issue on Water and energy, <http://onlinelibrary.wiley.com/doi/10.1002/gch2.201600022/full>

2016

Book:

- Ingildsen, P. and Olsson, G. (2016). *Smart Water Utilities: Complexity made simple*, IWA Publications, London.

Paper:

- Mannina, G., Ekama, G., Caniani, D., Cosenza, A., Esposito, G., Gori, R., Garrido-Baserba, M., Rosso, D., and Olsson, G. (2016). Greenhouse gases from wastewater treatment – a review of modelling tools. *Journal Science of the Total Environment* 551-552:254-270.

2015

Book:

- Olsson, G. (2015). *Water and energy – threats and opportunities* 2nd edition. IWA Publications, London.

Papers:

- Olsson, G. (2015). Control of wastewater treatment plants. Invited keynote, 12th *IWA Spec. Conf. on Design, Operation and Economics of Large Wastewater Treatment Plants*, Prague, Czech Republic, Sep., 2015.
- Ma, S., Zeng, S., Dong, X., Chen, J. and Olsson, G. (2015). Modification of the activated sludge model for chemical dosage. *Journal Front. Environ. Sci. Eng.*, 2015, 9(4): 694-701
- Smith, K., Liu, S., Liu, Y., Savic, D., Olsson, G., Chang, T. and Wu, X. (2015). Impact of urban water supply on energy use in China: a provincial and national comparison. *Mitigation and Adaptation Strategies for Global Change* (Springer) ISSN 1381-2386, DOI 10.1007/s11027-015-9648-x. Published online 2 April 2015.
- Vitasovic, Z.C, Olsson, G., Liner, B., Sweeney, M. and Abkian, V. (2015). Utility Analysis and Integration Model. *AWWA Journal*, 107(8), 64-71, American Water Works Association, August 2015.
- Dahalan, F.A., Abdullah, N., Yuzir, A., Olsson, G., Salmiati, Hamdaz, M., Din M.F.M., Ahmad, S.A., Khalil, K.A., Nor Anuar, A., Noor, Z.Z. and Ujang, Z. (2015). A proposed aerobic granules size development scheme for aerobic granulation process. *Bioresource Technology*, 181, 291-296

2014

Book chapters:

- Olsson, G., Yuan, Z. and Kim, C.W. (2014). Automation and Control. Chapter 13 in *Activated Sludge - 100 years and counting* (D. Jenkins and J. Wanner, editors), IWA Publishing, London.
- Olsson, G., contributing author to (2014): Performance of water utilities beyond compliance. Sharing knowledge bases to support environmental and resource-efficiency policies and technical improvements. EEA Technical Report No 5, 2014. European Environment Agency, available at <http://www.eea.europa.eu/publications/performance-of-water-utilities-beyond-compliance>

Papers:

- Hoffman, A., Olsson, G., Lindström, A. (2014). Shale Gas and Hydraulic Fracturing: Framing the Water Issue. Report Nr. 34. SIWI (Stockholm Int. Water Institute), Stockholm.
- Olsson, G., Carlsson, B., Comas, J., Copp, J., Gernaey, K.V., Ingildsen, P., Jeppsson, U., Kim, C., Rieger, L., Rodríguez-Roda, I., Steyer, J.-P., Takács, I., Vanrolleghem, P.A., Vargas Casillas, A., Yuan, Z., Åmand, L. (2014). Instrumentation, Control and Automation in wastewater—from London 1973 to Narbonne 2013. *Wat. Sci. Tech.* 69(7), 1373-1385. doi: 10.2166/wst.2014.057
- Lindström, A., Hoffman, A. and Olsson, G. (2014). Shale gas and hydraulic fracturing, blessing or curse? *Stockholm Water Front*, 1, March 2014, pp 5-7.
- Berndes, G., Björklund, I., Borg, C., Granit, J., Källström, F., Lindström, A., Olsson, G., Sandström, J. (2014). Charting a Sustainable Path for Renewable Energy Development. Swedish Water House Policy Report/SIWI, www.siwi.org

2013

Book chapters:

- Olsson, G. (2013). Process control. Ch. 10 in Hartley, K.: *Tuning Biological Biological Nutrient Removal Plants*. IWA Publishing, London, ISBN – 9781780404820
- Olsson, G. (2013). The potential of control and monitoring. Chapter 12 in *Source Separation and Decentralization for Wastewater Management* (Tove A. Larsen, Kai M. Udert and Judit Lienert, editors). IWA Publishing, London. ISBN – 9781843393481

Papers:

- Olsson, G., Carlsson, B., Comas, J., Copp, J., Gernaey, K.V., Ingildsen, P., Jeppsson, U., Kim, C., Rieger, L., Rodríguez-Roda, I., Steyer, J.-P., Takács, I., Vanrolleghem, P.A., Vargas Casillas, A., Yuan, Z., Åmand, L. (2013). Instrumentation, Control and Automation in wastewater what happened from London 1973 to Narbonne 2013. Plenary keynote at the IWA conference on Instrumentation, Control and Automation (ICA-2013), Narbonne, France. To be published Water Science and Technology 2014.
- Olsson, G. (2013). Water, energy and food interactions – Challenges and opportunities. *Frontiers Environmental Science and Engineering*, 7(5), 787-793, DOI 10.1007/s11783-013-0526-z
- Åmand, L., Olsson, G. and Carlsson, B. (2013). Aeration control - a review. *Wat. Sci. Tech.* 67(11) 2374-2398.
- Yuniarto, A., Zainon Noor, Z., Ujang, Z., Olsson, G., Aris, A. and Hadibarata, T. (2013). Bio-fouling reducers for improving the performance of an aerobic submerged membrane bioreactor treating palm oil mill effluent. *Desalination* 316, 146–153
- Ahmad Mutamim, N.S.A., Noor, Z.Z., Hassan, M.A.A. Yuniarto, A. and Olsson, G. (2013). Membrane bioreactor: Applications and limitations in treating high strength industrial wastewater. *Chemical Engineering J.*, 225, 109-119.
- Hamdiah, M., Ujang, Z., Nasef, M.M., Hadibarata, T., Olsson, G., Hassan, H., Rusli, N.M. (2011). Optimization of parameters affecting adsorption of nickel (II), zinc (II) and lead (II) on Dow 50W resin using a response surface methodology approach. *Journal of Environmental Science and Technology* 6(3): 106-118.

Recent invited presentations

(outside Lund University)

2018

- Anaerobic digestion from an instrumentation and control engineering perspective, Invited keynote lecture, National Biogas Conference, Hangzhou, China, 30 Oct. 2018
- Clean water using solar and wind. Invited lecture, School of Environment, Tsinghua University, Beijing, 24 Oct. 2018
- Controlling urban drainage systems. Invited keynote presentation, IWA Urban Drainage Modelling (UDM) conference, Palermo, 24 Sep 2018.
- How to publish in style. Invited workshop on publication, IWA World Water Congress, Tokyo, 17 Sep 2018
- International Young Water Professionals (YWP) publication course, Aalto University, Helsinki, 21-24 August 2018.
- Digitization in wastewater systems – yesterday, today, tomorrow. Invited keynote, Swedish National Conference on Waste and Environment, 1 Feb 2018

2017

- Making water systems smarter and available for all. Invited keynote, 8th Int. IWA Young Water Professionals conference, Cape Town, South Africa, 12 Dec 2017.
- International Young Water Professionals (YWP) publication course, Cape Town, South Africa, 4-7 Dec. 2017.
- Making water operations smarter – forty years of ICA development. Chinese national workshop on Instrumentation, control and automation, Tsinghua University, 11 Nov. 2017
- Water and energy: threats and opportunities. Invited keynote, 7th IWA-ASPIRE Conference 2017, Kuala Lumpur, Malaysia, 12 Sep. 2017.
- Writing and Publishing Scientific Papers: 5th IWA & UTM (Universiti Teknologi Malaysia) international course on scientific writing (together with Helmut Kroiss), Malaysia-Japan Int. Inst. of Technology (MJIIT), Kuala Lumpur, Malaysia, 7-9 Sep. 2017.

Instrumentation, control and automation in sustainable wastewater treatment making water operations smarter, Invited lecture series, The Lake Como School of Advanced Studies, Como, Italy, 21–25 Aug. 2017.

The water-energy-food nexus: couplings and conflicts, Invited lecture series, The Lake Como School of Advanced Studies, Como, Italy, 21–25 Aug. 2017.

The water-energy-food nexus - challenges and opportunities. Invited keynote, Int. Conf. on Energy, Ecology and Environment (ICEEE) 2017, Stockholm, Sweden, 27 July 2017.

Making water operations smarter, Invited keynote, Frontiers International Conference on Wastewater Treatment, Palermo, Italy, 21 May 2017.

Instrumentation, control and automation in wastewater systems. Lecture series in *Advanced Course on Innovative wastewater treatment and mathematical modelling*, May 17-20, 2017, University of Palermo, Italy

Writing and Publishing Scientific Papers, A Masdar Institute Publications Course, Masdar Institute, Abu Dhabi, 26-29 March 2017.

2016

Smart water utilities – complexity made simple. Invited seminar, CSIR Meraka Institute, Pretoria, South Africa, 29 August 2016.

The value vs cost of water - Can we still afford free water for all? Invited keynote lecture, University of Johannesburg, South Africa, 29 August 2016.

Smart water utilities – complexity made simple. Invited seminar, University of Kwa-Zulu Natal, Durban, South Africa, 25 August 2016.

Young Water Professionals (YWP) publication course, University of Kwa-Zulu Natal, Durban, South Africa, 22-25 Aug. 2016.

The water-energy nexus: Global conflicts and possible solutions. Invited seminar, Nelson Mandela University, Port Elisabeth, South Africa, 18 August 2016.

Young Water Professionals (YWP) publication course, Nelson Mandela University, Port Elisabeth, South Africa, 15-18 Aug. 2016.

Smart water utilities – complexity made simple. Invited seminar, University of Cape Town, Cape Town, South Africa 12 August 2016.

Young Water Professionals (YWP) publication course, University of Western Cape, Cape Town, South Africa, 8-11 Aug. 2016.

The water-energy-food nexus: Couplings and conflicts, Invited keynote, International seminar on *Innovative wastewater treatment technologies for energy saving and environmental protection*, University of Palermo, 20 May 2015.

Lecture series on Instrumentation, Control and Automation in Wastewater Treatment. *Advanced Course on Innovative wastewater treatment and mathematical modelling*, University of Palermo, Italy, May 16-19, 2016.

Writing and Publishing Scientific Papers: 4th IWA & UTM (Universiti Teknologi Malaysia) international course on scientific writing (together with Helmut Kroiss), Malaysia-Japan Int. Inst. of Technology (MJIIT), Kuala Lumpur, Malaysia, 7-11 March 2016.

The water-energy-food nexus: Couplings and conflicts, Invited seminar, Aalto University, Espoo, Finland, 25 Feb. 2016.