

## Instructions to write and to present your paper

To be sent to GRAIE  
Deadline  
October 10th 2009  
novatech@graie.org

### PROCEEDINGS' PUBLISHING

For this 7th edition of Novatech, the proceedings will be published with three formats:

The setting on line of the proceedings of Novatech, on the Web site of INIST - The French Institute for Scientific and Technical Information - on its numerical platform of edition of scientific reviews. Each communication will have an individual referencing (DOI - DIGITAL Object Identifier). The proceedings of the Novatech 2007 conference can be read at the following address: <http://irevues.inist.fr/novatech>.

A complete publication of the proceedings in electronic version, on a USB key, will be given to the attendees.

A printing of the French/English summaries - that is to say one page per communication – will be given to the attendees during the Novatech 2010 conference.

### GUIDELINES

We are asking authors to provide their article in electronic form as a word-processed file.

You are asked to strictly follow the above instructions. To facilitate your work, you should use the word document "nova10\_modelGB.doc" in which are defined all the styles you have to use.

The definitive format of the proceedings will be a A4 format - 21 cm x 29.7 cm.

To be quit homogenous, the articles are strictly limited to 10 pages, illustrations and bibliography included.

If you respect the recommendations, your document will be published as received in its word format, except pagination.

### A WORD-PROCESSED FILE

You are asked to send your word-processed file:

- By email, as an attached document, if no bigger than 3 Mo.
- If it is bigger, you can send a CD-ROM, use any Internet file transfer service (as <http://www.yousendit.com> ), or give us an FTP access.

The word-processing package, including illustrations, must be compatible with Word 2007 or any under version of word processing package.

Important: please label the file with the corresponding author initials; please do not use names such as "confpaper" or "novatech"; precise in your message the operating system and the word-processing package used.

### **Illustrations, graphics and tables**

- Illustrations should not be produced in the text (use Power Point, Illustrator, Excel, etc.); do not create illustrations directly under MS Word because it is not fault-free.
- Any object coming from a specific application software should be transformed into an image format before importation in the word process file; you should check the weight of the images and possibly reduce them to adapted size and quality.
- Import illustrations into the main document; make sure that all figures and tables fit inside the text area specified. Legends have to be exclusively created into the text file.
- We recommend you to test the Acrobat file conversion and to control especially illustration, figures and special characters. If we have problems with the illustrations of your document, we will ask you to provide a new version of it.
- If you think that there can be modifications in the lay-out of your document, you can send us an acrobat version, in addition to the word-processed document.

## **DETAILED INSTRUCTIONS**

**Thank you to use the model: nova10\_modelGB.doc**

**1 – Margins** to be respected are the following (with reference to an A4 sheet: 210 x297 mm):

Right and left margins: 2.5 cm

Top and bottom margins: 2.5 cm

The area for typing is: 17 cm x 24.7 cm

**2 – Text** should be typed automatic line spacing, using an Arial 10 pt justified typeface, with a 6 pt space for paragraphs. Do not add any "comment" into the text.

**3 – Use decimal notation for subheadings** 1. 1.1. 1.1.1.

**LEVEL 1. : SIZE 12 UPPERCASE BOLD**, space before 10 pt, typed flush left

**Level 1.1. : size 12 bold**, space before 6 pts, typed flush left

**Level 1.1.1. : size 10 italics bold**, space before 6 pts, typed flush left

Legends for figures and tables: under the object, centred, size 9 ;

They have to be written into the text and not included into the figures

List of references: Arial 9 – indented paragraph: - 0,5 cm – space before 3 pt..

**4 – Number of pages:**

The typescript is limited to **10 pages** including figures, tables and list of references.

**5 - Page one** will contain:

- the English title of the paper, size 14 bold, lowercase
- the French translation of the title, size 14, lowercase
- author's name(s), size 12, lowercase
- author's affiliation(s) and full postal address, size 10, lowercase
- **RÉSUMÉ:** a French abstract (10-15 lines), please ask for professional translation if needed
- **ABSTRACT:** an English abstract (10-15 lines),
- **KEYWORDS:** 5 maximum in alphabetical order.

The introduction should begin on the second page (see the attached example).

## 6 – Content of the text

**Avoid a too general text and focus on the theme chosen for your paper.**

The general framework of the papers will be as follows:

- Introduction: background and aims of the work
- Methods: a brief description of the methods / techniques used
- Results and discussion: a clear presentation of the results obtained, highlighting any trends or points of interest.
- Conclusion: a brief explanation of the significance and implications of the work reported.
- A list of bibliographical references.

**7 - References** should be listed together at the end of the paper, in alphabetical order of authors.

The normal form of listed references is as follows:

Lee, S.E., Jenkin, D., Koopman, B.L. and Lewis, R. (1982). The effect of aeration basin configuration on activated sludge bulking at low organic loading. *Wat. Sci. & Tech.*, 14(6/7), 407-427.

Abell, B.C., Tagg, R.C. and Push, M. (1974). Enzyme catalyzed cellular transaminations. In: *Advances in Enzymology*, A.F. Round (Ed.), Vol.2, 3rd ed. Academic Press, New York, 125-247.

Grady, C.P.L. and Lim, H. (1980). *Biological Wastewater Treatment: Theory and Application*. Marcel Dekker, New York.

# **Integrated control of sewer and WWTP based on the assessment of treatment capacity**

Gestion intégrée du réseau et de la station d'épuration basée sur l'évaluation de la capacité d'épuration

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## **RÉSUMÉ**

Un pré-requis pour une gestion intégrée du réseau d'assainissement et de la station d'épuration est une commande du débit à l'entrée de la station d'épuration en fonction de sa capacité. Cela nécessite des informations fiables sur l'état actuel de la station d'épuration et sa réaction aux variations hydrauliques, aux variations de charges en COD et en substances nutritives.

Actuellement, la plupart des stratégies de commande qui sont proposées sont fondées sur des études de modèles hypothétiques. Dans cette communication, la réaction de trois grosses stations d'épuration soumises à des charges élevées par temps de pluie est analysée, en se fondant sur les valeurs mesurées en ligne sur une période de plusieurs années. Dans les trois cas, les principaux facteurs limitant l'augmentation de la charge ont été les procédés de la décantation dans le clarificateur secondaire et la capacité de nitrification.

Dans l'une des études de cas, des stratégies de contrôle prédictif ont été développées en observant ces procédés qui sont pilotés par le contrôle des effluents. Des tests avec un modèle intégré du réseau et de la station d'épuration montrent que l'efficacité d'une commande du débit sur les flux rejetés varie de manière significative avec l'intensité de la pluie.

## **ABSTRACT**

A prerequisite for an integrated control of sewer and wastewater treatment plant (WWTP) is a capacity driven inflow control to WWTP. This requires reliable information about the current status of WWTP operation and its behaviour on varying hydraulic, COD and nutrient loads.

So far most of the proposed control strategies are based on hypothetical modelling studies. In this paper the behaviour of three large WWTPs on increased storm water loads is analysed based on online measurements of several years. In all cases the main limiting factors for an increase of load were the sedimentation processes in the secondary clarifier and the nitrification capacity.

In one case study predictive control strategies have been developed observing these processes which are backboned by effluent control. Test using an integrated model of sewer and WWTP demonstrate that efficiency of inflow control on emission load varies significantly with rain intensity.

## **KEYWORDS**

integrated control, stormwater, treatment capacity, urban drainage systems , waste water treatment plant.