

# Nature-Inspired Solutions in Science, Engineering and Everyday Life

*A day school to be held at Rewley House, 1 Wellington Square, Oxford*

Biomimetics is a relatively young branch of engineering, which takes ideas for technology from living nature. Its ultimate aim is to make our life more in harmony with the environment in which we are living and depend on.

A tremendous difference in the way that human economy and living nature function causes a lot of problems in this day and age, and it is the main obstacle for spreading ideas of eco-innovation, making them profitable and attractive for business. 'Life' does not use as much energy as we do – it is at least 4 times more efficient than current technology (see the picture). We devote a lot of resources to producing new and diverse materials – and yet living nature has created numerous different materials with a wide range of properties (from extremely hard to soft and liquid) using only 2 basic polymers: proteins and polysaccharides. Humans use more than 350 different polymers and yet 'we' have still not been able to match the variety of materials that exists in living nature. And last but not least – living systems typically avoid problems, resolving them in advance before they even occur.

All the factors mentioned above make living systems the main source for ideas for self-sustainable cycles of materials, products and services, energy efficiency and resources or waste management.

During the day school participants learn different strategies and methods for knowledge-transfer between biology and engineering. Such methods can potentially work for any cross-disciplinary challenges. Participants get course materials both in a hard-copy and in electronic form.

## BACKGROUND READING:

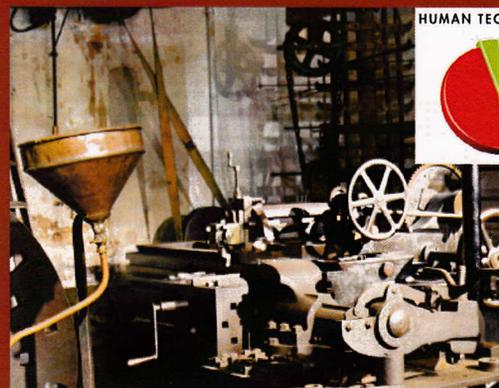
Bogatyrev N. and Bogatyreva O., *Inventor's Manual*, Createspace, USA, 2014

Steven Vogel, *Life's devices*, Princeton University Press, 1988

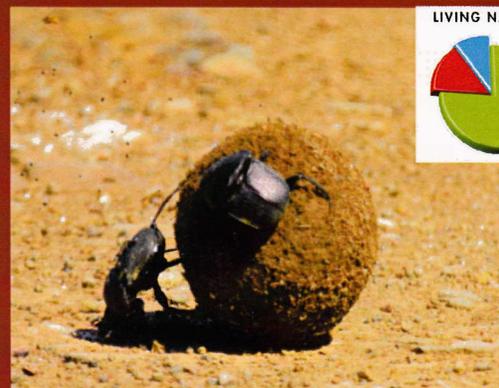
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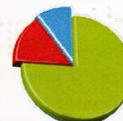
SATURDAY 28 MARCH 2015



HUMAN TECHNOLOGY



LIVING NATURE



DEPARTMENT FOR CONTINUING EDUCATION

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## PROGRAMME

**SATURDAY 28 MARCH 2015**

9.45am	Registration
10.00am	<b>Nature-inspired solutions in science, engineering and everyday life</b>
11.15am	Coffee/tea
11.35am	<b>Ten prejudices about living nature</b>
12.30pm	<b>How to invent new things naturally</b>
1.00pm	Lunch
2.00pm	<b>Creepy-crawly story: biomimetic animals</b>
3.00pm	Tea/coffee
3.15pm	<b>The natural way to invent new things: practical session</b>
5.00pm	Course disperses

**Accommodation** is sometimes available in Rewley House for those who wish to stay on the night before a course. Please telephone our Residential Centre for further information on 01865 270362.

# ENROLMENT FORM

NATURE-INSPIRED SOLUTIONS IN  
SCIENCE, ENGINEERING AND  
EVERYDAY LIFE

O14P248BJJ



Name

Address

Postcode

Daytime Tel.

Email

I do NOT want to receive publicity information either  
by post  Or by email  (Please tick)

I agree to the terms and conditions  
[[www.conted.ox.ac.uk/courses/terms\\_and\\_conditions.php](http://www.conted.ox.ac.uk/courses/terms_and_conditions.php)]   
and I accept the student contract  
[[www.conted.ox.ac.uk/courses/student\\_contract.php](http://www.conted.ox.ac.uk/courses/student_contract.php)]   
(Available in other formats on request.)

SIGNED & DATED

**FEE OPTIONS**

With full lunch	£73.00	<input type="checkbox"/>
With baguette lunch	£65.00	<input type="checkbox"/>
Without lunch (includes t / c)	£62.00	<input type="checkbox"/>
Vegetarian option (meal or baguette)?		<input type="checkbox"/>
Do you have a disability or special need?		<input type="checkbox"/>
If so, please state your disability / special need		<input type="text"/>

NATURE-INSPIRED SOLUTIONS IN SCIENCE, ENGINEERING ETC **PTO**

## PAYMENT by credit or debit card:

3 Digit Card Security Number\*

Mastercard / Visa / Maestro account number

Expiry date

Maestro Issue Number

Please charge my account with the sum of £

Signed

Date

\* If you do not wish to supply this number you can pay by cheque or pay online (see below).

Enrol online by adding the course code C100-89 to the end of the URL for the Department's website: [www.conted.ox.ac.uk/C100-89](http://www.conted.ox.ac.uk/C100-89) or complete this form and return it with your payment (cheques payable to OUDCE) to the Day and Weekend Programme Office, Rewley House, 1 Wellington Square, Oxford, OX1 2JA. Telephone 01865 270368. Email [ppdayweek@conted.ox.ac.uk](mailto:ppdayweek@conted.ox.ac.uk)

Concessionary fees for day and weekend events are now available for people on low incomes. If you are in receipt of a state benefit or your sole source of income is a DWP State Retirement Pension and Pension Credit you may be eligible for a reduction of 50% of tuition fees. For conditions and an application form go to [www.conted.ox.ac.uk/concessionaryfees](http://www.conted.ox.ac.uk/concessionaryfees)

### CANCELLATIONS AND REFUNDS

Fees will only be refunded in exceptional circumstances and all refunds will be subject to a £20 administration charge. Without exception, the cost of any meals booked will be retained if you cancel less than 7 days before the course begins. If you prefer to take up the option of a transfer or a credit note the catering policy above will be applied but no administrative charge will be made. Refund requests should be made, in writing, to the Manager of Public Programmes, OUDCE, 1 Wellington Square, Oxford, OX1 2JA, or by emailing [ppdayweek@conted.ox.ac.uk](mailto:ppdayweek@conted.ox.ac.uk). Please indicate in your application whether, if successful, which option you prefer. The Department reserves the right to cancel courses with insufficient enrolments and the decision to do so is usually made 2 weeks before a course is scheduled to run. In such cases students are refunded in full. **The Department cannot be held responsible for travel or accommodation booked in advance.**