Ethical competence
Ethics of technology and science
Optional

Iordanis Kavathatzopoulos
The course

- Lectures, workshop, seminar, group project
- *Literature*: Rachels & Rachels, links, papers
- *Examination*: Participation, group project, presentation, home exam
- Focus on ethical competence and practical tools
## Program

<table>
<thead>
<tr>
<th>Date, room</th>
<th>Subject</th>
<th>Presenter</th>
<th>Literature, etc.</th>
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</thead>
<tbody>
<tr>
<td>26 Apr, 2115</td>
<td>Ethical competence</td>
<td>Iordanis</td>
<td>Links, papers</td>
</tr>
<tr>
<td>10.15-12.00</td>
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<tr>
<td>28 Apr, 2115</td>
<td>Workshop</td>
<td>Iordanis</td>
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<tr>
<td>04 May, 2115</td>
<td>Philosophy</td>
<td>Thomas</td>
<td>Rachels &amp; Rachels</td>
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<td>13.15-15.00</td>
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<tr>
<td>09 May, <strong>2244</strong></td>
<td>Ethical aspects of anger and rage</td>
<td>Thomas</td>
<td>Papers</td>
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<td>13.15-15.00</td>
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<td>11 May, 2115</td>
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<td>Dan Larhammar</td>
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<tr>
<td>17 May, 2115</td>
<td>Computerized ethical methods</td>
<td>Mikael Laaksoharju</td>
<td>Papers, Links</td>
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<td>10.15-12.00</td>
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<tr>
<td>27 May, 2115</td>
<td>Presentations of group projects</td>
<td>Group seminar</td>
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<tr>
<td>30 June, deadline</td>
<td>Home exam, essay</td>
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Leadership

• Intellectual capacity, creativity, ability to produce new knowledge, mental skills
  - leaders in science, pioneers in ideas, methods and laboratory work

• Emotional capacity, confidence and security, anxiety tolerance, responsibility
  - leaders in the group or scientific community, proposing and defending, participating or initiating dialog with public and society, handling personal dilemmas and conflicts inside the scientific community/group and in society
Ethical issues

- Funding, conducting, applying
- Research collaboration, colleagues, supervisor
- Publishing, authorship etc.
- Methods, experimenting, laboratory animals, etc.
- Impact on society, human life, environment
- Privacy, intellectual property, etc.
- Plagiarism, handling of data
- …..
Ethics and research

- Ethical aspects have an increasing impact on research planning, funding, process, publication and implementation.
- Good research does not cause problems, conflicts or catastrophes.
- People will not adopt and use research findings that do not satisfy their values, independently of any other benefits.
- Good research satisfies important values and interests.
Do we know what is right?

- World: changing, global, unpredictable, complex
- Scientific and technical development
- Problems vary, are personal, different
- People are complex, isolated, undefined
- No functioning authorities & guidelines
- Decentralization, delegation
- Intense public and media interest
Is ethics education possible?

- There are really no problems! Just follow the law, the rules, or your moral feeling!
- Education in ethics cannot make people better!
- It is impossible to use ethics education in real life!
Ethics and morality

• Morality is “knowledge”, i.e. answers to choices we feel we need to make in our lives as persons or groups
• Ethics is about the process of gaining this “knowledge”
Answers or questions?

- **Content:** “Right actions are moral but wrong actions are immoral” - Common sense definition based on moral content and normative aspects, focused on satisfaction with the result

- **Choice:** “Morality and ethics are related to choice” - Philosophy and psychology base the definition on choice and option, focused on the quality of the process
Philosophy and psychology

**Platon:** Socrates’s *Maieytike* and *Aporia*
κυβερνήτης = governor, leader, philosopher

**Aristoteles:** *Phronesis*

**Kant:** Categorical Imperative, Dialectic Process, Heteronomy – Autonomy

**Piaget:** Skills to handle moral problems

**Vygotsky, Kohlberg:** Education and support for development
Philosophizing is difficult

- Moral issues are controversial, open, chaotic
- Irrational or non-logical ways work fine
- Strong need for constraints and beliefs
Ethical constraints and beliefs

Handling of moral issues creates a big risk: *Important myths can be destroyed*

- *For persons*: Resolution of problems, personal development, but risk to lose enthusiasm, get disoriented, lost, cynical

- *For organizations, society*: Hero, e.g. whistle blowing (courageous, responsible), or offend persons and principles (show no respect, disloyalty, treason, hostility)
What do we need?

- *Ethical competence*: Know how to handle ethical issues, how to think
- *Ethical processes*: Roles, procedures, mechanisms in organizations
- *Ethical confidence*: Know that we can find good solutions and trust our ability (i.e. know that our skill and our way of handling moral issues is working)
The normal way

- **Heteronomy**: automatic, dogmatic, constrained, authoritarian thoughts, instincts and reflexes
- **Advantages**: Quick, safe, economic, avoid responsibility
- **Disadvantages**: Bad control, chancing, difficult to explain
The philosophical way

• *Autonomy*: Critical searching, systematic thinking, supervision, holistic

• *Disadvantages*: Demands time, resources and skill, create anxiety

• *Advantages*: Good control, insight, awareness, responsibility, easy to explain
Ethical Competence

Ethical competence is the ability of a person or a group, who confronts a moral problem, to choose the right way to handle the problem at hand.

To do this one has to be able to see the difference between different ways of handling moral problems, and to be a master of thinking and acting in a way that independently, systematically and critically considers all relevant values, principles, interests, feelings, duties, needs and beliefs.
Ethical competence

Thinking, acting

Demands
• Processes and skills, and methods and tools used by persons and groups, are most important to focus on
• We need training and education to support such process and skills
Focus of training

1. Ethical awareness
2. Personal skill in ethical problem solving and decision making
3. Organizational processes in handling ethical issues
4. Formulating principles, rules and guidelines
5. Argumentation
6. Application and use of skills in real life
7. Ethical confidence, emotional strength
Leader and follower

- Produce answers
- Deliver answers
- Make decisions
- Has responsibility
- Has anxiety
- Is alone
- Is exposed

- Expect answers
- Receive answers
- Follow directions
- No responsibility
- Feel secure
- Belong to a group
- Is protected
An example

You are leading a research project using the latest computer tools. You have gathered an enormous amount of data and a bioinformatician creates an algorithm to systematize the data. However, this operation transforms the richness of data to a few simple categories. You are convinced that if the results are presented in this simplified way there will be misinterpretations that will misguide future research. On the other hand you know that you can never get your research published unless you simplify your data.
Heteronomy: giving up control and responsibility, one thought dominates

Automatic reactions
- It is going to be a big mistake!
- It is the bioinformatician’s responsibility!
- This is fraud!
- This is the only way, everybody does the same.

Dogmatic fixations
- We should trust the experts!
- You should always follow the rules!
- Honesty is very important!
- Publishing is very important!
- The scientific community should be respected!
Autonomy: take control and responsibility, analytic, holistic

Relevant values and interests
- Do I trust the bioinformatician?
- Is publishing the most important?
- What do my colleagues think?
- How important is my fame or funding?

Possible alternative actions
- Proceed according to the bioinformatician?
- Follow my own plans?
- Negotiate with the bioinformatician more?
- Give up this project?

How do the different alternatives affect values?
## Autonomy Skill

<table>
<thead>
<tr>
<th>Autonomy thinking</th>
<th>Scientific community</th>
<th>Relation to bionform</th>
<th>Own career</th>
<th>Own reputation</th>
<th>(cont.)</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>All possible solutions</td>
<td>Bioinformatician’s line</td>
<td>Informed, but risk for misinterpretations</td>
<td>Positive, but risk for future conflict</td>
<td>Publish, but risk of scandal</td>
<td>Irresponsible, but sharing</td>
<td>...</td>
</tr>
<tr>
<td>Negotiate more</td>
<td>No information, but maybe safer later</td>
<td>Chance to secure info, but risk of conflict</td>
<td>Delayed publication but avoidance of problems</td>
<td>Withholding information, but cautious and serious</td>
<td>...</td>
<td>...</td>
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<tr>
<td>... (cont.)</td>
<td>...</td>
<td>...</td>
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Ethics more difficult in groups

- Social loafing
- Conformism
- Group polarization
- De-individuation
- Authority obedience
- Groupthink
Ethical groups and organizations

- Emotion-based
- Leader-based
- Principle-based
- Skill and process-based
Types of Ethical Codes

- Marketing, goodwill
- Prescriptions, laws, punishment and reward
- Checklists created by external experts
- Knowledge support in problem solving

Only the last one can work as the others but it has to be created by the users and it has to be continuously adapted
Possibilities

- Cognitive support during the effort to think autonomously
- Training of autonomy skills during the formulation, interpretation and revision processes
- Support democratic communication and dialog
- Establish autonomous structures and processes
- Turn focus on own responsibility by expressing contradictions and inconsistencies in its rules
- Can be used as a tool for guidance, to support anticipation and planning
- Can be used to solve conflicts or remove the causes for conflicts before they emerge
- Promote confidence, personal and group, by offering a way to handle moral issues
Risks

- Something missing meaning it can be seen as morally allowed
- Something stated but not fit for a certain situation may be seen as morally applicable
- Become a weapon in conflicts, proxy for any kind of conflict
- Consolidate current moral values, strengthen and shield moral correctness, hinder change
- Support the creation of moral facades, and facilitate career making
- Promote the establishment of moral hierarchies, structures and procedures
- Strengthen heteronomy and hinder autonomy at personal and group levels
- Shift responsibility from persons and groups to the rules themselves
Ethical codices and competence

• Codices have to be created by people who know how to do this

• Codices demand always interpretation and adaptation. Rules and principles cannot applied automatically

• Ethical codices can work against their goals:
  - They can never be exhaustive and what is missing can be interpreted as being allowed
  - Rules can be used with rigidity, with fanatism or simply in a wrong way
Ethical competence in organizations

- Processes for construction of ethical codices and guidelines
- Processes for revision of ethical codices
- Dialog groups, support structures, ethical committees etc.
- Special roles, e.g. ethical officers, coordinators
- Continuing education for ethical competence
- Ethical leadership focusing on organizational and personal development
An example

You are leading a research project using the latest computer tools. You have gathered an enormous amount of data and a bioinformatician creates an algorithm to systematize the data. However, this operation transforms the richness of data to a few simple categories. You are convinced that if the results are presented in this simplified way there will be misinterpretations that will misguide future research. On the other hand you know that you can never get your research published unless you simplify your data.
## Construction of ethical rules

<table>
<thead>
<tr>
<th>Conflicts, problem areas, etc.</th>
<th>Autonomous principle construction</th>
<th>All involved values, interests, persons, groups, organizations, society, etc.</th>
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</thead>
<tbody>
<tr>
<td>Actual Data treatment</td>
<td>Scientific truth</td>
<td>Publication</td>
</tr>
<tr>
<td>Constrains reality, but makes it conceivable</td>
<td>Easier, but risk for criticism</td>
<td>Satisfies the requirements, but risk for dissatisfaction</td>
</tr>
<tr>
<td>Possible</td>
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<td>(cont.)</td>
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...
An example of a rule...

1. We need to treat our data because we need conceivable conclusions, it is easier to publish our results and makes it possible to get next fund.

2. However, there is a risk for misinterpretations, criticism and disappointing the funding agencies.

3. If we do not treat our data we present reality as it is, our work will not be misunderstood and criticized, or disappoint the funding agency, but there is a great risk it will be very difficult to disseminate data in this form or may not present any meaningful information, making more difficult to attract future research money...

(1, 2, 3, 4 All four parts have to be included!)
Methods and tools

• Ethical test, *ECQ*, to assess the ethical competence of persons
• Personal support and coaching, computerized decision support, *Democrate*
• Ethical index, *ETHIX*, for mapping and evaluation, interview and observation
• Microworld, *Ethick*, to assess and stimulate ethical decision-making skills
• Education program for ethical competence
Is ethical competence moral?

- **Necessary**: There is nobody who can tell us what is right and wrong
- **Classical response**: It depends how people use their ethical competence
- **Satisfactory**: The ethical competence is the only way to good moral
- **Risk**: Vitally important myths can be destroyed