

International Climate Camp of in.media.vitae foundation with Arved Fuchs

ICE CLIMATE EDUCATION



I.C.E. CAMP

**IN.MEDIA.VITAE
FOUNDATION**

& ARVED FUCHS



Preface Arved Fuchs

„When I was a boy a big terrestrial globe adorned my father's writing desk. I was magically attracted by this revolvable transparent globe, outlining the continents, showing the vastness of the oceans and the white polar caps.

mechanical axis.

What would it be like up there? What would it look like at the North Pole, at the South Pole? Nansen, Amundsen and Shackleton, these were the heroes of my childhood.



My finger would move across its glass surface from continent to continent, range the tropical rainforests of equatorial Africa, passing on to the prairies of North-America, to Himalayan ravines and valleys, finally getting stuck near a white polar cap almost obscured by the globe's

Intuition must have told me, there was more to those arctic landscapes than just ice, snow, coldness and barrenness. Just to imagine the gigantic Greenland ice cap, the vast ice-desert on the antarctic continent and its ice-fringed coastlines,

with offshore islands harbouring huge colonies of seals and penguins. Roaring storms, the quietness, the raw aesthetics of a landscape which allowed life to exist despite ice and coldness, all this enchanted me.

That these archaic landscapes were ever to be affected by human activities was entirely beyond my imagination back then.

However, the image of an undestructible wilderness proved to be an illusion.

Above all others climate change became the most serious threat to the environment.

It virtually affects all aspects of life and is nevertheless so difficult to understand. But this is what it is all about: the problem needs to be understood.

„Today's young people are tomorrow's decision makers“

Together with friends I launched the I.C.E. initiative in 2007, organizing the first youth-camp on Spitsbergen the same year. 14 young people from five different nations qualified for the camp, winning an environment competition we had inaugurated. Since then there has been another camp every year. It is the contents that matter and we provide direct personal

experience for these youths. We aim to promote sustainability and nature protection, sensibilizing young people for the theme. Climate change is a global problem, hence the international character of the camp. Today's young people are tomorrow's decision makers.

If they - at an early stage - conceive climate-protection, biodiversity and broad-spectrum environment protection as essential requirements to safeguarding human living space, food supplies and quality of life, facing an ever faster growing world population, they will be able to make the appropriate decisions.

This at least we hope for, being neither naive nor presumptuous. With this initiative we will not be able to solve the problem. It is merely a contribution that, hopefully, will have a signalling effect. It is a small but very lively initiative, we hope to continue for many years to come.“

Preface Dr. Dirk Notz

„Just in front of my window here on Spitsbergen, northern lights are flaring across the polar sky - it is the middle of the winter here in the Arctic. The fiords however are free of ice, with temperatures hovering just above the freezing point - no trace of the freezing coldness typical for the Arctic at this time of year.

The changes we have been monitoring up here in the recent years are precursors of the fundamental changes due in our latitudes as well.

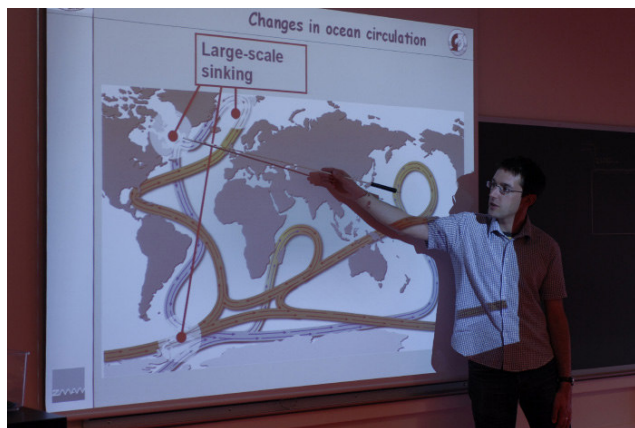
Climate change is real and it affects everyone. More and more.

Time for action is really running out for us and just because of that, I have engaged myself in the international ICE-Youth-Camp from the very beginning. We train young people to become climate ambassadors, returning to their schools as thoroughly informed and highly motivated multipliers - thus contributing to the

preservation of the Arctic ice for many years to come.“

(Dirk Notz, Head of the Research Group „Sea Ice in the Earth System“ - Max-Planck-Institute for Meteorology)

During the summer the sea-ice coverage of the Arctic Ocean has sunk to a mere quarter of its typical volume thirty years ago. Nowhere else is the reality of climate change as visible as it is here in the Arctic - the early warming system of our planet.



It is their future

Pupils and students attending our schools today will fully experience the consequences of the present global warming caused by human activity.

To allow them finding solutions to this global challenge, they need to be educated as early as possible on the processes driving these changes.

This knowledge can then constructively be combined with the unbiased opinion, curiosity, imagination and the positive approach to problems that are necessary to slow down and eventually stop climate change.

Luckily, these qualities generally abound in young people of any nation.



I.C.E.-Camps

2007 Svalbard
2008 Iceland
2009 Iceland
2010 Iceland
2011 Iceland
2012 Norway
2013 Norway
2014 Norway
2015 Austria
2017 Denmark
2018 Denmark
2019 Denmark



The I.C.E. Project-Competition, launched by **Arved Fuchs** in 2007 aims at exactly these qualities, asking for creative approaches to well defined scenarios related to the present climatic changes in the Arctic and the situation at home. The international competition, now repeated for the 12th time, also encourages participants to use modern information technologies and to utilize the enormous resources which are provided and made accessible via the world wide web for the first time in human history.

International Youth Camp

Personal impressions and hands on experience are priceless instructors and invaluable assistants when learning from books and lectures. This is where the international I.C.E. Youth Camp comes in. Based on his knowledge and insight gained during many expeditions in the Arctic, **Arved Fuchs** decided to organize international youth camps in polar or semi-arctic climate regions in order to facilitate first hand experience and personal encounters with climate changes where they actually happen.

These processes continue to take place in a much more dramatic way in the Arctic and in glacial areas than anywhere else. Guided and assisted by scientists (meteorologists, biologists, historians) students from many different nations will personally collect data on the spot and samples in the field. They will then analyse and discuss their findings and personally experience their own group as a sort of global community facing a common global issue.



The international youth camp took place for the first time in 2007. As of the 17th of February, 2018, this youth camp project has been taken over by the in.media.vitae foundation project of Alexander and Iris Hofmann. The team around Arved Fuchs will continue to pursue the project both in terms of content and operation. In this way the cooperation between Arved Fuchs and this charitable foundation in Nuremberg, which began in the year 2017, can expand.

Arved Fuchs: „With the in.media.vitae foundation we have found a partner which matches our concept. The project is growing while the spirit and the themes of the ICE camps remain unchanged. We share the same philosophy. The foundation of Iris and Alexander Hofmann takes a huge load of our shoulders. The organization effort and cost of these youth camps are considerable and for volunteers only possible through a huge effort on their part. This work load has now been taken on for us by the in.media.vitae foundation. From now on we can concentrate 100% on the concept-related topics and therefore the continuance of the youth camps is ensured for the next few years. I am looking forward to the continuation and intensification of the cooperation with the in.media.vitae foundation,


which has existed for some time and wish to personally thank the founders Iris and Alexander Hofmann for their engagement.“



Iris and Alexander Hofmann on their part are „filled with enthusiasm over the project and also the trust shown to us by Arved Fuchs. We are looking forward to engaging ourselves through our own means but above all through our volunteer work in the area of organization, finance, the support of sponsors and the transfer of our foundation to a documented non-profit project. This is done in close cooperation with the very competent volunteer workers on Arved Fuchs' team who will continue to plan and carry out the operational and content-related aspects of the project.“

Arved Fuchs and the in.media.vitae foundation have firmly agreed to work together for at least the next five years and plan to further develop the project together beginning in 2018 with the eleventh I.C.E.-Camp.





I.C.E. - Competition

„They should try to find new perspectives and trust their own creativity“

Student reports

The central subject of the Youth-Camp is the progressive melting of Arctic sea ice and its consequences for the local and global climate system. Its participants are determined by a purpose made international competition for schools. The competition focuses on a contest of ideas not only concerning possible protection of the Arctic regions, but also possible adjustments to present changes on a global scale and the development of solution concepts.

The concept of the competition has been developed to be as open as possible, in order to give pupils and teachers the possibility of developing activities which coincide or correlate with individual subjects and their school's curriculum. This concept not only allows the participation of different types of schools but also the integration of school projects which took place in the past or which are already underway.

A further goal of this contest is to foster long-term school projects dealing with global warming and the reduction of CO₂ emission. It is hoped that this will allow for a connection to the daily lives of the pupils or for the development of a strategy of action.

It is up to the students to decide how they want to deal with the questions. They could perhaps write an exchange of e-mail letters. They could write a short story, report for a newspaper in their home town or a national paper. They could write a diary or a travel journal while visiting the family of one of their co-students. They could produce a power-point presentation, a film on a DVD or create a computer programme. The methods or techniques they use aren't quite as important as their own unique approach. They should try to find new perspectives and trust their own creativity.

„Without I.C.E. I would not be the person I am today. I still vividly remember the one week in summer 2007 that we spent at Spitsbergen: The thought-provoking lectures, diverse and enriching discussions with wonderful and sometimes inspiringly ‚crazy‘ people, and - last but not least - overwhelming beautiful landscapes. Ever since, questions of climate justice, sustainable lifestyle and nature protection have



greatly impacted my daily life. The experiences with I.C.E. have further stirred my desire to better understand the processes that de-

termine global climate. Consequently, I studied climate physics and just finished my PhD. However, in particular over the last years, I sometimes felt frustrated by seeing the steadily increasing evidence of the severe effects of human-made climate change going hand-in-hand with - to my mind - totally inadequate social response. Yet, the simple fact that there are other people out there sharing my concerns and thriving to make a change, such as those I met through I.C.E., keeps me going. I will soon start as a postdoctoral researcher at the Dalhousie university in Halifax (Nova Scotia, Canada), studying the uptake of CO₂ by the Labrador Sea. I really hope that, scientifically, my studies will contribute to a better assessment of climate change and, personally, I can use my experiences and passion to actively contribute to climate protection.“

(Siren Rühs / Hannover - Germany - Participant 2007 Spitsbergen)

„I was already interested in climate change before the I.C.E.-Camp, but the camp made me



lake. After this day I asked myself whether this glacier lake would be still be there in a decade and what we could do to preserve such landscapes. I have decided to study meteorology and oceanography in Kiel to better understand the physical processes and I am currently writing my Master Thesis. I also got involved in recent I.C.E.-Camps and helped students to

realise what climate change actually means. I was lucky to take part in the I.C.E.-Camp in Iceland in 2010 where we went on a hike to a glacier lake one day. It was really beautiful and all of us had a lot of fun crossing the little streams flowing out of this

calculate our CO2-budget during the last camp in the Baltic Sea.“

(Christina Schmidt / Hitzhusen, Germany - Participant Iceland 2010)



„I asked myself whether this glacier lake would be still be there in a decade and what we could do to preserve such landscapes.“

**„Being part of the I.C.E.-
Camp 2008 opened
my eyes to the future.“**



„Being part of the I.C.E.-Camp 2008 opened my eyes to the future. Around that time, I was changing from school to university. Although I love the environment, I was not sure how worthy it was fighting for. But the experience I had, and all the



things I learned with that amazing group of people, fully convinced me.

I understood that nothing rewards the soul more than working for others, especially for nature. This experience occurred for me at the right time and inspired the environmental focus of my majors (industrial engineering and economics). Following this ideal, I have been able to participate in the 2009 Copenhagen meetings for Climate Change (COP15) and to study in places such as the Santa Fe Institute (New Mexico, USA) where I could develop a better technique to understand these problems.

Since I ended my undergraduate studies, I became an advisor of the Minister of Health of Colombia, which allowed me to devote my work to environmental health and climate change adaption plans.

This year I am applying for PhD studies, and due to my will to help people, I got amazing offers from universities such as Columbia and Cambridge that want me to keep on working for this ideal. I think that I.C.E. is an enchanting concept. I.C.E. is not just frozen water, it has recorded the temperatures of ancient periods, it prevents water from raising the sea level, it holds the tales about the Earth's history and sometimes you can even find old animals in it, such as Mammoths. But in my case, I.C.E. was not just a mirror to the past and a guardian of the present, but the seed of a future.“

(Gustavo Nicolás Páez Salamanca / Bogotá, Columbia - Participant Iceland 2008)



„Through the excursions with experts, I discovered and perceived the high-mountain landscape I am familiar with from a new perspective. It was fascinating to hear the many views on environmental topics of the participants from different countries. Living together over this period of time welded us into a group with many common memories. Overall the camp so confirmed and strengthened my interest on the topic of environment that I am still dealing with



this topic in my studies.“

(Lucia Pattay / Hofbieber, Germany - Participant Austria 2015)

„Through the I.C.E.-Camp I have won not only a deeper awareness of our nature and its problems, but I have won many new friends and have had unforgettable experiences. Besides this, the camp has shaped me in the



sense that I have decided to concern myself with the environment in the future. I started my studies in agricultural sciences this year.“

(Martina Kröll / Bruneck, Italy - Participant Denmark 2017)



„The camp had a great impact on my career and field of study. I really enjoyed the camp and learned a lot about climate change and the climate system. Therefore I deci-

I became really fascinated by Svalbard during the I.C.E.-Camp, so I spent the last year of my bachelor degree at UNIS (the University Centre in Svalbard). Then I



continued with a master degree in physical oceanography, and now I have started a PhD in physical oceanography. I was already interested in climate change before the camp, but the stay in Svalbard made me even more interested and it increased my knowledge a lot.“

ded to start a bachelor degree in meteorology and oceanography at the University of Bergen.

(Ingrid Husoy Onarheim / Bergen, Norway - Participant Spitsbergen 2007)

LIST OF TOPICS

2007		
1	present situation:	The Virtual Fram
2	future:	Arctic Highway
3	biotope protection:	Nanoq on thin ice
2008		
1	present situation:	The Virtual Hansa
2	future:	Impact of climate change
3	biotope protection:	Ringed Seal
2009		
1	present situation:	Shishmaref
2	future:	Focus on Energy
3	biotope protection:	Walrus
2010		
1	present situation:	Preserving a lifestyle
2	future:	Forest Destruction
3	biotope protection:	The Road from Copenhagen
2011		
1	present situation:	Deepwater Horizons of the Arctic
2	future:	Overfishing & Acidification
3	biotope protection:	Saving the Narwhale
2012		
1	present situation:	On the Move
2	future:	Methane Greetings from the Mammoth Past
3	biotope protection:	Safety in Numbers
2013		
1	present situation:	A Nation Ready to move
2	future:	Desertification and land degradation
3	biotope protection:	Arctic Cows and little Auks

2014		
1	present situation:	A Nation ready to move
2	future:	The hunt is on
3	biotope protection:	Plastic birds
2015		
1	present situation:	Global overfishing by industrial fishing practices
2	future:	Oil & Gas Exploration on the Arctic Continental Shelf
3	biotope protection:	Ocean pollution by plastic particles
2017		
1	present situation:	Melting glaciers threaten ecology & economy
2	future:	Threats to global freshwater resources
3	biotope protection:	Impact of microplastic litter on aquatic habitats
2018		
1	present situation:	Protecting fish stocks as well as coastal fisheries
2	future:	Defining the role of renewable energies
3	biotope protection:	Harbour porpoises keeping a low profile
2019		
1	present situation:	Pesticides in the food chain
2	future:	Microplastic in the atmosphere
3	biotope protection:	The Situation of the western baltic hering



IMPRESSIONS



LECTURES OF THE LAST CAMPS (2018/2019)

Microplastics in the Baltic Sea -

Dr. Lenz (The Leibnitz Institute for Baltic Sea Research - Rostock)

The Big Melt -

Dr. Dirk Notz (Max-Planck-Institut for Meteorology - Hamburg)

Baltic cod tagging projects: Estimating fish growth -

Kate McQueen (Thünen-Institute of Baltic Sea Fisheries - Warnemünde)

Fisheries Management: EBC -

Maria Pierce (Thünen-Institut of Baltic Sea Fisheries - Warnemünde)

CO2 Budget - ICE Youth Camp 2018 and 2019

Christina Schmidt (GEOMAR Helmholtz Centre for Ocean Research - Kiel)

Small-scale fisheries in the Baltic Sea -

Steffi Meyer (Thünen-Institut of Baltic Sea Fisheries - Warnemünde)

MikrOMIK - Microplastics as vector for microbial populations
in the ecosystem of the Baltic Sea -

Dr. Sonja Oberbeckmann (Leibniz-Institut for Baltic Sea Research
Rostock)

Oceans and Climate Change -

Siren Rühs (GEOMAR Helmholtz Centre for Ocean Research - Kiel)

Harbour porpoise feeding activity & effects of vessel noise exposure on
wild harbour porpoises

Jonas Teilmann (Department of Bioscience - Marine Mammal Research -
Roskilde / Denmark)



Program of the last I.C.E. - Camp 2019



First Day	Kiel - Marstal
Presentation Dirk Notz: Climate Change, basic concept of Ice Climate Education General introductions to climate change issues Interviews Two4Two Introduction to simulation game	
Second Day	Marstal - Nyborg
Simulation game: preparing first conference Excursion to Marstal-Søfartsmuseum Participant's presentations: „Impact of climate change in my home country“ Skype: Dagmar Aaen - Arved Fuchs - I.C.E questions regarding Ocean Change expedition	
Third Day	Nyborg - Kerteminde
Simulation Game: Conference No.1 Presentation Steffi Meyer: Impact of climate change on the baltic-sea Discussion: climate change / climate sceptics	
Fourth Day	Kerteminde - Samsø
Excursion to Fjord & Bælt Center Kerteminde Simulation Game / Two4Two Interviews	



Fifth Day	Samsø
Presentation Christina Schmidt: Climate change in the baltic sea Bicycle tour - destination: Samsø's eastern beaches (beach litter collections)	
Sixth Day	Samsø - Middelfart
Visitation of the Samsø Energy Academy at Ballen / guided tour / presentation Presentation Ulrich Jordan: Introduction to harbour porpoises	
Seventh Day	Middelfart - Hørup Hav
Visiting harbour porpoises monitoring station at Middelfart Discussion Renewable energies - self sustaining island of Samsø Discussion - wind power (warming by wind power / impact of wind power installation generated sound on humans)	
Eighth Day	Hørup Hav - Sonderburg
Climate Change game Simulation Game: Preparing final conference	
Ninth Day	Sonderburg - Flensburg
Discussion climate change Simulation game: Conference No 2 - finalising COSPRED 2019 paragraphs Final discussions / Certificate handout / barbecue on board / gifts & games / farewell evening	



Svalbard 2007



Iceland 2009



Iceland 2008



Iceland 2010



Iceland 2011



Norway 2013



Norway 2012



Norway 2014



Austria 2015



Denmark 2018



Denmark 2017



Denmark 2019

Participating nations (2007 - 2019)

Germany - China - Czech Republik - Norway - Denmark -
Russia - South Africa - Canada - Nicaragua - Israel - Cyprus
- Estonia - Namibia - Columbia - Austria - Iceland - Turkey -
Greenland - Switzerland - France - Romania - Uganda -
England - Bulgaria - Poland - Bangladesh - Luxemburg - Italy

Ice Climate Education