

ISIE Board Meeting September 23rd, 2021

MINUTES

MEETING CALLED BY	Stefanie Hellweg (SH),
NOTE TAKER	Tim Baynes (TB)
REGRETS	Ester van der Voet (EvdV), Jooyoung Park (JP), Shoshanna Saxe (SS)
ATTENDEES	Heinz Schandl (HS), Alissa Kendall (AK), Weslynn Ashton (WA), Callie Babbitt (CB), Paul Hoekman (PH), Valerie Thomas (VT), Kazuyo Matsubae (KM), Ming Xu (MX), Gang Liu (GL), Reid Lifset (RL), Nina Kisbey-Green (NKG)

Agenda topics

0 WELCOME SH

The minutes from previous Board meeting June 10th, 2021 were accepted: proposed by **TB**, Seconded by **RL**

Note on action from last Board Meeting: Housekeeping has had a section added on Conflict of Interest and is available on on Google drive for further input: https://docs.google.com/document/d/1TgNv17P2WG7APQE_rZUK4rcGNr-uUA-/edit?usp=sharing&oid=101008485870787288777&rtpof=true&sd=true

1. PRESIDENT'S REPORT AND EXECUTIVE DIRECTOR'S REPORT SH, PH

REPORT	See also President's & Executive Director's Quarterly report attached to these minutes		
President and Executive Director			
(PH acknowledges Graedel Prize for CB)			
<ul style="list-style-type: none"> Budget and Annual Report approved Circular Economy Tagline approved Watch out for email scam often purporting to be HS Membership Report available from the ISIE website has now been expanded IE Day a success – 45 people attending each session on average and there is now a part of the ISIE website that retains information about the event and links to presentations and posters Continued efforts from the transition team to fully migrate the JIE to the society – lengthy and ongoing process SH: Strategic direction, grand challenges and cross-cutting methodology - Good feedback from IE Day. Also the Digitalization session in Australia triggered a Digitalization Proposal – see Item 3 			
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
Any further comments on Conflict of Interest will be collected by TB	TB	N/A	

2. FINANCES VT

REPORT/DISCUSSION	See Treasurer's report attached to these minutes		
Expenditure in line with budgeted expenses, noting the unspent costs of running the JIE and Proposals. We have already raised a bit more in memberships than expected and note the budget includes a transfer of the Journal of Industrial Ecology to the ISIE and the commencement of the new editorial team. Some transfers from Yale remain			
CONCLUSIONS	Bureaucracy may be the rate limiting factor		

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
RL offers to help in getting progression from the Yale side	VT, RL	ONGOING
3	PROPOSAL DRAFTS	PH/SH

REPORT	See Draft Project ideas in the links of the minutes below
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PH Presented (verbally) on some ideas on a targeted, strategic way to spend our 2021 project budget – see summary table below:

Project name	Budget	Who?
Industrial Ecology Introductory Lecture Series	EUR 7,000-15,000	Section boards (unpaid) Video editors (recruited through Cfp from membership)
Social Media Manager <i>8 month commitment</i>	EUR 0-4,000	Recruited through CFP from membership
IE Visuals Competition	EUR 1,500	Winning members
Communications and Outreach Specialist <i>8 month commitment</i>	EUR 0-8,000	Direct contracting - no one identified yet.

See more information in **document ISIE 2021 Project Proposals – Draft** available here:
<https://docs.google.com/document/d/13IZJAUoETNrwAq0hLQGF-pqB5RPFi0pfuQscSMXyVQA/edit?usp=sharing>

AK suggested multi-lingual videos. Make sure cartoons are inclusive and enable translations. **CB** adds that want to use some of their budget for captioning for video and alt text- don't leave it to voluntary efforts

RL we need to be clever to fit into the competitive environment of the 1st Project. One thing is to involve volunteers and how and why we would do this e.g. compared to the quality of TED talks, with the investment and resources that ISIE have.

GL: Perhaps if this is an 'iconic' project, the Development Board may be able to create support beyond this year's budget.

SH Presented Digitalization project idea developed during and after IE Day. See this document discussion and input:
https://drive.google.com/drive/folders/1NZ1_e7X4LIZkwq1nbqKheJhhATNZeJzq

RL mentions this initiative coordinate digitalization www.networkDEE.org could help with Digitalization proposal.

TB also notes the Industrial Ecology Data Commons proposal from Stefan Pauliuk

CONCLUSIONS	Provisional acceptance of draft ideas for projects with out-of-session decision to follow over the next week and further input welcome in the Google docs linked to
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ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
All Board members to review the Draft Project ideas create by PH and vote whether or not to commit to them on behalf of ISIE	TB/PH	Next ISIE Exec Meeting in 2 weeks
All can provide further commentary on the Digitalization initiative through the Google drive link above	All	N/A

5. DEVELOPMENT BOARD **AK/PH**

REPORT	See notes attached to agenda
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Text on the website on the history of the ISIE has been updated. Tom Graedel consulted on dissertations from the 1990's and comments from Faye Duchin also incorporated.

PH and AK initiated a conversation regarding ISIE's potential long-term financial gap if we don't have conference income, and the need for the ISIE to find alternative funding to cover this gap. The following was requested from the development board:

- To develop a coherent financial diversification strategy for the ISIE
- To find the right balance between ambition and feasibility
- To aim for at least EUR 13,000 of additional recurring annual income within 3 years
- To support the execution of this strategy

There were already various ideas and in general this request was well received and the development board aims to work on this and deliver such a document before the end of the year

Decision on Development Board Charter – developed and presented between ISIE Board meetings

Proposed to accept the charter by TB seconded by AK: passed by majority of 12 with one abstaining

CONCLUSIONS	Decision to approve Development Board Charter and an expectation that the Development Board will respond on the ongoing need to supplement annual income. The Development Board has been consulted on historical matters about the Society	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Following up with the Development Board on strategies to find alternative funding for the budget gap and other initiatives	AK	Ongoing

6

REPORTS TO THE BOARD FROM PROPOSALS, COMMITTEES

PH

REPORT	See also ISIE Circular Economy (CE) Development Proposal document attached to these minutes
<p>Awards Committee (HS)</p> <p>Currently 1 application for Laudise prize and one for ISIE Medal. Would like to have an awards lecture</p> <p>SH- timeline? HS. Announcements in October</p> <p>CE for IE proposal: tagline and what's next (WA) - Next steps for working group 1) is a white paper on ISIE and CE relationship and a group that want to work on this 2) possibly starting a section within ISIE though there is some concern that CE <i>could</i> cannibalise other sections – absorb members from elsewhere. Having an email conversation on (2)</p> <p>Conference Committee – IE Day follow up (SS) – highlights mentioned in Quarterly report – see Attachments</p> <p>Diversity and Inclusion (CB spoke extensively on ISIE's D&I statement at last meeting)</p> <p>Modified the vision working on drafting text of history and also thinking of how to prioritise budget – scholarships for membership for 1 year, is this OK with the Board? – how to overcome an 'activation energy' even though there are already discounted fees – interest in Latin American representation</p> <p>PH, notes that giving scholarship doesn't cost us cash – should just do it. Need to land a few things. CB students are thinking of even bringing in an external person to coordinate.</p> <p>As conference group and other groups find information/data on participation, they would like to bring that back into the D&I</p> <p>Website Committee PH some work for secretariat and the extending the automated membership report</p> <p>Membership Committee (JP and KM) – have been discussing getting more JP membership from Middle East and Africa and membership from business to increase ISIE income. Action on online results</p> <p>KM – reports on the IE Data Commons – S. Pauliuk (SP) working hard on data commons and has uploaded MFA guidelines on the website https://is4ie.org/announcements/1222. Please send feedback to SP and other Board members of the SEM Board</p> <p>Need to find a sponsor for the Popularizing Industrial Ecology and the ISIE more in Asia proposal</p>	

CONCLUSIONS			- No voting decision required
ACTION ITEMS		PERSON RESPONSIBLE	DEADLINE
Identify a Board Member to work with the Popularizing Industrial Ecology and the ISIE more in Asia Proposal		TB	Next ISIE Exec Meeting
Membership scholarships for developing regions to be implemented		Executive and CB	Next Board Meeting
Decision on collection of participant data in (online) conferences		Executive	Next Board Meeting

7. NEXT ELECTIONS AND SUCCESSION PLANNING TB

REPORT/DISCUSSION			
<p>Upcoming election sees the following people leaving the Board:</p> <p>Secretary and Vice, Treasurer and Vice, Shoshanna and Kazuyo AND the Executive Director. The entire Secretariat... considerable change in executive personnel.</p> <p>RL – could have a staggered set up with Secretary and Treasurer like the Immediate Past President and President Elect.</p> <p>TB – maybe possible with/after a second generation – too much transition already in the first 3 years and discovering what <i>are</i> the new Treasurer and Secretary roles.</p>			
CONCLUSIONS			
Some planning and decision making required at next Board meeting on succession, particularly for the Executive Director and Executive Assistant			
ACTION ITEMS		PERSON RESPONSIBLE	DEADLINE
Get Nominating Committee to start early on the election process		TB/HS	Next Board Meeting

8. JOURNAL OF INDUSTRIAL ECOLOGY RL

REPORT/DISCUSSION			
<p>RL: Getting through the final stages of the contract re: ownership. It would be better for the Society if there were more legal protections- meeting with Wiley next week</p> <p>Publishers insurance: PH asks for any advice anyone can give – not sure what liabilities there are if things go wrong</p> <p>Biggest stumbling block is what <i>is</i> the jurisdiction of the contract and lawyers don't like things without clear definitions like jurisdictions</p> <p>When we get over these last few steps the contract should be finalized by the next Board meeting</p> <p>RL Data badges really are incrementally adding to the standards and transparency of data use and sharing.</p> <p>SH need to complete the main contract with Wiley to formally make offer to EIC but each EIC have committed to spend time on the .We promised them a 1st annual honorary payment and they were satisfied with that</p> <p>RL Contracts with EIC only remaining issues are of the same source as the contract with Wiley</p>			
CONCLUSIONS			
Agreement on contract is converging and ISIE will benefit from care taken in this process			
ACTION ITEMS		PERSON RESPONSIBLE	DEADLINE
Conclusion to the legal arrangements with JIE and EIC		PH, SH, RL, VT	Next Board Meeting

7. OTHER BUSINESS SH

DISCUSSION		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

MEETING CLOSED AT 12.00 AM AEDT

SH

ATTACHMENTS FOLLOW

Quarterly summary of activities

Jun-Sep 2021

This document provides an overview of the principal activities and updates from the ISIE over the last three months. It is written up in order to provide an update to the ISIE board in an attempt to shorten reporting-back during the actual board meeting.

Prepared by Paul Hoekman and Stefanie Hellweg on Sep 20, 2021

International Industrial Ecology Day 2021 a success

With 29 individual blocks, spread out over 24 hours of engagement that started off in Australia and ended on the US West Coast, IE Day 2021 was a very successful first experiment. It was the first time we replaced our biannual conference for a virtual event, and while it was of course not the same experience, it did provide a well-attended and well-received alternative in these trying times. Each session was attended by 45 people on average. We have also taken advantage and built an extension to our website, where we managed and approved abstracts, allowed people to sign up, view and rate posters, and where the program was published. This way, we start building our own online repository with conference data, and this can hopefully serve as a baseline website for future conferences. Right now, we have archived videos of 8 topic sessions and 3 plenaries [on the site](#), as well as the submitted [42 posters](#), and the entire program and other updates from the event. Many thanks must go to the [organizing committee](#), consisting of 18 people and chaired by Anna Petit-Boix and Stefan Pauliuk.

Membership levels

IE Day gave our membership numbers a boost, and we have even after this event continued to see membership registrations come in. Our numbers currently stand at 708 members - one of the highest figures we have ever seen! More details in the membership report below.

Transition of the JIE

There have been continued efforts from the transition team to fully migrate the journal to the society. It has proven to be a lengthy process, but we are now in what seem to be the final steps of the process. We are glad to report that our team of 3 new Editors in Chief have been identified and onboarding is starting while we sort out contractual details. More updates on the topic in a dedicated agenda point.

2020 Finances

After being presented at the ISIE AGM and in the annual report, members were asked to approve the 2020 finances. These have been approved by the membership, with 18 votes coming in (17 approve, 1 abstain). The finances were therefore formally approved, and our annual report was updated from its draft status to its finalized form.

Elections

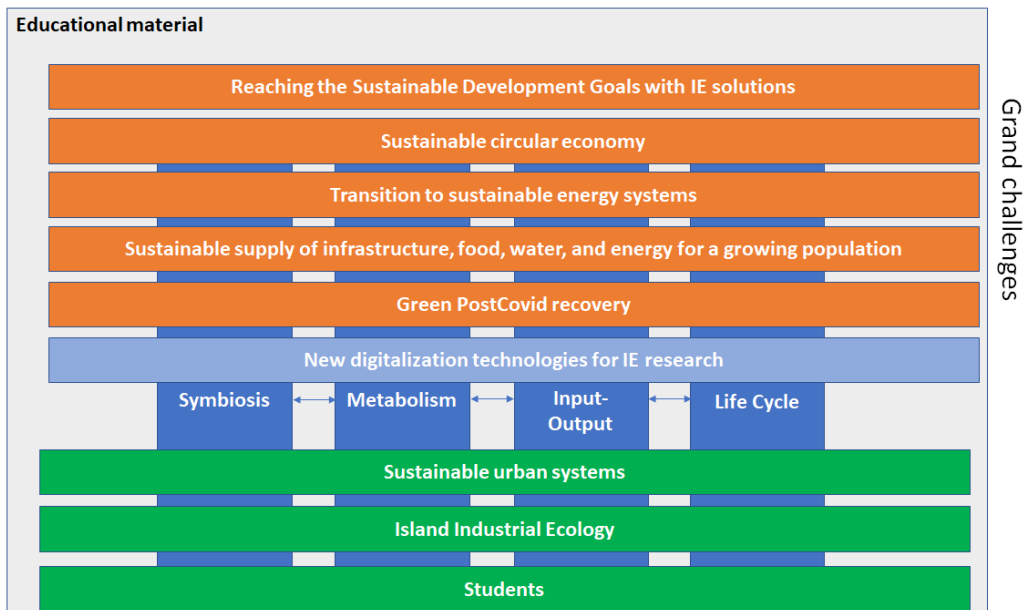
The student section has announced their 2021 election cycle. They are currently registering candidates. We will liaise with the other sections to make sure that board members remain current.

Leiden 2023 update

The Leiden organizers have set a tentative date for our flagship conference: 3-7 July, 2023. The format is listed as "live conference with possibilities for online participation". We have to see how things play out, and hopefully we can have a successful in-person meetup, but it is good to see the organizing committee updating our community during IE day. Update available [here](#).

ISIE strategic direction

ISIE currently has seven sections. Four of them are dedicated to method development (symbiosis, metabolism, input-output, life cycle), while three are of crosscutting nature (students, island IE, urban systems). In addition to these current sections, crosscutting working groups have been suggested that address the grand environmental challenges of today, such as (1) reaching the SDGs with IE solutions, (2) creation of a sustainable circular economy, (3) transition to sustainable energy systems, (4) sustainable supply of infrastructure, food, water and energy for a growing population, and (5) Green PostCovid recovery. Dedicated activities on these topics would strengthen our capacity, visibility and policy impact. This vision was presented in the forum on the ISIE webpage (see <https://is4ie.org/forum/general/42>) and on the Industrial Ecology Day (June 2021) (see <https://polybox.ethz.ch/index.php/s/0px4yNYDOR1VasR>). In addition to these new crosscutting working groups, it was suggested on the IE-Day that new digitalization technologies, such as machine learning and big data, are another crosscutting methodological topic that deserves joint action. A concept note describing such a potential activity is attached to the meeting documents. Membership feedback to these future activities has been very positive. Next steps in implementing these ideas will follow.



Circular economy tagline

We have quite a lot of movement around the tagline. We held a membership-wide vote, which led to the adoption of the following tagline:

Science for sustainability and circular economy

The suitability of this tagline will be reviewed periodically, and we encourage members to post any additional feedback on the tagline, as well as the process, in our online [forum topic](#). We can not please everyone all the time, but we do believe that this new tagline has broad support within our membership, and that we have provided a number of ways for people to engage on the topic. We thank all the people who have provided input and who contributed to the many discussions, brainstorming sessions, and procedures that underlie this decision. Special thanks to all members from the circular economy task force, who brought this up at last year's AGM and who have driven this process since that time!

E-mail scam

With some regularity, a number of our (board) members receive a targeted scam e-mail. The email generally pretends to come from Heinz Schandl in his (former) role as ISIE President and in the e-mail some urgent funds are requested from the recipient. Either being an official ISIE expense, or a personal emergency expense that support is being requested for. This is a classic scam and as far as we know no one has fallen for this. We would just like to alert all board members that these e-mails exist, and that only the treasurer is expected to pay anything on behalf of the ISIE. Mechanisms are in place to ensure validity of these payments. If you ever receive an unexpected e-mail around payments, please never respond and always report this to the ISIE executive instead.

Membership activity report

The ISIE has had a membership report available through the back-end of the website for a while now. This report allows for some statistics and insights into our membership, including a breakdown by type of membership, location breakdown of our members, details of section membership, and now also details on website postings per section. In order to keep our board better informed of our membership status, we will be sending through this report every quarter as part of our meeting package. Please browse through this report as this gives you an idea of where things stand. Furthermore, we are setting up a system in which all our section board members will also receive a quarterly update to also ensure the section board members are kept in the loop.

Other short updates

Concept note: New digitalization technologies for IE research

Stefanie Hellweg (with input from Andreas Frömelt)

Background

Digitalization, including among others big data and machine learning, is expected to substantially change our way of living as well as the capabilities to do research. In Industrial Ecology, the application of digitalization techniques is still in its infancy. It is well acknowledged that big data and data mining (including statistical and artificial intelligence techniques to gain knowledge of large and complex datasets) can be used both as “rich information” as well as for alternative modeling approaches in industrial ecology (Xu et al. 2015). Thus, data mining and machine learning offer opportunities for improving the modeling within the field of Industrial Ecology. In particular, data-mining methods can be useful to exploit extensive and complex data for understanding and improving the environmental performance of products, technologies and society as a whole. First applications of data mining exist. For example, Cai and Xu (2013) analyzed the travel trajectories of thousands of taxis to model future adoption and environmental impacts of electric vehicles. Sundaravaradan et al. (2011) applied and tested data mining techniques to estimate missing data in life-cycle inventory databases. Wernet et al. (2008, 2009) developed a neural-networks based tool to predict the energy demand and climate-change impacts of chemical production as a function of the functional structure of chemicals. Finally, Froemelt et al. (2019) generated a spatial model platform that predicts a realistic consumption behavior for each household in Switzerland. Xu et al. (2015) conclude that “With the increasing availability of big data, it is possible to bring IE to the next phase focusing more on the spatial, temporal, and demographic heterogeneity of industrial systems”, rather than only using average values for environmental assessments as currently often the case.

Boyd and Crawford (2012) warned of dangers and risks involved when using big data, including that “Bigger data are not always better data,” and that “Taken out of context, big data loses its meaning”. Therefore, big data and data mining are no “magic bullet”, but need to be selected and applied carefully, considering nature and context of the data (Xu et al. 2015) and applying the appropriate methods.

In addition to using digitalization for better research, digitalization technologies themselves (e.g. the Internet of Things, blockchain) have the potential to reduce or increase environmental impacts. The Global e-sustainability Initiative estimated that Information and Communication Technologies have the potential to avoid 10 times more greenhouse gases than they produce (GeSI 2015). Examples of such technologies are videoconferencing substituting traveling, autonomous driving making mobility more efficient, smart homes allowing for energy optimization of housing. The Corona crises has boosted the application of some of these technologies. However, efficiency gains only lead to an absolute reduction of environmental impacts if they are not offset by additional consumption. This is the so-called rebound effect, which represents a large uncertainty for the environmental success of future digitalization technologies. Assessing the environmental performance of digitalization technologies and their rebound effects is hence another research topic for Industrial ecologists.

To conclude, big data and data mining offer opportunities for improving the modeling within the research field of Industrial Ecology, in particular with regard to enhancing the spatial, temporal and demographic level of detail. Therefore, we need intelligent algorithms to master the data jungle and to better understand systems with the ultimate goal to improve our models and decision support tools. Moreover, digitalization technologies themselves directly affect the environmental performance of our society, but it is not yet clear to which efficiency gains and rebound effects they may lead. It will be our responsibility as industrial ecologists to assess the widespread use of smart products and support or accompany the design of smart devices. Many smart technologies and smart systems are just emerging and an initially very good idea might backfire at some point. As it is at the core of ISIE to assess and anticipate environmental issues, industrial ecology should assume a key role in accompanying a responsible development of applications of artificial intelligence.

Potential topics and activities within ISIE:

- establish guidelines and educational material for good modelling practice and provide examples of successful applications
- platform for connecting industrial ecologists that apply data science or machine learning algorithms à for exchanging questions and ideas
- potentially establish / encourage / accompany the society towards a better data sharing (in coordination with the data commons initiative)
- establish guidelines for ethical handling of IE data and artificial intelligence applications

Some people already active in the field and could be approached for starting up such an initiative, including Franco Donati, Sebastien Dente, Hua Cai, Gang Liu, Sybil Derrible, Ming Xu and others (this is not an exhaustive list, collected from IE Day and previous publications)

Literature cited

- Boyd, D. and K. Crawford. 2012. Critical questions for big data. *Information, Communication & Society* 15(5): 662–679
- Cai, H., & Xu, M. (2013). Greenhouse Gas Implications of Fleet Electrification Based on Big Data-Informed Individual Travel Patterns. *Environmental Science and Technology*, 47(16), 9035–9043. <https://doi.org/10.1021/es401008f>
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- Xu M, Cai H, Liang S, Big Data and Industrial Ecology, *Journal of Industrial Ecology* 19(2), 205-210, DOI: 10.1111/jiec.12241

Treasurer's Report, ISIE, September 21, 2021, Valerie Thomas, Treasurer treasurer@is4ie.org

ISIE's basic expenditures are in line with the budgeted amounts. We have already raised a bit more in memberships than we budgeted. The budget includes a transfer of the Journal of Industrial Ecology to the ISIE and the commencement of the new Editorial team; this has not yet happened.

Income and Expenses Statement	For 2021 January 1 to	September 21,	2021
		Transferwise	Budgeted
		€	2021
Income			
Membership fees and donations		26,146.67	23,000
Conference Income		0.00	0
J Industrial Ecology income		0.00	47,600
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Total Income		26,146.67	70,600
Expenses			
Remunerations			
Administrative Services		-5,858.01	-9,614
Executive Director		-12,000.00	-15,030
Secretary Remuneration		0.00	-2,500
Treasurer Remuneration		0.00	-2,500
General expenses			
		0.00	
Communications etc (Zoom)		-60.42	
Financial Services Software (Xero)		-129.89	-250
Banking fees		-92.60	-247
Credit card fees		0.00	
Website Management		-3,362.39	-3,600
Journal of Industrial Ecology		-1,690.47	-47,600
Currency exchange fluctuations			-200
Travel			
Executive Director travel		0.00	0
President and Board Members travel		0.00	0
Scholarships and Awards			
Conference Scholarships		0.00	0
ISIE Awards		-400.00	-750
Projects and Initiatives			
Yale Closing Ceremony		0.00	0
Member proposals		-484.00	-20,500
Unforeseen Costs		-2,117.5	-2,500
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Total expenses		-26,195.28	-105,291