

出國報告（出國類別：國際會議）

**國際影響評估協會（International  
Association for Impact Assessment,  
IAIA）西元 2025 年研討會（第 44  
屆國際影響評估協會研討會）  
出國報告**

服務機關：環境部

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派赴國家：義大利

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# 摘要

國際影響評估協會（International Association for Impact Assessment, 簡稱 IAIA）是一個具有全球影響力的非政府組織，其核心使命自 1980 年創立以來，便致力於在全球範圍內推動並提升影響評估領域的最佳實踐與創新思維。IAIA 作為一個跨學科的國際平台，匯集了來自世界各地的頂尖專家，涵蓋了環境科學、社會學、經濟學、規劃學等多個專業領域。他們共同的目標是促進在各類發展決策，無論是大型基礎建設、政策制定或產業專案啟動之前，能夠更全面、系統地識別、精準預測、客觀評估，並有效減輕其可能對環境、社會及其他相關層面所造成的潛在衝擊與影響，最終以期實現更加永續、平衡且負責任的全球發展。

本次國際影響評估協會（IAIA）所舉辦的「影響評估國際年會暨研討會」，是產官學界矚目的年度盛事，其核心主題深刻聚焦於「人工智慧時代的影響評估」。這項主題的選定，不僅反映了當前科技浪潮對各領域的顛覆性影響，更旨在深入探討人工智慧（Artificial Intelligence，簡稱 AI）技術如何對傳統影響評估流程帶來劃時代的衝擊與變革。會議內容將廣泛涵蓋數據驅動的評估流程與智慧化工具的應用、如何建構創新決策的環境，以及人工智慧在環境、社會與治理（Environmental, social, and governance，簡稱 ESG）評估、資訊揭露與報告撰寫方面的巨大應用潛力。此外，本次會議的周邊會議，其主題為「通過數位創新實現環評的進步（Advancements in Environmental Impact Assessment Through Digital Innovations）」，其主要概念乃是探討數位化工具與人工智慧方法的深度整合，將如何徹底革新環境影響評估（下稱環評）的實踐方式，大幅提升評估的效率、精確度與透明度，並進一步促進更具資訊基礎的明智決策。這不僅為全球從業者、資深研究人員及政策制定者提供了一個極其寶貴的專業交流平台，更鼓勵他們在此進行動態的想法交流與創新解決方案的共同探討。主辦單位根據各項議題的相關性與專業深度，透過主題論壇、實務工作坊、圓桌會議以及海報展示與豐富的案例分享等多種形式，在不同的會場同步進行深度討論。與會人員可以根據自身的

專業興趣與需求，靈活選擇當日最感興趣的議題場次參與，藉此深入瞭解其他國家在影響評估領域的最新觀點、創新方法及成功案例。由於會議所探討的內容與我國目前辦理的環評審查業務息息相關，且能直接獲取當前國際間在環境影響評估數位轉型與人工智慧應用的主要發展趨勢，這對推動相關業務的未來發展提供極大的助益與啟發。

我國目前正積極推動「環評邁向數位與智慧雙軸轉型」，這項政策的理念與本次周邊會議的主題概念契合。因此，本次會議特別以「臺灣的雙軸轉型：運用數位化與人工智慧精進環評 (Taiwan's Dual-Axis Transformation: Advancing EIA with Digital and AI Tools)」為題進行口頭報告發表，藉以展示我國在環評領域的創新與進展，更期盼藉由參與此次國際性的專業盛會，與來自世界各國的專家學者進行深入的經驗交流與知識共享，從而更全面地瞭解國際間在環評導入數位化與人工智慧的規劃策略與實際現況。這些寶貴的第一手資訊與國際視角，將作為我國主管機關在未來制度推動與政策制定上的重要參考依據，同時也有效提升我國在國際影響評估社群中的能見度與影響力。

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# 本文

## 壹、目的

本部此次參與國際影響評估協會（IAIA）年會的核心目的，是為全面精進我國環評制度，特別著重於掌握並導入人工智慧與數位化工具的最新國際應用趨勢。透過深入參與「人工智慧時代的影響評估」及「通過數位創新實現環評的進步」等前瞻性主題討論，我們期望能汲取全球在人工智慧應用於環境影響評估的創新方法、實踐案例與潛在挑戰，這些寶貴經驗將直接做為我國「環評邁向數位與智慧雙軸轉型」政策推動的參考，期以制定更具前瞻性、效率與透明度的環評制度。同時，本次會議也是我國與會代表促進國際交流、強化夥伴關係的重要契機，與來自世界各地的專家學者互動，並藉由發表「臺灣的雙軸轉型：運用數位化與人工智慧精進環評」口頭報告，分享我國的經驗與未來推動策略，期以有助於提升臺灣在全球環境影響評估領域的能見度與影響力，展現我國在環境治理與永續發展上的實力與貢獻。

## 貳、參與行程與人員

### 一、行程規劃與實際參與

國際影響評估協會第 44 屆年會訂於本(114)年 5 月 1 日至 5 月 4 日辦理為期 4 日的研討會，會議地點位於義大利波隆那會議中心(The Bologna Congress Center)。

因本次年會於義大利波隆那召開，囿於臺灣目前尚無直飛班機，必須由歐洲米蘭馬爾彭薩機場轉乘火車赴會議地點，爰本次環境部參與人員實際行程表及摘要如表 1。

表 1 第 44 屆國際影響評估協會(IAIA)研討會之實際參與行程表

日期	行程	內容概要
114/4/28 - 114/4/29	啟程	啟程，桃園國際機場前往米蘭馬爾彭薩機場，再搭乘火車前往義大利波隆那。
114/4/30	停留義大利波隆那	會議場地熟悉與口頭報告準備。
114/5/01	參加研討會 (義大利波隆那)	<p>1. 開幕式全體會議</p> <p>(1) 開閉幕致詞由主席 Giuseppe Magro (其為博洛尼亞大學教授) 及會議共同主席 Roberta Vicentini 主持，與會嘉賓包括波隆那市長 Matteo Lepore 及義大利聯合國兒童基金會國家委員會執行主任 Paolo Rozera 等人。</p> <p>(2) 主題演講由 Federico Faggin 主講「工程師、物理學家與微處理器發明人」主題。</p> <p>2. 分組會議：參加「韓國致力於完成數位環境影響評估：示範 (Korean Endeavor to Accomplish Digital EIA: Demonstration)」。</p> <p>3. 參觀海報展示。</p>
114/5/02	參加研討會 (義大利波隆那)	<p>1. 上午參加分組會議共二場次</p> <p>(1) 人工智慧在新興的影響評估未來中所扮演的角色 (The Emerging Role of Artificial Intelligence in the Future of Impact Assessment)。</p> <p>(2) 人工智能與永續性：環境評估的新紀元 I (AI and Sustainability: The New Era of Environmental Assessment I)。</p> <p>2. 下午參加分組會議共二場次</p> <p>(1) 亞洲 S3EA：人工智慧時代的策略性、空間性和永續性環評 I (Asian S3EA: Strategic, Spatial and Sustainable EA in AI Era I)。</p> <p>(2) 亞洲 S3EA：人工智慧時代的策略性、</p>

		<p>空間性和永續性環評 II (Asian S3EA: Strategic, Spatial and Sustainable EA in AI Era II)。</p> <p>3. 參觀海報展示。</p>
114/5/03	<p>參加研討會 (義大利波隆那)</p>	<p>1. 上午參加分組會議共二場次</p> <p>(1) 人工智慧能否支援長期監測與調適性管理？ (Can AI Support Long-Term Monitoring and Adaptive Management?)。</p> <p>(2) 能源轉型影響評估中的透明度與資料共享 I (Transparency and Data Sharing in Impact Assessment for the Energy Transition I)。</p> <p>2. 下午參加分組會議共二場次</p> <p>(1) 改善歐盟及全球的策略環境評估實踐：人工智慧能有所助益嗎？ I (Improving Strategic Environmental Assessment Practice in the EU and the Wider World: Can AI Help? I)。</p> <p>(2) 改善歐盟及全球的策略環境評估實踐：人工智慧能有所助益嗎？ II (Improving Strategic Environmental Assessment Practice in the EU and the Wider World: Can AI Help? II)。</p>
114/5/04	<p>參加研討會 (義大利波隆那前往米蘭)</p>	<p>1. 上午參加分組會議「人工智慧在影響評估中於問責制和倫理實踐方面所面臨的挑戰 (Challenges of AI for Accountability and Ethical Practice in Impact Assessment)」。</p> <p>2. 上午於分組會議「透過數位創新提升環境影響評估 I (Advancements in Environmental Impact Assessment Through Digital Innovations I)」進行議題「臺灣的雙軸轉型：以數位與人工智慧工具推進環境影響評估 (Taiwan's Dual-Axis</p>

		Transformation: Advancing EIA with Digital and AI Tools)」之簡報。 3. 下午參加分組會議「透過數位創新提升環境影響評估 II (Advancements in Environmental Impact Assessment Through Digital Innovations II)」。
114/5/05	停留義大利米蘭	整理會議資料與準備返國事宜。
114/5/06 - 114/5/07	義大利米蘭返回臺北	自義大利米蘭搭機返回臺北。

## 二、參與人員

依據「環境部因公出國人員選派作業要點修正規定」規定，各單位選派出國考察、研習、訪問，參加會議人員，應依計畫性質、欲達成之目的、人員之專長及外語能力等綜合考量選派人員，爰指派與本屆研討會主題相關，且負責辦理環境影響評估審查業務之尹心婕技正與會，該員相關業務經驗及近 1 年績效如表 2。

表 2 第 44 屆國際影響評估協會(IAIA2025)研討會與會成員介紹

環境部與會同仁	執行相關業務績效
尹心婕技正	1. 辦理近 1 年開發行為個案環境影響評估審查業務，包括：臺北港南碼頭區二期填海造地開發計畫環境影響評估報告書、台 9 線蘇花公路安全提升計畫環境影響說明書、中山高速公路員林至高雄段拓寬工程環境影響說明書第 10 次環境影響差異分析報告（高科交流道改善工程）、中山高速公路員林至高雄段拓寬工程環境影響說明書第 5 次變更內容對照表（增設岡山第二交流道工程噪音敏感點嘉興國中隔音牆防制措施調整）、六輕產品、產能調整計畫環境影響評估報告書暨六輕四期擴建計畫環境影響



	<p>說明書變更內容對照表（苯乙烯廠新增再生苯乙烯產品）、台 2 線竹安橋改建、金馬橋拓寬及引道路基拓寬工程環境影響說明書變更內容對照表（停止營運期間環境監測）。</p> <p>2. 辦理「環境影響評估總體檢專案計畫」履約管理事宜。</p> <p>3. 辦理「環評邁向數位與智慧雙軸轉型前導計畫」履約管理事宜。</p>
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## 參、關於義大利波隆那

波隆那，位於義大利艾米利亞-羅馬涅大區的首府，不僅是北義重要的交通樞紐，更是一座充滿活力的文化與學術之城。波隆那市的人口約為 39 萬人（截至 2023 年統計），而整個波隆那省的面積約為 3,702 平方公里。相較於義大利全國約 6 千萬的人口和約 30 萬平方公里的國土面積，波隆那是個人口密度適中、兼具城市機能與自然風光的城市。

波隆那坐落於波河平原的南緣，亞平寧山脈的北麓，這優越的地理位置賦予了它「義大利十字路口」的美譽。無論是前往米蘭、佛羅倫斯、威尼斯還是羅馬，波隆那都是重要的鐵路與公路交會點，便捷的交通網絡為其經濟與文化的發展奠定了基礎。此外，波隆那擁有古列爾莫·馬可尼機場（Guglielmo Marconi Airport），也是北義重要的國際機場之一，進一步強化了其交通樞紐的地位。

波隆那的歷史可以追溯到公元前六世紀的伊特魯里亞文明，爾後羅馬人在此建立了殖民地。中世紀時期，波隆那成為獨立的公社，並在 1088 年創立了歐洲最古老的大學，波隆那大學（University of Bologna），其在歐洲學術史上扮演了舉足輕重的角色，吸引了無數來自世界各地的學者與學生，使波隆那贏得了「大學之城」的美譽。

波隆那以其紅磚建築、連綿的拱廊和兩座傾斜的塔樓—阿西內利塔（Asinelli Tower）和加里森達塔（Garisenda Tower）而聞名。這些拱廊不僅提供了遮陽避雨的功能，更串聯起城市的各個角落，形成了獨特的城市景觀。漫步在波隆那的街頭巷尾，隨處可見歷史悠久的建築、熱鬧的市集和充滿藝術氛圍的小店，展現出其深厚的人文底蘊。

除了建築特色，波隆那更是聞名遐邇的「美食之都」。這裡被譽為義大利的「廚房」，是許多經典義大利美食的發源地，例如廣為人知的波隆那肉醬（Ragù alla Bolognese）、帕爾馬火腿（Prosciutto di Parma）和帕馬森起司（Parmigiano-Reggiano）。豐富的飲食文化不僅滿足了味蕾，也反映了當地人對生活品質的追求與熱愛。



圖 1. 波隆那拱廊特色



圖 2. 波隆那的雙塔



圖 3. 聖白托略大殿



圖 4. 博洛尼亞主廣場

## 肆、國際影響評估協會 2025 年研討會概要

### 一、會議主題

本屆研討會的主題是「人工智慧時代下的影響評估」(Impact Assessment in the age of Artificial Intelligence)，其明確指出，我們正處於一個由人工智慧深度影響我們生活、職業與環境各個層面的時代。面對這項顛覆性技術，預測其對影響評估的具體影響雖然充滿挑戰，但同時也提供了前所未有的機會，讓我們能夠運用人工智慧的巨大潛力來強化評估流程與決策制定。如同任何足以重塑社會各個面向的創新，人工智慧的崛起要求各機構、影響評估專業人士以及所有相關利害關係人，務必深入了解其重要性。我們必須積極探索、審視並貢獻己力，以有效且普遍地減輕人工智慧可能對環境造成的影響。

本屆研討會的宗旨，主要是針對影響評估專業人員在未來人工智慧社會中的策略性角色，展開一場全球性、全面性且協作性的對話。本屆研討會鼓勵國際影響評估協會會員及其他參與者，分享他們在創新和創意方法與工具方面的經驗和

建議，以支持協助與會者因應人工智慧(AI)帶來的變革。

本屆研討會目標包括：就人工智慧對影響評估的優勢和風險展開多學科討論、建議在日常影響評估實踐中使用數據驅動的方法、加強對影響評估人工智慧工具的瞭解、分享人工智慧在環境、社會和治理（Environmental, social, and governance，簡稱 ESG）之評估/披露/報告方面的有效潛力。

本屆研討會將重點關注四大主題類別，包括：人工智慧對影響評估的影響 (Impact of AI on impact assessment)、數據驅動的流程/途徑/方法/工具創新 (Data-driven innovation of processes/approaches/methodologies/tools)、循證決策(Evidence-based policymaking)，及環境、社會和治理（ESG）。

配合本屆研討會主題，第 44 屆國際影響評估協會之研討會主辦單位結合義大利特色及人工智慧，繪製西元 2025 年之會議標誌如圖 5



圖 5 第 44 屆國際影響評估協會設計標誌

## 二、會議進行方式

本屆研討會已於本(114)年 5 月 1 日至 5 月 4 日，在義大利波隆那會議中心「Bologna Congress Center」舉行為期四天的研討會。由於會議議題眾多與廣泛，主辦單位依據各議題的相關性，規劃了多種討論形式，包括主題論壇、工作坊、圓桌會議（或小組討論）、公民咖啡館、論文發表會議及案例分享等，在不同會場同步進行。與會人員可自由選擇當日感興趣的議題參與，藉此深入了解其他國家在影響評估領域的意見與實務案例。（詳附錄一研討會議資料）。



### 三、開幕式(Opening plenary)

開幕式於研討會第一天，在 114 年 5 月 1 日下午 1 點至 2 點半舉行，活動內容包括開幕表演、貴賓致詞、音樂表演、主題演講，現場照片如圖 6 至圖 7 所示：

- (一) 會議聯合主席 Giuseppe Magro 及 Roberta Vicentini Magro 共同主持開幕致詞。
- (二) 波隆那市市長 Matteo Lepore 及義大利國家聯合國兒童基金會執行董事 Paolo Rozera 致歡迎詞。
- (三) 義大利國家聯合國兒童基金會播放影片。
- (四) 國際影響評估協會主席 Alan Ehrlich 及執行長 Gary Baker 致詞。
- (五) 環境科學家兼永續發展專家 Walter Ganapini 介紹會議主題。
- (六) 音樂表演。
- (七) 專題演講：微處理器發明者、工程師兼物理學家 Federico Faggin 主講。
- (八) 會議聯合主席 Giuseppe Magro 及 Roberta Vicentini Magro 致閉幕詞。



圖 6. 開幕式



圖 7. 音樂表演

#### 四、 主題論壇(Theme Forums)、分組主題報告(Concurrent Sessions)及海報

##### (一) 主題論壇(Theme Forums)

本屆研討會以「人工智慧時代下的影響評估」為主題，設定了 16 項關鍵議題。研討會期間，主辦單位在不同會場安排了多場論壇（含圓桌討論），邀請與會者進行深入的議題交流與探討，藉此分享各國在影響評估領域的寶貴意見與實務經驗（照片如圖 8 至圖 9）：

1. 基於權利的方法進行影響評估：透過參與影響評估實現原住民韌性與復興 (A Rights-Based Approach to IA: Indigenous Resilience and Resurgence Through Engaging in IA)
2. 區域累積效應評估與管理工具與技術(Tools and Techniques for Regional Cumulative Effects Assessment and Management)
3. 影響評估中人工智慧炒作的真實情況為何？(What's the Reality Behind the AI Hype in IA?)
4. 人工智慧在影響評估未來中的新興角色(The Emerging Role of Artificial Intelligence in the Future of Impact Assessment)
5. 人工智慧的未來驗證：治理、永續性與影響-形塑下一代影響評估

- (Future-Proofing AI: Governance, Sustainability, and Impact-Shaping the Next Generation of Impact Assessments)
6. 人工智慧與永續性：環境評估的新時代(AI and Sustainability: The New Era of Environmental Assessment)
  7. 人工智慧時代下的環境影響評估：人工智慧在生物多樣性基線化中的案例 (Environmental Impact Assessment in the AI Era: The Case for AI in Baseline Biodiversity)
  8. 人工智慧學習要點：多邊金融機構的環境與社會影響評估工具 (Essential AI Learnings: ESIA Tools from Multilateral Financial Institutions)
  9. 數位科技的人權影響評估(Human Rights Impact Assessment of Digital Technology)
  10. 人工智慧能否支持長期監測與調適性管理？(Can AI Support Long-Term Monitoring and Adaptive Management?)
  11. 人工智慧在影響評估中的問責制與道德實踐挑戰(Challenges of AI for Accountability and Ethical Practice in Impact Assessment)
  12. 人工智慧學習要點：多邊金融機構的環境與社會影響評估工作流程管理 (Essential AI Learnings: Workflow Management for ESIA from MFIs)
  13. 什麼是科學，誰是藝術？人工智慧與人類在影響評估中的角色劃分(What Science and Whose Art? Demarcation of AI and Human Roles in IA)
  14. 影響評估能否更「未來智慧」：將未來思維融入影響評估(Can IA be more "Future-Smart": Incorporating Futures Thinking in IA)
  15. 健康影響評估的比較視角實施：共同點、差異與人工智慧的未來 (Implementation of HIA from a Comparative Perspective: Common Grounds, Differences, and the Future with AI)
  16. 人工智慧與原住民數據在影響評估中的應用(Artificial Intelligence

and Indigenous Data in Impact Assessments)



圖 8 第 44 屆國際影響評估協會研討會主題論壇



圖 9 第 44 屆國際影響評估協會研討會主題論壇

## (二) 分組主題報告(Concurrent Sessions)

本屆研討會共計收到 422 篇投稿文章，除了聚焦於人工智慧等關鍵議題的討



論外，本屆研討會亦延續往年傳統，持續針對一般影響評估項目進行廣泛的交流與探討（現場參與會議如圖 10），包含項目如下：

1. 人工智慧對影響評估的影響(Impact of artificial intelligence on impact assessment)：本主題類別的場次將探討人工智慧在影響評估中的應用、潛力與挑戰，涵蓋其對環境評估效率、數據分析、決策制定以及道德考量的影響。
2. 流程、方法、工具的數據驅動創新(Data-driven innovation of processes, approaches, methodologies, and tools)：本主題類別的場次將聚焦於利用數據、技術和人工智慧工具，創新影響評估的流程、方法和工具，以提升評估的精確性、效率和決策品質。
3. 基於證據的政策制定(Evidence-based policymaking)：本主題類別的場次將深入探討如何運用證據來支持環境政策制定，特別是在氣候變遷和再生能源發展的背景下，以期提高政策的有效性和可持續性。
4. 環境、社會與治理報告與揭露(Environmental, social, and governance reporting and disclosure)：本主題類別的場次將討論環境、社會與治理（ESG）報告和資訊揭露的重要性，以及這些揭露如何與影響評估系統相互關聯，以促進更透明和負責任的發展。
5. 學術界(Academia)：本主題類別的場次將探討全球高等教育機構在影響評估研究和教學活動方面的貢獻。
6. 農業、林業與漁業(Agriculture, forestry, and fisheries)：本主題類別的場次將探討糧食系統、林業管理和漁業活動對環境和社會的影響，並分享聯合國農村發展機構等在脆弱環境下的永續實施經驗。
7. 生物多樣性與生態學(Biodiversity and ecology)：本主題類別的場次將聚焦於生物多樣性評估、風險管理與保育策略，包括人工智慧在基線化、監測和管理方面的應用，以及不同棲地對生物多樣性的影響。
8. 氣候變遷(Climate change)：本主題類別的場次將討論氣候變遷相關災

害的評估方法、調適行動，以及氣候變遷對社會的影響和人工智慧在其中的應用。

9. 文化遺產(Cultural heritage)：本主題類別的場次將探討文化遺產影響評估的實施挑戰，以及如何將文化和文化遺產有效地納入策略環境評估中。
10. 災害與衝突(Disasters and conflict)：本主題類別的場次將提供一個平台，探討在衝突和危機期間評估影響的經驗教訓，以及如何利用影響評估來應對發展和生命的主要破壞因素。
11. 新興技術(Emerging technologies)：本主題類別的場次將聚焦於遙感技術、資訊科技與空間分析在影響評估中的應用，特別是在人工智慧時代下對策略決策的支援。
12. 治理與實施系統(Governance and implementation systems)：本主題類別的場次將探討如何改進影響評估的治理和決策，解決生態和參與挑戰，並討論環境與社會管理系統如何將環境影響評估轉化為實際行動。
13. 健康(Health)：本主題類別的場次將探討人工智慧使用可能帶來的潛在健康影響，並從比較視角實施健康影響評估，討論其共同點、差異和未來發展。
14. 原住民(Indigenous Peoples)：本主題類別的場次將討論如何以基於權利的�方法進行影響評估，促進原住民的韌性與復興，並探討原住民知識與數據在影響評估中的作用。
15. 公眾參與(Public participation)：本主題類別的場次將重點關注與受影響利害關係人進行有意義的參與，包括討論人工智慧在公眾參與中的角色、障礙、驅動因素和最佳實踐。
16. 社會影響評估(Social impact assessment)：本主題類別的場次將提供改善採礦業社會影響管理的想法和案例，探討技術如何影響社會影響評估的人際互動，以及採礦關閉後如何進行社會影響評估以促進轉型。



圖 10 第 44 屆國際影響評估協會研討會分組主題報告

### （三）海報展示

本屆研討會共 40 篇海報展示，主要涵蓋人工智慧與數位化在影響評估中的應用、環境影響評估與監測、社會影響評估與利害關係人參與、氣候變遷與永續發展、特定專案類型與方法工具等議題，這些海報展示了影響評估領域在面對新興技術，尤其是人工智慧，以及全球挑戰（如氣候變遷）時，所進行的廣泛研究、創新實踐與方法的探索，其展示題目詳列如下（現場照片如圖 11 至圖 12 所示）：

1. 再生能源發展區塊的策略性環境評估(The SEA for the expansion of the Renewable Energy Development Zones: South Africa)：本海報探討南非再生能源發展區域擴張所進行的策略性環境評估。
2. 利用人工智慧簡化事件報告以提升安全和風險管理(Leveraging AI to streamline incident reporting for enhanced safety and risk)：本海報探討如何運用人工智慧優化事件報告流程，以提高安全並有效管理風險。
3. 支援原住民參與影響評估的建模軟體(Modeling software to support

Indigenous participation in impact assessment)：本海報展示一款旨在支持原住民在影響評估中有效參與的建模軟體。

4. 利用生態等效性進行亞馬遜地區的生態補償與復育(Leveraging restoration with ecological equivalence for Amazon offsetting)：本海報討論如何透過生態復育及生態等效性概念，實現亞馬遜地區的生態補償。
5. 新興生態系統服務納入累積影響評估範疇(Emerging ecosystem services into cumulative impact assessment scoping)：本海報探討將新興生態系統服務納入累積影響評估範圍的方法與重要性。
6. 用於農業不確定性的進階機器學習迴歸(Advanced machine learning regressions for agricultural uncertainty)：本海報介紹如何運用先進的機器學習迴歸模型來處理農業領域中的不確定性。
7. 聯合國糧食及農業組織的環境與社會管理框架(The UN FAO Framework for Environmental and Social Management)：本海報呈現聯合國糧食及農業組織在環境與社會管理方面的框架與指引。
8. 環境影響評估對聖保羅前殖民時期遺址知識的貢獻(EIA contributions to the knowledge of pre-colonial Sites in São Paulo)：本海報闡述環境影響評估如何增進對聖保羅前殖民時期遺址的理解。
9. 一個用於利用蝙蝠超聲波進行研究的強大工具(Sonochiro, a powerful tool for studying bats using their ultrasound)：本海報介紹 Sonochiro 這一強大工具，及其在利用蝙蝠超聲波研究蝙蝠方面的應用。
10. 聖保羅水力發電廠環境規範中的自然基礎解決方案(NBS in environmental regularization of hydroelectric plants in São Paulo)：本海報探討在聖保羅水力發電廠的環境法規中，如何應用自然基礎解決方案。
11. 人工智慧在環境與社會影響評估未來中的作用(The future role of

- artificial intelligence in the E&S impact assessment)：本海報展望人工智慧在環境與社會影響評估未來中的潛在角色與發展。
12. 韓國氣候變遷影響評估中的數據驅動風險分析(Data-driven risk analysis for climate change impact assessment in Korea)：本海報展示韓國如何利用數據驅動的風險分析方法進行氣候變遷影響評估。
  13. Balance Co-Lab 的原住民主導累積影響評估培訓(Balance Co-Lab's Indigenous-led cumulative impact assessment training)：本海報介紹 Balance Co-Lab 提供的原住民主導累積影響評估培訓計畫。
  14. 基於無人機案例研究的後續管理分析研究(Follow-up management analysis study based on case studies of drone)：本海報透過無人機案例研究，分析環境影響評估的後續管理。
  15. 透過氣候變遷影響評估強化城市發展中的氣候調適(Strengthening climate adaptation in urban development through CCIA)：本海報探討如何透過氣候變遷影響評估，增強城市發展的氣候調適能力。
  16. 利用相機陷阱和人工智慧評估當地黑猩猩種群(Assessment of local chimpanzee populations with camera traps and AI)：本海報介紹如何結合相機陷阱和人工智慧技術，對當地黑猩猩種群進行評估。
  17. 差異化環境影響評估框架的發展(Development of a differentiated environmental impact assessment framework)：本海報展示一種新開發的差異化環境影響評估框架。
  18. 基於 BPI 變化的海洋污染分佈研究(A study on changes in marine pollution distribution using the BPI)：本海報透過 BPI（可能指某種生物或污染指標）的變化，研究海洋污染的分佈情況。
  19. 環境影響評估後續管理的最佳實踐(Best practices in the environmental impact assessment follow-up management)：本海報分享環境影響評估後續管理的最佳實踐案例。

20. 分析海平面上升和海岸侵蝕的影響以制定退縮策略(Analyzing the impact of sea-level rise and coastal erosion to establish set-back strategy)：本海報探討海平面上升和海岸侵蝕的影響，並提出相應的退縮策略。
21. 數位環境影響評估應用案例分析(Analysis of cases of digital environmental impact assessment applications)：本海報分析數位環境影響評估的實際應用案例。
22. 雲端環境影響評估：數據演變與人工智慧的未來機會(EIA in the cloud: Data evolution and AI opportunities for the future)：本海報探討雲端環境影響評估的發展、數據的演變以及人工智慧在未來可能帶來的機會。
23. 水力發電專案即時環境與社會監測的數據管理系統(Data management system for real-time E&S monitoring of hydropower projects)：本海報介紹用於水力發電專案即時環境與社會監測的數據管理系統。
24. 邊緣利害關係人：如何提升最佳參與實踐？(Fringe stakeholders: How to escalate best practices of engagement?)：本海報探討如何提升與邊緣利害關係人互動的最佳實踐。
25. 離岸風電海洋生物多樣性風險的進階數據驅動建模(Advanced data-driven modeling for marine biodiversity risk in offshore wind)：本海報介紹在離岸風電領域，如何利用先進的數據驅動模型來評估海洋生物多樣性風險。
26. 探索人工智慧整合以提升職業健康與安全(Exploring AI integration for enhanced occupational health and safety)：本海報探討人工智慧的整合如何促進職業健康與安全的提升。
27. 基於 RGB-D 機器學習的小型城市綠地影響評估(Impact assessment of small-scale urban green by RGB-D machine learning)：本海報展示

如何運用 RGB-D 機器學習對小型城市綠地進行影響評估。

28. 累積影響評估與管理，其中累積影響評估是一個新概念(Cumulative impact assessment and management where CIA is a novel concept)：本海報探討當累積影響評估仍是新概念時，如何進行其評估與管理。
29. 韓國環境影響評估對環境改善的定量分析(Quantitative analysis of environmental improvements through EIA in ROK)：本海報對韓國透過環境影響評估實現的環境改善進行了定量分析。
30. 人工智慧時代：僅僅是炒作還是環境影響評估的真實變革？(The AI age: Just a hype or real changes on EIA?)：本海報探討人工智慧時代是否對環境影響評估帶來實質性變革，而非僅是炒作。
31. 涉水未來：人工智慧輔助監測濱鳥種群(Wading into the future: AI-assisted monitoring of shorebird populations)：本海報介紹如何利用人工智慧技術輔助監測濱鳥種群，展望未來。
32. 共同制定再生能源專案影響評估指南：一項研究議程(Co-producing IA guidelines for renewable energy projects: A research agenda)：本海報提出一項研究議程，旨在共同制定再生能源專案的影響評估指南。
33. 離岸風能的生態系統影響評估(Ecosystem-based impact assessment of offshore wind energy)：本海報探討基於生態系統的離岸風能影響評估方法。
34. 河口廢水排放地點環境影響建模(Modelling environmental impacts of waste discharge locations in an estuary)：本海報展示如何對河口廢水排放地點的環境影響進行建模。
35. 減輕離岸風電影響和加強數據管理的策略(Strategies for mitigating offshore wind impacts and enhancing data management)：本海報探討減輕離岸風電影響及提升數據管理的策略。
36. 利用無人機、微氣候建模、人工智慧估計城市熱環境(Estimating urban

thermal environments using UAV, micro climate modeling, AI)：本海報介紹如何利用無人機、微氣候建模和人工智慧來估計城市熱環境。

37. 中國溫室氣體環境影響評估試點計畫的有效性與影響 (The effectiveness and implications of China's pilot program for GHG EIAs)：本海報探討中國溫室氣體環境影響評估試點計畫的有效性及其影響。

38. 秘魯溢流和防洪工程中河岸的再造林(Reforestation of riverbanks in overflow and flood control works in Peru)：本海報探討秘魯溢流和防洪工程中河岸的再造林工作。

39. 世界自然基金會創新情境和監測方法的實踐案例(Practical examples of WWF's innovative scenario and monitoring approaches)：本海報展示世界自然基金會(WWF)在創新情境分析和監測方法方面的實際案例。

40. 離岸風電專案：誰關心環境影響顯著性？(Offshore wind projects: Who cares about environmental impact significance?)：本海報探討在離岸風電專案中，環境影響顯著性應受到何種程度的關注。

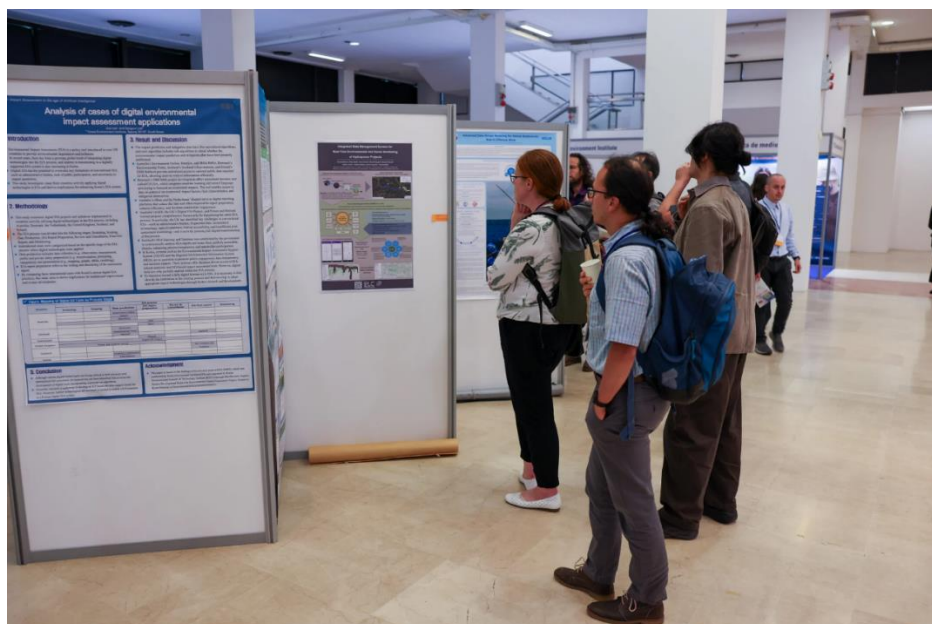


圖 11 海報展覽區



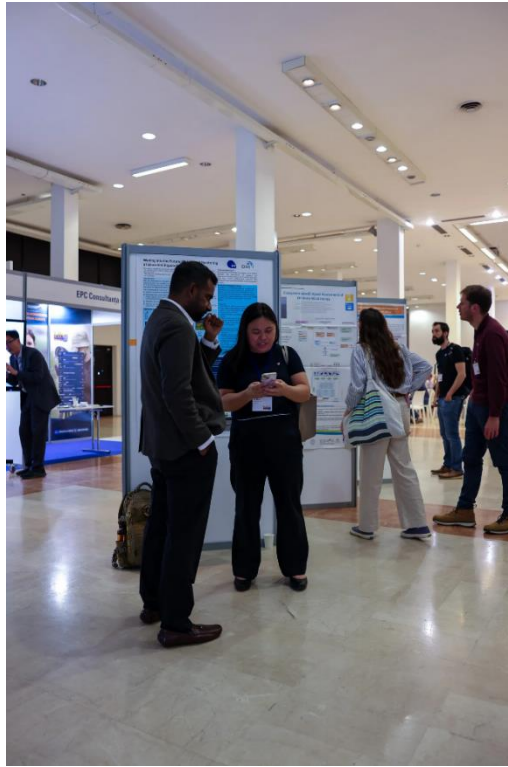


圖 12 海報展覽區

## 伍、 實際參與概要

### 一、 臺灣環評的雙軸轉型

本屆研討會，我國以「臺灣雙軸轉型：以數位和人工智慧工具推進環境影響評估」為題進行口頭報告，向國際社會分享了臺灣的經驗與未來政策推動規劃，簡報內容說明我國在環評領域推動「數位轉型」與「人工智慧應用」的雙軸策略，包括為何要積極推動環評數位化與善用人工智慧，其核心目標在於提升審查效率、確保資訊透明度、改善風險管理、增加公眾參與的可近性，最終強化政策信任及促進社會共識。這項轉型是為了應對當前環評面臨的諸多挑戰，包括環評文件數量龐大、審查流程複雜、既有數據有限且缺乏視覺化呈現，以及複雜資訊阻礙公眾有效參與等。

然而，我國在環評雙軸轉型的過程中，也面臨著具體的挑戰。首先是「非結構化數據」的問題，由於環評報告、審查數據及公眾意見等資料多以 PDF 格式存在，包含大量文字、表格和圖片，缺乏固定格式嚴重阻礙了人工智慧的直接分析與處理。其次是「高時間與勞力密集」的現況，許多環評作業仍需大量人力投入，

例如詳細的程序審查和會議結論的歸納總結，耗費大量人力與時間。再者，「人工智慧工具熟練度有限」也是一大挑戰，業務承辦同仁們對人工智慧工具的操作、功能及其在審查工作中的實際應用缺乏足夠的知識與技能。

為克服這些挑戰，我國正積極推動多項策略，如在「數據標準化」方面，正努力建立統一的數據格式和標籤系統，以提高人工智慧處理數據的效率和準確性；在「數據集建構」方面，意識到缺乏專用的環評訓練數據集限制了人工智慧的學習和預測準確性，因此刻正致力於建構涵蓋各種案例類型並保證數據品質的專屬數據集。此外，為提升「人工智慧結果的可靠性」，強調開發「可解釋的人工智慧」(Explainable AI)，確保人工智慧的決策過程能夠被理解和信任，進而提高決策的透明度。我國透過這些努力，刻正逐步實現環評的轉型，運用大型語言模型 (large language model，簡稱 LLMs) 分析報告、提取數據、識別不一致性；規劃利用人工智慧代理人自動化合規性檢查和報告生成等任務；並規劃結合地理資訊系統 (Geographic Information System，簡稱 GIS) 分析空間數據、視覺化環境影響，以實現更快速、更明智的決策。

我國環評框架中數位化與人工智慧採用的進展，在近 2 年的重點在於「建立數位環評工作區」，作為數位基礎，標準化數據格式和程序，並整合環評人才庫和數據。規劃 2026 至 2027 年間，將進入「人工智慧輔助審查」階段，人工智慧功能將包括自動化報告完整性檢查、摘要生成和法規合規性確認。而從 2028 年起，將部署「智慧環評系統」，目標是實現一鍵生成初步環評報告和會議結論，期以大幅減少人力並提高效率，並透過互動式之視覺化儀表板促進公眾參與，整合地理資訊系統和即時環境數據，建立跨域數據交換和研析風險預測模型可行性，以全面精進環評審查品質並符合法律和制度框架。



圖 13 本部進行口頭報告



圖 14 本部接受提問與答復

## 二、 香港環境保護署推動環評數位轉型之經驗與規劃

香港環境保護署(Environmental Protection Department)分享其在推動環評數位化方面的經驗，特別是關於「中央環境數據庫」的建置，以及運用人工智慧(AI)進行環評報告審查的規劃。這些策略旨在透過數據整合與人工智慧科技，大幅提升環評效率、透明度與決策品質。

### (一) 中央環境數據庫

1. 推動背景：鑒於傳統環評程序冗長、公眾參與度低等問題，香港環境保護署於 2021 年提出「環境影響評估條例」檢討報告，推動四大優化措施，包括建立中央數據庫、更新條例之指定項目清單、更新技術評估要求、善用直接申請環境許可證的途徑，其中以建立「中央環境數據庫」為最重要

改革。該條例修正作業於同年完成，中央環境數據庫於 2022 年 12 月正式啟用。

## 2. 系統特色與效益

- (1) 整合多個資訊系統、地理資訊系統及繪圖技術，並匯集歷年環評報告之環境生態基線數據。
  - (2) 建立各項環境污染分布基線資料，納入空氣、水質、水文、交通噪音之模型工具及未來數十年模擬基線資料，使開發單位及環評顧問機構能使用一致之環境資料進行評估，提升環評科學性與一致性。
  - (3) 提供市民便捷查詢環評資訊管道，落實資訊公開透明。
  - (4) 為環評顧問機構及開發單位提供強大模擬評估工具，提升公眾參與度及報告品質。
  - (5) 預期將環評所需時間由 36-48 個月大幅縮短至 18-24 個月，加速開發項目推展。
  - (6) 內建環境分析工具，協助比較不同方案之環境影響（如道路選線對人口及物種影響）。
  - (7) 兼容建築資訊模型(Building Information Modeling)，能以虛擬實境呈現工程前後景觀變化。
  - (8) 整合珍稀動物分布等重要生態資訊，提升生態評估精確度。
  - (9) 彙整數百份歷史環評報告，提供快速便捷的資料查詢功能。
3. 配套措施：同步更新技術評估要求(如延長生態調查時間、規範調查方法)，確保效率並提升環評報告的嚴謹性。
4. 建置成本與期程：開發耗時約 1 年，成本約 300 萬港幣。
5. 核心目標：利用智慧科技與數據系統全面支援環評流程，實現更高效、高品質的環境影響評估。

## (二) 運用人工智慧進行環評報告審查之規劃

基於中央環境數據庫的豐富資料，香港環境保護署正積極規劃運用人工智慧

技術精進環評報告的審查流程；其規劃重點包括：

1. 自動化報告完整性檢查：人工智慧系統將能夠自動檢查環評報告的完整性，識別遺漏的章節、數據或必要附件，大幅減少人工審核的時間。
2. 內容摘要與關鍵資訊提取：運用大型語言模型等人工智慧技術，快速從冗長的環評報告中提取核心內容、關鍵影響、緩解措施等，幫助審查人員迅速掌握重點。
3. 法規符合性比較與衝突識別：人工智慧系統能夠比對環評報告內容與現行環境法規、標準及指引的符合性，並自動識別潛在的衝突或不一致之處，提高審查的準確性與效率。
4. 案例比較與風險預警：透過分析歷史環評案例的數據，人工智慧能夠識別類似開發案件常見的公眾意見、潛在風險及有效緩解措施，為新開發案件的審查提供參考和預警。

### 三、 韓國環境研究所推動環評數位轉型之經驗

韓國環境研究所(Korea Environment Institute)分享其在推動環評數位轉型方面的經驗，特別聚焦於其開發的「環評作業範疇界定支援系統」與「數位環境影響評估系統」，期以提升環評作業的效率、透明度與精確性，以應對現代環境治理的複雜挑戰。

#### （一） 環評作業範疇界定支援系統

環評作業範疇界定支援系統，是數位轉型中的一個重要環節，該系統透過標準化和自動化的方式，協助環評人員更精準地界定開發案件的評估範疇。傳統的範疇界定作業往往耗時且依賴人工判斷，容易產生遺漏或不一致。透過支援系統透過整合相關環境數據、法規要求及過往案例，提供智能化的建議，大幅縮短了範疇界定的時間，並確保評估範圍的全面性與客觀性，為後續的環評工作奠定堅實基礎。韓國環境研究所在會議中展示影片並以噪音與振動為例，介紹系統操作流程，如下：

1. 使用者登入系統，輸入開發案基本資訊(類型、位置、規模、期程等)，可

於地圖繪製或上傳檔案。

2. 進入範疇界定作業，系統依六大環境範疇(自然生態、大氣、水域、土地、生活、社會經濟)及其細項因子，提供空間資料。
3. 使用者可設定各因子影響範圍，系統執行分析並顯示結果(如基地周邊濕地、候鳥棲地、空氣品質、水質狀況、土地利用、噪音源、弱勢族群分布等)。
4. 完成空間資料檢視後，進入「檢核清單」，系統依據回答將各環境因子判定為「關鍵項目」、「一般項目」或「免列評估項目」。
5. 系統可產出最終分析結果 Excel 檔案，包含計畫概述及各環境因子分析結果。

## (二) 數位環境影響評估系統

除了範疇界定支援，韓國環境研究所也積極推動全面的數位環境影響評估系統，該系統涵蓋了環評流程的各個階段，從數據輸入、分析、報告生成到後續監測，都實現了數位化管理。特別值得一提的是，該系統在「後續環境監測」方面也進行了數位化努力，包括透過整合遙感技術、物聯網數據及其他數位工具，系統能夠實現對專案環境影響的即時、連續監測，並自動化數據分析與異常預警。這不僅大幅提升了監測效率，也使得環評的追蹤與管理更加精確和有效，確保開發案在營運階段也能持續符合環境標準。韓國環境研究所在會議中展示影片並以噪音與振動為例，介紹系統操作流程，如下：

1. 建立開發案，匯入開發範圍邊界。
2. 填寫施工與營運期間評估範圍、爆破資訊等。
3. 系統自動分析評估區域內之噪音敏感設施、機場、道路、鐵道等，並可於地圖檢視。
4. 使用者可輸入現場調查測量結果、專案期間噪音振動數據及鄰近道路鐵道資料。
5. 系統進行影響預測與減緩分析

- (1) 施工期：輸入設備與爆破細節，建立模擬模型，上傳結果後可查看各噪音敏感設施的預測結果。
- (2) 營運期：額外提供地形高程、建築與住宅區、道路建設位置，系統整合資料庫進行模擬。建築物需輸入輪廓與樓層數，道路則輸入配置、交通量與速限。預測結果以 3D 格網、立面噪音圖及數值表格呈現。
6. 可上傳減緩對策結果，系統並列展示減緩前後狀況與數據。
7. 輸入事後環境影響調查計畫細節。
8. 完成所有類別資訊填寫並確認後，提交整體環評報告資料。

## 陸、心得與建議

### 一、心得

1. 本次參與研討會，不僅讓我國掌握了全球影響評估領域的最新脈動，更透過簡報展現了我們在數位化與人工智慧應用方面的努力與規劃。國際經驗對臺灣具有重要的啟示，包括人工智慧在環評中的應用、數據驅動的創新、基於證據的政策制定，到氣候變遷、生物多樣性、社會影響評估及公眾參與等傳統與新興議題，透過詳盡的討論，讓我國對全球影響評估的最新脈動有了全面性的掌握，更從不同國家的經驗分享中，獲得了寶貴的見解。
2. 本屆研討會中，透過與其他國家代表的交流，對我國在環評數位轉型的全球趨勢有了更多的了解與推動構想。例如，韓國環境研究所分享其在環評作業範疇界定支援系統和數位環境影響評估系統方面的經驗，特別是在後續環境監測方面的數位化努力，這對於我們思考如何更精準、有效益、即時地追蹤與監督開發案件的環境影響，提供更具體的方向。另香港環境保護署在建立「中央環境數據庫」和規劃運用人工智慧進行環評報告審查方面的經驗，也為我們提供了寶貴的示範，相信數據整合是人

工智慧應用於環評的重要基礎，且能有效提升審查效率與公眾參與品質。

## 二、 建議

### （一） 研議建置國家環境資料庫可行性，強化環評之科學基礎

1. 借鏡香港與韓國經驗，深入研析建置我國「國家環境資料庫」之可行性與預期效益。建議整合現有環境監測、污染申報、地質、生態、地理圖資及敏感族群等多面向資料，建立標準化格式與品質檢核機制，並確保數據定期更新，以提升資料之一致性與準確性，減少環評審查過程中對資料合理性之爭議。
2. 評估提供介接環境模擬模式之工具，使開發單位與環評顧問機構能運用一致之環境數據進行評估。同時，發展預測開發案不同階段環境影響之能力，並納入環境監測結果匯入功能，以利分析長期累積效應及提供早期預警。

### （二） 加速開發智慧環評輔助系統，以提升審查效能

1. 汲取韓國經驗，加速開發具備半自動判認應否進行環評、範疇界定模組、報告審查模組等功能之智慧環評審查輔助系統。
2. 參考香港刻正開發之 AI 輔助環評審查機器人，持續精進本部運用人工智慧技術進行半自動化環評審查之作業能量，期以減少人力需求。同時，研議提供開發業者於環評報告送件前之法規符合性識別，以即時修正環評書件內容，藉以提升審查效率，務實縮短審查期程。
3. 評估結合環評追蹤管理系統之可行性，透過定期追蹤與監督開發單位執行情形，並介接環境監測系統資料，強化環評監督與管理，確保環評承諾事項確實執行。

### （三） 開發互動式環評資訊公開平台，增進公眾參與及社會溝通

1. 建置操作便捷之 Web GIS 互動介面，提供環評書件及環境資料之視覺化展示，使公眾易於查詢並理解環評內容，進而提升參與意願。
2. 發展整合性公眾意見徵詢平台，納入民眾於環評各階段所提供之意見回



饋，促進多元利害關係人之雙向溝通，期以減少環評爭議，提升決策品質。

## 附錄一、大會議程



# IMPACT ASSESSMENT

in the age of  
artificial intelligence

44th Annual Conference of the  
International Association for Impact Assessment

**1-4 MAY 2025**

Bologna Congressi (Bologna Congress Center)  
Bologna, Italy

LOCAL HOST AND ORGANIZER



IAIA-Italia | [www.iaiaitalia.org](http://www.iaiaitalia.org)

IN ASSOCIATION WITH



Algebra A.I. Srl | [www.algebrasrl.com](http://www.algebrasrl.com)



Qcumber | [www.q-cumber.org](http://www.q-cumber.org)

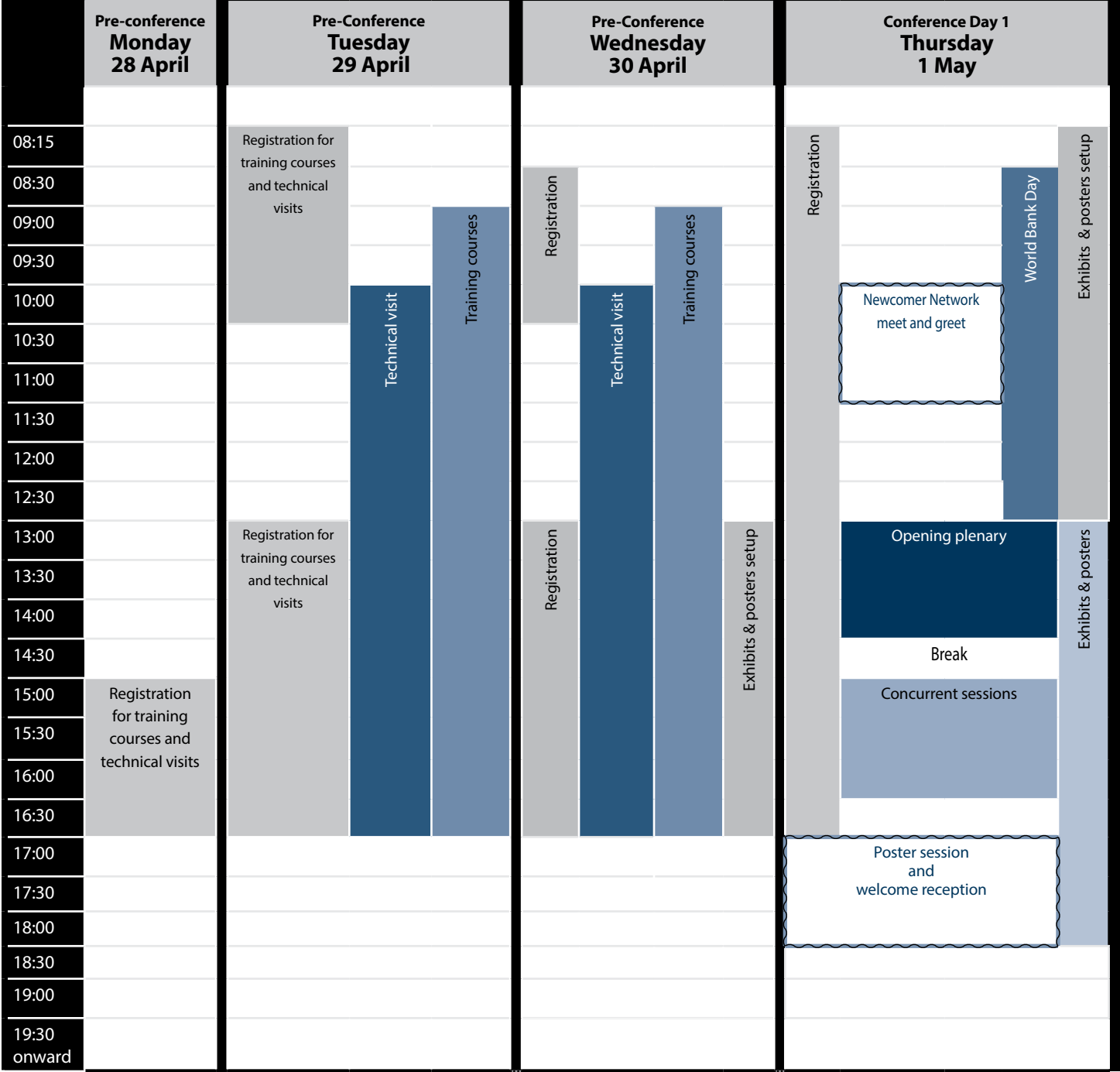
## FINAL PROGRAM

*Current as of 14 March 2025. Check the mobile app for updates.*

# Conference overview

REGISTRATION DESK HOURS	
Monday 28 April	15:00-17:00
Tuesday 29 April	08:15-10:30, 13:00-17:00
Wednesday 30 April	08:30-10:30, 13:00-17:00
Thursday 1 May	08:15-17:00
Friday 2 May	08:30-16:30
Saturday 3 May	08:30-16:30
Sunday 4 May	08:30-14:00

## Conference Overview



# Conference overview

Conference Day 2 Friday 2 May			Conference Day 3 Saturday 3 May			Conference Day 4 Sunday 4 May			Post-Conference Monday 5 May							
Registration	Theme forums	Exhibits & posters	Registration	Theme forums	Exhibits & posters	Registration	Theme forums	Exhibits & posters	Technical visit							
	Break			Break			Break									
	Concurrent sessions			Concurrent sessions			Concurrent sessions									
	Lunch and Committee meetings			Lunch and Committee meetings			Lunch and Committee meetings									
	Concurrent sessions			Concurrent sessions			Concurrent sessions									
	Break			Break			Break									
	Concurrent sessions			Concurrent sessions			Concurrent sessions									
	Section meetings and Affiliates Forum			Section meetings			Exhibit & poster dismantle									
						Banquet										

# Daily schedule

## MONDAY 28 APRIL

15:00-17:00    **Registration** (Congress center entrance)

## TUESDAY 29 APRIL

08:15-10:30    **Registration** (Congress center entrance)

09:00-17:00    **Training courses (Day 1)**  
1. More effective impact assessment: Tools (Bianca A)  
2. Transforming ESIA into action (Bianca B)  
3. Nature-based solutions (Module A)  
5. Sustainable finance, ESG, and IA in the age of AI (Ciano)  
6. Cumulative effects assessment (Indaco)  
7. Leadership in ESIA (Blu)  
8. Social risk management for major projects (Uficio C)  
9. Public participation, IA, and AI (Module B)  
10. Strategic Thinking for Sustainability (ST4S) (Module 3)  
12. Human rights in impact assessment (Cobalto)  
13. More effective EIA follow-up (Ambra)  
14. Psychology-informed impact assessment (Turchese)

10:00-17:00    **Technical visit A\*: Hera Ambiente: Ferrara Waste-to-Energy Plant and Material Recovery Facility + Ferrara's historic center**  
*(Special thanks to Hera Ambiente for their contributions to this event.)*

13:00-17:00    **Registration** (Congress center entrance)

## WEDNESDAY 30 APRIL

08:30-10:30    **Registration** (Congress center entrance)

09:00-17:00    **Training courses (Day 2)**

10:00-17:00    **Technical visit C\*: Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) + Bologna's historic center**

13:00-17:00    **Registration** (Congress center entrance)

13:00-17:00    **Exhibit setup (ExGam)**

## THURSDAY 1 MAY

08:15-17:00    **Registration** (Congress center entrance)

08:15-13:00    **Exhibit and poster setup** (ExGam)

08:45-13:00    **Workshop: World Bank** (Bianca)

10:00-11:30    **Newcomer Network** (ExGam exhibition area)

13:00-14:30    **Opening plenary** (Europa)

- Opening address: Giuseppe Magro and Roberta Vicentini Magro, Conference Co-Chairs
- Welcome: Matteo Lepore, Mayor of Bologna
- Welcome: Paolo Rozera, Executive Director, Italian National Committee for UNICEF
- Video: International q-HACK5.0 2025, IAIA Italia-UNICEF
- Welcome: Alan Ehrlich, IAIA President
- Welcome: Gary Baker, IAIA CEO
- Introduction to the conference theme: Walter Ganapini, Environmental Scientist and Sustainability Expert
- Keynote address: Federico Faggin, Engineer, Physicist, and Inventor of the Microprocessor
- Closing remarks: Giuseppe Magro and Roberta Vicentini Magro, Conference Co-Chairs

14:30-15:00    **Break** (ExGam)

15:00-16:30    **Concurrent sessions**

15:00-16:30    **IAIA's SEA Guidance for the Energy Transition** (Uficio C)  
Updates from the authors on IAIA's SEA initiative for renewable energy, related trainings, and next steps, plus Q&A.

17:00-18:30    **Poster session and welcome reception** (ExGam)

## FRIDAY 2 MAY

08:30-16:30    **Registration** (Congress center entrance)

09:00-10:30    **Theme forums**

10:30-11:00    **Break** (ExGam)

11:00-12:30    **Concurrent sessions**

12:30-13:50    **Lunch** (ExGam)

12:30-13:30    **Committee meetings**  
IAPA Editorial Board (Indaco)  
Awards (Indaco)  
Sections Coordinating (Indaco)

14:00-15:30    **Concurrent sessions**

15:30-16:00    **Break** (ExGam)

16:00-17:30    **Concurrent sessions**

16:00-18:00    **Special event: L'Intelligenza Artificiale nel Permitting 5.0/Artificial Intelligence in Permitting 5.0** (Italia)  
Discover how AI is transforming impact assessment and permitting processes globally. *(In Italian)*

17:45-18:45    **Affiliates Forum: Progress Through Collaboration** (Uficio C)

17:45-18:45    **Section meetings**  
Academia (Module A)  
Agriculture, Forestry and Fisheries (Module B)  
Biodiversity & Ecology (Ambra)  
Corporate Stewardship & Risk Management (Blu)  
Cultural Heritage (Module 3)  
Cumulative Effects (Cobalto)  
Disasters and Conflicts (Turchese)  
Strategic Environmental Assessment *(proposed)* (Ciano)

## SATURDAY 3 MAY

08:30-16:30	<b>Registration</b> (Congress center entrance)
09:00-10:30	<b>Theme forums</b>
10:30-11:00	<b>Break</b> (ExGam)
11:00-12:30	<b>Concurrent sessions</b>
12:30-13:50	<b>Lunch</b> (ExGam)
12:30-13:30	<b>Committee meetings</b> Training & Professional Development (Indaco) Board Nominations (Indaco) Journal Management (Indaco)
14:00-15:30	<b>Concurrent sessions</b>
14:00-15:30	<b>Plug in to IAIA</b> (Uficio C) Join us to learn more about IAIA and different ways you can get involved.
15:30-16:00	<b>Break</b> (ExGam)
16:00-17:30	<b>Concurrent sessions</b>
17:45-18:45	<b>Section meetings</b> AI and Emerging Technology (Cobalto) Climate Change (Ambra) Governance and Implementation Systems (Turchese) Health (Module A) Indigenous Peoples (Ciano) Public Participation (Blu) Social Impact Assessment (Module 3) Students and Young Professionals (Module B)

## SUNDAY 4 MAY

08:30-14:00	<b>Registration</b> (Congress center entrance)
09:00-10:30	<b>Theme forums</b>
10:30-11:00	<b>Break</b> (ExGam)
11:00-12:30	<b>Concurrent sessions</b>
12:30-13:50	<b>Lunch</b> (ExGam)
12:30-13:30	<b>Committee meeting</b> Technical Program Committee ( <i>Indaco</i> )
14:00-15:30	<b>Concurrent sessions</b>
15:30-16:00	<b>Break</b> (ExGam)
16:00-17:30	<b>Closing plenary</b> (Europa) <ul style="list-style-type: none"> <li>Welcome: Giuseppe Magro and Roberta Vicentini Magro, Conference Co-Chairs; Marco Sumini</li> <li>Keynote address: Oscar di Montigny; Popularizer, Entrepreneur, and Author</li> <li>Presentation of Awards: Francesca Viliani, Awards Committee Chair; Gary Baker, CEO; Alan Ehrlich, President</li> <li>Presidential address: Lone Kørnø, IAIA President-Elect</li> <li>IAIA25 conference compilation: Mario Piavoli</li> <li>Invitation to IAIA26: Jean Hébert and Annie Prince, AQÉI, Conference Co-chairs</li> <li>Thank you: Giuseppe Magro and Roberta Vicentini Magro</li> </ul>
15:30-17:30	<b>Exhibit and poster dismantle</b>
19:00-22:00	<b>Banquet</b> (Palazzo Re Enzo, Piazza del Nettuno, 1/C)

## MONDAY 5 MAY

09:00-17:00	<b>Technical visit D*: Hydrogen Valleys in Italy + Guided tour of Padua</b>
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### \*TECHNICAL VISIT PARTICIPANTS

Please meet at the congress center entrance a minimum of 15 minutes prior to departure.

### COFFEE BREAKS AND LUNCHES

Based on the data collected via registration forms, IAIA arranged for a percentage of vegetarian meals. This does not guarantee accommodation of individual preference. Did you know? All tableware and cutlery at the Bologna Congress Center is compostable!

### NEED TO MEET WITH YOUR COLLEAGUES OR CATCH UP ON EMAIL?

Meeting space is available on a first-come, first-served signup basis in Uficio C (1-4 May from 09:00-17:30).

Work space is available in Uficio B (1-4 May from 09:00-17:30).



# Technical program overview

■ Plenary  
■ Theme forum  
■ Concurrent session

	Europa	Italia	Bianca	Avorio	Ambra
<b>Thursday 1 May</b>					
13:00-14:30	Opening Plenary				
15:00-16:30		Improving Governance and Decision Making in IA: Addressing Ecological and Participatory Challenges (p10)	Use of Data, Technology, and Artificial Intelligence Tools for Enhanced Accountability (p10)	Data Protection in Social Impact Assessment (p10)	AI and Remote Sensing for Sustainability and Environmental and Social Risk Management (p9)
<b>Friday 2 May</b>					
09:00-10:30	A Rights-Based Approach to IA: Indigenous Resilience and Resurgence Through Engaging in IA (p11)	Tools and Techniques for Regional Cumulative Effects Assessment and Management (p11)	What's the Reality Behind the AI Hype in IA? (p11)	The Emerging Role of Artificial Intelligence in the Future of Impact Assessment (p11)	
11:00-12:30		Academia Research and Teaching I (p11)	Linking Global Commons Issues to IA: Fit for Future Actions and Next Steps (p13)	Meaningful Stakeholder Engagement: For and With Affected Stakeholders I (p12)	AI and Sustainability: The New Era of Environmental Assessment I (p13)
14:00-15:30		Academia Research and Teaching II (p14)	AI for Social Risk Management: Insights from International Organizations (p15)	Meaningful Stakeholder Engagement: For and With Affected Stakeholders II (p14)	AI and Sustainability: The New Era of Environmental Assessment II (p15)
16:00-17:30			IAIA and Cumulative Effects: A New Section and a Busy Future (p17)	Meaningful Stakeholder Engagement: For and With Affected Stakeholders III (p16)	Blue Economy, SEA, and Marine Spatial Planning (p16)
<b>Saturday 3 May</b>					
09:00-10:30	Can AI Support Long-Term Monitoring and Adaptive Management? (p18)	Essential AI Learnings: ESIA Tools from Multilateral Financial Institutions (p17)	Environmental Impact Assessment in the AI Era: The Case for AI in Baseline Biodiversity (p17)	Human Rights Impact Assessment of Digital Technology (p18)	
11:00-12:30		Climate and Gender Investment Matters (p20)	Indigenous Holistic Cumulative Effects Programs: Enhance Your Assessments (p18)	Transparency and Data Sharing in Impact Assessment for the Energy Transition I (p20)	Exploring the Use of AI to Tackle the Social Implications of Climate Change (p19)
14:00-15:30		Cumulative Effects Assessment, Monitoring and Management: State-of-the-Art I (p22)	Updating Best Practice Principles on Engaging with Indigenous Communities I (p20)	Transparency and Data Sharing in Impact Assessment for the Energy Transition II (p22)	Effective Integration of Climate Change Risks in Impact Assessment I (p21)
16:00-17:30		Cumulative Effects Assessment, Monitoring and Management: State-of-the-Art II (p24)	Updating Best Practice Principles on Engaging with Indigenous Communities II (p22)	Meet the Editor (p23)	Effective Integration of Climate Change Risks in Impact Assessment II (p23)
<b>Sunday 4 May</b>					
09:00-10:30	Challenges of AI for Accountability and Ethical Practice in Impact Assessment (p24)	Essential AI Learnings: Workflow Management for ESIA from MFIs (p24)	Can IA Be More "Future-Smart": Incorporating Futures Thinking in IA (p25)	What Science and Whose Art? Demarcation of AI and Human Roles in IA (p25)	
11:00-12:30			Bioregional Impact Assessment (p25)	Offshore Wind Farms ESIA: State of the Art, Issues, and Opportunities (p26)	Implementation of HIA from a Comparative Perspective: Common Grounds, Differences, and the Future with AI (p25)
14:00-15:30		The Future of IA (p29)	Embracing Nature: From Grey Solutions to Nature-Based Solutions (p27)	Global Perspectives on the Evolution of Impact Assessment (IA) Effectiveness (p28)	Handbook on Health Impact Assessment (p27)
16:00-17:30	Closing plenary				



# Technical program overview

Turchese	Cobalto	Blu	Module A	Module B	
Thursday 1 May					
					13:00-14:30
AI in IA: Enhancing Cumulative Effects Assessment in the Era of Decarbonization and Self-determination (p10)	Applying and Strengthening Qualitative Methods for Effective IA (p9)	Future-Proofing AI: Governance, Sustainability, and Impact: Shaping the Next Generation of Impact Assessments (p11)	Korean Endeavor to Accomplish Digital EIA: Demonstration (p10)	The Good, the Bad and the Ugly: The Role of AI in Public Participation in IA (p9)	15:00-16:30
Friday 2 May					
					09:00-10:30
Assessment of Climate-Related Disasters and Adaptation Actions (p12)	Bridging the Digital Divide: Enhancing EIA in Low- and Middle-Income Countries (p12)	Pivoting Policies: Evidence-Based Environmental Policymaking and its Impact on Renewable Energy Development (p13)	Indigenous Knowledge as a Driver of Innovation in Impact Assessment I (p13)	Using AI Technologies to Quantify Environmental Impacts on Complex Systems (p13)	11:00-12:30
Disasters, Conflict and Impact Assessment: What Has Been Done? What Is New? I (p14)	Emerging AI Applications in IA I (p15)	Asian S3EA: Strategic, Spatial and Sustainable EA in AI Era I (p14)	Indigenous Knowledge as a Driver of Innovation in Impact Assessment II (p15)	Advancing Biodiversity Assessment, Risk Management, and Conservation Strategies I (p14)	14:00-15:30
Disasters, Conflict and Impact Assessment: What Has Been Done? What Is New? II (p16)	Emerging AI Applications in IA II (p17)	Asian S3EA: Strategic, Spatial and Sustainable EA in AI Era II (p16)	Indigenous Knowledge as a Driver of Innovation in Impact Assessment III (p17)	Advancing Biodiversity Assessment, Risk Management, and Conservation Strategies II (p16)	16:00-17:30
Saturday 3 May					
					09:00-10:30
Beyond the Buzz: Real-World AI Applications in IA (p19)	Impact Assessment of Mine Closure for Post-Mining Transitions (p18)	Critical Habitat Assessment for No Net Loss in Linear Infrastructure Projects (p19)	Challenges Facing the IA Process in Developmental Projects: An African Perspective (p19)	Mainstreaming AI in Environmental Baseline and Monitoring (p19)	11:00-12:30
Environmental and Social Management Systems: Transforming EIAs into Actions I (p21)	Improving Strategic Environmental Assessment Practice in the EU and the Wider World: Can AI Help? I (p22)	Social Acceptance in the "Backyard": Approaches and Empirical Evidence I (p20)	Human-Centric AI Implementation into ESIA and CSR I (p21)	How can AI Improve IA Follow-Up Practice? (p21)	14:00-15:30
Environmental and Social Management Systems: Transforming EIAs into Actions II (p23)	Improving Strategic Environmental Assessment Practice in the EU and the Wider World: Can AI Help? II (p24)	Social Acceptance in the "Backyard": Approaches and Empirical Evidence II (p22)	Human-Centric AI implementation into ESIA and CSR II (p23)	Artificial Intelligence in Capacity Building for Impact Assessment (p23)	16:00-17:30
Sunday 4 May					
					09:00-10:30
Advancements in Environmental Impact Assessment Through Digital Innovations I (p27)	Challenging Implementation of Cultural Heritage Impact Assessment Standards (p26)	Impact Assessment and Governance for Climate Adaptation and Mitigation in Megacities (p26)	Korea's Urban Planning Technology Development in Response to Climate Change (p26)	Are Competent Experts and Capacity Building Still Core to IA in Spite of AI? (p26)	11:00-12:30
Advancements in Environmental Impact Assessment Through Digital Innovations II (p28)	Cultural Heritage in Strategic Environmental Assessment (p28)	Improving IA Efficiency for Climate Change: Why, When and How (p27)	Navigating Complexities: Resettlement Management in Zones Emerging from Conflict (p28)	Navigating Conservation with AI: Trustworthy Data for a Sustainable Future (p27)	14:00-15:30
					16:00-17:30

# Technical program overview

■ Plenary  
■ Theme forum  
■ Concurrent session

	Module 3	Ciano	Celeste	Indaco
<b>Thursday 1 May</b>				
13:00-14:30				
15:00-16:30	Assessing the Impacts of Food Systems: Experiences from the UN RBAs (p9)	The Validation of Impact Assessments, Adaptive Management, and Reassessments (p9)	Artificial Intelligence Tools to Improve Impact Assessment of Linear Infrastructure Project (p10)	Toward Improving Social Impact Management in the Mining Sector (p9)
<b>Friday 2 May</b>				
09:00-10:30				
11:00-12:30	Reform of EsIA: The Good, the Bad, and the Ugly (p12)	Can AI be an Effective Tool for Supporting Country Biodiversity and Forestry Assessments? (p12)	AI in the USA: Technology's Potential to Improve the National Environmental Policy Act (NEPA) IA Process (p13)	Going Digital, Staying Human: Technology and Social Impact Assessment (p12)
14:00-15:30		Using Strategic Thinking in Impact Assessment to Enhance Sustainability I (p15)	What is Needed to Achieve Trusted and Efficient IA for "Green" Projects (p15)	SIA as the Basis for Ongoing Participatory Community Monitoring; Examples from Across the World (p14)
16:00-17:30	Self-Determined and Culturally-Relevant Gender-Based Analysis and Intersectional IA: An Invitation for Action (p16)	Using Strategic Thinking in Impact Assessment to Enhance Sustainability II (p17)	Evolving the State of the Art in Psycho-Social Impact Assessment (p17)	Help Finalize Best Practice Principles in Participation, AI Assisted! (p15)
<b>Saturday 3 May</b>				
09:00-10:30				
11:00-12:30	Identifying Potential Health Impacts of the Use of Artificial Intelligence (p18)	Linkages Between Sustainable Finance Frameworks and Impact Assessments Systems (p20)	Assessing the Impact of Emergent Technologies in Monitoring and Measuring Biodiversity at Mine Sites (p18)	IAIA Climate Change Action Plan: What's New? What's Next? (p19)
14:00-15:30	Data-Driven Social Risk Management Methods and Tools for Central and Local Use I (p22)	Steps and Tools to Improve Documents and Procedures to Streamline IA I (p21)	The Biodiversity Significance of Some Modified Habitats: Implications for Impact Assessment I (p20)	Exploring AI for Effective Stakeholder Engagement in Impact Assessments (p21)
16:00-17:30	Data-Driven Social Risk Management Methods and Tools for Central and Local Use II (p24)	Steps and Tools to Improve Documents and Procedures to Streamline IA II (p23)	The Biodiversity Significance of Some Modified Habitats: Implications for Impact Assessment II (p23)	Identifying Real-World Solutions to Support Women in Green Transition Energy Projects (p24)
<b>Sunday 4 May</b>				
09:00-10:30				
11:00-12:30	Evidence-Base in Impact Assessment: The Role of Spatial Data and GIS-Based Decision-Support Tools I (p27)	Artificial Intelligence and Indigenous Data in Impact Assessments (p25)	Post-Resettlement Livelihoods: Reality, Experiences, and Lessons (p25)	Making Impact Assessment More DAVE (p26)
14:00-15:30	Evidence-Base in Impact Assessment: The Role of Spatial Data and GIS-Based Decision-Support Tools II (p29)		Practical Assessment and Mitigation Approaches in IA (p28)	Synergies Between Impact Assessment and the Circular Economy (p28)
16:00-17:30				

THURSDAY, 1 MAY | 15:00-16:30

## The Good, the Bad, and the Ugly: The Role of AI in Public Participation in IA

### Module B

G12. Public participation  
Section: Public participation  
Paper session  
Chair(s): Timothy Peirson-Smith

A highly interactive session to explore how AI can provide a “voice” at the table, and a tangible role in improved and enhanced public participation processes in IA.

### AI in Public Participation in IA: Friend or Foe?

Peirson-Smith, Timothy J.

### The Democratization of AI and the Legitimacy of IA

Majekolagbe, Adebayo

### Integrating AI into Engagement to Maximize Inclusion and Social Outcomes

Solaun, Leticia; Moreland, Rosetta; Borin, Gabrielle

### Human-AI Synergy: Crafting Effective Stakeholder Engagement Strategies

Gerheim, Ana Carolina

### LLMs Can Assist Public Participation, But Does It Mean More Effective?

Hung, Shiu Fung

### A Review of AI Techniques and Their Application to Stakeholder Engagement

Gupta, Ridhee; Singh, Gerald

## Toward Improving Social Impact Management in the Mining Sector

### Indaco

G13. Social impact assessment  
Paper session  
Chair(s): Kerry Fairley

This session aims to provide ideas and examples for improving social impacts related to mining projects and operations in the mining sector. Papers will be presented to promote discussion and collaboration on how to improve social impacts to reduce risks to operations and projects and realise benefits to affected communities.

### Mining and Spatial Justice: Leveraging SEA for Equitable Outcomes

Soares, Ana Paula; Monteiro, Margarida

### The Role of Good Neighbor Agreements in Mining Projects

Guifarro, Ranay

### SIA in Bauxite Mining for Alumina: International Comparative Analysis

Eliassen, Søren Qvist; Aaen, Sara Bjørn; Hansen, Anne Merrild; Jiskani, Izhar Mithal

### Contractor Social Management, the Koketso Iron Ore Project: Lessons Learned

Fairley, Kerry

## Assessing the Impacts of Food Systems: Experiences from the UN RBAs

### Module 3

G2. Agriculture, forestry, and fisheries  
Section: Agriculture, Forestry, and Fisheries  
World Café  
Chair(s): Arundhati Willetts, Maria Rita Borba

The world's food systems need to deliver adequate, nutritious diets for all, while ensuring decent livelihoods for all involved in the food system chain. This session explores lessons learned from past experiences of the UN RBAs to ensure more sustainable implementation of food production interventions in fragile contexts.

## The Validation of Impact Assessments, Adaptive Management, and Reassessments

### Ciano

G9. Governance and implementation systems  
Paper session  
Chair(s): Daniel Stuckless, Margaret Luker

Validation of impact assessment outcomes and plans become a focal point when things don't go according to plan. This session will describe positives and negatives of outcomes and plans not met or exceeded. In 2022, the Kearn Oil Sands Project in Northern Alberta, Canada suffered a tailings pond breach that called into question the Impact Assessment and permitting process. With eroded trust, First Nations sought answers for what went wrong. This session aims to examine the roles of impact assessments, adaptive management, and if reassessments should be conducted when failures occur or if predictions are not met.

### AI-Powered Mai Enhances E&S Management in Ceara Green Hydrogen Hub Project

Cordeiro, Ana Carolina; Todt, Guilherme

### IA Cumulative Effects Assessment, Management, and Indigenous Rights

Davidson, Carla

### Intelligent Ecological and Environmental Zoning-Based Regulation in China

Li, Yafei; Li, Xiaomin; Zhao, Yuting; Zhan, Liwen

### Sense as Human: AI-Based Sensors Enhance Long-Term Environmental Monitoring

Zhang, Weixian; Fei, Qing

Looking for **presentation summaries and presenter bios?**  
Find them in the **mobile app**  
(see page 35).

## AI and Remote Sensing for Sustainability and Environmental and Social Risk Management

### Ambra

T2. Data-driven innovation of processes, approaches, methodologies, and tools  
Panel discussion  
Chair(s): Gregory Maggio, Megan Yellin

You can't be everywhere at once— but emerging technologies are being used at the World Bank and other organizations to enable more targeted monitoring and supervision, to better manage risks through ensuring application of environmental and social safeguards and more readily ascertain needs and opportunities for meeting development objectives.

### Trajectory of Remote Sensing to Support Planning for the “Day After”

Aoun, Joy

### Digital E&S Diagnostic for Public Buildings: Enhancing Service Delivery

Lima de Paula, Gabriela; Todt Cardoso de Faro, Guilherme; Coelho Gomes Costa, Alberto; Alves Dias Falcão, Milena; Ermida Gonzalez, Paulo

### Leveraging Digital Solutions for Supervision and Capacity Building

Kone, Natasha

### Assessing Social, Environmental, and Climate Compliance through AI

Diaby, Aboubacar; Peglidou, Paraskevi

### GenAI for Project Supervision

Yellin, Megan; Maggio, Greg

## Applying and Strengthening Qualitative Methods for Effective IA

### Cobalto

T2. Data-driven innovation of processes, approaches, methodologies, and tools  
Paper session  
Chair(s): John Sinclair

IA professionals are testing, and looking for, innovative ways to apply qualitative methods to meet the demands of evolving IA frameworks, including with the use of AI. This IAIA session brings together global IA leaders to share and discuss approaches for effectively integrating qualitative methods into IA.

### Using Ethnography to Strengthen IA with Indigenous Peoples

Anderson, Alfredo

### Strengthening Qualitative Methods for Effective IA

Sinclair, John; Walker, Heidi

### Keeping EA in Touch with Dynamic Impacts and Objectives: Systems Thinking

Ravn Boess, Emilia; Kørnø, Lone; Gordon, Johanna; Qvist Eliassen, Søren

### Qualitative Methods for Indigenous-Led Impact Assessments

Bockstael, Erika; Ballard, Myrle

# Sessions

## Artificial Intelligence Tools to Improve Impact Assessment of Linear Infrastructure Project

### Celeste

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Franck Duchassin*

This session explores the use of AI for planning linear infrastructures, aiming to reduce environmental impact and improve the efficiency of the environmental impact assessment process. It presents case studies, shares expertise, and discusses ethical and regulatory challenges for sustainable development.

### A Socio-Spatial Approach to Visualize Phases of Development in One Timeline

*Kumar, Saransh*

### Impact of Land Use on Wildlife-Vehicle Collisions in Romania

*Borlea, Silvia; Nistorescu, Marius; Doba, Alexandra; Moț, Radu*

### Enhancing Impact Assessment Engagement Through Interactive 3D journey

*Brodie, Chris; Shields, Ellen*

### Representation of African Languages in Natural Language Processing (NPL)

*Oosthuizen, Tania; Davie, Therise*

## Improving Governance and Decision Making in IA: Addressing Ecological and Participatory Challenges

### Italia

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Jane McQuitty*

This session explores new tools and alternative perspectives to improve IA decision-making. Presentations examine eDNA applications for biodiversity assessment, strategic ecological monitoring, and lessons from UK offshore wind approvals. The session concludes with a proposal for diagnosing how IA frameworks shape public participation and advocacy, ensuring a more inclusive decision-making process.

### Advanced SESA: Case Study of eDNA Application in the Solomon Islands

*Ricciardi, Francesco; Annandale, David; Annandale, Darko*

### eDNA Analysis for Biodiversity Assessment in Offshore Environment

*Gordigiani, Lorenzo; Cuzzola, Antonino; Missori, Cristina; Fistrale, Agostina; Guazzi, Chiara; Rota, Noemi*

### Smoothing Consent: Lessons Learned from Ecological Case Studies in the UK's Offshore Wind Farm Industry

*Gall, Catriona; Macleod, Kelly*

### Power, Participation, and Silence: EIAs as Speech Acts in Urban Advocacy

*McQuitty, Jane*

## Korean Endeavor to Accomplish Digital EIA: Demonstration

### Module A

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Sangyun Lee*  
*This session is sponsored by Korea Environment Institute.*

In this session, we provide various demonstrations with respect to digital environmental impact assessment, including scoping reference statement, EIA checklists of individual items, and digital effort for post-environmental monitoring.

### Development of a Scoping Support System for Digital EIA

*Kim, Taeyun; An, Junyeong; Kim, Kyoungmin*

### Digital Transformation of EIA in South Korea

*Park, Taeho; An, Junyeong; Kim, Kyungmin*

### Remote Sensing-Based Water Environment Monitoring System for Post-EIA

*Baek, Donghae; Park, Taeho; Cho, Young-il*

### Exploring AI-IoT Integration for Air Quality and Health Management in Ulsan

*Jeon, Seohyun; Jeon, Sookjin*

## Use of Data, Technology, and Artificial Intelligence Tools for Enhanced Accountability

### Bianca

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*World Café*  
*Chair(s): Benoit Vanwelde, Laurence Levaque*

The session will explore how data, technology, and AI tools can reinforce accountability practices and trust in project development. Starting with a brief introduction on accountability and a presentation of technological applications used for assessing environmental and social performance, parallel discussions will then be organized.

### European Investment Bank

*Vanwelde, Benoit*  
*Levaque, Laurence*

### Asian Development Bank

*Jalal, Imrana*  
*Llanillo, Olivia Rosita*  
*Kunanayagam, Ramanie*

### Accountability Counsel

*Araabi, Samer*

## AI in IA: Enhancing Cumulative Effects Assessment in the Era of Decarbonization and Self-Determination

### Turchese

*T3. Evidence-based policymaking*  
*Panel discussion*  
*Chair(s): David Wright*

AI capabilities are set to reshape impact assessment, particularly cumulative effects analysis at the intersection of decarbonization and Indigenous self-determination. Experts from academia, industry, and Indigenous organizations will discuss AI's roles and risks in balancing sustainability, community well-being, and Indigenous rights.

### Face-to-Face Governance in the Age of Artificial Intelligence

*Tootoosis, Mylan; Martin, Dana; Okemow-Bull, Jayneika; Oscepa, Merle; Pewapsconias, Janelle*

### Integrating Socioecological System Approach in Cumulative Impact Assessment

*Mandai, Silvia Sayuri; Moretto, Evandro; Bohlman, Stephanie*

### Protecting Indigenous IP: Knowledge Sovereignty in Green Energy Project IAs

*Stewart, Ian; Milley, Chris; D'Entremont, Cody; Howard, Connor*

## Data Protection in Social Impact Assessment

### Avorio

*T4. Environmental, social, and governance reporting and disclosure*  
*Section: Social Impact Assessment*  
*Paper session*  
*Chair(s): Ilse Aucamp*

Data protection extends beyond compliance with laws—it forms the cornerstone of ethical business practice and customer relationship management. This session features papers on how data protection can be ensured in SIA processes, what the consequences are of not protecting data and why it is important.

### Hidden Risks: Data Protection Challenges and Solutions for Impact Assessment

*Strachan, Danie*

### Balancing AI and Data Management with Indigenous Communities

*Tibor-McMahon, Marian; Fox, Michael*

### Why Data Protection in SIA Matters More for Social Enterprises

*Giderler, Memduh Eren; Çalişan, Aysima*

## Future-Proofing AI: Governance, Sustainability, and Impact - Shaping the Next Generation of Impact Assessments

### Blu

*T1. Impact of artificial intelligence on impact assessment*  
Panel discussion  
Chair(s): Jonathan Ward

This panel delves into the intersection of digital transformation, governance, and sustainability, examining AI's environmental impact—both positive and negative. Experts from diverse sectors discuss best practices, innovations in sustainable AI, and the challenges and opportunities of AI adoption, offering key insights into its future role in impact assessment.

### Introduction to the Session and Opening Remarks

Ward, Jonathan

### A Tool to Examine the Effectiveness of Environmental Policies and Institutions

Vizeu Pinheiro, Maria; Sanchez de Triana, Ernesto

### Governance of Digital Technology and Transformation Toward Sustainability

Ghazal, Sarah; Fadel, Mutasem

### Data Centers and AI: Is it Sustainable?

Serrano, Christopher

FRIDAY, 2 MAY | 09:00-10:30

## A Rights-Based Approach to IA: Indigenous Resilience and Resurgence Through Engaging in IA

### Europa

*G11. Indigenous Peoples*  
Theme forum - Panel discussion  
Chair(s): Callie Davies-Flett, Mandy Olsford

Athabasca Chipewyan First Nation, an Indigenous community living downstream from the largest open pit mines in the world, will discuss their engagement within colonial IA processes, highlighting struggles and successes using Indigenous Knowledge as a grounding force for community-led impact assessments, development of environmental policies, and data analytics tools.

### Using Indigenous Knowledge to Guide Western Science in Environmental Monitoring

Cyprien, Lori; Mclean, Bruce

### Nā' Chu Tu Kelnā', Denesuline Framework for Assessing Impacts to Rights

Banjoko, Moronkeji - Kg

### Case Studies for Rights-Informed Research to Protect Nation Indigenous Use

Bebeteidoh, Timothy

### Can AI Support the Integration and Meaningful Use of Indigenous Knowledge?

Davies-Flett, Callie; Olsford, Mandy

## The Emerging Role of Artificial Intelligence in the Future of Impact Assessment

### Avorio

*T1. Impact of artificial intelligence on impact assessment*  
Theme forum - Workshop  
Chair(s): Alexandra Jiricka-Pürner, Gesa Geißler

In this interactive session, we will dive into the role of AI in the future of IA looking particularly on planning (and data) quality, influence on the effectiveness as well as decision making, acceptance of AI, and diversity in the AI application. The session will build on submissions to an IAPA special issue, facilitating rich interdisciplinary exchange and fostering critical and constructive reflection

### He, Robot: A Call for Integrating Equity in AI-Driving Impact Assessments

Howse, Tara

### Stakeholders Perspectives on AI Application in SEA and EIA for RE Planning

Jiricka-Pürner, Alexandra; Sandfort, Robin

### How to Create AI-Ready Environmental Assessment Dataset

Kørnø, Lone; Lyhne, Ivar

## What's the Reality Behind the AI Hype in IA?

### Bianca

*T1. Impact of artificial intelligence on impact assessment*  
Theme forum - Workshop  
Chair(s): Christopher Bowles, Babette Bresser

Gain concrete insights into how AI technologies are currently being employed within Impact Assessment through lightning talks and a dynamic "Thinking Hats" workshop, bringing together diverse expertise and backgrounds to move past the hype and uncover new, innovative AI-driven solutions and approaches within Impact Assessment.

### EA-Hub: Transforming Environmental Impact Assessments Through AI Innovation

Sveding, Karl Rasmus; Holme, Dorte

### Testing the Waters: AI vs. Consultants in Biodiversity Due Diligence

Xavier, Hannah; Coey, Suzanne

Smaller than plenaries and larger than concurrent sessions, **theme forums** include "cut-above" presentations and discussions which address the conference theme, bring together the various aspects of impact assessment on a particular topic, and examine how those aspects apply to different sectors and issues.

## Tools and Techniques for Regional Cumulative Effects Assessment and Management

### Italia

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
Theme forum - Workshop  
Chair(s): Effah Antwi, Owusu Banahene-Wiafe

In this session, participants will learn three things: 1) The conceptual design and framing of Risk Assessment Framework for Cumulative Effect (RAFCE), 2) Application of AI to a case study of regional assessment; 3) Capabilities of AI for real time data sharing, streamlining the assessment process and collaboration.

### Risk Assessment Framework and Software for Cumulative Effects

Antwi, Effah; Boakye Danquah, John

### Cumulative Effects Assessment to Inform Project Design and Risk Management

Carreras, Maria Jose; Balbuena, Cesar

### Regional Assessments: Their Role in Improving IA Effectiveness and Efficiency

Bonnell, Steve

### AI for Cumulative Habitat Assessment

Fant, Mia; Taylor, Brad; Hammad, Lutfiah

### The Importance of Field Data in an Era of Artificial Intelligence

MacAfee, Katalijn

FRIDAY, 2 MAY | 11:00-12:30

## Academia Research and Teaching I

### Italia

*G1. Academia*  
Section: Academia  
Paper session  
Chair(s): Reece Alberts

For this session of the Academia Section of IAIA, we discuss contributions on impact assessment (IA) research and teaching activities at higher education institutions throughout the world.

### Using AI, Drones, and 360° Tech to Train Future EIA Professionals

Picardi, Daniela; Giberti, Veronica

### Analysis of the Tools for Teaching EIA

Poggi, Johanna

### Engaged Scholarship Research Opportunities through IA Follow-up in Dinokeng

Wessels, Jan-Albert; Nortje, G.P.; Mearns, K.; Jordaan, M.

### Ethical Practices on the Use of AI in Curriculum for Social Risk Management

Oso, Oluwatosin; Naswem, Adolphus



# Sessions

## Meaningful Stakeholder Engagement: For and with Affected Stakeholders I

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### Avorio

*G12. Public participation*  
*Section: Public Participation*  
*Paper session*  
*Chair(s): Karin Buhmann, Alberto Fonseca*

This session addresses meaningful stakeholder engagement (MSE) with a focus on barriers, drivers, and good practice for achieving meaningful processes and outcomes for affected stakeholders, locally or along value chains. The session explores a relevant IA issue that is growing significance, related to environmental, social, and governance (ESG).

### Toward (Truly) Meaningful Engagements with Affected Stakeholders

*Buhmann, Karin; Fonseca, Alberto; Andrews, Nathan; Amatuli, Giuseppe*

### Insights from World Bank Portfolio on Meaningful Stakeholder Engagement

*Egilmezler, Melike; Gurkan, Asli*

### FPIC, Meaningful Engagement, and Licensing Process: Limits and Possibilities

*Soares, Daniella; Villela, Pedro*

### Enabling Meaningful Stakeholder Engagement When Addressing E&S Grievances

*Franchini, Vittoria*

### Beyond Tokenism: Social Marginalization and Meaningful Engagement in Ghana

*Andrews, Nathan; Faanu, Phil*

## Going Digital, Staying Human: Technology and Social Impact Assessment

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### Indaco

*G13. Social impact assessment*  
*Workshop*  
*Chair(s): Sara Bice*

Technology, including online consultation and AI, is changing human interactions central to SIA. Join us to explore how technologies influence that most human of impact assessments, SIA. Learn from international examples, debate opportunities and challenges. Collaboratively draft an IAIA FaTips on "Integrating Technology into SIA."

## Can AI Be an Effective Tool for Supporting Country Biodiversity and Forestry Assessments?

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### Ciano

*G3. Biodiversity and ecology*  
*Panel discussion*  
*Chair(s): Ahmed Sanda*

Can AI be an effective tool for supporting Biodiversity and Forestry Assessments in a particular country or region? A panel of governmental and non-governmental representatives offer diverse perspectives on uses of AI to examine baseline situations, develop mapping/remote sensing, and strategy planning in biodiversity protection.

### AI in Monitoring Ancient Woodland Restoration: The Woodland Trust's Approach

*Kerr Smith, Catherine*

### Biodiversity Avoidance and Wetland Restoration in Cotonou, Benin

*Bessan, Modestine Victoire; Vu Hong, Van Anh; Jean Nemer, Randa; Donou, Tolidji Blaise; Emadak, Alphonse; Sinno, Nahida*

### IA of TBTPP: Pakistan's Largest Flagship Afforestation Project

*Saeed, Hammad; Jamal, Asim*

### Virtual Reefs: Identifying Critical Coral Larvae Sources Via ABMs

*Teo, Aaron*

### Voice Print Analysis Model for PAM without Machine Learning

*Iwayanagi, Mitsuo; Urugo, Akiko*

## Assessment of Climate-Related Disasters and Adaptation Actions

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### Turchese

*G4. Climate change*  
*Paper session*  
*Chair(s): Emdad Haque*

This session will engage in a discussion on how the assessment methods on climate change-related disasters can be improved by accounting for both economic and non-economic losses and damages. You will also learn about assessment methods of positive and negative impacts of adaptation action programs and climate resilience.

### Overcoming Barriers to Ground Source Heat Pump Adoption in Rural Areas

*Yu, Qiao; Nishikizawa, Shigeo; Murayama, Takehiko; Suwanteeep, Koltip*

### Which Climate Adaptation Solutions Work and Represent Best Buys

*Carstensen, John*

### Diagnosis and Evaluation of Urban Heatwave Climate Resilience

*Lee, Ji Yoon; Kang, Jung Eun*

### Social Inequality Impacts of Climate Change and Adaptation Action: A Critique

*Haque, Emdad; Azad, Mak*

### An Assessment of Climate-Related Disaster Impact on Social Inequality

*Azad, M. Abul Kalam; Haque, C. Emdad*

## Bridging the Digital Divide: Enhancing EIA in Low and Middle-Income Countries

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### Cobalto

*G9. Governance and implementation systems*  
*Paper session*  
*Chair(s): Landry Fanou, Anna Chadarevian*

The Netherlands Commission for Environmental Assessment (NCEA) has organized this session to explore current challenges, solutions, and best practices to promote digital inclusion in the IA arena in low- and middle-income countries. The discussion will focus on how to ensure that technological progress does not widen the digital divide in this context.

### Toward Inclusive Digital Stakeholder Engagement

*Kalkandelen, Kubra*

### Digital EIA Disclosure Advocacy and Collaboration in Cambodia

*Thy, Try; Koem, Chhuonvuoch*

### Unveiling the Politics of AI in IA

*Harty, Emma*

## Reform of EslA: The Good, the Bad, and the Ugly

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### Module 3

*G9. Governance and implementation systems*  
*Section: Governance and Implementation Systems*  
*World Café*  
*Chair(s): Cheryl E. Wasserman*

A participatory session will explore proposed reforms of EslA and permitting to achieve efficiency and effectiveness in a world café around 6 types of reforms. Cost and time required for EslA created urgency for reforms to address climate change, critical infrastructure and investment. Have they helped or hurt the process?

### Toward Efficiency in EslA and Permitting in a Remote Arctic Setting

*Traynor, Stephen*

### Integration of the EIA Screening Tool into Decision Making and Process Flow

*Bendeman, Devinagie; Solomons, Milicent*

## Linking Global Commons Issues to IA: Fit for Future Actions and Next Steps

### Bianca

*S1. Special to IAIA*

*Solution room*

*Chair(s): Barry Wiesner, Weston Fisher*

Assessment lacks linkages to Earth and human systems: what to do? The status of Fit for Future Initiative actions under the Initiative's 7 objectives will be discussed. We will then seek feedback on the actions, proposed next steps, and what still needs to be done, while encouraging increased member involvement.

## AI and Sustainability: The New Era of Environmental Assessment I

### Ambra

*T1. Impact of artificial intelligence on impact assessment*

*Paper session*

*Chair(s): Cesar Ramos*

This session will explore how AI can optimize Environmental Assessment through data analysis, predictive modeling, delineation of areas of influence, and public participation. Examples include version control systems for documents and algorithms that simulate environmental impact scenarios and analyze comments and opinions.

### Leveraging LLMs to Evaluate Public Comments on Japan's Environmental Plans

*Ishii, Kohei; Kameda, Akihiro*

### Narrowing Data Gaps through AI in EA and Monitoring at Red Sea, KSA

*Aljahani, Bader; Taylor, Brad; Mumtaz, Ali; Sheikh, Kashif; Shaikh, Shahnawaz*

### Enabling Communities to Generate Evidence-Based Reports for EAs

*Grygar, Martin; Kingsley, Amakiri Tamuno*

### Insights from the Development and Deployment of AI for Impact Assessment

*Tranter, Ngaire*

## AI in the USA: Technology's Potential to Improve the National Environmental Policy Act (NEPA) IA Process

### Celeste

*T1. Impact of artificial intelligence on impact assessment*

*Paper session*

*Chair(s): Michael Smith*

This session examines current progress and the future potential for technology application (including AI) to improve the U.S. National Environmental Policy Act (NEPA) impact assessment process.

### An Introduction to Integrating AI and Other Technology Tools in US EIA

*Smith, Michael*

### Amendment, Interpretation, and Changing Implementation of NEPA

*Boling, Edward; Hudson, Pam*

### U.S. Federal Case Law Views on the U.S. Regulatory Proposals

*Hudson, P.E. "Pam"; Smith, Michael; Boling, Edward "Ted"*

## Indigenous Knowledge as a Driver of Innovation in Impact Assessment I

### Module A

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*

*Paper session*

*Chair(s): Nina Barton, Hereward Longley*

These three sessions present papers from Canada, Central, and South America that discuss how Indigenous Knowledge and voices are changing impact assessment. Meaningful consideration of diverse knowledge systems can provide more accuracy and relevance for Indigenous communities, contribute to informed decision making, and increase regulatory clarity.

### Impact Assessments Using an Indigenous Science Approach: 3-Eyed Seeing

*Ballard, Myrle*

### Place Based or Artificial? The Paradox of Indigenous Science and AI

*Woodburn, Gavin; Ballard, Myrle*

### Biocultural Social-Ecological Systems in IA with Indigenous Peoples

*Utsunomiya, Renata; Moretto, Evandro Mateus; Athayde, Simone*

### Indigenous Knowledge and the Four Directions Model in Treaty #3

*Theriault, Desiree; Krolyk, Hailey*

## Using AI Technologies to Quantify Environmental Impacts on Complex Systems

### Module B

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*

*Paper session*

*Chair(s): Zishu Wang, Chunyan Wang*

The worldwide advancement and applications of AI technologies will provide us more approaches to understand the complex human-nature system. How can we use AI technologies to better identify and quantify potential environmental impacts? The participants will contribute their perspectives on the utilization of AI in EIA procedures, offering ideas and sharing best practices.

### Intelligent Environmental Governance Metrics for Chinese Cities

*Bo, Lujia*

### Ready for AI: China's Eco-Environmental Zoning-Based Regulation System

*Zhan, Liwen; Li, Xiaomin; Zhao, Yuting; Li, Yafei*

### AI-Enhanced Turbidity Prediction: Mitigating Impacts on Dam Reservoirs

*Chung, Sewoong; Kim, Sungjin; Kim, Dongmin; Lee, Eunju; Yeojeong Yun, Yeojeong*

### Data-Driven Evaluation of Watershed Ecological Index in Human-Nature System

*Wang, Miao; Su, Mai; Liu, Yang; Liang, Jing; Wang, Zishu; Liu, Yi*

## Pivoting Policies: Evidence-Based Environmental Policymaking and its Impact on Renewable Energy Development

### Blu

*T3. Evidence-based policymaking*

*Paper session*

*Chair(s): Jana Minnaar*

In the context of climate change and the imperative to shift toward sustainable energy, this session focuses on evidence-based environmental policymaking's impact on the renewable energy sector. Presenters will share real-world examples, discussing how such policies have accelerated or halted renewable energy development.

### Assessing the Effects of Energy Sector Macro Policies in Iran on Development of Renewable Energies

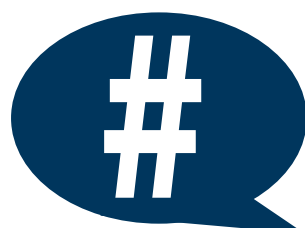
*Mobarghaee Dinan, Naghmeh; Shokrollahi, Saba*

### Policies and Regulations Effects on Renewable Energy Projects in QC and AB

*da Costa Lenz Cesar, Juliana; Feret, Matthieu*

### Environmental Legislative Updates for BESS Developments in South Africa

*Minnaar, Jana*



Share your thoughts on a session or the day's events by tagging **#iaia25** on LinkedIn, Facebook, and Instagram!



FRIDAY, 2 MAY | 14:00-15:30

## Academia Research and Teaching II

### Italia

G1. Academia  
Section: Academia  
Paper session  
Chair(s): Reece Alberts

For this session of the Academia Section of IAIA, we discuss contributions on impact assessment (IA) research and teaching activities at higher education institutions throughout the world.

### Indigenous-Led Cumulative Impact Assessment Online Training Program

Murphy, Matt; Keefe, Justine

### Lessons Learned from SEA Master Course Development in 6 Asian Universities

Ekbom, Anders; César, Emelie; Ölund Wingqvist, Gunilla

## Meaningful Stakeholder Engagement: For and with Affected Stakeholders II

### Avorio

G12. Public participation  
Section: Public Participation  
Paper session  
Chair(s): Karin Buhmann, Alberto Fonseca

This session addresses meaningful stakeholder engagement (MSE) with a focus on barriers, drivers, and good practice for achieving meaningful processes and outcomes for affected stakeholders, locally or along value chains. The session explores a relevant IA issue that is growing significance, related to environmental, social, and governance (ESG).

### An Implementation of Public Participation in EIA system in Thailand

Chompunth, Chutarat

### Exploring Elements of Meaningful Public Participation in the Colombian EIA

Bayuelo, Mario

### What Should IA Address? Lessons From Public Engagement in Manitoba

Fast, Heather; Fitzpatrick, Patricia; Dilay, Katrine

### What Makes Transboundary IA Stakeholder Engagement Meaningful?

Chanchitpricha, Chaunjit; Bond, Alan; Hanchenlaksh, Chalalai; Sittitoon, Nalin; Runglek, Parach; Viwatrujirapong, Pichayut

### Value Chain Stakeholders and IA Follow-Up on Amazon Rainforest Mining

Margarido, Natália; Hanna, Philippe; Sánchez, Luis; Arts, Jos

## SIA as the Basis for Ongoing Participatory Community Monitoring: Examples from Across the World

### Indaco

G13. Social impact assessment  
Section: Social Impact Assessment  
Paper session  
Chair(s): Kathy Witt, Will Rifkin

Come and explore the opportunities and challenges of taking SIA one step further to become ongoing participatory community monitoring. We will hear examples of where this has worked or not from around the world.

### SIA and Indigenous People: Toward Participatory Monitoring Processes

Diantini, Alberto; Hanna, Philippe

### SIA Research on a Cycle Trail: A Case for Community Monitoring

Taylor, Nicholas (Nick); Mackay, Michael

### Empowering Communities: Leveraging SIA in Red Sea Global

Shaabein, Majed; Alkhalaqi, Khlood; Alyousef, Faisal; Almansour, Maram; Hammad, Lutfiah

### Participatory Assessment of an Indigenous Program at Brazilian Amazon

Ingles de Sousa, Cassio

## Advancing Biodiversity Assessment, Risk Management, and Conservation Strategies I

### Module B

G3. Biodiversity and ecology  
Paper session  
Chair(s): Mark Leckie

Struggling to start your nature-related assessments? Overwhelmed by regulatory requirements and biodiversity data? This session will guide you through practical solutions to simplify the process, helping you navigate challenges with confidence. Join us to gain clarity, streamline your approach, and make informed decisions for effective biodiversity management.

### Impact Assessment in the Age of AI

Leckie, Mark

### How to Use IBAT for Infrastructure Assets

Simic, Melisa; Jones, Ali

### Biodiversity Site Mapping: Risk Screening, Alignment, and Mitigation

Barcenilla Arranz, Elena; Hayes, Sarah

## Disasters, Conflict and Impact Assessment: What has been done? What is new? I

### Turchese

G7. Disasters and conflict  
Section: Disasters and Conflict  
Paper session  
Chair(s): Charles Kelly

Disasters and conflicts are major disruptors of development and lives. This session provides a venue to present on assessing impacts during conflicts and crises and lessons which have been, or need to be, learned.

### Driving Growth and Resilience in Solomon Islands Tourism Sector

Lazarus, Kate; Rossi, Eva; Tamot, Sophia

### Environmental Racism and the Social Requirements in Performance Standards

Costa, Marina; Nascimento, Victor

### Faster, but Better? Disasters and EIAs in an AI World

Kelly, Charles

### AI Climate Change Paradox in an Era of Conflict

Liljedahl, Birgitta; Waleij, Annica

## Asian S3EA: Strategic, Spatial and Sustainable EA in AI Era I

### Blu

G8. Emerging technologies  
Paper session  
Chair(s): Kii Hayashi, Myungjin Kim

The advancement of remote sensing technology and information technology, spatial analysis with a variety of environmental, social and economic items has received big attention in the AI era. This session will focus on IA examples which support the strategic decision including SEA and utilize the well-organized spatial scale analysis.

### Charlie Wolf and Assessing Korea

Kim, Myungjin; Lee, Jong Ho; Jung, Jong-Gwan

### Stewarding Singapore's Natural Capital with Ecological Profiling Exercise

Li, Tianjiao; Lai, Samantha

### Nascent SEA in Arabian Peninsula: Challenges and Hopes and AI Potential

Korpjiaakko, Carla; Kayem, Cynthia; Dib, Richard; Eid, Momen

### Assessment of the Carbon Sequestration Capacity of Mangrove Forest Sediment

Niyommaneerat, Wilailuk

## What is Needed to Achieve Trusted and Efficient IA for “Green” Projects

### Celeste

*G9. Governance and implementation systems*  
*Section: Governance and implementation systems*  
*Panel discussion*  
*Chair(s): Celesa Horvath*

This panel discussion will bring together diverse perspectives to explore how to develop trusted, efficient, and expedited IA processes that tackle global challenges while respecting local needs and interests. Participants from government, IA process administrators, Indigenous groups, industry, consulting practitioners, and NGOs join our panelists in dialogue.

### Ventus Development Services Inc.

*Horvath, Celesa*

### Beacon Regulatory Solutions Inc.

*Bailey, Scott*

### IAMC-TMX

*Cardinal, Raymond*

## AI and Sustainability: The New Era of Environmental Assessment II

### Ambra

*T1. Impact of artificial intelligence on impact assessment*  
*Paper session*  
*Chair(s): Cesar Ramos*

This session will explore how AI can optimize Environmental Assessment through data analysis, predictive modeling, delineation of areas of influence, and public participation. Examples include version control systems for documents and algorithms that simulate environmental impact scenarios and analyze comments and opinions.

### Hybrid AI for Decision Making in Climate Crises

*Torregrosa, Sergio; Chinesta, Francisco*

### Managing AI Risk in Non-Technical Risk Management: Notes from the Field

*Wagner, Jay; Dille, Catherine*

### A Graph-Based RAG Framework for Comparative Analysis of ESIA's

*Sardo, Luca; Dragan, Massimo*

## Emerging AI Applications in IA I

### Cobalto

*T1. Impact of artificial intelligence on impact assessment*  
*Section: AI and Emerging Technology*  
*Paper session*  
*Chair(s): Alan Bond*

The session identifies emerging and innovative uses of AI in Impact Assessment (IA). Case studies and hypothetical applications are detailed along with a consideration of the potential benefits for IA.

### AI-Enhanced Data Correction and Long-Term Management in Impact Assessment

*Souville, Henri; Ngono, Romuald; Bodel, Charles*

### Effect Assessment, Risk Assessment, and Artificial Intelligence

*Paredes, Alvaro; Paredes Heidemann, Jerome*

### Practical Applications of AI to Deliver Impact Assessments Internationally

*Breton, Neil; Soubry-Smith, Caroline; Anton, Daniel; Palekhov, Dmitry*

## AI for Social Risk Management: Insights from International Organizations

### Bianca

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Panel discussion*  
*Chair(s): Asli Gurkan*

Discover how international organizations are increasingly using AI tools to better manage social risks and impacts in their development portfolios. Learn about how the World Bank Group (WBG), Asian Development Bank (ADB), Inter-American Development Bank (IADB) and UN Food and Agriculture Organization (FAO) use AI tools, such as geospatial data management tool for resettlement monitoring, citizen and stakeholder engagement, conflict navigator and other tools to enhance their support to project teams and in-country counterparts in applying Social and Environmental Policies.

### AI-Assisted Digital Solution for Resettlement and Social Impact Assessment

*Cleto, Maria; Nazrieva, Rangina*

### AI-Driven Tool for Early Social and Environmental Risk Assessment

*Borba, Maria Rita*

### IDB Inter-American Development Bank

*Vanzan, Luciana; Hurwitz, Zachary Daniel*

## Indigenous Knowledge as a Driver of Innovation in Impact Assessment II

### Module A

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Nina Barton, Hereward Longley*

These three sessions present papers from Canada, Central, and South America that discuss how Indigenous Knowledge and voices are changing impact assessment. Meaningful consideration of diverse knowledge systems can provide more accuracy and relevance for Indigenous communities, contribute to informed decision making, and increase regulatory clarity.

### W.O.L.F: Space for Indigenous Voices in a Changing World

*Wells, Carmen; Oloriz, Carrie; Dertien-Loubert, Kim*

### Strengthening IAs: Integrating Red River Métis Knowledge

*Culver, Leah; Riel, Marci*

### Indigenous Knowledge and Land Use Mapping Database for Impact Assessment

*Goulet, L. Christian; Staubb, Connor*

## Using Strategic Thinking in Impact Assessment to Enhance Sustainability I

### Ciano

*T3. Evidence-based policymaking*  
*Game - Gaming*  
*Chair(s): Maria Partidario, Margarida Barata Monteiro*

Let's experience impact assessment in a strategic and innovative way towards transformative change. Questions such as "what if the current policy does not change?" and "what if the current trend persists?" will help to reflect on the importance of strategic thinking in the practice of IA in development decision making.

FRIDAY, 2 MAY | 16:00-17:30

## Help Finalize Best Practice Principles in Participation, AI Assisted!

### Indaco

*G12. Public participation*  
*Section: Public Participation*  
*Solution room*  
*Chair(s): Tanya Burdett*

An interactive "solution room" session to help finalize the refresh of the IAIA Public Participation Best Practice Principles, Fasttips, and Key Citations. No prior experience needed! With the help of some AI, we'll guide you through the process, but do bring your creativity and innovative insights.

# Sessions

## Meaningful Stakeholder Engagement: For and with Affected Stakeholders III

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### Avorio

*G12. Public participation*

*Section: Public Participation*

*Paper session*

*Chair(s): Karin Buhmann, Alberto Fonseca*

This session addresses meaningful stakeholder engagement (MSE) with a focus on barriers, drivers and good practice for achieving meaningful processes and outcomes for affected stakeholders, locally or along value chains. The session explores a relevant IA issue that is growing in significance, related to environmental, social, and governance (ESG).

### Inclusive and Equitable Public Participation in Impact Assessments

*Cormier, Marylène*

### Challenges to Meaningful Stakeholder Engagement: A South African Context

*Hemming, Matthew*

### Analysis on Stakeholders' Perspective Toward Social License to Operate

*Suwanteep, Kultip*

### Bridging the Gap Between Stakeholder Engagement Policies and Implementation

*Herbst, Lynette; Sekele, Lethabo*

### Applying Ethics and Core Values in Stakeholder Engagement: RSA

*Greyling, Noeleen*

## Self-Determined and Culturally Relevant Gender-Based Analysis and Intersectional IA: An Invitation for Action

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### Module 3

*G13. Social impact assessment*

*Workshop*

*Chair(s): Dawn Hoogveen, Patricia Fitzpatrick*

Self-determined and culturally relevant gender-based analysis is being integrated into IA. Diverse peoples experience projects differently, yet intersectional and culturally relevant gender-based analysis remains underutilized. This workshop invites discussions of how difference, including overlapping identities such as race, sexuality, and disability, can inform assessment practices and push IA forward.

### Intersectionality in IA: A Call to Action

*Hoogveen, Dawn*

### GBA+ and Equity in Impact Assessment

*Fitzpatrick, Patricia; Pastora Sala, Joëlle; Williams, Byron*

## Advancing Biodiversity Assessment, Risk Management, and Conservation Strategies II

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### Module B

*G3. Biodiversity and ecology*

*Paper session*

*Chair(s): Mark Leckie*

Struggling to start your nature-related assessments? Overwhelmed by regulatory requirements and biodiversity data? This session will guide you through practical solutions to simplify the process, helping you navigate challenges with confidence. Join us to gain clarity, streamline your approach, and make informed decisions for effective biodiversity management.

### Urban Ecological Status Map for Conservation of Biodiversity in Urban Areas

*Namung, Hyung; Jung, Jong-Gwan*

### Emerging Biodiversity Metrics for Natural Capital Assessments

*Gallacher, David*

## Blue Economy, SEA, and Marine Spatial Planning

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### Ambra

*G3. Biodiversity and ecology*

*Section: Biodiversity and Ecology*

*Paper session*

*Chair(s): Arthur Neher, Alexandre Puisais*

Increasingly, countries are adopting Marine Spatial Plans to develop their territorial marine resources in a sustainable manner. The UN Treaty of the High Seas recognizes SEA as an important tool to guide the sustainable use of the marine resources. This session aims to discuss strategic environmental assessment in marine and coastal planning.

### Implementing Coastal Nature-Based Solutions for Singapore

*Lai, Samantha*

### Environmental Planning as the Key Challenge for a Sustainable Blue Economy

*Barrientos Carrasco, Carlos*

### Understanding the Convergence of Marine Spatial Planning, Fisherman Extract

*Olivares, Samuel; Martínez, Carla*

### Marine Spatial Planning Zoning Approach in the Red Sea Southern Islands

*Thompson, Michael; Mutiso, Alex M.; Ahmed, Syed H.;*

*Almutairi, Saud*

### SEA and Conservation: SEA of SW Bangladesh and the Sundarbans: Using Real Intelligence

*Dalal-Clayton, Barry*

### SEA Contributions for Marine Spatial Planning in Brazil

*Malvestio, Anne Caroline; Duarte, Carla Grigoletto;*

*Xavier, Thomaz Willian de Figueiredo; Turra, Alexander;*

*Sánchez, Luis Enrique*

## Disasters, Conflict and Impact Assessment: What has been done? What is new? II

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### Turchese

*G7. Disasters and conflict*

*Section: Disasters and Conflict*

*Paper session*

*Chair(s): Charles Kelly*

Disasters and conflicts are major disruptors of development and lives. This session provides a venue to present on assessing impacts during conflicts and crises and lessons which have been, or need to be, learned.

### Advancing Environmental Assessments in Conflict Zones: The ICRC's Approach

*Zahir, Bann*

### IA in the Midst of Colombian Conflict Territories: Is it for Real?

*Ruiz, Yaddy; Amaya, Andres*

### Applying E&S Standards in Haiti: Challenges, Lessons, and Solutions

*Africot, Arnold; Thelusma, Gilbert*

### Applying E&S standards in a conflict environment: Lessons from Yemen

*Fluet, Eloise; Al-Ghorbany, Amer*

## Asian S3EA: Strategic, Spatial and Sustainable EA in AI Era II

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### Blu

*G8. Emerging technologies*

*Paper session*

*Chair(s): Kii Hayashi, Myungjin Kim*

The advancement of remote sensing technology and information technology, spatial analysis with a variety of environmental, social and economic items has received big attention in the AI era. This session will focus on IA examples which support the strategic decision including SEA and utilize the well-organized spatial scale analysis.

### Trends in Korea's Climate Change Impact Assessment System

*Jung, Sungwoon; Kim, Geunbae; Shin, Youngkyu*

### Integrating Acceptance into MCDM for Onshore Wind Farm Suitability Analysis

*Liu, Kaiqi; Nishikizawa, Shigeo; Murayama, Takehiko;*

*Suwanteep, Kultip*

### Site Suitability Assessment of Solar PV Location

*Hayashi, Kiichiro; Villa, Ferdinando; Balbi, Stefano*

## IAIA and Cumulative Effects: A New Section and a Busy Future

### Bianca

*T1. Special to IAIA*  
 Section: Cumulative Effects  
 Workshop  
 Chair(s): Martin Haefele, Johanna Gordon

Anyone interested in cumulative effects assessment is invited to share, contemplate, poke holes, and reformulate ideas to shape IAIA's new Cumulative Effects Section. The session will use an interactive workshop format to brainstorm ideas in groups, evaluate the ideas of other groups and map out an action plan.

### Cumulative Impact Assessment: Local Action, Emerging Implications

Conkin, Carla

### Let's Be Clear on the Governance Issues in a CEA

Hammond, Matt

## Emerging AI applications in IA II

### Cobalto

*T1. Impact of artificial intelligence on impact assessment*  
 Section: AI and Emerging Technology  
 Paper session  
 Chair(s): Alan Bond

The session identifies emerging and innovative uses of AI in Impact Assessment (IA). Case studies and hypothetical applications are detailed along with a consideration of the potential benefits for IA.

### AI Tool for Enhancing the Process of Gap Analysis in ESIA and ESDD Studies

Gurrieri, Simone; Vaccari, Ivan; Schirinzi, Elena; Desogus, Eleonora

### AI-Enabled Methods to Enhance Efficiency and Effectiveness of HIA

Valpaços, Emanuel; Semedo, Guilherme

### Can AI do a Better Job at Producing E&S Management Plans?

McIlwaine, Steve; Odell, Susana; Murfitt, Sarah

## Indigenous Knowledge as a Driver of Innovation in Impact Assessment III

### Module A

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
 Paper session  
 Chair(s): Nina Barton, Hereward Longley

These three sessions present papers from Canada, Central, and South America that discuss how Indigenous Knowledge and voices are changing impact assessment. Meaningful consideration of diverse knowledge systems can provide more accuracy and relevance for Indigenous communities, contribute to informed decision making, and increase regulatory clarity.

### Indigenous-Led IAs: New Approaches, Considerations, and Better Outcomes

Fox, Michael

### Enhancing Impact Assessments: Indigenous Inclusion in Palm Oil Expansion

Burnet, Fiona

### Peru-Lessons Learned for Adequate Indigenous Peoples' Participation in IA

Huertas, Acevedo

### Beyond Full and Fair Consideration: Indigenous Roles in Impact Assessment

Barton, Nina; Longley, Hereward

## Evolving the State of the Art in Psycho-Social Impact Assessment

### Celeste

*T3. Evidence-based policymaking*  
 Paper session  
 Chair(s): Helen Ross

Psycho-social impact assessment (PSIA) is an evolving field, ripe for further conceptual and practical development. How do PSIs occur, in different contexts? What environmental, cultural, and social inequalities are involved? What methodologies help us understand them? Is there a role for artificial intelligence? How can PSIs be reduced?

### Translating the Unknown into the Known: Is There an AI in PSIA?

Cisneros Menchaca, Alex

### Almnesia: Ignoring the Psycho-Social Impacts of Atomic Energy

Edelstein, Michael R.

### Psychosocial Comparative Analysis Using AI: 735-120 kV Substation Project

Carvalho, Rafael

### Measuring Cultural Ecosystem Services Linked to the Spruce Budworm (SBW)

Cominelli, Simone; Samms, Megan; Ouellet-Dallaire, Camille

### IA Streamlining: An Investor, Practitioner, and Psychologist Walk into a Bar

Moreira, Sérgio

## Using Strategic Thinking in Impact Assessment to Enhance Sustainability II

### Ciano

*T3. Evidence-based policymaking*  
 Game - Gaming  
 Chair(s): Maria Partidario, Margarida Barata Monteiro

Let's experience impact assessment in a strategic and innovative way toward transformative change. Questions such as "what if the current policy does not change?" and "what if the current trend persists?" will help to reflect on the importance of strategic thinking in the practice of IA in development decision making.

SATURDAY, 3 MAY | 09:00-10:30

## Environmental Impact Assessment in the AI Era: The Case for AI in Baseline Biodiversity

### Bianca

*G3. Biodiversity and ecology*  
 Theme forum - Workshop  
 Chair(s): Julia Tims, Laura Plant

This theme forum will bring together some of the world's leading technology experts to discuss the future of AI-enhanced biodiversity data collection and its value for impact assessment, monitoring, and conservation. We discuss real world examples from practitioners and insights from futurists on what lies ahead.

### The EcoUplift Approach: Baseline Case Studies from the UK

Stewart, Ross; Hurley, Peter

## Essential AI Learnings: ESIA Tools from Multilateral Financial Institutions

### Italia

*T1. Impact of artificial intelligence on impact assessment*  
 Theme forum - Workshop  
 Chair(s): Hak Joo Song, Brian Rafor

Explore AI-powered ESIA tools currently in use by leaders from WB, ADB, FAO, IDB, and more. Gain insights into the cutting edge with the help of LLMs and geospatial scoping tools enabled by AI and hundreds of data layers. Join Q&A and discover how AI is revolutionizing ESIA with MFIs.

### ESG: The Eye in the Sky. Drones for Environmental and Social Assessments

Leal Rosillo, Roberto; Gomez, Isabel

### Integrating Generative AI and Google Earth Engine for Risk Identification

Soldan, Riccardo; Neretin, Lev; Lokshyn, Oleh; Kaechele, Karin; Borba, Maria Rita; Coccato, Gianmarco

### MATALAS, an AI-Augmented Geospatial Tool for E&S Screening and Scoping Tool

Rafor, Brian; Oku, Felix

### AI-Powered Environmental and Social Impact Assessment Platforms of World Bank

Song, Hak Joo



## Human Rights Impact Assessment of Digital Technology

### Avorio

*T1. Impact of artificial intelligence on impact assessment*  
Theme forum - Caravan  
Chair(s): Andy Symington, Gabriela Factor

As the rollout of digital technologies continues at pace, it is critical that human rights risks and impacts of AI systems are assessed and addressed. This session will share examples of human rights impact assessment of digital technology systems and their application.

### Critical Human Rights Issues Associated with the ICT Industry

*Sacco, Maria Pia*

### HRIA of Public Sector Digitalization: Case of the Zambian Digital ID

*Tuta, Ioana*

### EIA & HRIA: Potential Synergies and Use of IT Solutions

*Villela Capanema Garcia, Pedro*

## Can AI Support Long-Term Monitoring and Adaptive Management?

### Europa

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
Theme forum - Paper session  
Chair(s): Janet Blackadar

With the marked increase in the number of large projects proposed for offshore and other more remote areas, does AI give us the opportunity to more effectively and efficiently manage large data sets generated to better inform mitigation monitoring and adaptive management approaches?

### Ecological Niche Habitat Suitability Modeling of Sooty Falcon in KSA

*Almutairi, Saud; Ahmed, Syed Hassan; Alshaikh, Mousa; Khan, Abdurrahim Basit; Raja, Yusuf*

### SPACEWHALE: Using AI to Detect Whales from Space

*Williamson, Laura; Macleod, Kelly; Voss, Julika; Höschle, Caroline; Ben Mahjoub, Amel; Nehls, Georg*

### LLMs to Enhance Environmental Governance of the Mining Sector

*Kunz, Nadja; Ng, Raymond; Lakshmanan, Laks; Batdorj, Bulgan; Carlin, Isabel; Saha, Rudra*

### Camera Trap Monitoring and AI for Adaptive Management of At-Risk Species

*Williams, Leoma*

SATURDAY, 3 MAY | 11:00-12:30

## Identifying Potential Health Impacts of the Use of Artificial Intelligence

### Module 3

*G10. Health*  
Section: Health  
Workshop  
Chair(s): Margaret Douglas, Liz Green

Artificial intelligence could have transformative effects on many areas of life-affecting multiple health determinants. This participatory workshop will involve a health impact screening exercise to identify and prioritise some potential areas of health impact and affected populations to be further explored.

## Indigenous Holistic Cumulative Effects Programs: Enhance Your Assessments

### Bianca

*G11. Indigenous Peoples*  
Section: Cumulative Effects  
Panel discussion  
Chair(s): Barry Wilson

Cumulative Effects: an assessment challenge that isn't going away. We need to consider projects in the context of all human land uses, natural disturbance, and climate change. But how? Explore Indigenous-led holistic cumulative effects programs integrating Indigenous knowledge, science, and AI. UNDRIP-aligned ideas to enhance your CE assessments.

### CE Analytic Ltd.

*Wilson, Barry*

### Mackenzie Valley Environmental Impact Review Board

*Cliffe-Phillips, Mark*

### Blackfoot Confederacy Tribal Council

*Houle, Kimmy (Akai'kamotaaki - Survives Many Perils)*

### Adams Lake Indian Band

*Nordquist, Dave*

## Impact Assessment of Mine Closure for Post-Mining Transitions

### Cobalto

*G13. Social impact assessment*  
Paper session  
Chair(s): Sara Bjørn Aaen, Izhar Mithal Jiskani

This session focuses on the crucial role of impact assessment (IA) in navigating the complexities of mine closure and facilitating successful post-mining transitions. It explores how IAs can be applied to identify and mitigate the environmental, social, and economic challenges associated with mine closure, while fostering community resilience in the post-mining era.

### Understanding IA and Mine Closure Contributions to Nature Positive

*Morrison-Saunders, Angus; Sánchez, Luis*

### Leveraging IA for Sustainable Post-Mining Transition: A Case Study of KDRP

*Sata-Haruperi, Mwelwa; Munodawafa, Munyaradzi; Ziduche, Phillip*

### Groundwater Impact Predictions for Hardrock Mines in Canada

*Collison, Ben; Miglani, Sugeet*

### Guiding Post-Mining Transitions Through Impact Assessment

*Jiskani, Izhar Mithal; Hansen, Anne Merrill*

## Assessing the Impact of Emergent Technologies in Monitoring and Measuring Biodiversity at Mine Sites

### Celeste

*G3. Biodiversity and ecology*  
Panel discussion  
Chair(s): Robert Montgomery, Andy Coates

The pursuit of natural resources, rare earth metals, and critical minerals has expanded the mining footprint globally. Coupled with that growth has been the development of techniques to quantify and restore biodiversity. This session highlights those advancements and details the ways in which the mining sector can drive biodiversity conservation.

### Towards a Consensus on Corporate Biodiversity Data and How Mining Can Help

*Stimpson, Benjamin*

### New Technologies for Biodiversity in Environmental Permitting for Mining

*Kakinami, Sueli H.; Favretto, Sandra E; Nascimento, Beatriz C.*

### Implications to Area of Habitat from Global Mining Land Use Change

*Dawson, Chloe*

### Assessments of Mining Impacts on Biodiversity So Far: What's Missing?

*Raymond, Sarah; Montgomery, Robert*

### Exploring Opportunities and Challenges in AI-Driven Land Value Assessments

*De-Quincey, Heather*

## Critical Habitat Assessment for No Net Loss in Linear Infrastructure Projects

### Blu

G3. Biodiversity and ecology  
Paper session  
Chair(s): Aaron Goldschmidt

Developing countries are seeing infrastructure development but have limited technical capacity for critical habitat and cumulative impact assessment for devising no net loss or net gain approaches and strategies. This session will analyze the steps applied towards CHA and review approaches for achieving NNL and NG.

### Critical Habitat Assessment for a Transboundary Powerline in West Africa

Brennan Jacot, Maya

### Landscape Connectivity into EIAs for Linear Infrastructure Projects

Fonda, Federica; Bullegas, Fabrizio; Chiodi, Paola; Longarini, Arianna; Petruzzellis, Francesco; Bacaro, Giovanni

### Habitat Critical? Multiple Benefits of Wildlife Designs in Rural Areas

Eccleston, Duncan; Harness, Richard

## Mainstreaming AI in Environmental Baseline and Monitoring

### Module B

G3. Biodiversity and ecology  
Section: Biodiversity and Ecology  
Panel discussion  
Chair(s): Pippa Howard, Noelia Jimenez Martinez

Nature technologies underpinned by machine learning and AI can reinforce both the resolution and robustness of critical data needs for baselining, monitoring and decision-making by project proponents, regulators and project financiers.

### Drones and AI Enhance Marine Megafauna Surveys in the Saudi Arabian Red Sea

Paterson, William; Alghair, Mishari; Hodgson, Amanda; Porej, Deni; Cowie, Winston; Clark, Harry

### Can AI Update Baseline Data for Improved IA in Long-Term Planning Projects?

Murphy, Marissa

### Integrated Data Analytics in Identifying Preferred Habitats for Hawksbill

Albawardi, Amani; Sheikh, Kashif; Khan, Shah; Elshaffai, Amgad

### Visual Underwater Drones for EIA: Current Status and Future Prospects

Man, Cathy Yi Hang; Kwok, Grace May Han; Luk, Wing San; Ngan, Chun Sang

## Exploring the Use of AI to Tackle the Social Implications of Climate Change

### Ambra

G4. Climate change  
Paper session  
Chair(s): Alessandro Casartelli, Alice Schoonejans

This session will delve into the intersection of AI and climate change, focusing on its social implications. It will discuss the specific social risks and impacts of climate change, as well as how AI can assess and mitigate/adapt to such risks and impacts, while recognizing AI limitations and paradoxes.

### Social Dimensions of Climate Change

Tenzing, Janna

### Harnessing Machine Learning to Evaluate Climate Change Impacts

Obringer, Renee

### AI Role in Improving Climate Change Risk Reductions and Social Impacts

Daou, David

### AI Tools Improving Project Outcomes on Climate Mitigation and Adaption

Almasi Simsic, Ildiko

### Leveraging AI Tools to Address Climate Change's Social Implications

Raffel, Noam; Gagliardo, Alessia

## IAIA Climate Change Action Plan: What's New? What's Next?

### Indaco

G4. Climate change  
Section: Climate Change  
World Café  
Chair(s): Pantea Niksirat

We will review the status of IAIA's Climate Change Action Plan and identify next steps by seeking member input for the prioritisation and implementation of actions. Our goal is to generate new action items to achieve climate change mitigation and adaptation targets in the Age of Artificial Intelligence.

### Connecting IAs Through Network Analysis to Tackle Climate Change Challenges

Nita, Andreea; Zamorano, Montserrat; Bonoli, Alessandra

## Challenges Facing the IA Process in Developmental Projects: An African Perspective

### Module A

G9. Governance and implementation systems  
Section: Governance and Implementation Systems  
Panel discussion  
Chair(s): Kojo Amoyaw-Osei, Nana Akesseh

Explore the challenges of IA in Africa's developmental projects, focusing on regulatory deficiencies, corruption, political interference, conflicting interests, and stakeholder engagement hurdles. We feature expert insights, case studies, and interactive discussions to identify solutions and best practices for improving IA effectiveness.

### Redundant Reporting in Ghana: Examining Separate ESIA and ESMP Requirements

Wemegah, Joshua

### Resettlement Issues in Africa from Project Preparation to Implementation

Tchoffo, Florentine Atchombom

### Waste-to-Energy: A Sustainable Solution to South Africa's Waste and Energy

Hale, Tamaryn

### The Impact of Impact Assessments: A Kenyan Case Study

Kamau, Teddy

## Beyond the Buzz: Real-World AI Applications in IA

### Turchese

T1. Impact of artificial intelligence on impact assessment  
Paper session  
Chair(s): Andy Chung, Ana Maria Quintero

AI is transforming impact assessment, but how is it being applied in practice? This session moves beyond the buzz to examine real-world AI-driven tools in decision-making. Experts will share insights on pipeline monitoring, remote sensing, and flood risk mitigation, exploring emerging technologies, trends, and challenges in environmental and social governance.

### Data-Driven Decisions: AI-Powered Pipeline Management in TANAP

Arik, Tugba; Ipek, Ali

### Drones, Satellites, and Field Data Housekeeping to Unlock AI Potential

Stefansson, Tryggvi

### Harnessing Artificial Intelligence in Dam-Induced Flooding Mitigation

Ziduche, Phillip; Mhlana, Sithembinkosi; Munodawafa, Munyaradzi; Kabwe, Edward

### Leveraging GeoAI Tools to Enhance Identification of Impacts in EIA

Carter, Bethan

### AI Meets IA: The Sequel

Scott-Brown, Miles; Quintero, Ana Maria





## Effective Integration of Climate Change Risks in Impact Assessment I

### Ambr

*G4. Climate change*

*Paper session*

*Chair(s): Roberto Mezzalama*

Integrating climate change risk assessment in the environmental and social assessment process is complex and requires re-imagining the whole process. This session will present perspectives from Europe, Australia, and the Americas, addressing scientific, legal, methodological, and practical aspects of this integration both at the planning and project levels.

### Take into Account Vulnerability to Climate Change in EIA

*Defromont, Virginie*

### Beyond Regulation: The EIA Practitioner's Role to Advise on Climate Risk

*McGrath, Warren*

### Integrating Climate Risks into Spatial Planning and Environmental Assessment

*Hidalgo Pérez, Ana Isabel; Hidalgo Pérez, Ana Isabel*

## Environmental and Social Management Systems: Transforming EIAs into Actions I

### Turthese

*G9. Governance and implementation systems*

*Panel discussion*

*Chair(s): Juan Carlos Paez Zamora, Alejandra Catacoli*

Effective Environmental and Social Management Systems (ESMS) are key to translating EIAs into action. This panel discussion brings together experts to explore lessons learned, best practices, and innovations in ESMS implementation. Case studies and strategies will highlight how robust management systems drive compliance, enhance sustainability, and improve project outcomes.

### The WBG EHS Guidelines: An Update on Good International Industry Practice

*Aramburu, Romina; Askin, Taylan; Zanevich, Debra; O'Connor, Ryan*

### The Case for Adopting Robust Social Management Systems

*Villegas Valenzuela, Jorge*

### Managing Social Risks and Impacts: From Theory to Practice

*Michaelsen, Sofie*

### Environmental Management Systems: Translating Theory into Practice

*Paez Zamora, Juan Carlos*

## Human-Centric AI Implementation into ESIA and CSR I

### Module A

*G9. Governance and implementation systems*

*Section: AI and Emerging Technology*

*Paper session*

*Chair(s): Giuseppe Magro*

The purpose of the session is to explore, share, and disseminate basic principles, practical methodologies, and innovative technologies for a new human-centric AI implementation into governance and permitting system (ESIA, CSR). Participants will have the opportunity to share and improve their IA background skills required in the age of AI.

### Exploring the Role of Generative AI tools in ESDD

*Le Gouais, Phil; Nardinocchi, Laura*

### Human-Centric 5.0 platform for participation into ESIA and SEA Processes

*Vicentini, Roberta; Magro, Giuseppe; Pellegrini, Stefania; Vischioni, Cinzia; Maffezzoni, Luca; Fiini, Giuliana; Turini, Giampaolo; Carbone, Annamaria; Veraldi, Laura*

### AI 5.0 Platform for circular economy optimization in the ESIA process

*Gamberini, Katia; Veratelli, Arianna; Parente, Ilaria; Magro, Giuseppe; Cusinato, Alice; Vischioni, Cinzia; Cordioli, Davide; Rossi, Franco*

## Steps and Tools to Improve Documents and Procedures to Streamline IA I

### Ciano

*G9. Governance and implementation systems*

*Paper session*

*Chair(s): Glenn Brown*

This session addresses mechanisms to streamline IAs that range from changes that generate greater efficiency and effectiveness from existing processes to suggestions for new methods within the IA process.

### How to Keep the EIA Practice Manageable and Meet Society's Needs

*Woesthuis, Hugo; Eijssen, Paul*

### Delivering Impact Assessment Commitments: A Digital Approach

*Davies, Claire; Freeman, Sam*

### Using Tools of Argument to Improve IA Documents: Steps and Progress

*Brown, Glenn*

### Streamlining IA Writing: A Consultant's Perspective

*Chalikonda, Tejasvini*

### How Can Chatbots Help to Improve Government Information Provision on IA?

*van Ravesteijn, Maartje; van Eck, Gosewien*

## Exploring AI for Effective Stakeholder Engagement in Impact Assessments

### Indaco

*T1. Impact of artificial intelligence on impact assessment*

*Panel discussion*

*Chair(s): Bernhard Metz*

Promote reflective discussion on use of AI for more agile mapping of stakeholders, predicting stakeholders' concerns and analyzing their feedback using AI-generated analytics, communication strategies based on AI-supported insights for more inclusive, and impactful stakeholder engagement as part of social impact assessments in high risks projects.

### Using Technology to Enhance Stakeholder Engagement: The case of GEMS

*Metz, Bernhard; Gurkan, Asli*

### Empowering the Transition: Community Voices Driving a Just Renewable Future

*Moffat, Kieren*

### Breaking Barriers: AI-Generative Tools for Inclusive Stakeholder Engagement

*Fagan, Beatrice; Ozel, Ozlem; Ayanoglu, Cem*

### Exploring the Use of AI for SE in Biodiversity Conservation

*Abebe, Asferachew*

## How Can AI Improve IA Follow-up Practice?

### Module B

*T1. Impact of artificial intelligence on impact assessment*

*Paper session*

*Chair(s): Jos Arts*

The aim of this session is to explore and discuss the potential of AI for improving IA follow-up. Participants are invited to discuss promising application or approaches, and to critically reflect on using AI in IA follow-up.

### Mapping the Role of AI in IA Follow-Up Practice

*Arts, Jos; Morrison-Saunders, Angus*

### Use of AI in Biodiversity Data from Follow-Up in Chile

*Pérez, Cristian*

### Decision-Making in Projects Based on Environmental Monitoring and AI

*Araya, Gino*

## Improving Strategic Environmental Assessment Practice in the EU and the Wider World: Can AI Help? I

**Cobalto**  
*T1. Impact of artificial intelligence on impact assessment*  
*Paper session*  
*Chair(s): Thomas Fischer, Ric Eales*

SEA has been a legal requirement in the EU for over two decades and is also increasingly applied globally. We highlight papers from the EU and elsewhere on SEA's successes and failures. We encourage presenters to reflect on the role AI based tools can or already play supporting good practice.

**Making SEA Stronger with Artificial Intelligence**  
*Nooteboom, Sibout*

**Migrating from a Traditional Writing SEA to an Adaptive Software**  
*Tejeda-González, Juan Carlos*

**SEA practice in Ireland: SEA Effectiveness, SEA Action Planning, and AI**  
*O'Mahony, Tadhg; O'Mahony, Cian; French, Deirdre; Lehane, Micheal*

## Cumulative Effects Assessment, Monitoring, and Management: State-of-the-Art I

**Italia**  
*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Jill Blakley, Bram Noble*

This session showcases cutting-edge concepts and practice featured in the recent special issue of *Environmental Management* focused on global innovations in cumulative effects assessment, monitoring, and management, as well as other relevant peer-reviewed journals.

**Assessing the Cumulative Effects of Marine Shipping: A Canadian Case Study**  
*Burton, Sara; Eldridge, Rebecca*

**Developing CIA Guidance in Western Australia: Challenges and Questions**  
*Pope, Jenny*

**Opportunities for Open Science and Data to Support CEAs**  
*Abad, Raine; Joseph, Chris; Yarmey, Nick; Hanna, Kevin; Buse, Chris*

## Data-Driven Social Risk Management Methods and Tools for Central and Local Use I

**Module 3**  
*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Anna Nordenmark Severinsson, Nneka Okereke*

Social and environmental risk management is necessary to comply with standards for environmental and social sustainability. The session will explore new innovative data-driven processes, methodologies, and tools for managing social risks, either as nationally uniform tasks or as tasks delegated to local governments.

**World Bank Multidimensional AI Conflict Risk Model in DRC**  
*Owen, Daniel; Mahony, Christopher*

**DIGICHILD: GIS-Based Child Labor Risk Mapping in Agrifood Systems**  
*Genthon, Ariane; Bolchini, Adriano*

**Challenges of Social Data and Database Management**  
*Nathan, Fabien*

## Transparency and Data Sharing in Impact Assessment for the Energy Transition II

**Avorio**  
*T4. Environmental, social, and governance reporting and disclosure*  
*Paper session*  
*Chair(s): Diana Carolina Arbelaez Ruiz, Rauno Sairinen*

The session explores transparency, participation, and data sharing in impact assessment for energy transition technologies and projects such as renewable energy and critical minerals. Examples include participatory fact-finding, digital technologies, and novel methods for data and results sharing, etc.

**Digital EA Supporting the Expansion of Renewable Energy in Denmark**  
*Holme, Dorthe; Sveding, Karl Rasmus*

**Demand-Driven Transparency: Using NLP to Enhance Data Accessibility**  
*Batdorj, Bulgan; Kunz, Nadja; Le Billon, Philippe; Ng, Raymond*

**The Open Science and Data Platform with Generative AI for Impact Assessment**  
*Habbane, Mohamed*

SATURDAY, 3 MAY | 16:00-17:30

## Updating Best Practice Principles on Engaging with Indigenous Communities II

**Bianca**  
*G11. Indigenous peoples*  
*Section: Indigenous Peoples*  
*Workshop*  
*Chair(s): Diana Lewis, Dyanna Jolly*

The Indigenous Peoples Section is updating the IAIA Best Practice Principles on Indigenous Peoples and Traditional Knowledge (SP9, 2012). We will review the principles and reflect on what meaningful and transformative engagement looks like. Come along to this workshop and contribute to the update. Everyone welcome.

## Social Acceptance in the “Backyard”: Approaches and Empirical Evidence II

**Blu**  
*G12. Public participation*  
*Paper session*  
*Chair(s): Orlando San Martin*

In this session we aim to share evidence-based lessons from different approaches, mechanisms, and case studies (including benefit sharing and meaningful community participation approaches) to promote the co-existence between competing land (or sea) users and attain a social license to operate renewable energy projects.

**Key Factors to Achieve Social License with Indigenous Approach**  
*Oyanader, Karol; Arellano, Javiera*

**Local Energy: An Opportunity for Indigenous and Rural Communities**  
*Merino, Francisco*

**Ecosystem-Sensitive Under-Panel Grazing: Karapınar SPP Case Study**  
*Arisoy, Defne; Yagci, Murat*

## Notes

## The Biodiversity Significance of Some Modified Habitats: Implications for Impact Assessment II

### Celeste

G3. Biodiversity and ecology  
Paper session  
Chair(s): George Ledec

Some modified habitats have remarkably high biodiversity value, even serving as critical habitats. This session will examine modified habitats that are important for conserving biodiversity, along with how to prepare environmental assessment reports in ways that recognize the biodiversity significance of these areas.

### Integrating Privately Protected Areas within Hospitality Assets of RSG

Al Sultan, Rand; Khan, Abdurrahim Basit; Al Mutairi, Saud

### Critical Modified Habitat: A Case Study of Giant Otters in a Reservoir

Wilkinson, Fraser

### Are Hydroelectric Reservoirs Interesting for Waterfowl: A Case Study

Lapointe, Stéphane; Sénéchal, Hélène

### Biodiversity IA in Modified Habitats: Lesson Learned from Artificial Wetlands

Oggioni, Arianna; Cassi, Marta; Sanetti, Sara; Florio, Maurizio; Compagnino, Marco

### Ensuring that Climate-Smart Rice Cultivation is Also Biodiversity-Smart

Ledec, George

## Effective Integration of Climate Change Risks in Impact Assessment II

### Ambra

G4. Climate change  
Paper session  
Chair(s): Roberto Mezzalama

Integrating climate change risk assessment in the environmental and social assessment process is complex and requires re-imagining the whole process. This session will present perspectives from Europe, Australia, and the Americas, addressing scientific, legal, methodological, and practical aspects of this integration both at the planning and project levels.

### Impact Mitigation for Infrastructure Projects in Light of Climate Change

Darbi, Marianne; Schmidt, Nora

### A Framework for Wildfire Risk Analysis and Infrastructure Protection

Hanna, Kevin

### Reducing Climate-Carbon Cycle Positive Feedback by Adaptive Management

Moretto, Evandro Mateus; Gallardo, Amarilis Lucia Casteli Figueiredo; Bellintani, Lygia Fraga

### Lessons from Social Impacts of CH on Indigenous People from a Dam in Africa

Valery, Michele; Grosso, Barbara; Meozzi, Luca; Napoli, Eugenio

## Environmental and Social Management Systems: Transforming EIAs into Actions II

### Turchese

G9. Governance and implementation systems  
Panel discussion  
Chair(s): Juan Carlos Paez Zamora, Alejandra Catacoli

Effective Environmental and Social Management Systems (ESMS) are key to translating EIAs into action. This panel discussion brings together experts to explore lessons learned, best practices, and innovations in ESMS implementation. Case studies and strategies will highlight how robust management systems drive compliance, enhance sustainability, and improve project outcomes.

### Overcoming Challenges in Implementing EIAs: A Case Study from Bolivia

Pino Luna, Fiorella

### Minimizing Environmental and Social Impacts by Learning and Improving

Machado Zampollo, Daniela; Cardenas Jansen, Ricardo

### Today's Preparedness is Tomorrow's Success: Actioning Assessments

Skotareva, Olga

### Antamina: Transforming 25 Years of Environmental Data into a Systematic EMS

Bulnes Herrera, Lizbeth; Calmell, Erika; Tang, Carla; Saico, Lilian

## Human-Centric AI Implementation into ESIA and CSR II

### Module A

G9. Governance and implementation systems  
Section: AI and Emerging Technology  
Paper session  
Chair(s): Giuseppe Magro

The purpose of the session is to explore, share, and disseminate basic principles, practical methodologies, and innovative technologies for a new human-centric AI implementation into governance and permitting system (ESIA, CSR). Participants will have the opportunity to share and improve their IA background skills required in the age of AI.

### Artificial Intelligence Implementation Process into ESIA Permitting System

Adegboyega, Lawal; Magro, Giuseppe; Cameron, Jack; Huang, Billy; Ingegnoli, Vittorio; Patassini, Domenico; Cordioli, Davide; Bertuol, Luca

### ESG 5.0 Human-Centric Permitting Platform

Magro, Giuseppe; Cenci, Michele; Roccatelli, Giovanni; Mastroforti, Eleonora; Esposito, Roberto; Maggiore, Annamaria; Vischioni, Cinzia; Cameron, Jack; Huang, Billy; Patassini, Domenico; Ingegnoli, Vittorio; Sumini, Marco; Greco, Michele; de Simone, Andrea; Rozera, Paolo

### ESG 5.0 A.I. Risk Assessment & Governance into AgriFood Sector

Alborali, Giovanni Loris; Magro, Giuseppe; Bertocchi, Luigi; Gelmini, Massimo; Bontempi, Giorgio; Visentin, Giulio; Vecchio, Yari; Adinolfi, Felice; Sumini, Marco; Mazzoleni, Anna; Bella, Marco Francesco Della

## Steps and Tools to Improve Documents and Procedures to Streamline IA II

### Ciano

G9. Governance and implementation systems  
Paper session  
Chair(s): Glenn Brown

This session addresses mechanisms to streamline IAs that range from changes that generate greater efficiency and effectiveness from existing processes to suggestions for new methods within the IA process.

### Fit for Purpose IAs with AI

Mathur, Aradhna; Khvostova, Svetlana

### Exploring Options for the Assessment of Social Impacts in Canada

Egunyu, Felicitas

### Linking Bio-Physical and Human Environments in "Pathways of Effects"

Thevenot, Aurelia; de Montigny, Joanne

### Systems-Thinking Mapping in IA: Technical Scope vs. Holistic Wellbeing

Froese, Ken

## Meet the Editor

### Avorio

S1. Special to IAIA  
Workshop  
Chair(s): Urmila Jha Thakur, Matthew Warke

Are you considering writing an article or professional practice paper on impact assessment but aren't sure where to start? The editor and managers of IAIA's journal, *Impact Assessment and Project Appraisal*, will present ways to write a good article and get it published. Bring your questions and ideas for articles or issues.

## Artificial Intelligence in Capacity Building for Impact Assessment

### Module B

T1. Impact of artificial intelligence on impact assessment  
Panel discussion  
Chair(s): Bryan Alamani

Artificial Intelligence (AI) in building capacity for Impact Assessment (IA) practitioners. What are the pros and cons? Who or what ensures quality and accountability?

### Advancing ESIA in the Philippines: Addressing AI Training Needs for Sustainable Impact Assessments

Pimentel, Mayumi Corazon Castillo; Sy, Helen F.

### The Integration of AI in ESIA Training: Insights from PHILCESS Experience

Fabrero-Sy, Helen

### Development of a Web Portal with AI Tools: A Potential Game Changer for IA

Dahal, Milan

# Sessions

## Improving Strategic Environmental Assessment Practice in the EU and the Wider World: Can AI Help? II

**Cobalto**  
*T1. Impact of artificial intelligence on impact assessment*  
*Paper session*  
*Chair(s): Thomas Fischer, Ric Eales*

SEA has been a legal requirement in the EU for over two decades and is also increasingly applied globally. We highlight papers from the EU and elsewhere on SEA's successes and failures. We encourage presenters to reflect on the role AI based tools can or already play supporting good practice.

**Golden Braid Initiative: Global Application of SEAs for 2050**  
*Nelson, Peter; Simsic, Ildiko*

**Guidance to Prepare SEA Processes in Low and Middle Income Countries**  
*Kolhoff, Arend; Nooteboom, Sibout*

## Cumulative Effects Assessment, Monitoring, and Management: State-of-the-Art II

**Italia**  
*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Jill Blakley, Bram Noble*

This session showcases cutting-edge concepts and practice featured in the recent special issue of Environmental Management focused on global innovations in cumulative effects assessment, monitoring, and management, as well as other relevant peer-reviewed journals.

**Addressing Cumulative Effects Through Indigenous-Led Assessment Processes**  
*Arnold, Lauren*

**Cumulative Effects Assessment: Insights from Ireland's Marine Planning**  
*Morejón, Virginia; González Del Campo, Ainhoa*

**Assessing Cumulative Impacts to Indigenous Land Use**  
*Carlson, Matt; Faichney, Felix; Berg, Kevan; Golden, Denise*

## Data-Driven Social Risk Management Methods and Tools for Central and Local Use II

**Module 3**  
*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
*Paper session*  
*Chair(s): Anna Nordenmark Severinsson, Nneka Okereke*

Social and environmental risk management is necessary to comply with standards for environmental and social sustainability. The session will explore new innovative data-driven processes, methodologies, and tools for managing social risks, either as nationally uniform tasks or as tasks delegated to local governments.

**Assessing Ghana Portfolio Risk Mitigation on Child Labor**  
*Darimani, Abdulai*

**Child Labor Screening: A Pilot to Reduce Social Risk in Ghana Operations**  
*Okereke, Nneka; Nordenmark Severinsson, Anna*

**Energy Justice Mapping: Social Impacts of Offshore Wind Farms in NE Brazil**  
*Xavier, Thomaz; Turra, Alexander; Sánchez, Luis Enrique*

## Identifying Real-World Solutions to Support Women in Green Transition Energy Projects

**Indaco**  
*T3. Evidence-based policymaking*  
*Workshop*  
*Chair(s): Camille O. Dallaire*

The green transition will have gendered impacts that negatively affect women's well-being, but few IAs provide concrete mitigation measures. In this workshop, we will discuss real-world solutions focusing on case studies and experiences. Participants can bring examples and actively engage with creative thinking for the future of women in IAs.

**Women and the Wind-to-Hydrogen Industry in Newfoundland and Labrador**  
*Jackson, Robyn; Ouellet Dallaire, Camille*

SUNDAY, 4 MAY | 09:00-10:30

## Challenges of AI for Accountability and Ethical Practice in Impact Assessment

**Europa**  
*G8. Emerging technologies*  
*Theme forum - Paper session*  
*Chair(s): Alan Chenoweth*

AI has the potential to dilute our personal professional accountability, as new tools and approaches become available, and data will increasingly be collected and analyzed by algorithms—will this exacerbate ethical challenges to our profession? Or can AI itself provide solutions to these problems?

**Pay Attention: Recognize AI Language and Structure to Deliver Intended Outcomes**  
*Moreland, Suzanne; Borin, Gabrielle; Solaun, Leticia*

**User-Centric Approaches to Digital Transformation in Environmental Impact Assessment**  
*Olorundami, Tokunbo; Ndarake, Etia*

**Implementing AI tools for Archaeology and EIA: A Work in Progress**  
*Tizzard, Louise*

**Reconsidering the Ethics of Trade-Offs as the Use of AI Increases**  
*Chenoweth, Alan*

## Essential AI Learnings: Workflow Management for ESIA from MFIs

**Italia**  
*T1. Impact of artificial intelligence on impact assessment*  
*Theme forum - Panel discussion*  
*Chair(s): Tracy Hart, Felix Oku*

Join our panel from ADB, AfDB, IADB, IFC, and World Bank, exploring AI integration into ESIA. Gain insights on AI-driven workflow efficiency, data management, and collaboration. Engage in Q&A and discover how AI is revolutionizing ESIA with MFIs.

**World Bank**  
*Hart, Tracy*

**Asian Development Bank**  
*Oku, Felix Nii Tettey*

**International Finance Corporation**  
*Curmally, Atiyah*

**Asian Infrastructure Investment Bank**  
*Ahmad, Muzaffar*

**IDB**  
*Hurwitz, Zachary*



## What Science and Whose Art? Demarcation of AI and Human Roles in IA

### Avorio

*T1. Impact of artificial intelligence on impact assessment*  
Theme forum - Solution room  
Chair(s): Jack Krohn

This session will engage practitioners in the delineation of AI and human roles in IA through the collaborative development of a definitive statement. If you have a view about where the line lies, or how hard or fuzzy it should be, this is YOUR session!

### Royal HaskoningDHV

*Eijssen, Paul*

### BIOTA, Lda.

*Rodrigues, Patricia; Rosa, Susana*

### Natural Capital Strategic Solutions LLC

*King, Ginny*

### Retired EIA Practitioner

*Krohn, Jack*

## Can IA be more "Future-Smart": Incorporating Futures Thinking in IA

### Bianca

*T2. Data-driven innovation of processes, approaches, methodologies, and tools*  
Theme forum - Workshop  
Chair(s): Nicholas King, Francini Van Staden

Futures thinking incorporates a diversity of approaches beyond linear projections of present contexts to assist improved understanding of future contexts, new trends, and their interactions and compounding effects with existing trends and each other. Incorporating futures thinking in IA will assist in ensuring IA-enabled decision making is "future-smart."

SUNDAY, 4 MAY | 11:00-12:30

## Implementation of HIA from a Comparative Perspective: Common Grounds, Differences, and the Future with AI

### Ambra

*G10. Health*  
Section: Health  
Paper session  
Chair(s): Valentina Cavanna

The aim of the session is to compare experiences from different countries to identify common grounds and differences in HIA implementation. After a brief overview, panelists will illustrate some case studies. Then an open discussion will explore relevant aspects (e.g., concerning extent of institutionalization, integration with other environmental proceedings, methods used, competency of experts, possible use of AI).

### A UK Perspective on the Commercial Practice of Health Impact Assessment

*Pyper, Ryngan*

### Human Health in IAs: Building Trust and Valuing Relationships

*Waheed, Faiza*

### Application of AI in HIA: A Canadian Perspective

*McCallum, Lindsay; Jayasinghe, Ruwan; Roselli, Tessa*

### Advancing Impact Assessment Through a Planetary Health Framework

*Castleden, Heather; Leveille, Caelan*

## Artificial Intelligence and Indigenous Data in Impact Assessments

### Ciano

*G11. Indigenous Peoples*  
World Café  
Chair(s): Melanie Demers

An evolving digital landscape provides opportunities for new approaches for the ethical use of AI when applied to Indigenous data. In this session, participants will discuss possible applications of AI and interactions with global principles of Indigenous data sovereignty when working with Indigenous Knowledge and data in impact assessments.

## Post-Resettlement Livelihoods: Reality, Experiences, and Lessons

### Celeste

*G13. Social impact assessment*  
Paper session  
Chair(s): Gwendolyn Wellmann

Involuntary resettlement frequently leads to resettled households not only losing their homes, their sense of community, their graves and cultural artefacts, but also their livelihoods. This session explores lessons learned from post-resettlement livelihood restoration efforts, whether the involuntary resettlement was due to urban expansion, natural disasters, or project-induced displacement.

### Lost in the Rebuild: Social Impacts of Urban Renewal Post-Earthquakes

*Çalışan, Aysima*

### Challenges of Managing Resettlement: Restoring Lives or Livelihoods?

*Dlamini, Nontethelelo; Keal, Duncan; Van Den Berg, Stephan*

### Applying the Graduation Approach for Better Livelihood Restoration Outcomes

*Carroll, Ben; Tanti, Romain*

### Quality of Life After the Dingleton Resettlement

*Wellmann, Gwendolyn*

## Bioregional Impact Assessment

### Bianca

*G3. Biodiversity and ecology*  
Workshop  
Chair(s): Rufus Howard

Bioregional Impact Assessment is an innovative approach to the evolution of IA by blending the concepts and philosophy of Bioregionalism with the practice of Impact Assessment. This participatory workshop explores the concept and tenets of Bioregional thinking and invites the audience to discuss how this could be applied to IA.

### Introduction to Bioregionalism and Bioregional Impact Assessment

*Howard, Rufus*

### Strategic Impact Assessment and Bioregional Planning

*Cameron, Carolyn*

### Integrating Environmental Impact Assessment with Bioregionalism

*Hoare, David*

### IA Follow-Up and Bioregional Impact Assessment

*Smith, Charlene*

## Notes

# Sessions

## Offshore Wind Farms ESIA: State of the Art, Issues, and Opportunities

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### Avorio

G3. Biodiversity and ecology  
Panel discussion  
Chair(s): Giovanni Torchia, Silvestro Greco  
This session is sponsored by WSP.

Installation of offshore wind energy is increasing worldwide, particularly for floating wind farms. This is posing several challenges to ESIA practitioners, as the potential impacts are poorly understood, especially due to the still-limited number of offshore wind farms already in operation and therefore the limited practical experience. The session will bring together experts, developers, and ONGs to discuss the state of the art.

### Experiences and Challenges During the Consenting Process of Working with Developers

Osmond, Lauren

### Making Eco-Compatible Off-Shore Wind Farms

Danovaro, Roberto

### The Power of Collaboration: Offshore Coalition for Energy & Nature (OCEaN)

Simioli, Cristina

### Off Shore Wind Farms in Italy: How to Deal with It

Falgiani, Klaus

## Impact Assessment and Governance for Climate Adaptation and Mitigation in Megacities

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### Blu

G4. Climate change  
Paper session  
Chair(s): Yuan Xu, Daniel Guttman

Climate risks are causing serious challenges and opportunities, especially in megacities where these risks are concentrated. This session highlights contributions on impact assessment and governance, which are crucial for localized climate adaptation and mitigation in both developed and developing countries with highly heterogeneous capacities and agendas.

### Estimation of Regional Consumption-Based Emissions and Analysis of Correlation

Han, Jiwoo; Jung, Juchul

### Brazil's Energy Transition: Evolving Regulations and Clean Energy Expansion

Bettencourt, Pedro; Melo, Fabiano

### Green Hydrogen: Licensing Standards and Impact for Global Decarbonization

Melo, Fabiano; Morais Bettencourt, Pedro

### What is Climate Policy in China's Governance Strategy?

Xu, Yuan; Liu, Xinran

## Korea's Urban Planning Technology Development in Response to Climate Change

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### Module A

G4. Climate change  
Paper session  
Chair(s): Seunghyun Jung, Minju Kim

We will present and discuss the carbon spatial map developed in Korea. Participants can gain insights on innovation and sustainability in urban planning by examining the background of the construction of the carbon spatial map, the status, and AI use cases in the field of urban planning.

### Utilization of Carbon-Related Microspatial Data for Carbon Neutral Policies

Son, Jae Soen; Chang, Yohan

### Mapping of GHG Emissions from Livestock Farms for Sustainable Rural Planning

Kim, Minseo; Jung, Seunghyun

### AI-Driven Analysis of Urban Planning Impacts on Resident Carbon Footprints

Kim, Taehyun; Jung, Jiae

### Development of an AI-Based Land Use Planning Support Algorithm

Kim, Minju; Jung, Seunghyun

## Challenging Implementation of Cultural Heritage Impact Assessment Standards

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### Cobalto

G6. Cultural heritage  
Section: Cultural Heritage  
Paper session  
Chair(s): Christopher Polglase, Justin Bedard

In this session, we will present case studies related to the implementation of existing cultural heritage practice standards. Examples will relate to the incorporation of World Heritage sites in broader impact assessments and how to integrate the expectations of intangible heritage and FPIC into impact assessments.

### Cultural Heritage and FPIC in a Deep Sea Mining Project

Proebstel, Don

### Cultural Heritage Impact Assessment for Deep-Sea Mining Projects

Bedard, Justin; Piscitelli, Matthew; Regan, Peter

### The Story of a Wind Turbine Built on Top of a World Heritage Site

Takeuchi, Ayano

### Uncovering Cultural Heritage in Colombian Territory: Is That an Impact?

Amaya, Andres; Ruiz, Yaddy

### The Great Schism: EIA, HIA, and Cultural Heritage

Polglase, Christopher

## Making Impact Assessment more DAVE

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### Indaco

G7. Disasters and conflict  
Workshop  
Chair(s): Katherine Teh, David McCallum

High outrage issues require impact assessments that deliver a process and an outcome that is credible for all parties. Join us to workshop the DAVE impact assessment model to assess if this could support you to reduce the risks. The workshop will teach the model, apply it, and evaluate it in a highly participative approach using case studies.

## Are Competent Experts and Capacity Building Still Core to IA in Spite of AI?

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### Module B

G9. Governance and implementation systems  
Paper session  
Chair(s): Josh Fothergill

Exploring where we stand in 2025 on IA professional capabilities, expertise expectations, and capacity building across nations, regions, and FI. Papers will provide different takes, perhaps considering the EU's requirement for EIA Competent Experts after 10 years, FI capacity building initiatives, or whether IA skills are needed in the AI age...

### Exploring the E&S Competency Conundrum in International IA Practice

King, Mark

### Lessons Learned from Training Programs for Environmental Experts and Author

Nistorescu, Marius Costin; Doba, Alexandra

### Competency-Based Learning in the Impact Assessment Profession

Khalil Gomez, Aida

### Perspectives on "Sufficient Expertise" in Government and Its Future With AI

Parker, Nicola

### Evolving Expertise in Denmark: The Role of AI Competencies in Impact Assessment

Lyhne, Ivar; Kørnøv, Lone

## Advancements in Environmental Impact Assessment Through Digital Innovations I

### Turchese

*T1. Impact of artificial intelligence on impact assessment  
Paper session*

*Chair(s): Raymond Wong, Clara U*

This session explores how the integration of digital AI tools and methodologies has revolutionized the practice of EIA to enhance efficiency and facilitate informed decision making, aiming to provide a platform for EIA practitioners, researchers, and policymakers to engage in a dynamic exchange of ideas and innovative solutions.

### Leveraging Project Environmental Management with Digital Tools and Innovation

*Boonsanit, Rawikarn; Uaviboonsap, Thatchaphon;  
Pratoomtuang, Teerachai*

### Aquatic Pollutant Monitoring and Assessment Empowered by Digital Approaches

*Zhou, Jianfeng; Gao, Jingsi*

### AI Chatbot for Smart EIA Report Review

*Mak, Danny; U, Clara; Zhang, Wei Xian*

### Best Practice Methodologies and Tools for Delivery of EIAs Across the World

*Soubry-Smith, Caroline; Tombeur, An; Breton, Neil; van der Wel, Karin; Palekhov, Dmitry; Anton, Daniel*

### Forecasting of Air Quality with Machine Learning

*Makala, Daniel; Kiwelu, Doris*

## Evidence-Base in Impact Assessment: The Role of Spatial Data and GIS-based Decision-Support Tools I

### Module 3

*T3. Evidence-based policymaking*

*Workshop*

*Chair(s): Ainhua González*

This session aims to explore advancements in the use of spatial data and GIS-based decision-support tools for evidence-based impact assessments, with emphasis on national applied methods and tools.

### e-Cenarios Geoportal: A Decision Support Tool for EIA in Sao Paulo, Brazil

*Silva, Rodrigo; Romitelli, Maria; Ferreira, Gleice*

### Managing Risks with MESA, a GIS Tool

*Serrano Timonet, Diana; Larsen, Ragnvald*

### The Power of Managing Surveys, Engagement, and Land in a Single GIS Solution

*Imms, Eseld*

SUNDAY, 4 MAY | 14:00-15:30

## Handbook on Health Impact Assessment

### Ambra

*G10. Health*

*Section: Health*

*Panel discussion*

*Chair(s): Francesca Viliani*

A panel, drawn from the over 40 authors who contributed to the "Handbook on Health Impact Assessment," will present and discuss the role that HIA, public health, impact assessment, and new technologies can play in addressing the challenges we face globally.

### Community-Led for Culturally Adequate IA: Insights from Indigenous Health

*Hanna, Philippe; Wiik, Flávio*

### HIA Chapter: The View of Private Sector

*Sommerville, Delya; Xiao, Yina*

### One Health Approach to Risk Assessment (OHARA) Framework

*Calvin, Sharon*

### Health in Impact Assessment: Handbook Conclusions from the Editors

*Viliani, Francesca*

## Embracing Nature: From Grey Solutions to Nature-Based Solutions

### Bianca

*G3. Biodiversity and ecology*

*Workshop*

*Chair(s): Jacobiene Ritsema*

Nature-based solutions (NbS) are an emerging and significant approach in addressing environmental, social, and economic challenges. In this interactive workshop we learn about ongoing NbS initiatives, their potential benefits and risks, and we explore how impact assessment can support the upscaling of NbS. Get ready to be inspired!

### ESIA Process Enablers and Barriers to Implementing Nature-Based Solutions

*Wood, Iain*

### Embedding Nature-Based Solutions in Brisbane's 2032 Olympics and Paralympics

*Swords, Kimberley*

### From Grey to Nature: Sustainable Shoreline in Hong Kong

*Lui, Crystal*

### Harnessing the Building with Nature Approach and ESIA Process for Nature-Based

*Ouddeken, Daniël*

### Voluntary Carbon Markets (VCM): Social and Environmental Perspectives

*Gotto Walton, Katharine; Sully, Rita*

## Navigating Conservation with AI: Trustworthy Data for a Sustainable Future

### Module B

*G3. Biodiversity and ecology*

*Panel discussion*

*Chair(s): Emily Charry Tissier*

The blue economy, set to hit \$3 trillion by 2030, faces definition inconsistencies, risking harmful practices. AI can aid marine conservation but needs accessible, trustworthy data. A standardizing body for ethical data production is crucial for effective policymaking and ESG practices. Join us in bridging profitability and sustainability.

### Black Bawks Data Science Ltd.

*Humphries, Grant*

### BGP Offshore

*Bordon, Daniella*

### Ocean and Climate Tech Consulting

*Presley, Nickelle*

### Whale Seeker

*Charry Tissier, Emily*

## Improving IA Efficiency for Climate Change: Why, When and How

### Blu

*G4. Climate change*

*Paper session*

*Chair(s): Anna Johnston*

There have been calls to make IA more efficient for "clean" projects that may help countries get to net zero. But what does "efficiency" mean? How can we tell a "clean" project from any other? This panel will explore ways to improve IA efficiency of climate-friendly projects without undue sacrifices.

### Does Jurisdictional Siloing Undermine Efficiency of Next-Generation IA?

*Johnston, Anna; Sinclair, A. John*

### Climate Emergency and EIA: A Framework for Project-Level EIA

*Vilardo, Cristiano; Carvalho, Guilherme; Valentim, Leandro*

### Roadmap for GHG Mitigation in Urban Planning: Climate Change Impact Assessment

*Lee, Mihyeon; Kim, Dongchan*



# Sessions

## Cultural Heritage in Strategic Environmental Assessment

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### Cobalto

G6. Cultural heritage  
Section: Cultural Heritage  
Paper session  
Chair(s): Flavia Scardamaglia

The session includes presentations on effective inclusion of culture and cultural heritage in SEA, and proposals for doing so in the future.

### Cultural Heritage Impact Assessment and Mine Closure

Martin, Gavin

### Cultural Heritage Preservation in Kai Tak Redevelopment

Cheung, Chun Wah

### Heritage in Strategic Environmental Assessment: Practice in the Netherlands

Patiwael, Patrick

### Indigenous Cultural Heritage: Not Just Another Worthy Agenda Item for IA

Matunga, Hirini

## Navigating Complexities: Resettlement Management in Zones Emerging from Conflict

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### Module A

G7. Disasters and conflict  
Panel discussion  
Chair(s): Corinne Kennedy, Lloyd Lipsett

This interactive session will explore the connections between human rights and resettlement. We will facilitate discussions on 4 case studies from around the world that present unique challenges for vulnerable groups, and provide practical guidance about how to respect rights and meet international standards in challenging contexts.

### Enhancing IFC PS7 Compliance: Indigenous Knowledge Integration

Horton, Kelly; Kennedy, Corrine; Jonsson, Jesper

### Marginalization and Land Rights: Impact of Energy Projects on Marsh Arabs

Celikel, Yasemin; Van Vlaenderen, Hilde

### The Human Rights Challenge of Resettlement in a Conflict Area

Lipsett, Lloyd

### Unheard Voices: The Unintended Consequences of Poorly Planned Displacement

Pittaluga, Andrea

## Synergies Between Impact Assessment and the Circular Economy

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### Indaco

G9. Governance and implementation systems  
Paper session  
Chair(s): Ralf Aschemann, Tomás Ramos

This session explores potential synergies between impact assessment (IA) and circular economy (CE). E.g., EIAs and SEAs can assess the impact of CE related activities, whereas CE strategies can generate ideas for decreasing the environmental effects of PPPs. Plus, using those synergies breaks the typical “silo” thinking of separate fields.

### Toward a Guiding Framework for Interlinking Circular Economy into IA

Ramos, Tomas

### Transition to a Circular Economy in Renewable Energy Projects

Galeano-Galán, Alejandra

### What Circular Economy Can Learn from Impact Assessment and Vice Versa

Aschemann, Ralf

## Advancements in Environmental Impact Assessment Through Digital Innovations II

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### Turchese

T1. Impact of artificial intelligence on impact assessment  
Paper session  
Chair(s): Raymond Wong, Clara U

This session explores how the integration of digital AI tools and methodologies has revolutionized the practice of EIA to enhance efficiency and facilitate informed decision making, aiming to provide a platform for EIA practitioners, researchers, and policymakers to engage in a dynamic exchange of ideas and innovative solutions.

### Us vs Machines: Impact Assessments More Efficient, Accurate, and Substantive

Radi, Aceel; Alhomoud, Faisal; Farkh, Ruba

### Importance of Data Structuring and Software Modularization for Digital IA

Nikačević, Nikola

### Leveraging AI and Remote Sensing for Environmental Impact Assessment

Toonen, Liv; Hegger, Kathrin; Gwenzi, David Ramadhan

### Taiwan's Dual-Axis Transformation: Advancing EIA with Digital and AI Tools

Yin, Xinjie; Hsu, SuChin; Lu, YaWen; Yang, Chihkai; Liu, Yenchun; Chen, Maochuan

## Global Perspectives on the Evolution of Impact Assessment (IA) Effectiveness

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### Avorio

T2. Data-driven innovation of processes, approaches, methodologies, and tools  
Workshop  
Chair(s): Francois Retief

This workshop aims to critically reflect on global perspectives on Impact Assessment (IA) effectiveness. It relies on a real time online international survey to be completed, analyzed and discussed during the workshop. We therefore invite anybody who is interested in the effectiveness and future directions of IA to attend.

### Critical Review of SEA Substantive Effectiveness in China's Urban Planning

Wang, Haojia; Fischer, Thomas

### EIA Procedure Efficiency in Renewable Energy Projects in Spain

Sobrini, Iñigo; Gonzalez, Juan Jose; Abad García, Jorge; Diaz Martin, Manuel; Casermeiro, Miguel Angel; Granero, Javier

### The Long and Winding Path of EA Effectiveness in Estonia

Faith-Ell, Charlotta; Kalle, Heikki; Arts, Jos

### Multi-Dimensional SEA Effectiveness: A Multiple Case Study

Montano, Marcelo; Agnelli, Jose Augusto

### Unique Features of EIA in Protected Areas: Toward Best Practice Principles

Roos, Claudine; Retief, Francois; Bond, Alan; Alberts, Reece; Cilliers, Dirk; Moolman, Jurie

## Practical Assessment and Mitigation Approaches in IA

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### Celeste

T2. Data-driven innovation of processes, approaches, methodologies, and tools  
Paper session  
Chair(s): Meredith Henderson

In this session, presenters will share practical methods and approaches for assessing and mitigating impacts.

### The Mitigation Hierarchy and Development Zoning

Henderson, Meredith; Powrie, Sophie; Bathgate, Emily

### Charting a Quieter Course: Mitigating Marine Noise Pollution

Krause, Paul; Baquiran, Julianne

### Managing Hazardous Risks Induced by Asbestos Contamination

Murayama, Takehiko

### Furthering the Understanding of a Mine's Area of Influence in Amazon

Souza, Larissa; Margarido, Natália; Duarte, Carla; Sánchez, Luis

### The Impact of Landscape Structures on PM10 Concentrations

Kim, Jin-Oh; Park, Sung Joo

## The Future of IA

## Italia

## T2. Data-driven innovation of processes, approaches, methodologies, and tools

*Paper session*

Chair(s): Ahmed Sanda

The session brings together the combined experience and knowledge of IA guru(s) in an attempt to shape the future of IA in the era of excessive data, old, and emerging constraints of shared and/or common problems.

## Fit For Future Assessment

Jenkins, Bryan

## Energy Transitions Assessment Framework

*Ekanem Minika*

### A Holistic Approach to Severity Determination in Indigenous-Led Assessment

Page, Justin; Calvert, Jane

## Environmental Impact Assessment from

## Index Cards to Artificial Intelligence

*Bate, Emmanuel*

## Evidence-Based in Impact Assessment: The Role of Spatial Data and GIS- based Decision-Support Tools II

## Module 3

### T3. Evidence-based policymaking

## Workshop

Chair(s): Ainhoa González

This session aims to explore advancements in the use of spatial data and GIS-based decision-support tools for evidence-based impact assessments, with emphasis on national applied methods and tools.

## Enhancing Impact Assessment Through Digitization and GIS-Driven Analysis

*Knipping, Abel; Rachmawati, Inneke; Radinka, Nabil;*

Coenen, Victor

## Leveraging AI and GIS for Community Engagement in Urban Development Project

*Amra Ramly, Saiful Bahari, Abang Madehi, Abang*

Nazrul Afizi: Bin Abdullah, Khairul Hisyam

## TOPIC LIST

What topics are you interested in?  
Sessions are identified in the following categories:

### Sessions related to the **theme** of the conference

- T1. Impact of artificial intelligence on impact assessment
- T2. Data-driven innovation of processes, approaches, methodologies, tools
- T3. Evidence-based policymaking
- T4. Environmental, social, and governance reporting and disclosure

**General** impact assessment topics/  
topics related to IAIA's special-interest  
Sections

- G1. Academia
- G2. Agriculture, forestry, and fisheries
- G3. Biodiversity and ecology
- G4. Climate change
- G6. Cultural heritage
- G7. Disasters and conflict
- G8. Emerging technologies
- G9. Governance and implementation systems
- G10. Health
- G11. Indigenous Peoples
- G12. Public participation
- G13. Social impact assessment

## Topics of **special interest** to IAIA and its members

- S1. Special to IAIA

## Notes

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# Posters

MEET THE AUTHORS AT THE WELCOME/POSTER RECEPTION!

Thursday, 1 May | 17:00-18:30 | ExGam

## **The SEA for the expansion of the Renewable Energy Development Zones: South Africa**

Adams, Abulele; Lochner, Paul; Mkhize, Sonto; Fisher, Dee; Moganetsi, Simon

## **Leveraging AI to streamline incident reporting for enhanced safety and risk**

Aviles, Luis; Clemente-Fernandez, Pilar

## **Modeling software to support Indigenous participation in impact assessment**

Berg, Kevan; Bockstael, Erika; Carlson, Matt

## **Leveraging restoration with ecological equivalence for Amazon offsetting**

Borges Matos, Clarice

## **Emerging ecosystem services into cumulative impact assessment scoping**

Casteli Figueiredo Gallardo, Amarilis Lucia; Furtado Sozinho, Davi Wilkson; Frederigi Benassi, Roseli; Bond, Alan; Moretto, Evandro Mateus

## **Advanced machine learning regressions for agricultural uncertainty**

Chinesta, Ignacio; Ammar, Amine; Chinesta, Francisco

## **The UN FAO Framework for Environmental and Social Management**

Coccato, Gianmarco; Manzano Borba, Maria Rita

## **EIA contributions to the knowledge of pre-colonial Sites in São Paulo**

Costa do Vale, Fabio Renato; Rinaldi, Edgard Ortiz

## **Sonochiro, a powerful tool for studying bats using their ultrasound**

Elleboode, Cédric; Tranchard, Julien; Disca, Thierry

## **NBS in environmental regularization of hydroelectric plants in São Paulo**

Ferreira, Gleice; Guerreiro, Vanessa; Francesquini, Fernanda

## **The future role of artificial intelligence in the E&S impact assessment**

Giacchino, Chiara; Grosbuis, Lubin

## **Data-driven risk analysis for climate change impact assessment in Korea**

Hwang, Hyemee

## **Balance Co-Lab's Indigenous-led cumulative impact assessment training**

Keefer, Justine

## **Follow-up management analysis study based on case studies of drone**

Kim, Elia; Kim, Dongchan

## **Strengthening climate adaptation in urban development through CCIA**

Kim, Yumi; Cho, Hanna; Cho, Young-il; Heo, Namjoo

## **Assessment of local chimpanzee populations with camera traps and AI**

Le Bras, Yves; Cappelle, Noémie

## **Development of a differentiated environmental impact assessment framework**

Lee, Sangyun

## **A study on changes in marine pollution distribution using the BPI**

Lee, Eojin; Maeng, Junho

## **Best practices in the environmental impact assessment follow-up management**

Lee, Jeongeun; Kim, Dongchan

## **Analyzing the impact of sea-level rise and coastal erosion to establish set-back strategy**

Lee, Byeong Cheol; Kang, Jung Eun

## **Analysis of cases of digital environmental impact assessment applications**

Lee, Jiye; Lee, Sangyun

## **EIA in the cloud: Data evolution and AI opportunities for the future**

Li, Xiaomin; Zhan, Liwen; Zhao, Yuting; Li, Yafei

## **Data management system for real-time E&S monitoring of hydropower projects**

Longarini, Arianna; Bacaro, Giovanni; Chiodi, Paola; Chines, Arianna; Romagnoli, Ettore Pascale, Massimo; Fonda, Federica; Sapkota, Bidhan; Malla, Prashant

## **Fringe stakeholders: How to escalate best practices of engagement?**

Lyra, Mariana

## **Advanced data-driven modeling for marine biodiversity risk in offshore wind**

Marangoni, Irene; Cuzzola, Antonino; Gordigiani, Lorenzo; Pucillo, Paolo; D'Alessandro, Sara; DiMarco, Tiziana; Fistrale, Agostina

## **Exploring AI integration for enhanced occupational health and safety**

Mercado, Fabiola; Aviles, Luis

## **Impact assessment of small-scale urban green by RGB-D machine learning**

Omizu, Yosuke; Shibata, Yuki; Nakajima, Yuu

## **Cumulative impact assessment and management where CIA is a novel concept**

O'Neill, Helen; Southall, Rachel

## **Quantitative analysis of environmental improvements through EIA in ROK**

Park, Ji Hyeon

## **The AI age: Just a hype or real changes on EIA?**

Poletto, Maria Cristina; Rinaldi, Edgard; Deodato, Fabio

## **Wading into the future: AI-assisted monitoring of shorebird populations**

Rasu, Shivaram; Tomy Padiyara, Noble; Chen, Melvin; Phipatanasuphorn, Veradej; Chew, Jie Si; Chen, Jinghui; Abdul Majeed, Adibah; Ang, Jeremy; Lian, Florence; Le, Thao; Tan, Cheng Ann

## **Co-producing IA guidelines for renewable energy projects: A research agenda**

Sanchez, Emerson; Amparo, Jenny; Devanadera, Catriona

## **Ecosystem-based impact assessment of offshore wind energy**

Sánchez, Luis; Turra, Alexander; Duarte, Carla; Laurino, Ivan; Dibo, Ana Paulo; Siqueira-Gay, Juliana

## **Modelling environmental impacts of waste discharge locations in an estuary**

Seo, Dongil; Lee, Seungmoon

## **Strategies for mitigating offshore wind impacts and enhancing data management**

Siqueira-Gay, Juliana; Leite, Nicolly; Pires, Rafaela

## **Estimating urban thermal environments using UAV, micro climate modeling, AI**

Song, Bonggeun; Lee, Hyejeong; Park, Kyunghun

## **The effectiveness and implications of China's pilot program for GHG EIAs**

Tang, Wei; Wu, Yinan; Zhang, Yifei; Zhao, Fang

## **Reforestation of riverbanks in overflow and flood control works in Peru**

Tenorio, Mario; Camacho, Marlene; Chunga, Dany; Espinoza, Arenas; Cárdenas, Josué Gasco, Vania; Martinez, Paula; Mori, Eva

## **Practical examples of WWF's innovative scenario and monitoring approaches**

van Stokkom, Anouk

## **Offshore wind projects: Who cares about environmental impact significance?**

Veronez, Fernanda; Dibo, Ana Paula; Siqueira-Gay, Juliana; Duarte, Carla; Turra, Alexander; Sánchez, Luis

Only official exhibitor posters and/or technical posters approved by the Program Committee during the review process may be displayed.



## Lifetime Achievement Award

The Lifetime Achievement Award honors **A. John Sinclair** (Canada) for dedicating more than 30 years to community service, sharing his knowledge, and expanding and strengthening practical implementation

*The IAIA Lifetime Achievement Award, previously known as the Rose Hulman Award, is awarded to long-term supporters and members of IAIA for major contributions to the field of impact assessment.*



## Outstanding Service to IAIA

The Outstanding Service to IAIA Award is presented to **Ilse Aucamp** (South Africa) for her dedication to expanding long-term capacity building in IA and creating the SIA Professional Development Program course, recruiting and training mentors, and mentoring participants.

*The Board of Directors is responsible for selecting the Outstanding Service to IAIA Award, which recognizes an individual or individuals within IAIA who have provided exceptional service to IAIA over a number of years.*



## Institutional Award



The Institutional Award is awarded to the **Danish Centre for Environmental Assessment at Aalborg University** for significant and sustained contributions to the practice and advancement of IA on all levels.

*The IAIA Institutional Award is presented to a national or international government or nongovernmental organization for outstanding contribution to impact assessment practice or other environment-related activity deserving of recognition.*



## Global Award

The Global Award is presented to **Global Commons Alliance** for their mission to mobilize and accelerate change and become better guardians of the global commons.

*The IAIA Global Award is presented annually to a leading individual or institution that has made a substantial contribution to impact assessment practice, management, or policy at a global scale.*



## Individual Award

The Individual Award is presented to **Alan Bond** (United Kingdom) for being one of the most published authors in the *IAIA* journal, leading and organizing many sessions at IAIA conferences, volunteering with IAIA, and contributions to IA.

*The IAIA Individual Award acknowledges personal contribution to the discipline of impact assessment. It recognizes major achievement and advancement in theory and/or practice over a period of time at an international level.*



## Corporate Initiative Award

The **Hong Kong Environmental Protection Department** receives the Corporate Initiative Award for developing the **Hong Kong Environmental Database**—a pioneering platform that leverages data-driven, smart technology to transform EIA practices.

*The Corporate Initiative Award is presented annually to a leading individual or institution that has made a substantial contribution to the practice of impact assessment, management, or policy at a corporate initiative scale.*



## Young Professional Award

**Katie Fineran** (United States) is recognized with the Young Professional Award for active participation in IAIA's Climate Change section and the Fit For Future Initiative as well as creating an online platform to connect others and enhance the impact on environmental issues.

*The Young Professional Award acknowledges a distinguished IAIA member under the age of 35 with outstanding achievements in the impact assessment field.*



## IAIA Best Paper of 2024

The 2024 IAIA Best Paper Award is presented to **Jeffrey Nishima-Miller, Kevin S. Hanna, Jocelyn Stacey, Donna Senese & William Nikolakis** for their paper "Tools for Indigenous-led impact assessment: insights from five case studies." *IAIA* 42(1), 70–87.



## Rita R. Hamm IA Excellence Scholarship

**Lubin Grosbuis** is a Consulting Associate at ERM, where he supports both technical environmental aspects as well as project management for the delivery of strategic reports and ESIs complying with national regulations and company and lender standards. He has a strong academic background in ecology and environmental sciences.

*The Rita R. Hamm IA Excellence Scholarship, in honor of the legacy that IAIA's former CEO left on the organization and the field of impact assessment, is offered in conjunction with each annual IAIA conference, allowing a young practitioner in the region of the host country to attend.*

**Do you know someone worthy of recognition?**

Nominations are invited for IAIA's 2026 annual awards. Visit <https://www.iaia.org/awards.php> for details, or scan here.



**SUBMIT  
AWARD  
NOMINATION**

# Exhibitors | Venue map

## EXHIBITORS

IAIA 2026 – Québec City

Korea Environment Institute

EPC Consultanță de mediu

Biotope

Netherlands Commission for Environmental  
Assessment

Royal HaskoningDHV

Oden Systems

Environmental Protection Department  
of the Hong Kong Government

ExxonMobil

Global Impact Assessment

Integral Ecology Group

## AFFILIATE POSTERS

IAIAsa  
(South Africa)

Associação Portuguesa de Avaliação de Impactes  
(APAI)

Atlantic Canada Association for Impact Assessment  
(ACAIA)

Associação Brasileira de Avaliação de Impacto  
(ABAI)

Korea Society of Environmental Impact Assessment  
(KSEIA)

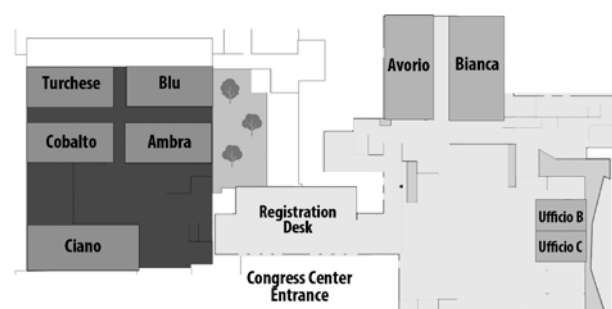
Nepal Association for Impact Assessment  
(NAIA)

New Zealand Association for Impact Assessment  
(NZAI)

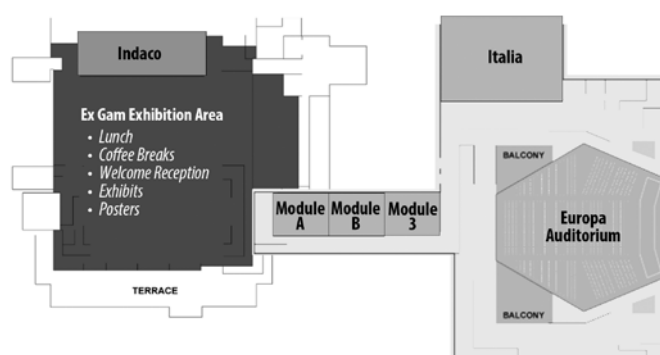
Ontario Association for Impact Assessment  
(OAIA)

## VENUE MAP

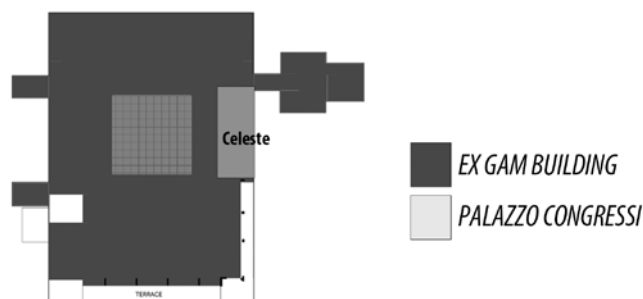
### GROUND FLOOR



### FIRST FLOOR



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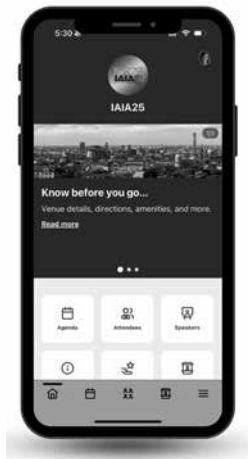
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# THE ONLY INTERNATIONAL, INTERDISCIPLINARY, EDUCATIONAL CONFERENCE DEDICATED TO ADVANCING THE ART AND SCIENCE OF IMPACT ASSESSMENT!

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**Bologna Congressi (Bologna Congress Center)**

Piazza della Costituzione, 4/a

40128 Bologna (Bo) Italy

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## 附錄二、會議簡報

# Taiwan's Dual-Axis Transformation

## -Advancing EIA with Digital and AI Tools



**Xinjie Yin**

*Technical Specialist / Ministry of Environment  
Taiwan*

*xinjie.yin@moenv.gov.tw*

*<https://www.moenv.gov.tw/en/>*



# The EIA Process in Taiwan

Development scale  
and location meet  
identification criteria

Conduct briefings  
and address public  
comments

Submit an EIA  
report

Forward an EIA  
report

Review by EIA  
committee

Publish the  
review findings

Hold a public  
consultation meeting

Phase 1

Alternatives may be submitted

If significant adverse environmental  
impacts are anticipated, enter the phase 2  
environmental impact assessment

Distribute the report to  
relevant agencies and  
hold a public hearing

Define the scope  
of the  
assessment

Compose the  
first draft of the  
EIA report

Conduct site  
surveys and  
public hearings

Forward the EIA  
report to EIA  
Authority

Review by EIA  
committee

Disapproved

Publish the assessment  
outcome in the official  
gazette

Phase 2

 Developer

 Competent Authority

 EIA Authority

# Our Features

## Livestream

Since 2017, we have livestreamed major controversial EIA cases on our website, expanding to all EIA review meetings in 2019. Post-meeting recordings are uploaded to YouTube, enabling concerned citizens and groups to watch later.



### 環境部環評會議直播



- 名稱：「台灣~澎湖161kV電纜線路工程環境影響說明書變更內容對照表（停止營運期間環境監測）」專案小組第2次審查會議
- 時間：114年04月23日下午02時00分
- 地點：環境部後棟（臺北市中正區延平南路156號）101會議室

直播

全文檔案(KB) .PDF

章節	長度(KB)
全文檔	64,850
目錄	1,317
第01章	333
第02章	341
第03章	1,045
第04章	357
第05章	800

開發行為名稱

(1130924A) 台灣~澎湖161kV電纜線路工程環境影響說明書變更內容對照表  
(停止營運期間環境監測)

書件摘要

本區摘列環評書件內容摘要以利參考,該書件若已完成實質審查程序,則一併列出「審查結論」;如屬尚在「審查中」之書件,歡迎民眾點按「我有意見」按鍵,針對本開發案提出您的寶貴意見!

書件摘要

書件類別 變更內容對照表 基地行政區 雲林縣,澎湖縣

## EIA inquiry system

The EIA inquiry system enables public access to detailed reports online, enhancing transparency. It streamlines queries, saves time, encourages public involvement in environmental decisions, and supports efficient data management for businesses and government.



# Staff Review Process

Significant manpower is needed for the review process to yield results at a comparatively low cost.

## Process review

Spend approximately 1 ~ 2 weeks on the process review, comparing each document to ensure compliance with regulations.

## Compile review comments

Integrating feedback from reviewers and authorities, plus developer responses

## Write real-time meeting minutes

At least 3 people are needed to transcribe verbatim and produce meeting minutes in real-time.



# Heated public participation in EIA

Controversial EIA cases always have both supporters and opponents, leading to intense discussions during meetings.



(Photo from The Central News Agency)



# Why go digital & use AI for EIA?



Too many documents, and the process is too complex.



Data is limited, and lacks visualization.



Complex information hinders public participation.



Enhance review efficiency and ensure information transparency.



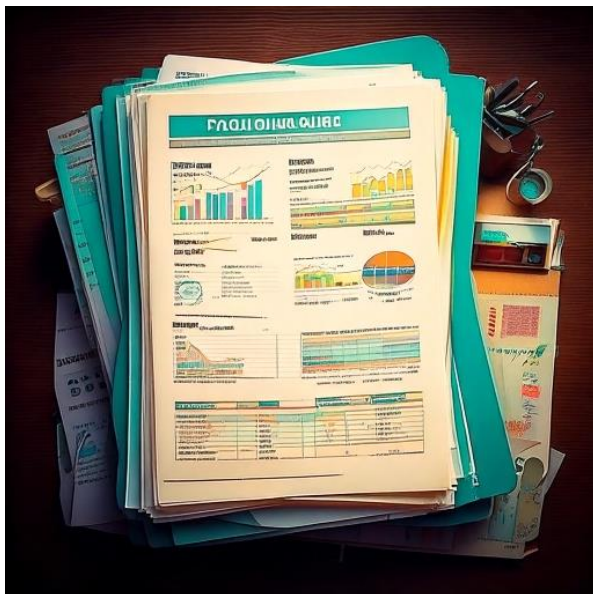
Improve risk management and increase accessibility for engagement.



Enhance policy trust and foster social agreement.



# Current Challenges Impeding EIA's Twin Transitions



## Unstructured Data

EIA reports, review data, and public comments are in PDF format with extensive text, tables, images, and videos. The absence of a fixed format hinders direct analysis and processing.



## High Time and Labor Intensive

Many manual operations are necessary, including detailed procedural checks and pre-meeting summarization of review points.



## Limited AI Tool Proficiency

Staff lack sufficient knowledge regarding the operation, features, and practical application of AI tools in review work.

# Overcoming the Challenges to EIA's Twin Transitions



## Data Standardization

AI struggles with the diverse formats of report data. A unified data format and tagging system is required to boost processing efficiency and accuracy.



## Dataset Construction

AI's learning and prediction accuracy is limited by the lack of a dedicated EIA training dataset. Coverage of various case types and guaranteed data quality are necessary.

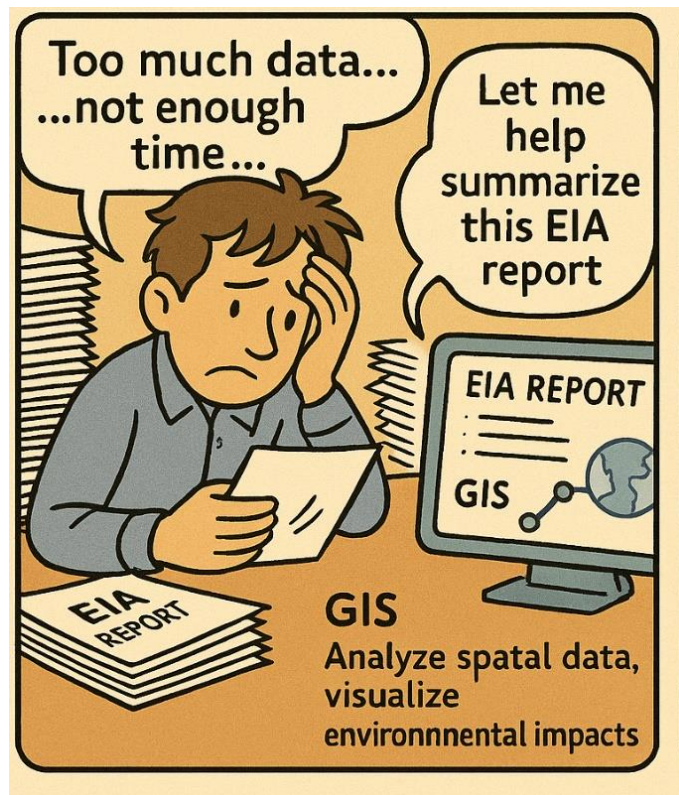


## Reliability of AI Results

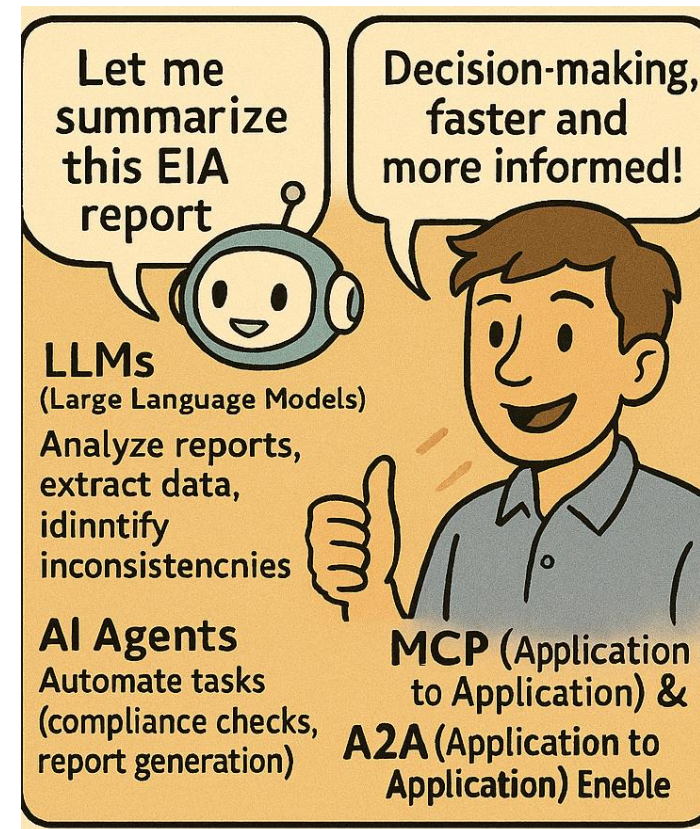
AI decision-making requires justification to build trust with staff, EIA committee, and the public. Developing explainable AI will increase decision transparency.



# Transforming EIA: AI-Powered Efficiency and Engagement



VS



We are revolutionizing EIA with a suite of AI tools to enhance efficiency, accuracy, and stakeholder engagement.

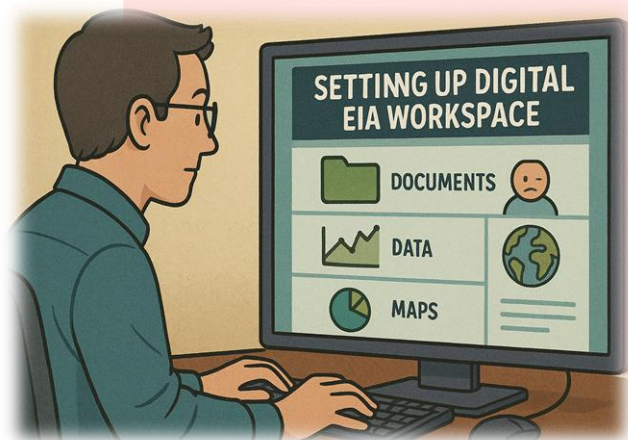


# Overview of the current progress in digitalization and AI adoption within Taiwan's EIA framework

01

## Establish Digital EIA Workspace

Such as Expert Pool and Data Integration...

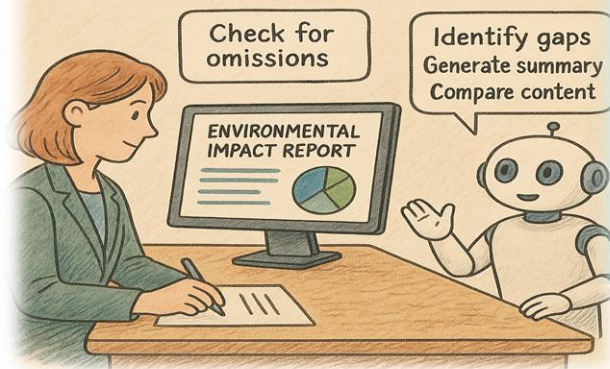


02

## AI-Assisted Review

AI functionality includes automated report completeness checks, summary generation, and regulatory compliance comparison.

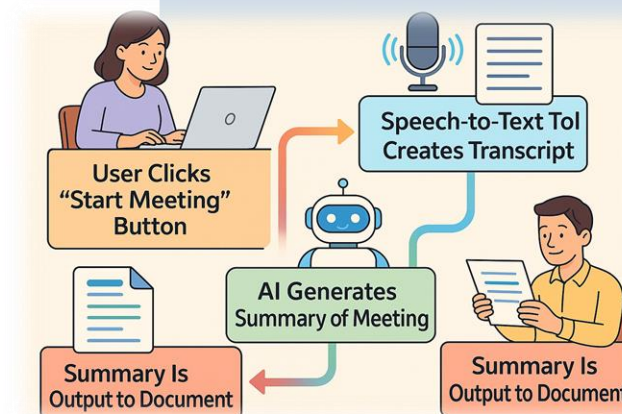
### AI ASSISTED REVIEW OF ENVIRONMENTAL IMPACT REPORTS



03

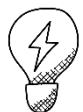
## Draft Meeting Conclusions

One-click generation of transcripts and meeting conclusions greatly reduces manpower and boosts efficiency.



# Conclusion & Next Steps

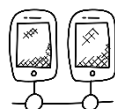
We're using AI to build a smarter, transparent, and effective EIA future.



**2024-2025**

- Establish Digital EIA Workspace
- Standardize data formats and procedures

**Digital Foundation**



**2026-2027**

- Develop AI-assisted EIA review
- Train personnel and stakeholders on digital tools
- Data governance and cybersecurity

**Smart Integration**



**2028<sup>+</sup>**

- Deploy an AI-assisted system for EIA decision-making support
- Facilitate public participation via interactive dashboards
- Enhance EIA by integrating GIS and real-time environmental data, alongside establishing cross-agency data exchange and implementing risk prediction models
- Legal and institutional framework adaptation

**Intelligent EIA System**





# Let's continue the conversation!

Message me your questions or comments in the IAIA25 app.

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*Taiwan*

*xinjie.yin@moenv.gov.tw*

*<https://www.moenv.gov.tw/en/>*

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