



How the International Consortium on Applied Bioeconomy Research Came to be

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Chapter Abstract

This chapter traces the evolution of the International Consortium on Applied Bioeconomy Research (ICABR) from its informal origins in the mid-1990s to its emergence as a global forum for research, policy dialogue, and professional community building. What began as conversations among agricultural and applied economists concerned with the economic, regulatory, and institutional implications of agricultural biotechnology gradually developed into a durable international Consortium. The chapter follows this trajectory through the early meetings in Rome, the consolidation of the Ravello tradition, and the intellectual contributions that shaped debates on biotechnology, intellectual property rights, biodiversity, consumer acceptance, international trade, and regulation.

The chapter also examines how the ICABR adapted to changing scientific and policy landscapes. Following the passing of Vittorio Santaniello and the retirement of Bob Evenson, a new generation of scholars helped sustain and reimagine the Consortium. Its 2009 name change, from Agricultural Biotechnology Research to Applied Bioeconomy Research, reflected a broader shift from crop biotechnology toward biofuels, sustainability, climate adaptation, genome editing, food systems, circularity, and artificial intelligence. As ICABR expanded beyond Ravello to Nairobi, Berkeley, Washington, DC, Buenos Aires, Saskatoon, and other locations, it strengthened connections with international organizations, policy institutions, industry, and emerging research communities across multiple regions.

Beyond its conferences and publications, the chapter emphasizes the distinctive culture that has allowed ICABR to endure for three decades. Its lean structure, openness to disciplinary diversity, commitment to young scholars, and tradition of combining rigorous debate with collegial exchange have made it more than an academic association. ICABR has survived because it created a rare space where frontier science, economic analysis, policy relevance, mentorship, and human connection could develop together. In doing so, it became both a witness to and a participant in the transformation of agricultural biotechnology into the broader bioeconomy.



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Chapter 1. From Conversation to Consortium: The Inside Story of the ICABR's Evolution

The International Consortium on Applied Bioeconomy Research (ICABR) did not begin as a formal institution with a charter or strategic plan. It emerged more gradually, from conversations among colleagues who were trying to make sense of a new scientific and policy frontier. In the mid-1990s, agricultural biotechnology, especially the genetic modification of crops, was raising questions that reached far beyond the laboratory: how would these technologies change food production, agricultural development, and the governance of innovation? Would the application of property rights to the technologies impact adoption rates? And would additional regulations be required to govern risk assessment and commercialization? At the time, the focus centered largely on the genetic modification of crops, a scientific frontier that carried both extraordinary promise and intense public debate. Economists saw that their discipline had an important role to play in this unfolding story. They could do more than measure productivity gains. They could help societies, particularly those in developing countries, understand how incentives, regulation, innovation, and public policy would shape this new technological frontier. Beyond the laboratory and the field trials, there was a need to understand how these technologies might affect farmers, rural communities, trade, development, and national economies, particularly in developing countries where the stakes surrounding food security and agricultural productivity were especially high. From these shared questions, recurring collaborations, and annual gatherings, the foundations of the ICABR slowly began to take shape, even before the consortium formally acquired its name.

Where the Spark First Caught: 1996

Looking back, 1996 now appears less as a simple starting date and more as the moment when several intellectual currents began converging toward what would eventually become the ICABR. That year, Vittorio Santaniello (University of Tor Vergata – Rome), Michele Marra (Cornell University), William “Bill” Lesser (Cornell University), Robert “Bob” Evenson (Yale University), and Gerald “Gerry” Carlson (North Carolina State University) came together in Rome for an initial workshop on the economics of agricultural biotechnology. Their discussions focused on its productivity effects, its broader economic implications, and the emerging questions surrounding intellectual property rights. Carlson, a leading expert on pesticides, drew on analytical frameworks



originally developed to assess their environmental and economic impacts, adapting them to the study of emerging agricultural biotechnology (Carlson, 1970). David Zilberman (University of California – Berkeley) followed a similar path. His interest in biotechnology grew out of earlier work on the economics of pesticides and on the welfare and regulatory questions their use raised (Zilberman et al., 1991). Together, these complementary perspectives helped shape an economic approach to understanding both the promise and the trade-offs of a rapidly emerging technology.

As these conversations unfolded, scholars from North America and Europe increasingly found themselves grappling with the same questions, even as they began arriving at different answers. On both sides of the Atlantic, the environmental and health implications of agricultural biotechnology were actively debated. Yet differences in regulatory philosophy were already beginning to emerge. In North America, policymakers generally favored science-based frameworks that sought to assess whether genetically modified crops introduced risks meaningfully different from those associated with conventional alternatives. In Europe, uncertainty itself increasingly became a focus of concern, giving rise to more precautionary approaches and broader public debates about the role of technology in society.

As the turn of the millennium approached, agricultural biotechnology became more than a scientific issue. It evolved into a social, political, and economic fault line. Scientific evidence increasingly intersected with values, institutions, and political identity, often entrenching opposing positions rather than bridging them. The debates that emerged during those formative years continue to shape discussions surrounding agricultural innovation and biotechnology to this day.

It was within this atmosphere that two closely related, though initially separate, streams of scholarship emerged. In 1996, one took the form of a small conference in Rome of roughly forty participants led by Bob Evenson, Vittorio Santaniello, and Gerry Carlson. The gathering focused on the economics of agricultural biotechnology: productivity impacts, innovation incentives, and the emerging questions surrounding intellectual property rights. In retrospect, this meeting would come to be recognized as the first ICABR conference.

Though modest in size, it brought together economists and researchers who sensed that biotechnology would reshape not only agriculture itself, but also surrounding institutions, markets, and policies. At about the same time, another stream of work was unfolding through a collaboration



between Joe Cooper (FAO) and David Zilberman on a Food and Agriculture Organization (FAO) project examining the economics of agrobiodiversity, ownership and access rights to native plant genetic resources, and the relationship between biodiversity conservation and biotechnology in developing countries (Cooper et al., 2005). The project generated several workshops and later expanded with the participation of Leslie Lipper (FAO). While distinct in scope, these discussions were animated by many of the same underlying questions: who benefited from innovation? How did incentives shape technological adoption? How should biological resources be governed? And how might developing countries navigate the promises and risks of a rapidly changing agricultural technology frontier?

These efforts did not begin with the intention of creating a permanent institution. Rather, they reflected a growing realization among a small but internationally connected group of scholars, that the emerging bioeconomy required new forms of dialogue and analysis. Economists, policy thinkers, and agricultural researchers found themselves grappling with issues that could no longer be understood within traditional disciplinary boundaries alone. Conversations deepened. Collaborations multiplied. What had begun as a series of parallel conversations was increasingly becoming a community of inquiry. The next step, the formation of a consortium, was not inevitable but in retrospect now seems unavoidable.

A Forum for a New Agricultural Technology Frontier: 1997 and 1998

As preparations began for the 1997 meetings, circumstances aligned in ways that would prove consequential for the future of the Consortium. Vittorio Santaniello approached Joe Cooper to seek funding for the planned activities that year. In the course of these discussions, it was decided to bring together what had previously been separate initiatives into a single conference. David Zilberman met with Vittorio Santaniello and Bob Evenson, and together they organized the meeting at the University of Rome, with FAO financial support provided through Joe Cooper.

The decision accomplished more than logistical efficiency. It brought into the same room a series of intellectual currents that had been developing through workshops, collaborations, and scattered conversations. Alongside scholars working on the economics of agricultural biotechnology were experts engaged in FAO discussions on plant genetic resources, access, benefit-sharing, and agricultural development. Recognizing the importance of these emerging issues, the FAO convened an invitation-only meeting that brought together a core group of its own



experts and leading thinkers in the field. Among those present were Bob Evenson, Vittorio Santaniello, David Zilberman, Bill Lesser, Michele Marra, and Peter Phillips (University of Saskatchewan). The resulting conference was dynamic and well attended, maintaining a strong emphasis on productivity, intellectual property rights, and the economic impacts of biotechnology.

Despite the serious nature of the topics addressed at the meetings, one of their distinctive features was the recognition that intellectual exchange flourishes in social settings. Serious debate in conference rooms was complemented by cultural events and memorable dinners in some of Rome's finest restaurants. Participants still recall visits to places such as Villa Borghese, where conversations that began during formal sessions continued in a more informal setting. What had previously existed as parallel conversations was beginning to coalesce into a shared intellectual enterprise.

In this sense, the ICABR was unmistakably shaped by its Italian roots. The conferences were designed not only as spaces for academic exchange, but also as occasions for gathering well. Participants lingered after sessions, debated ideas over long dinners, shared wine and laughter, and formed friendships that would sustain collaborations for decades. What emerged during the early meetings in Rome gradually became one of the Consortium's defining traditions. Work was taken seriously, but rigor and conviviality were never treated as opposites.

Over time, these social and cultural dimensions became a hallmark of ICABR conferences. Regardless of where the meetings were held, whether in Ravello, Nairobi, Berkeley, Washington, Buenos Aires, Saskatoon, or elsewhere, organizers sought to create opportunities for informal interaction alongside the formal academic program. The annual Gala Dinner became a particularly enduring expression of this tradition, providing a setting where conversations begun in conference sessions could continue among colleagues, collaborators, and friends.

The Consortium's culture came to reflect a distinctly humanistic understanding of scholarship: ideas are often sharpened not only in lecture halls, but also around crowded tables, during walks through historic cities, and in the animated conversations that continue long after the formal program has ended. For many participants, these shared experiences became as important to the life of the Consortium as the papers and presentations themselves.



By 1998, the organizers envisioned something more ambitious than the meetings that had come before. Hosted at the University of Rome Tor Vergata, the international conference on the economics of agricultural biotechnology marked the moment when the ICABR evolved from an emerging intellectual network into a recognizable institution. Sponsored by the FAO, Tor Vergata, and Yale University, the meeting attracted more than 200 participants from around the world and formalized the Consortium's commitment to convening a forum dedicated to the economic dimensions of biological innovation.

The timing proved consequential. In 1998, the European Union began moving toward stricter limits on genetically modified organisms, broadening the Consortium's agenda and elevating regulation from an important topic to a central concern. Questions surrounding risk assessment, approval processes, and the governance of innovation increasingly occupied discussions that had previously focused more heavily on productivity and intellectual property. The emerging transatlantic divide over biotechnology would remain one of the defining themes of the Consortium's early years.

This period also marked an important transition within the Consortium itself. Joe Cooper departed the FAO, and Leslie Lipper assumed a more prominent role in the discussions and activities that followed. As participants adapted to new scientific developments, changing policy environments, and evolving leadership, the Consortium demonstrated an ability that would become one of its defining characteristics: a willingness to evolve while remaining anchored by the same spirit of open inquiry that had brought its members together in the first place.

At the conclusion of the 1998 meeting, the International Consortium on Agricultural Biotechnology Research had formally come into existence, but an important question emerged: how could this new community sustain itself over time?

It was in these conversations that Vittorio Santaniello, Bob Evenson, David Zilberman, and Bill Lesser began considering what form the Consortium should take. Together, they constituted the Consortium's informal board and explored how to preserve the spirit of the meetings without creating a burdensome institutional structure. Drawing on his experience with a water consortium he was a part of, David Zilberman proposed a simple model that would ultimately become one of



the ICABR's defining strengths: participants would largely pay their own way to attend, while sponsorship would be sought selectively to support keynote speakers and special activities.

The elegance of this approach lay in its simplicity. It kept administrative costs low, fostered a sense of shared ownership among participants, and ensured that the Consortium remained driven by intellectual curiosity rather than institutional bureaucracy. What emerged was an enduring tradition of annual gatherings dedicated to rigorous yet highly interdisciplinary exchange on agricultural biotechnology and, later, the wider bioeconomy.

The combination of intellectual rigor, institutional flexibility, and a strong sense of community proved remarkably durable. What began as a modest gathering of scholars soon evolved into a network whose influence extended far beyond its annual meetings. As ideas circulated through conferences, publications, and professional collaborations, ICABR increasingly became a focal point for international discussions on biotechnology, innovation, and agricultural development.

The Ravello Years Begin: The First Era of the ICABR



Figure 1 Poster from the 1999 ICABR Conference

Note: This conference was jointly organized in Rome and Ravello. The meeting focused on the economic implications of the emerging agricultural biotechnology revolution and reflected the



consortium's early emphasis on investment, innovation, and policy design. The conference was guided by members of ICABR's founding generation, including Bob Evenson, Bill Lesser, Vittorio Santaniello, and David Zilberman.

From its earliest years, the ICABR found not only intellectual momentum, but also a home (Figure 1). Few individuals were more important in shaping this formative period than Vittorio Santaniello and Pasquale "Lucio" Scandizzo (University of Rome Tor Vergata). It was Vittorio Santaniello who first proposed Ravello as a future venue for the meetings, recognizing both its practical potential and its unique atmosphere. The suggestion found an enthusiastic ally in Scandizzo, who, through his leadership role at the *Fondazione Salernitana Sichelgaita*, was able to mobilize support for the initiative. Together with Dean Luigi Paganetto, they secured the European backing that allowed the conference to establish itself in Ravello in southern Italy.

What began as a practical decision about where to hold a conference would ultimately shape the identity of the Consortium itself.

The 1999 meeting began in Rome before continuing south along the Amalfi Coast to Ravello. In retrospect, the encounter between the ICABR and Ravello felt almost fated, a kind of “love at first sight,” as many participants would later recall. Removed from the noise and pace of everyday political life, Ravello offered an atmosphere uniquely suited to the emerging spirit of the Consortium: intellectually ambitious yet deeply human, rigorous yet warm, international yet intimate.

Over time, Ravello became far more than a conference venue. It became the spiritual home of the ICABR. Within the historic setting of Villa Ruffolo, scholars, policy makers, students, and researchers from around the world gathered not only to debate the future of biotechnology and the bioeconomy, but also to build a lasting intellectual community grounded in conversation, friendship, and shared curiosity. Days were filled with presentations and debates, while evenings extended into animated discussions and excursions to Capri, Naples, and Pompeii. Ravello conferences featured receptions in castles and historic hotels, boat dinners along the coast, and the kind of conviviality that transformed professional acquaintances into lifelong collaborators.

Table 1 Early Transatlantic Collaboration and Scholarly Outputs of the ICABR		
Authors	Book Title	Main Focus
Santaniello et al. (2002)	Market development for genetically modified foods	Policy issues associated with GM product market development
Santaniello (2003)	Agriculture and Intellectual Property Rights: Economic, Institutional and Implementation Issues in Biotechnology	Broad impacts of agricultural biotechnology
Evenson and Santaniello (2004)	Consumer acceptance of genetically modified foods	Consumer acceptance of biotech products
Evenson and Santaniello (2006)	International trade and policies for genetically modified products	Controversial issues that surround agricultural biotechnology and genetically modified products
Cooper et al. (2006)	Agricultural biodiversity and biotechnology in economic development	Relationship between biodiversity and biotechnology

The intellectual output of these early years was substantial (Table 1). The Ravello conferences generated influential books, edited volumes, and journal articles on biotechnology, biodiversity, intellectual property, consumer acceptance, market development, and international trade in genetically modified products. The original FAO collaboration evolved into important work examining the relationship between biodiversity and biotechnology, while other conference presentations led to foundational publications on consumer responses to crops agricultural innovation systems, and intellectual property rights in agriculture and biotechnology. While presenters were encouraged to publish wherever they wanted, many took the opportunity to submit their papers for a series of special issues of *AgBioForum*, an open access journal developed by



Nicholas Kalaitzandonakes of University of Missouri-Columbia and edited by many of the ICABR core members.

As the ICABR's reputation grew, so too did its international reach. In 2000, the Consortium assisted the German Development Agency in organizing a major conference on agricultural biotechnology in Bonn, with participants including Joachim von Braun and Martin Qaim. That meeting contributed to the eventual establishment of the Public Intellectual Property Resource for Agriculture (PIPRA), supported by the Rockefeller Foundation and partner organizations, which sought to expand access to intellectual property and biotechnology tools for developing countries.

ICABR members also played central roles in a workshop organized by Justus Wesseler (Wageningen University & Research) at Wageningen University in 2004 (Wesseler, 2005) and in a Farm Foundation and USDA conference held in Arlington, Virginia, in 2005 and organized by Richard Just (University of Maryland) (Just et al., 2006). Both initiatives generated influential publications that helped shape policy discussions surrounding agricultural biotechnology.

These activities reflected a broader evolution in the Consortium's intellectual agenda. While early discussions had focused heavily on the productivity impacts of genetically modified crops and questions surrounding intellectual property rights, experience increasingly demonstrated that regulation itself played a decisive role in determining the pace and direction of technological adoption. As a result, issues of governance, risk assessment, approval procedures, and public trust moved steadily toward the center of ICABR discussions. Scientific innovation remained essential, but it had become clear that institutions and policy frameworks would often determine whether innovations reached farmers and consumers in practice.

This first era of the ICABR, marked by intellectual ambition, rapid growth, and the establishment of the Ravello tradition, drew to a close in 2007 with the passing of Vittorio Santaniello and the retirement of Bob Evenson. By then, however, the foundations of the Consortium had already been firmly laid. What had begun as a set of conversations among a diverse group of academics, mainly economists, and collaborators had evolved into a global scholarly community whose influence extended far beyond the conference halls overlooking the Mediterranean.



Although Ravello remained the spiritual home of the Consortium, the ICABR's intellectual journey would increasingly extend across continents, bringing scholars, policy makers, and innovators together in diverse regions of the world. The evolution of conference locations reflects the consortium's growing international reach and engagement with emerging bioeconomy communities.

A Consortium Reimagined: From Biotechnology to Bioeconomy 2008-2013

In the fall of 2007, a conference call between Carl Pray (Rutgers University), Nicholas Kalaitzandonakes (University of Missouri), and Peter Phillips and Stuart Smyth (University of Saskatchewan) was held to discuss the future of the ICABR. Vittorio's passing meant that much of the institutional memory that had sustained the Consortium was at risk of being lost. There was no database of previous conference attendees, no established connections to Ravello, and little financial support. At the conclusion of the call, it was decided that the conference would continue through a collaborative effort for at least one year to determine whether it could once again be successfully organized and held. The participants reached out to colleagues across the Consortium, including Sara Savastano (University of Rome Tor Vergata) and Justus Wesseler, to help organize the meeting and ensure its success. The 2008 Ravello conference was dedicated to Vittorio Santaniello, honoring one of the central figures whose vision and leadership had helped transform a small network of scholars into an internationally recognized forum on biotechnology and agricultural development.

A new generation of members began assuming increasingly prominent roles within the Consortium. Scholars such as Julian Alston, Regina Birner, José Falck-Zepeda, Nicholas Kalaitzandonakes, Anwar Naseem, Robert Paarlberg, Peter Phillips, Sara Savastano, Stuart Smyth, and Justus Wesseler, brought renewed energy, broader international reach, and new research agendas and expertise that expanded the scope of ICABR well beyond its original focus. While regulation of biotechnology remained a central concern, and Consortium members continued producing influential work on governance, innovation, and intellectual property, the scientific and political landscape surrounding agriculture was itself beginning to change.

The continual emergence of new agricultural technologies, combined with growing concerns over climate change, food security, energy transitions, and biodiversity loss, reshaped the global



conversation surrounding biological innovation. Biotechnology increasingly came to be understood not as an isolated agricultural technology, but as part of a much larger transformation involving the production of biofuels, food, energy, materials, chemicals, and industrial inputs derived from biological resources. Across governments, universities, international organizations, and industry, the concept of the ‘bioeconomy’ began gaining momentum as a framework for understanding these interconnected transitions (Smyth et al., 2011).

The ICABR evolved alongside these developments. Reflecting the Consortium’s widening intellectual horizon, the organization formally changed its name from the International Consortium on Agricultural Biotechnology Research to the International Consortium on Applied Bioeconomy Research in 2009. The change represented far more than a simple rebranding. It signaled a recognition that the questions once centered primarily on crops had expanded into broader debates concerning sustainability, energy systems, climate adaptation, industrial biotechnology, and the future relationship between biological resources and economic development.

One area that became particularly important within the ICABR’s discussions was biofuels and the policy trade-offs associated with their expansion. Questions surrounding land use, food prices, sustainability, trade, and renewable energy brought new scholars and policymakers into the Consortium’s orbit, particularly from the American Midwest and across Europe. Economists specializing in agricultural markets, energy policy, and environmental governance increasingly joined discussions that had once focused more narrowly on biotechnology regulation and innovation incentives. In this way, the ICABR entered a new era not by abandoning its original mission, but by expanding it. The expanding scope of the Consortium was reflected in the growing diversity of its participants. Scholars such as Madhu Khanna, Tom Hertel, and the late Wally Tyner and Wally Huffman joined the conversation, bringing expertise in energy economics, environmental policy, and global agricultural systems that further enriched the intellectual breadth of the ICABR. The Consortium became a broader forum for understanding how biological innovation, public policy, and economic systems intersect in addressing some of the defining global challenges of the twenty-first century.

This period also marked a significant expansion of the Consortium’s international network and institutional reach. Building upon the intellectual foundations established during its first decade, the ICABR increasingly evolved into a distinctive and informal global forum linking



academics, policy makers, and private sector actors interested in innovation and the bio-based economy. The Consortium continued to be supported by a core group of affiliated universities and research institutions, including the University of Rome Tor Vergata, Rutgers University, UC Berkeley, Technische Universität München, University of Saskatchewan, Katholieke Universiteit Leuven, IFPRI, UNICAMP, UC Davis, the University of Missouri, the University of Hohenheim, Harvard Kennedy School, Wageningen University, Iowa State University, University of Washington, and the University of Victoria. Through these expanding collaborations, the ICABR strengthened its position as an internationally recognized platform for interdisciplinary dialogue on the evolving relationship between biotechnology, sustainability, innovation, and economic development.

From Ravello to the World

Under the leadership of Carl Pray, the ICABR worked to preserve the partnerships and traditions established during its formative years while simultaneously building new collaborations and expanding its reach. The years that followed saw the Consortium grow not only in scope but also in institutional influence and international visibility. What had once been a relatively intimate forum centered primarily on agricultural biotechnology increasingly evolved into a broader platform connecting economists, policymakers, development practitioners, and scholars working across the emerging bioeconomy landscape. This growth was driven less by formal institutional structure than by the strength of the Consortium's intellectual community and its expanding network of collaborations across universities, international organizations, and policy institutions.

To sustain this momentum, the ICABR increasingly organized pre-conference workshops, strategic partnerships, and interdisciplinary sessions designed to broaden the conversation surrounding the bioeconomy. Collaborations with organizations such as the European Association of Environmental and Resource Economists (EAERE), the American Association of Wine Economists (AAWE), and the European Association of Agricultural Economists (EAAE) helped integrate environmental economics, agricultural systems, trade, and sustainability into the consortium's discussions. Specialized PhD workshops and lectures by prominent economists also contributed to attracting a new generation of researchers into the ICABR community.

During this period, partnerships with major international institutions became increasingly important. Collaborations with organizations such as the OECD, the African Agricultural



Technology Foundation (AATF), the Gates Foundation, and eventually the World Bank reflected the growing recognition that the questions explored within ICABR were no longer confined to academic debates alone. Issues surrounding biotechnology, sustainability, rural development, climate adaptation, food systems, and innovation policy have become central to broader global development discussions.

Although Ravello remained the symbolic home of the consortium, the ICABR increasingly developed a global footprint. The 2014 conference in Nairobi, organized in collaboration with the AATF, brought bioeconomy discussions directly into dialogue with African researchers and policy makers confronting questions of agricultural development, technology adoption, and food security. The 2017 meeting at UC Berkeley further strengthened the consortium's connections to leading biotechnology and innovation ecosystems in the United States.

By moving from its traditional setting in Ravello to a premier international financial and development institution, the ICABR successfully mainstreamed its academic research into global policy and development practice. The 2018 ICABR Conference, hosted at the World Bank headquarters in Washington, DC, represented an institutional pivot in the history of the Consortium. Organized under the theme "Disruptive Innovations, Value Chains, and Rural Development," this edition marked only the third time the annual conference was held outside of Italy. The conference brought together academics, World Bank staff, policy makers, development practitioners, and private sector representatives, reinforcing the ICABR's distinctive role as a bridge between frontier research and real-world innovation challenges. The meeting also significantly expanded the Consortium's reach across the developing world, attracting strong participation from Africa, Latin America, and the network of international organizations and development agencies concentrated in Washington. By this stage, what had begun two decades earlier as a specialized forum examining the economics of agricultural biotechnology had evolved into a truly international platform addressing the broader economic, institutional, and policy dimensions of the bioeconomy and their implications for development in the twenty-first century.

The structure of the 2018 conference reflected this expanded identity. Its plenary sessions, parallel panels, workshops, book events, and young scholar activities created a program that was no longer organized around a single technological question, but around the wider transformation of food systems. Discussions ranged from CRISPR, data platforms, and robotics to value chains,



rural development, trade, sustainability, and institutional change. The inclusion of graduate student mentoring, professional development events, and globally accessible plenary sessions also showed how the Consortium was investing in a broader community of scholars and practitioners. In this sense, the 2018 meeting did more than extend ICABR's geographic reach. It demonstrated that the Consortium had become a space where frontier science, economic analysis, development policy, and professional mentorship could be brought into the same conversation.

The history of the ICABR can be traced not only through the ideas discussed at its conferences, but also through the places where those conversations unfolded (Table 2). From its origins in Rome to its long association with Ravello, and later to meetings in Africa, North America, and Latin America, the Consortium's geographic journey reflects its transformation from a small network of scholars into a global community of inquiry. Each location contributed something distinctive to the evolution of the ICABR. Taken together, these venues chart the Consortium's expanding engagement with the scientific, economic, and policy challenges shaping the bioeconomy across different regions of the world.

Table 2. From Ravello to the World: The Geographic Evolution of ICABR, 1996–2026		
Year	Location	Significance
1996	Rome, Italy	Foundational meeting on the economics of agricultural biotechnology; intellectual roots of the ICABR established.
1997-98	Rome, Italy	Formal establishment of ICABR and adoption of the annual conference tradition.
1999	Rome and Ravello, Italy	Beginning of the Ravello era; the consortium finds its long-term home.
2000–2013	Ravello, Italy	Consolidation of ICABR as a leading international forum on agricultural biotechnology and the emerging bioeconomy.
2014	Nairobi, Kenya	First major conference in Africa; strengthened engagement with agricultural development, technology adoption, and food security.
2015–2016	Ravello, Italy	Continued expansion of bioeconomy discussions and international partnerships.
2017	Berkeley, USA	Connected ICABR with leading biotechnology innovators and emerging gene-editing technologies.
2018	Washington D.C., USA	Hosted at World Bank headquarters; marked ICABR's entry into mainstream global development and policy discussions.
2019	Ravello, Italy	Return to the consortium's symbolic home following international expansion.
2020	Virtual	Pandemic disruption and transition to online international engagement.
2021	Ravello (Hybrid)	Focus on resilience and sustainable development during post-pandemic recovery.
2022	Bologna, Italy	Bioeconomy innovation pipelines, supply-chain resilience, and One Health discussions.
2023	Buenos Aires, Argentina	Expansion of Latin American engagement and establishment of the Latin American Bioeconomy Network.
2024	Ravello, Italy	Innovation, agricultural productivity, and sustainability of the bioeconomy.
2025	Saskatoon, Canada	Emphasis on sustainability, circularity, and innovation systems within the bioeconomy.
2026	Ravello, Italy	30 th Anniversary Conference: reflecting on three decades of bioeconomy transformation.

New Frontiers for the Consortium: 2015-2026

The thematic orientation of the ICABR evolved substantially over time, reflecting both rapid scientific advances and shifting global policy priorities (Figure 2). While the figure provides an approximate illustration of the major themes that emerged and expanded within the Consortium's discussions during different periods, these topics often overlapped and continued to evolve alongside one another. What began in the 1990s as a forum primarily concerned with agricultural productivity, intellectual property rights, and biotechnology regulation gradually broadened to encompass a much wider range of questions. Then, successive waves of innovation and emerging societal challenges continually broadened the scope of the ICABR's discussions. Topics such as governance, biofuels, the bioeconomy, genome editing, sustainability, circularity, resilience, and artificial intelligence were incorporated without abandoning the Consortium's original focus on agricultural biotechnology. As the frontiers of biological innovation advanced, so too did the Consortium's research agenda.

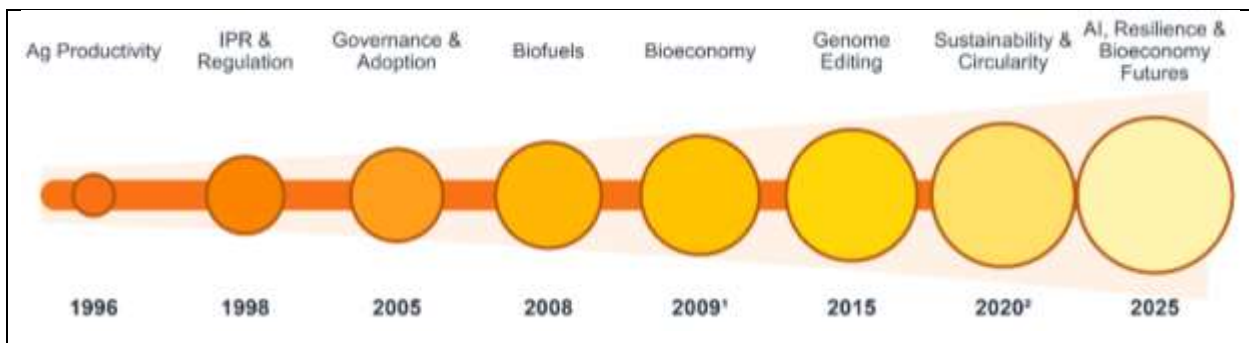


Figure 2 The Expanding Horizon of ICABR: From Biotechnology to the Bioeconomy

Notes:

¹ 2009: The Consortium formally changed its name from the International Consortium on Agricultural Biotechnology Research to the International Consortium on Applied Bioeconomy Research. The launch of a dedicated website symbolized the beginning of a new era.

² 2010s: The bioeconomy emerged as a unifying framework for ICABR discussions.

2012–2019: Questions of rural development, climate-smart agriculture, and the role of the bioeconomy in addressing climate change shaped the Consortium's agenda during this period.



New scientific advances, particularly genome editing technologies such as CRISPR, began reshaping the possibilities of biotechnology itself. At the same time, mounting concerns surrounding climate change, energy security, sustainability, biodiversity loss, and food system resilience encouraged a broader understanding of how biological innovation might transform economies and societies in the decades ahead. The bioeconomy emerged not simply as a scientific or industrial trend, but as a framework for rethinking the relationship between natural resources, technological innovation, economic development, and environmental sustainability.

This period of intellectual expansion was accompanied by important organizational developments. In 2018, the ICABR became a formally registered organization, electing its first executive leadership and board of directors. While already registered in Ravello, Italy in 2015, the Consortium adopted a governing constitution and formalized the organization of its conferences. Carl Pray was elected as the first President of the ICABR, with Justus Wesseler serving as Vice-President.

The following year, the Consortium returned to Ravello. The conference reflected many of the emerging themes illustrated in Figure 2. Following a pre-conference panel on the growth of herbicide resistance, Stephen Long, a leading figure in plant biotechnology and genetic engineering, delivered the keynote address. The meeting also attracted Andrés Murchison, Argentina's Secretary of Food and Bioeconomy, who invited the Consortium to hold a future conference in Argentina. The invitation was enthusiastically accepted.

Preparations for the 2020 conference were already underway when the COVID-19 pandemic disrupted international travel and academic exchange across the world. Although the meeting could not be held in person, the Consortium successfully transitioned to an online format with strong support from Argentina's Ministry of Agriculture and the Inter-American Institute for Cooperation on Agriculture (IICA). Rather than slowing the Consortium's internationalization, the virtual format broadened participation and strengthened ties with researchers, policymakers, and institutions across Latin America and Africa.

The experience marked an important turning point. Questions surrounding the bioeconomy, rural development, and sustainable growth in Latin America became increasingly prominent within



ICABR discussions. This shift was reinforced by subsequent collaborations with IICA and would later culminate in the 2023 conference in Buenos Aires.

By the mid-2020s, the ICABR had firmly consolidated itself as a multidisciplinary forum examining not only the economics of biotechnology, but also the broader technological, institutional, and policy dimensions of the bioeconomy. What had begun as a specialized discussion among economists studying agricultural biotechnology had evolved into a global conversation about how biological innovation might contribute to sustainable development, economic transformation, and environmental stewardship in the twenty-first century. As the frontier of biological innovation expanded, so too did the Consortium that sought to understand it.

While the ICABR was a research leader in both biotechnology and the bioeconomy, it was additionally a leader in stressing the importance of science communication and providing opportunities for attendees to improve their skills. Beginning with a partnership between the ICABR, the Cornell Alliance for Science, Monsanto, the University of Saskatchewan and the United States Botanical Garden in 2017, numerous panels and workshops were held highlighting the importance of academic science communication in an increasing social media world.

Building Bridges Across Disciplines

One of the defining characteristics of the ICABR has been tolerance of diversity of theory and method. While the nucleus of the members were primarily agricultural or applied economists, the events over the years attracted political scientists, public policy scholars, lawyers, historians, philosophers and management specialists, many who became sustaining members of the Consortium. As well, the ICBAR attracted a small but committed group of industry and government leaders, including Harvey Glick and Eric Sachs from Monsanto.

Beyond that, ICABR actively engaged with other academic associations, international organizations, and policy institutions. These collaborations enriched the conference program, introduced new perspectives into the bioeconomy debate, and reinforced the ICABR's role as a meeting place where economists, policy makers, industry representatives, and researchers could exchange ideas on common challenges.

Several notable collaborative initiatives exemplified this growing openness and interdisciplinary spirit:



- The 1999 conference was organized alongside a NE165 event organized by Bill Lesser that began the following week in Washington, DC. Many of the participants from Italy made the trip over and quite a few conversations continued unabated between the two events.
- Between 2003 and 2015 a series of biennial GM Coexistence Conferences occurred; while only a few ICABR members attended the first session in Denmark, over time those ICABR members interested in the logistical, marketing and policy aspects of GM crops tended to present at both events, eventually bringing together an event in 2011 in Vancouver led by ICABR members Nicholas Kalaitandonakes, Peter Phillips and Stuart Smyth and largely organized by ICABR members.

A number of these initiatives were proposed, organized, or carried forward through the efforts of Sara Savastano, whose work helped broaden the Consortium's programming and deepen its connections with other academic and policy communities. Through joint sessions, specialized workshops, PhD lectures, and collaborations with international organizations, the ICABR expanded its intellectual reach while preserving the collegial atmosphere that had characterized the Consortium from its earliest years.

- In 2011, Sara Savastano proposed and launched a Joint Session with the European Association of Environmental and Resource Economists (EAERE) at the University of Rome Tor Vergata, which brought together environmental economists and biotechnology researchers to examine the regulatory, environmental, and sustainability dimensions of the emerging bioeconomy.
- Wine and Beer Symposium (2011) at Villa Mondragone in Frascati, Italy, organized in collaboration with the American Association of Wine Economists (AAWE) and the Beeronomics Society. The symposium explored innovation, quality differentiation, and market dynamics within agri-food industries, demonstrating how economic insights from seemingly distinct sectors could inform broader discussions on value creation and innovation.
- Joint Conference with the European Association of Agricultural Economists (EAAE) (2012), held in Ravello as the 128th EAAE Seminar on The Political Economy of the



Bioeconomy: Biotechnology and Biofuel. The meeting examined the institutional, economic, and political challenges associated with the expansion of bio-based technologies and represented an important step in bringing bioeconomy discussions into mainstream agricultural economics.

- Pre-conference Workshop on Wine Economics at Feudi di San Gregorio, organized jointly with the AAWE and featuring leading scholars such as Kym Anderson and Julian Alston. The workshop connected research on agricultural innovation to broader questions of market development, consumer preferences, quality differentiation, and value chain dynamics.
- The 2013 PhD Lecture by Joshua Angrist, who would later receive the 2021 Nobel Memorial Prize in Economic Sciences. His lecture on impact evaluation methods highlighted the growing importance of rigorous empirical approaches for assessing development, innovation, and public policy interventions.
- Policy-oriented workshops with international organizations, including a 2015 collaboration with the OECD on measuring the bioeconomy and a 2016 workshop examining the financing of innovation in agriculture, food systems, and bioeconomy-related sectors. These events reflected the increasing demand for evidence-based policy frameworks capable of supporting the transition toward more sustainable and innovation-driven economies.

The Next Keepers of the ICABR's Flame

As the ICABR expanded its intellectual reach, it also deepened its commitment to nurturing the next generation of scholars. The Consortium increasingly viewed capacity building not as a peripheral activity, but as an essential part of its mission. Advancing the bioeconomy required not only new ideas and research agendas, but also a community of researchers capable of carrying those conversations forward.

Graduate students and early-career researchers became an increasingly visible presence within conference activities. Dedicated PhD workshops, methodological training sessions, and opportunities for direct engagement with senior scholars created an environment in which emerging researchers could develop both technical expertise and professional networks. These



activities reflected a long-standing belief within the consortium that intellectual progress is sustained through mentorship, dialogue, and the exchange of ideas across generations.

Beyond formal training, the ICABR provides young scholars with access to an international community spanning universities, research institutes, international organizations, and policy institutions. Senior scholars advanced this by engaging with young students and scholars attending the first time. Unlike many of the big international disciplinary events, there were no alumni, disciplinary or regional sub-groups—given the small size and frequently remote setting, everyone had an opportunity to meet, engaged with and get to know both old friends and new participants. By connecting emerging researchers with established networks and experienced mentors, the consortium helped cultivate a new generation of scholars working at the intersection of biotechnology, innovation, sustainability, and the bioeconomy. In doing so, the ICABR was investing not only in research, but also in the people who would shape the future of the field itself.

The Secret of the ICABR's Endurance

Looking back across three decades, the most remarkable aspect of the ICABR may not be any single conference, publication, or policy contribution. Rather, it is the Consortium's ability to endure and evolve while remaining fundamentally a community of scholars bound together by shared intellectual curiosity. Unlike many academic organizations, the ICABR has operated with a remarkably lean and simple structure. It has no large permanent bureaucracy and relies heavily on the commitment of its members, most of whom gladly fund their own participation because they believe the conversations are worth having.

Part of this endurance stems from the Consortium's consistent focus on questions that matter and are continuously evolving. From the early debates surrounding genetically modified crops and intellectual property rights to contemporary discussions on genome editing, climate change, sustainability, circularity, bioeconomy, and now increasingly artificial intelligence, the ICABR has remained at the forefront of some of the most consequential technological and policy challenges facing agriculture and society. The consortium has also benefited from an extraordinary tradition of bringing together leading thinkers from multiple disciplines, creating opportunities for economists, scientists, policymakers, industry representatives, and development practitioners to engage directly with one another.



Equally important has been the character of the discussions themselves. The ICABR has long cultivated an environment where controversial ideas can be debated openly, rigorously, and respectfully. Participants are encouraged to challenge assumptions and engage in honest disagreement without the hostility that increasingly characterizes many public debates surrounding science and technology. This spirit of intellectual openness has helped sustain a community in which professional collaboration frequently develops into lasting friendship.

The setting has also mattered. Whether in Ravello overlooking the Amalfi Coast, Nairobi, Berkeley, Washington, Bologna, Buenos Aires, or Saskatoon, ICABR meetings have sought to combine serious scholarship with memorable shared experiences. Conferences have featured not only distinguished keynote speakers and cutting-edge research, but also cultural events, excursions, and countless informal conversations that continued long after the formal sessions ended. In this sense, the ICABR has always recognized a simple truth: ideas flourish best when people enjoy gathering together.

The consortium's influence extends far beyond the conference room. Over the years, ICABR members have produced influential books, special journal issues, policy papers, and reports that have shaped scholarly and policy discussions on biotechnology and the bioeconomy. Consortium members contributed background papers to major international assessments, organized sessions at global conferences, collaborated with organizations such as FAO, OECD, the World Bank, and Inter-American Institute for Cooperation on Agriculture (IICA), and helped build research networks spanning multiple continents. Yet these accomplishments can ultimately be traced back to the same source: a voluntary community of scholars willing to invest their own time, resources, and energy in a shared intellectual enterprise.

Perhaps that is the real secret of the ICABR's survival. For thirty years, people have continued to come because they find value not only in the research, but also in the community. The consortium has endured because it offers something increasingly rare in academic life: a place where serious ideas, genuine debate, and human connection coexist. While many of the key individuals who contributed to the establishment of the ICABR have been highlighted above, there are numerous others who have contributed to the sustaining and strengthening the organization. Individuals such as David Castle, Matty Demont, Lilyan Fulginiti, Marianne MaGarry-Wolf, John Miranoski, Rob Paarlburg, Dick Perrin and Cami Ryan.

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