

*Library Class for Graduate Students & Researchers*



# 논문 검색 A-Z

Google Scholar와 학술DB를 활용하여  
똑똑하게 논문 검색하는 방법

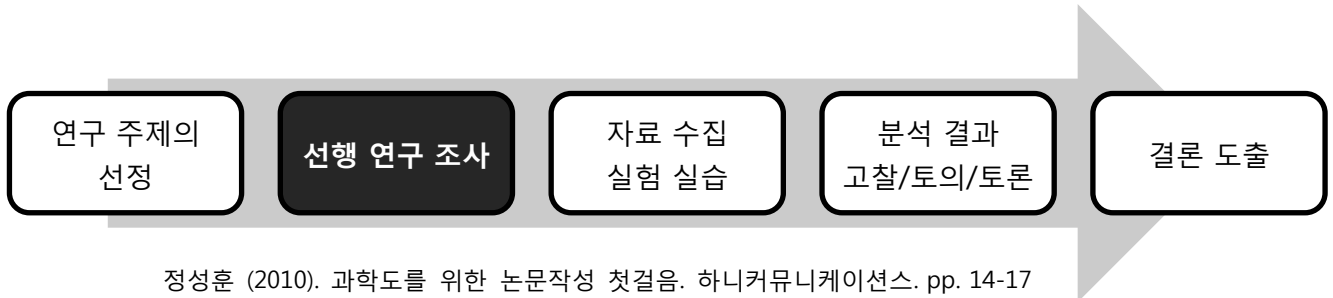
UNIST LIBRARY

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# 논문 검색의 시작: 선행연구조사

## ■ 연구 과정과 선행연구조사



### ● Literature Review

- ✓ The *literature review* is an *integral part of the research project* as it allows you to get a feel for the subject area and *to get a grasp of the significance of the topic in a real-world context*.
- ✓ It should also give you a framework onto which you can build a robust *understanding of the core concepts and the work* others have done in the past.

McCormac, C., Davis, J., & Papakonstantinou, P. (2012). *Research Project Success: The Essential Guide for Science and Engineering Students*. Royal Society of Chemistry. pp. 29-30.

## ■ 선행연구조사 시 유용한 자료

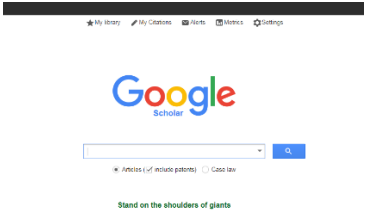
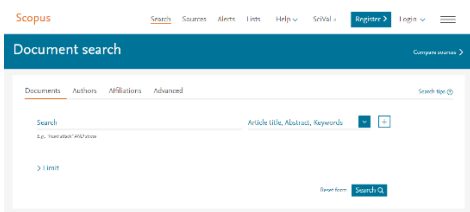
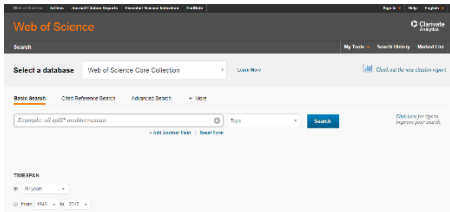
개념잡기	실제 연구 결과	기술적인 문제
<ul style="list-style-type: none"><li>✓ 연구의 시작 단계</li><li>✓ 기본 개념 잡기</li><li>✓ Textbook/Book</li><li>✓ Encyclopedia</li></ul>	<ul style="list-style-type: none"><li>✓ 특정 분야의 연구결과를 기술한 자료</li><li>✓ Article, Review, Conference paper, Thesis/Dissertation</li></ul>	<ul style="list-style-type: none"><li>✓ 특허(Patent) : 발명에 대한 권리</li><li>✓ 표준(Standard) 측정이나 참조, 판단을 위한 근거, 기준 등</li></ul>

## ■ 논문을 검색할 수 있는 웹사이트 유형

<b>Publisher Portal</b> (학술지 웹사이트)	<ul style="list-style-type: none"><li>✓ <b>최신</b> 논문 획득 용이</li><li>✓ 특정 학회/주제에 <b>한정</b></li></ul>	ScienceDirect nature.com	Wiley Online Library ACS Publications Most Trusted. Most Cited. Most Read.
<b>Web-Database</b> (논문 검색용 웹사이트)	<ul style="list-style-type: none"><li>✓ 다양한 분야 <b>통합</b> 검색 가능</li><li>✓ 논문 색인 <b>시간 소요</b></li></ul>	Scopus Web of Science	SCIFINDER <sup>®</sup> A CAS SOLUTION PubMed.gov

# 논문 검색을 위한 웹사이트

## ■ 주요 학술 데이터베이스: Google Scholar, Scopus, Web of Science SCIE

	Google Scholar	Scopus	Web of Science SCIE
			
URL / 접속 방법	<a href="https://scholar.google.com">scholar.google.com</a>	<a href="https://www.scopus.com">www.scopus.com</a> (Library website → Search & Browse → Databases)	<a href="https://www.webofknowledge.com/wos">www.webofknowledge.com/wos</a>
소개	가장 쉽게 사용할 수 있는 논문 검색 사이트	전 세계적으로 가장 방대한 학술 데이터베이스	SCI급 논문 데이터베이스
검색 가능한 자료 범위 및 유형	<b>학술적인 성격의 웹 페이지</b>  학술지 논문, 학술대회 발표논문, 학위논문, 도서, 초록, 특허, 판례 등	세계 각 종 학회 및 학술 출판사에서 발행하는 <b>학술지, 학술회의 발표자료, 도서, 도서 시리즈 등에 수록된 문헌</b> ✓ <b>Journal: 약 21,800종 (1960~)</b> ✓ Book series: 약 550종 ✓ Conference proceeding: 약 770종	세계 각 종 학회 및 학술 출판사에서 발행하는 <b>학술지 수록 논문</b> ※ SCIE: Science Citation Index Expanded  ✓ <b>Journal: 약 8,890종 (1945~)</b>
주제분야	전 주제분야	전 주제분야	과학기술
색인 대상 자료의 평가 여부	X	O	O
특징	✓ 학술지 논문의 원문을 직접 제공하는 웹사이트가 아님. 논문의 서지정보를 통합검색 할 수 있는 웹사이트 ✓ 문헌 간의 인용 관계를 분석 → 인용 관계를 활용한 문헌 탐색 가능		

# 학술 웹페이지 통합 검색: Google Scholar

## ■ Google Scholar 인터페이스 (scholar.google.com)

My library My Citations Alerts Metrics **Settings**

Google Scholar

Articles (include patents) Case law

Stand on the shoulders of giants

Web Images More...

Google

Scholar Settings

Search results Languages Library links Account Button

For Google text

Display Google tips and messages in:

English

For search results

Search for pages written in any language

Search only for pages written in these language(s):

<input type="checkbox"/> Chinese (Simplified)	<input type="checkbox"/> German	<input type="checkbox"/> Portuguese
<input type="checkbox"/> Chinese (Traditional)	<input type="checkbox"/> Italian	<input type="checkbox"/> Spanish
<input type="checkbox"/> Dutch	<input type="checkbox"/> Japanese	<input type="checkbox"/> Turkish
<input type="checkbox"/> English	<input type="checkbox"/> Korean	
<input type="checkbox"/> French	<input type="checkbox"/> Polish	

Web Images More...

Google

Scholar Settings

Search results Languages Library links Account Button

Collections

Search articles (include patents) Search case law

Results per page

10 Google's default (10 results) provides the fastest results.

Where results open

Open each selected result in a new browser window.

Bibliography manager

Don't show any citation import links. Show links to import citations into EndNote

Web Images More...

Google

Scholar Settings

Search results Languages Library links Account Button

Show library access links for (choose up to five libraries):

Ulsan National Institute of Science and Technology - Find it @ UNIST

Online access to library subscriptions is usually restricted to patrons of that library. You may need to login with your library password, use a campus computer, or configure your browser to use a library proxy. Please visit your library's website or ask a local librarian for assistance.

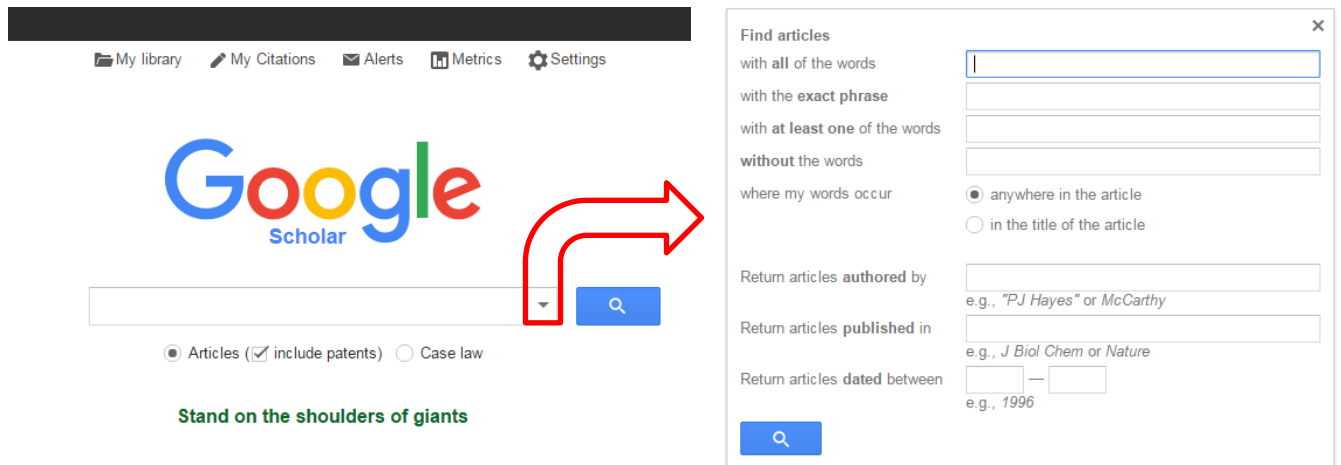
### ● Settings - Search results

- ✓ Collections: 자료 검색 범위 설정 (논문, 특허, 판례)
- ✓ Bibliography manager: 서지정보 저장 (예: EndNote에 저장)

### ● Settings - Library links

- ✓ Google Scholar에서 검색한 자료 중 UNIST 도서관에서 이용 가능한 다른 웹사이트로 접근하거나, Full-text 이용이 불가할 경우 논문 신청 (문헌복사 서비스)
- ✓ 설정 방법: 'Library links' 검색창에 'unist' 입력하여 검색 → 'Find it @ UNIST' 선택 후 저장

## ■ 검색 연산자



### ● Basic Search

- ✓ 기본 검색: Google Scholar 메인 검색창 이용
- ✓ 검색할 자료 선택: Articles, Patents, Case law
- ✓ 검색 방법: **검색어가 웹 페이지의 어느 위치에라도 포함될 경우 검색**

### ● Advanced Search

- ✓ 상세 검색: 검색어와 검색 필드 등을 제한하여 검색

검색 필드	역할	검색 연산자
with all of the words	검색어가 모두 포함된 자료 검색 (띄어쓰기)	AND (입력 X)
with the exact phase	단어들이 쓰여진 순서대로 검색, 구문검색	"keyword"
with at least one of the words	검색어 중 최소 하나가 포함된 자료 검색	OR
without the words	검색 결과에서 특정 단어 제외	-keyword
where my words occur <ul style="list-style-type: none"> <li>- anywhere in the article</li> <li>- in the title of the article</li> </ul>	검색어가 나타나는 위치 <ul style="list-style-type: none"> <li>- 웹 페이지의 모든 위치</li> <li>- 웹 페이지의 제목에서만</li> </ul>	allintitle:
Return articles authored by	특정 저자의 자료만 검색	author:
Return articles published in	특정 학술지에 수록된 자료만 검색	
Return articles dated between	특정 출판년도 범위 내에 발표된 자료만 검색	

## ■ 검색 결과 제한 및 정렬

The screenshot shows the Google Scholar search results for the query 'graphene application'. The interface includes a search bar at the top with the query 'graphene application'. Below the search bar, there are several filters and sorting options on the left side, which are highlighted with a red box. These include 'Articles', 'Case law', 'My library', 'Any time' (with options for 'Since 2015', 'Since 2014', 'Since 2011', and 'Custom range...'), 'Sort by relevance', 'Sort by date', and checkboxes for 'include patents' and 'include citations'. There is also a 'Create alert' button and an 'e-Mail Alerts' button. On the right side, there are buttons for '상세 검색' (Advanced search), 'My Citations', 'Metrics', 'Settings', and 'Advanced search'. The search results are displayed in a list format, with each entry showing the title, authors, journal, year, and citation count. Annotations in yellow and green boxes highlight specific features: a yellow box highlights the '검색 결과 확장 및 저장' (Expand and save search results) section, and a green box highlights the 'Full-text 연결' (Full-text link) section. The search results include entries such as 'Application of graphene-modified electrode for selective detection of dopamine' and 'Nitrogen-doped graphene and its application in electrochemical biosensing'.

### ● 검색 결과 확장 및 저장

- ✓ Cited by: Google Scholar 내에서 해당 문헌을 인용한 문헌
- ✓ Related articles: 해당 문헌과 관련 있는 문헌 (Google Scholar 추천)
- ✓ Web of Science: Web of Science 데이터베이스 기준 인용 문헌
- ✓ Cite: 참고문헌 작성 예시 (※ Google Scholar의 메타데이터가 정확하지 않을 수 있음)
- ✓ Save: Google Scholar Library에 저장 (검색 결과 저장)

## ■ 알림 신청

- ✓ 검색 쿼리와 일치하는 새로운 자료가 발표될 때 e-Mail로 자동으로 알림을 받는 기능
- ✓ 검색 결과 화면에서 'Create alert' 클릭
- ✓ Alert 발송 주기: Google Scholar가 새로운 자료의 정보를 수집하는 즉시
- ✓ e-Mail Alert 중지: Google Scholar가 발송하는 Alert 메일의 취소 링크 클릭

The screenshot shows the 'Create alert' page on Google Scholar. The page has a search bar with the query 'allintitle: graphene application'. Below the search bar, there is an 'Email:' field and a 'Number of results:' dropdown menu set to 'Show up to 10 results'. There are 'Update results' and 'CREATE ALERT' buttons. Below the buttons, there is a section titled 'Sample results since 2015:' which lists several articles related to the search query, including 'Atomtronics: The Application of Organometallic Bis-Hexahapto Bonding to the Electrical Interconnection and Electronic Conjugation of the Graphitic Surfaces of ...' and 'Gold Nanoparticles-Graphene Composites Material: Synthesis, Characterization and Catalytic Application'.

# 전 주제분야 문헌 검색: Scopus

## ■ Scopus 인터페이스 (www.scopus.com)

The screenshot shows the Scopus Document search page. At the top, there's a navigation bar with links: Search, Sources, Alerts, Lists, Help, SciVal, Register, and Login. Below this is a blue header with 'Document search' and a 'Compare sources' link. The main search area has tabs for 'Documents', 'Authors', 'Affiliations', and 'Advanced'. A red box highlights the 'Documents' tab, with a callout bubble saying '검색 메뉴: Document Search (자료 검색)'. Below the tabs is a search input field with a placeholder 'Search' and an example 'E.g., "heart attack" AND stress'. To the right of the input field is a dropdown menu set to 'Article title, Abstract, Keywords', with a green callout bubble saying '★ 키워드 검색 시 : Article title, Abstract, Keywords'. Below the search field is a 'Limit' section. It has a 'Date range (inclusive)' section with radio buttons for 'Published' (selected) and 'Added to Scopus in the last'. The 'Published' section has a date range from 'All years' to 'Present'. The 'Added to Scopus in the last' section has a date range from '7 days'. A dark blue callout bubble points to this section, saying '시간적 범위: 출판년도/색인 시기'. Below the date range is a 'Document type' dropdown menu set to 'ALL', with a yellow callout bubble saying '자료 유형'. At the bottom right, there are 'Reset form' and 'Search Q' buttons.

### ● Search Menu

- ✓ **Documents:** 문헌 검색
- ✓ **Authors:** 저자 검색 - 특정 연구자의 논문을 검색하고자 할 때 (Scopus 색인 문헌의 저자)
- ✓ **Affiliations:** 기관 검색 - 특정 기관에서 발표한 연구성과를 검색하고자 할 때 (Scopus 색인 문헌의 저자별 Affiliation 기준, 기관별 문헌)

### ● Document search - Search field

- ✓ **키워드로 문헌 검색 시 - Article title, Abstract, Keywords**

### ● Date range

- ✓ 문헌을 검색할 시간적 범위, 문헌의 출판년도 또는 Scopus에 색인된 시기

### ● Document type

- ✓ 검색하고자 하는 문헌의 유형
- ✓ 유형: Article, Review, Article in Press, Book, Book Chapter, Conference Paper, Conference Review, Letter, Editorial, Note, Short Survey, Business Article, Erratum

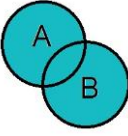
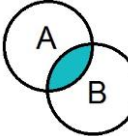
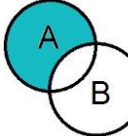


## ■ 검색 연산자

### ● 기본 규칙

- ✓ 영어 대·소문자 구분X
- ✓ 영어 단수 입력 시 복수형도 함께 검색 (예외사항 있음)
- ✓ 그리스 문자 입력 시 변형도 함께 검색 ( $\alpha$  OR alpha,  $\beta$  OR beta)
- ✓ 미국식 영어와 영국식 영어 구분 없이 함께 검색 (colour, color, tyre, tire)

### ● 불리언 연산자 (Boolean operators / Logical operators)

연산자	A OR B	A AND B	A AND NOT B
용도	다양한 결과를 원할 경우 유의어를 OR로 연결	검색 결과를 좁히고 싶은 경우	
		검색어를 띄어쓰기로 구분	특정 검색어를 제외
검색 결과			
우선 순위	1	2	3
예시	<ul style="list-style-type: none"> <li>✓ mouse AND NOT cat OR dog → (mouse) AND NOT (cat OR dog)</li> <li>✓ cat AND dog AND NOT rodent OR mouse → (cat AND dog) AND NOT (rodent OR mouse)</li> </ul>		

### ● 구문 검색 (Phrase search, " " 또는 { })

- ✓ 두 개 이상의 단어를 검색할 경우 검색어의 순서와 형태가 변형되지 않고 검색되길 원할 경우
- ✓ for, or, of, the와 같은 검색 시 제외되는 단어(불용어, stop word)가 포함되어야 하는 경우

검색 방법	기호	예시
Specific phrase	{ }	{heart-attack} → heart-attack
Fuzzy phrase	" "	"heat attack" → heart-attack, heart attack, heart attacks 등

### ● 절단 검색 (Wildcards, \* 또는 ?)

- ✓ 특정 단어로 검색하되, 단어의 앞 또는 뒤 다양한 알파벳(단어)이 포함된 단어를 찾는 방법

기호	검색 방법	예시
?	하나의 문자를 대체하여 검색	sawt??th → sawtooth, sawteeth
*	다수의 문자를 대체하여 검색	behav* → behave, behavior, behaviour

### ● 인접 연산자 (Proximity operators, W/n 또는 PRE/n)

- ✓ 두 단어 사이에 포함될 수 있는 단어의 수를 제한할 때

기호	검색 방법		예시
W/n	"within" 단어의 순서 상관없이	검색어 사이에 최대 n개의 단어 포함	pain W/5 morphine → pain과 morphine이 최대 5단어로 떨어짐
PRE/n	"precedes by" 단어의 순서는 유지하되		behavioural PRE/3 disturbances → 두 단어 사이 최대 3단어 존재

## ■ 검색 결과 제한 및 정렬

Scopus Search Sources Alerts Lists Help SciVal Register Login

**9,436 document results** 검색 내용 수정 및 저장 View secondary documents

TITLE-ABS-KEY(("carbon dioxide" OR co2) (catalyst OR react\*) fuel)

Edit Save Set alert Set feed

정렬 기준

반출, 저장 등

Sort on: Date (newest)

Export Download View citation overview View cited by Add to List

	Document title	Authors	Year	Source	Cited by
1	Enhancing CO2 electrolysis to formate on facilely synthesized Bi catalysts at low overpotential	Zhang, X., Lei, T., Liu, Y., Qiao, J.	2017	Applied Catalysis B: Environmental	0
2	Mechanisms and kinetic value-added products status and future trends				
3	Pd-catalysts for DFA sputtering				
4	Photo-induced CO2 reduction by CH4/H2O to fuels over Cu-modified g-C3N4 nanorods under simulated solar energy	Tahir, B., Tahir, M., Amin, N.A.S.	2017	Applied Surface Science	0
5	Unique phase identification of trimetallic copper iron manganese oxygen carrier using simultaneous differential scanning calorimetry/thermogravimetric analysis during chemical looping combustion reactions with methane	Benincosa, W., Siriwardane, R., Tian, H., Riley, J.	2017	Applied Energy	0
6	Catalytic developments in the direct dimethyl carbonate synthesis from carbon dioxide and methanol	Tamboli, A.H., Chaugule, A.A., Kim, H.	2017	Chemical Engineering Journal	0
9	High purity hydrogen production from sorption enhanced chemical looping glycerol reforming: oxygen transfer materials and O3 as CO2 sorbent	Ni, Y., Wang, C., Chen, Y., (...), Jiang, B., Wang, K.	2017	Applied Thermal Engineering	0

Refine results

Limit to Exclude

Year Author name Subject area Document type Source title Keyword Affiliation Country/territory Source type Language

Sort: 검색 결과 정렬

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Applied Catalysis B: Environmental  
Volume 202, 1 March 2017, Pages 605-610

**Carbon dioxide Fischer-Tropsch synthesis: A new path to carbon-neutral fuels** (Article)

Choi, Y.H.<sup>a</sup>, Jang, Y.J.<sup>b</sup>, Park, H.<sup>b</sup>, Kim, W.Y.<sup>b</sup>, Lee, Y.H.<sup>b</sup>, Choi, S.H.<sup>c</sup>, Lee, J.S.<sup>d</sup>

<sup>a</sup>Division of Advanced Nuclear Engineering, Pohang University of Science and Technology(POSTECH), Pohang, South Korea  
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<sup>c</sup>Pohang Accelerator Laboratory, Pohang University of Science and Technology(POSTECH), Pohang, South Korea

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**Abstract** View references (39)

Paradigm of climate change mitigation technologies is shifting from carbon capture and storage (CCS) to carbon capture and utilization (CCU). Here we propose a new path to CCU – direct CO<sub>2</sub> conversion to liquid transportation fuels by reacting with renewable hydrogen produced by solar water splitting. The highly promising and CO<sub>2</sub>-neutral CCU system is possible by our discovery of a new catalyst that produces liquid hydrocarbon (C<sub>5+</sub>) selectivity of ~65% and greatly suppressed CH<sub>4</sub> formation to 2–3%, which represents an unprecedented selectivity pattern for direct catalytic CO<sub>2</sub> hydrogenation and is very similar to that of conventional CO-based Fischer-Tropsch (FT) synthesis. The catalyst was prepared by reduction of delafossite-CuFeO<sub>2</sub> and in-situ carburization to Hägg carbide (X-Fe<sub>5</sub>C<sub>2</sub>), the active phase for heavy hydrocarbon formation. The reference catalysts derived from bare Fe<sub>2</sub>O<sub>3</sub>, CuO-Fe<sub>2</sub>O<sub>3</sub> mixture, and spinel CuFe<sub>2</sub>O<sub>4</sub> are much less active and produce mainly light hydrocarbons, highlighting the critical role of delafossite-CuFeO<sub>2</sub> as the catalyst precursor. The new catalyst breaks through the limitation of CO<sub>2</sub>-based FT synthesis and will open the avenue for new opportunity for carbon recycling into valuable liquid fuels at the similar conditions to industrially practiced CO-FT synthesis. © 2016 Elsevier B.V.

**Author keywords**

Carbon capture and utilization Carbon-neutral fuels CO<sub>2</sub> Fischer-Tropsch synthesis Copper-iron catalyst Liquid hydrocarbons

**Indexed keywords**

Engineering controlled terms: Carbides Carbon capture Carbon dioxide Catalyst selectivity Catalysts Climate change Combustors Fuels Hydrocarbons Liquids Solar power generation

Carbon capture and storages (CCS)  
Carbon neutral fuel  
Climate change mitigation  
Iron catalyst  
Liquid hydrocarbons  
Liquid transportation  
Renewable hydrogens  
Solar water splitting

Engineering main heading: Fischer-Tropsch synthesis

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# SCI 논문 검색: Web of Science SCIE

## ■ Web of Science SCIE 인터페이스 (www.webofknowledge.com/wos)

The screenshot shows the Web of Science SCIE search interface. At the top, there are navigation links: Web of Science, InCites, Journal Citation Reports, Essential Science Indicators, EndNote, Sign In, Help, and English. The main header features the 'Web of Science' logo and 'Clarivate Analytics' branding. Below the header, there's a 'Search' section with a red callout box stating '★ SCIE 논문 검색용'. A dropdown menu for 'Select a database' is highlighted with a red box, showing 'Web of Science Core Collection'. Below this, there are four search methods: 'Basic Search' (highlighted with a yellow box and a yellow callout '검색 방법'), 'Cited Reference Search', 'Advanced Search', and 'Author Search'. The 'Basic Search' section includes a search input field with the example 'oil spill\* mediterranean', a 'Topic' dropdown menu (highlighted with a green box and a green callout '검색 범위 ★ Topic: Title, Abstract, Keywords'), and a 'Search' button. Below the search input, there are links for '+ Add Another Field' and 'Reset Form'. At the bottom left, there's a 'TIMESPAN' section with a radio button for 'All years' and a 'From' 'to' date range selector (highlighted with a blue box and a blue callout '시간적 범위 : 출판년도, 또는 색인 시기').

### ● Web of Science Core Collection (Web of Science 핵심 컬렉션)

- ✓ Web of Science는 다양한 서지DB를 활용할 수 있는 플랫폼으로 SCI와 다양한 DB 검색 가능
- ✓ **SCI급 논문을 검색하기 위해서는 'Web of Science Core Collection' 선택 필수**

### ● Search Menu

- ✓ **Basic Search:** 논문 검색
- ✓ Cited Reference Search: 인용 논문 검색 - 특정 논문의 피인용도를 파악하고자 할 때
- ✓ Advanced Search: 상세한 검색식으로 보다 정확성 높은 검색 결과를 얻고자 할 때
- ✓ Author Search: 저자 검색 - 특정 연구자의 논문을 검색하고자 할 때

### ● Basic Search - Search field

- ✓ **키워드로 문헌 검색 시: Topic - Article title, Abstract, Keywords 포함**

### ● TIME SPAN

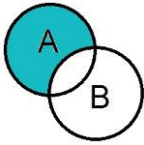
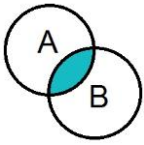
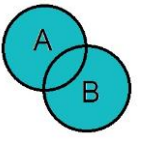
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## ■ 검색 연산자

### ● 기본 규칙

- ✓ 영어 대·소문자 구분X
- ✓ 그리스 문자 입력 시 발음 표기로 입력: α → alpha
- ✓ 미국식 영어와 영국식 영어 구분 함 → Wildcards를 활용하여 검색 필요

### ● 불리언 연산자 (Boolean operators)

연산자	A NOT B	A AND B	A OR B
용도	검색 결과를 좁히고 싶은 경우		다양한 결과를 원할 경우 유의어를 OR로 연결
	특정 검색어를 제외	검색어를 <b>띄어쓰기</b> 로 구분	
검색 결과			
연산 순서	1	2	3
예시	<ul style="list-style-type: none"> <li>✓ 기본 연산 순서와 다르게 검색을 하고 싶을 경우 괄호를 이용하여 연산 순서 결정</li> <li>✓ 예시: (Antibiotic OR Antiviral) AND (Alga* OR Seaweed)</li> </ul>		

### ● 구문 검색 (Phrase search, " " - )

- ✓ 두 개 이상의 단어를 검색할 경우 **검색어의 순서와 형태가 변형되지 않고 검색되길 원할 경우**
- ✓ 연산자 단어(and, or, not)가 포함된 제목을 검색하고자 하는 경우 쌍 따옴표(" ") 안에 넣고 검색

기호	예시
" "	"energy conservation" → energy conservation과 정확히 일치하는 구문이 포함된 자료 검색
-	waste-water → waste-water 또는 waste water와 정확히 일치하는 구문이 포함된 자료 검색

### ● 절단 검색 (Wildcards, \* ? \$)

- ✓ 특정 단어로 검색하되, **단어의 앞 또는 뒤 다양한 알파벳(단어)이 포함된 단어를 찾는 방법**

기호	검색 방법	예시
*	다수 문자 또는 대체하지 않음	*carbon* → carbon, hydrocarbon, polycarbonate
?	하나의 문자를 대체	wom?n → woman, women
\$	하나의 문자 또는 대체하지 않음 (영/미 영어 표기가 다를 때 유용)	flavo\$r → flavor, flavour

### ● 인접 연산자 (Proximity operators, NEAR/n 또는 SAME)

- ✓ 두 단어 사이에 포함될 수 있는 단어의 수를 제한할 때

기호	검색 방법	예시
NEAR/n	검색어 사이에 최대 n개의 단어 포함	salmon NEAR/15 virus
SAME	주소 필드에서 검색 시 사용	AD=(UNIST SAME ulsan SAME Korea)

## ■ 검색 결과 제한 및 정렬

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저자, 초록, 키워드 등**

**피인용 횟수 및 문헌  
참고문헌, 관련 문헌**

**이용률**

**Carbon dioxide Fischer-Tropsch synthesis: A new path to carbon-neutral fuels**  
 By: Choi, YH (Choi, Yo Han)<sup>[1]</sup>; Jang, YJ (Jang, Youn Jeong)<sup>[2]</sup>; Park, H (Park, Hunmin)<sup>[2]</sup>; Kim, WY (Kim, Won Young)<sup>[2]</sup>; Lee, YH (Lee, Young Hye)<sup>[2]</sup>; Choi, SH (Choi, Sun Hee)<sup>[3]</sup>; Lee, JS (Lee, Jae Sung)<sup>[4]</sup>  
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APPLIED CATALYSIS B-ENVIRONMENTAL  
 Volume: 202 Pages: 605-610  
 DOI: 10.1016/j.apcatb.2016.09.072  
 Published: MAR 2017  
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**Abstract**  
 Paradigm of climate change mitigation technologies is shifting from carbon capture and storage (CCS) to carbon capture and utilization (CCU). Here we propose a new path to CCU - direct CO<sub>2</sub> conversion to liquid transportation fuels by reacting with renewable hydrogen produced by solar water splitting. The highly promising and CO<sub>2</sub>-neutral CCU system is possible by our discovery of a new catalyst that produces liquid hydrocarbon (C<sub>5</sub>+) selectivity of similar to 65% and greatly suppressed CH<sub>4</sub> formation to 2-3%, which represents an unprecedented selectivity pattern for direct catalytic CO<sub>2</sub> hydrogenation and is very similar to that of conventional CO-based Fischer-Tropsch (FT) synthesis. The catalyst was prepared by reduction of delafossite-CuFeO<sub>2</sub> and in-situ carburization to Hagg carbide (chi-Fe<sub>5</sub>C<sub>2</sub>), the active phase for heavy hydrocarbon formation. The reference catalysts derived from bare Fe<sub>2</sub>O<sub>3</sub>, CuO-Fe<sub>2</sub>O<sub>3</sub> mixture, and spinel CuFe<sub>2</sub>O<sub>4</sub> are much less active and produce mainly light hydrocarbons, highlighting the critical role of delafossite-CuFeO<sub>2</sub> as the catalyst precursor. The new catalyst breaks through the limitation of CO<sub>2</sub>-based FT synthesis and will open the avenue for new opportunity for carbon recycling into valuable liquid fuels at the similar conditions to industrially practiced CO-FT synthesis. (C) 2016 Elsevier B.V. All rights reserved.

**Keywords**  
 Author Keywords: Carbon capture and utilization; Carbon-neutral fuels; Copper-iron catalyst; Liquid hydrocarbons; CO<sub>2</sub> Fischer-Tropsch synthesis  
 KeyWords Plus: LITHIUM-ION BATTERIES; CO<sub>2</sub> HYDROGENATION; SUSTAINABLE PRODUCTION; HYDROTHERMAL SYNTHESIS; ANODE MATERIALS; IRON CATALYSTS; CUFeO<sub>2</sub>; FACILE; SELECTIVITY; CONVERSION

**Author Information**  
 Reprint Address: Lee, JS (reprint author)  
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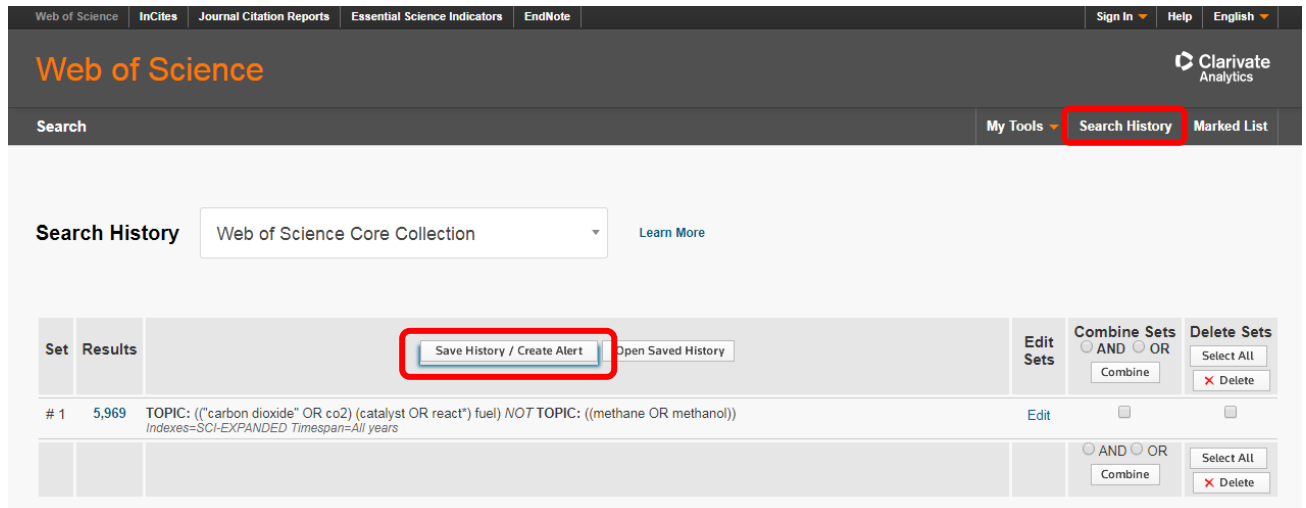
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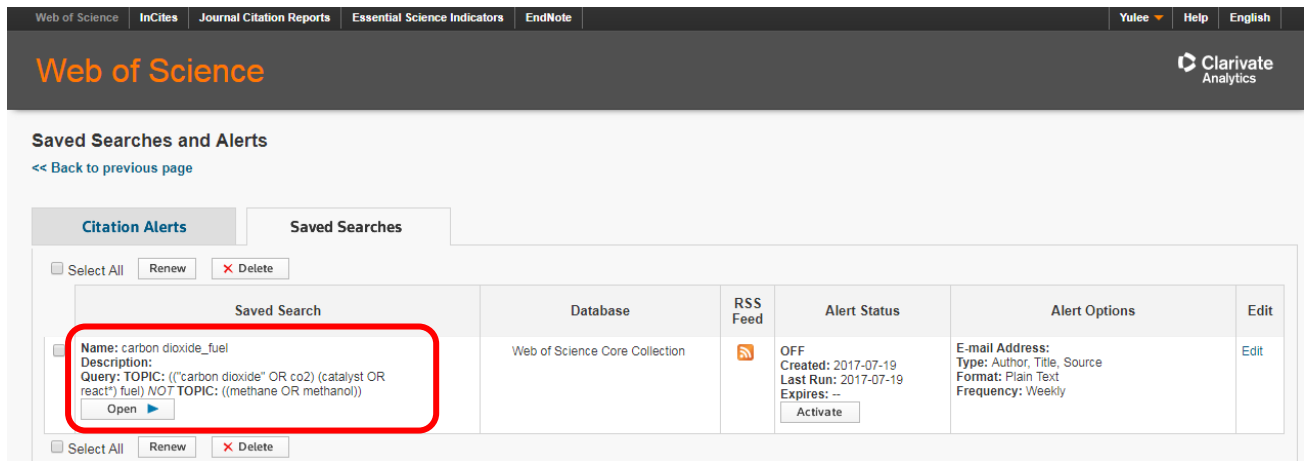
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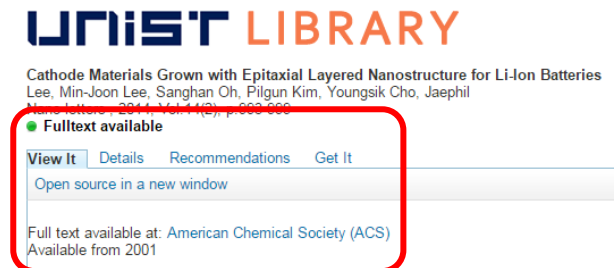
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<input type="checkbox"/> Select All Renew Delete	<b>Name:</b> carbon dioxide_fuel <b>Description:</b> <b>Query:</b> TOPIC: (("carbon dioxide" OR co2) (catalyst OR react*) fuel) NOT TOPIC: ((methane OR methanol)) <input type="button" value="Open"/>	Web of Science Core Collection		OFF Created: 2017-07-19 Last Run: 2017-07-19 Expires: -- <input type="button" value="Activate"/>	<b>E-mail Address:</b> Type: Author, Title, Source Format: Plain Text Frequency: Weekly	<a href="#">Edit</a>



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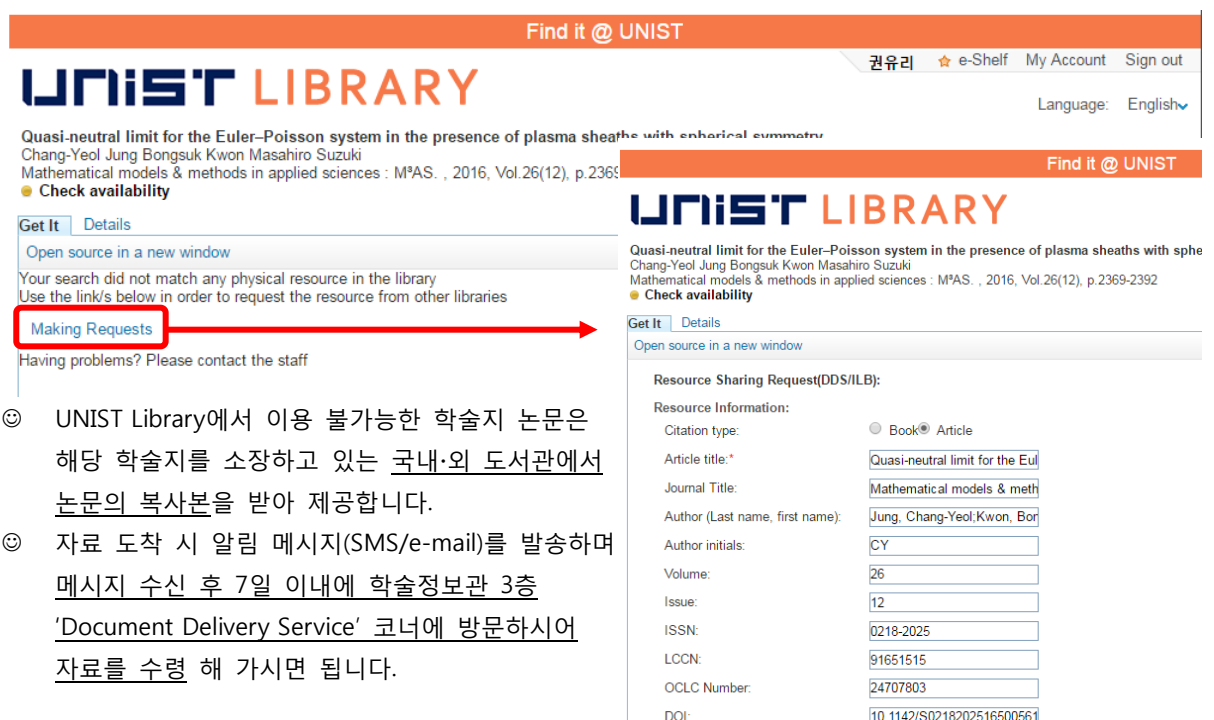
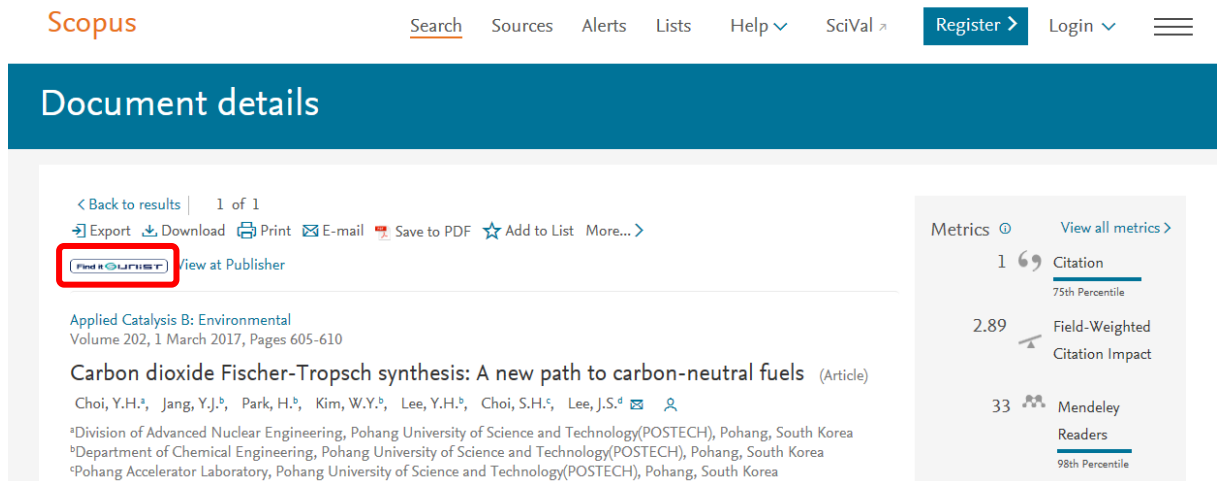
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 <p><b>ABI/INFORM</b></p>	 <p><b>EBSCOhost</b> <b>Business Source Premier</b></p>
<p>경영경제분야 학술지, 잡지, 보고서, 신문 등에 수록된 학술자료의 정보 + Full-text</p>	
 <p>기업정보, 각 종 신문기사, 법률정보</p>	 <p><b>American Psychological Association</b> <b>PsycARTICLES</b></p> <p>심리학분야 학술지 논문</p>

## ■ 학술 데이터베이스 접속 방법

- ✓ UNIST Library (<http://library.unist.ac.kr>) → Search & Browse → Databases
- ✓ 캠퍼스 밖에서 접속할 경우 교외접속 필요
  - ※ 도서관 웹사이트의 Database 메뉴의 데이터베이스 목록에서 데이터베이스별 'Access' 버튼 클릭
  - Portal 계정으로 로그인하여 접속

## Scientific Papers – Journal Presentations

### **Articles**

Articles, also called full papers, are definitive accounts of significant, original studies. They present important new data or provide a fresh approach to an established subject. The organization and length of an article should be determined by the amount of new information to be presented and by space restrictions within the publication.

### **Notes**

Notes are concise accounts of original research of a limited scope. They may also be preliminary reports of special significance. The material reported must be definitive and may not be published again later. Appropriate subjects for notes include improved procedures of wide applicability of interest, accounts of novel observations or of compounds of special interest, and development of new techniques. Notes are subject to the same editorial appraisal as full-length articles.

### **Communications**

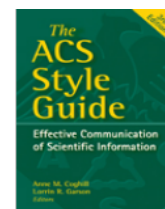
Communications, called “letters” or “correspondence” in some publication, are usually preliminary reports of special significance and urgency that are given expedited publication. They are accepted if the editor believes that their rapid publication will be a service to the scientific community. Communications are generally subject to strict length limitations; they must contain specific results to support their conclusions, but they may not contain nonessential experimental details.

The same rigorous standards of acceptance that apply to full-length articles also apply to communications. Like all types of presentations in journals, communications are submitted to review. In many cases, authors are expected to publish complete details (not necessarily in the same journal) after their communications have been published. Acceptance of a communications, however, does not guarantee acceptance of the detailed manuscript.

### **Reviews**

Reviews integrate, correlate, and evaluate results from published literature on a particular subject. They seldom report new experimental findings. Effective review articles have a well-defined theme, are usually critical, and may present novel theoretical interpretations. Ordinarily, reviews do not give experimental details, but in special cases (as when a technique is of central interest), experimental procedures may be included. An important function of review is to serve as a guide to the original literature; for this reason, accuracy and completeness of references cited are essential.

Coghill, A. M. & Garson, L. R. (2006). The ACS Style Guide: Effective Communication of Scientific Information. American Chemical Society. p.18-19. (DOI: 10.1021/bk-2006-STYG)





## Searching the Literature - KEY POINTS

- ☐ Ask your supervisor for background reading
- ☐ Decide on the keywords for your search – concentrate on nouns rather than verbs
- ☐ Explore the learning resources available within your institution
- ☐ Search for appropriate textbooks for background theory
- ☐ Learn to navigate the electronic databases – Web of Science, ScienceDirect, etc.
- ☐ Collate a broad list of journal articles that may be relevant
- ☐ Refine search to a manageable number (Max. 50)
- ☐ Skim through the abstract and priorities the articles
- ☐ Summarize the content from each and, if appropriate, tabulate the main features

McCormac, C., Davis, J., & Papakonstantinou, P. (2012). Research Project Success: The Essential Guide for Science and Engineering Students. Royal Society of Chemistry. p.55

## 논문 검색 A-Z

Google Scholar와 학술DB를 활용하여  
똑똑하게 논문 검색하는 방법

July 2017

**Questions?** 문헌정보팀 권유리  
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